

IBM Tivoli Composite Application Manager Agent for SAP
Applications
Version 7.1 Fix Pack 1

User's Guide



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Applications
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Note

Before using this information and the product it supports, read the information in "Notices" on page 441.

This edition applies to version 7, release 1 Fix Pack 1 of IBM Tivoli Composite Application Manager Agent for SAP Applications agent (product number 5724-V09) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Tables	vii
-------------------------	------------

Chapter 1. Overview of the SAP agent. **1**

New in this release	2
Components of the IBM Tivoli Monitoring environment	5
Agent Management Services	6
User interface options	7

Chapter 2. Agent installation and configuration **9**

Prerequisites checking	9
Verifying the prerequisites for data collection	9
Oracle historical statistics information	9
Oracle data collection	10
OS Collector	10
Setting the SAP system time zone	10
Language pack installation	10
Installing language packs on AIX or UNIX systems.	10
Installing language packs on Windows systems	11
Silent installation of language packs for agents	11
Requirements.	13
Image extraction tool	13
Extracting an image	14
Installation and configuration of the SAP agent	14
Importing the Advanced Business Application Programming (ABAP) transport on the SAP system	15
Local installation	17
Remote installation	18
Configuring the SAP agent locally	21
Configuring the SAP agent remotely	25
Upgrading the SAP agent from a previous installation	25
Upgrading the SAP agent in Windows	25
Upgrading the SAP agent on UNIX or Linux	26
Upgrading the SAP agent remotely	27
Product upgrade configuration	28
Advanced installation and configuration of the SAP agent	30
SAP function module	30
Enabling the SAP agent function module	30
Disabling the SAP function module	31
Using remote management	31
SAP user IDs	32
Using Central User Administration (CUA)	33
Automated functions	33
SAP Office email	34
Environment variables in script files	34
SAP password encryption	36
Using the sapshcut command	36
Optional advanced configuration in SAP	37
CEN CCMS reporting	43
Non-Unicode double-byte language support	44

Uninstalling the Advanced Business Application Programming (ABAP) transport from the SAP system	44
SAP instance customization	45
Test Connection feature	45
Enabling CCMS design	46
Modifying the threshold value of an alert	46
Disabling CCMS design	46
Verifying CCMS design	46

Chapter 3. Workspaces reference **49**

Predefined launch definitions	50
Action links	50
Time spans	50
Transport request count	51
Using max record count	51
Predefined workspaces	51
ABAP Dumps workspace.	55
Active Users workspace	55
Agent Log workspace	56
Alerts workspace	56
Alert timestamps	57
Special alerts generated by the SAP agent	58
Application Performance workspace	59
Archive Monitor workspace	59
Asynchronous Updates workspace	60
Background Job Logs workspace	60
Batch Data Create workspace	60
Batch Data Create Log workspace	61
Batch Job Log workspace.	61
Batch Jobs workspace	62
BPE Inbound Processing Status Monitoring for Errors workspace	62
BPE Inbound Processing Status Monitoring for Temporary Errors workspace	63
Buffer Performance workspace	63
Business Process Engine Status workspace	64
Business Process Monitoring Alerts workspace	64
Clients Details workspace	65
Close Alert Results workspace	65
Close All Alerts Results workspace	65
Component Monitoring URL workspace.	65
Current State Details workspace	66
Current State Overview workspace	66
Database Details workspace	66
Database Logs workspace	66
Database Overview workspace	67
Data Base workspace	67
Data Transfer Information workspace.	68
DB2 Database Details workspace	69
DB2 Database Summary workspace	69
DB2 Performance History workspace	69
DB2 Performance History for Last Week workspace.	69
Developer Traces workspace.	70

Disable Gateway Statistics Results workspace	70
Early Watch Alerts workspace	70
Enable Gateway Statistics Results workspace	71
Enqueue Locks workspace	71
File Systems workspace	71
Gateway Statistics workspace	72
Historical Database	72
Historical Operating System workspace	72
Historical Service Response Time workspace	73
HTTP Services workspace	73
HTTP Services Details workspace	73
Internet Communication Manager (ICM) Monitor Service workspace	73
Internet Communication Manager (ICM) Monitor workspace	73
Instance Configuration workspace	74
Instance Details workspace	74
Instance Summary workspace	75
Job Monitoring workspace	75
Logon Groups workspace	75
Logon Information workspace	76
Memory workspace	76
Message Server Monitor workspace	76
Number Range Buffer workspace	77
Operating System and LAN workspace	77
Oracle Database workspace	77
Oracle Historical database workspace	78
More information about workspaces	78
Output Requests workspace	78
Persistence Layer Analysis workspace	79
qRFC Inbound Queue Details workspace	79
qRFC Inbound Queue Overview workspace	79
qRFC Outbound Queue Overview workspace	80
qRFC Outbound Queue Details workspace	81
qRFC Queues Overview	81
qRFC Saved Inbound Queue Overview workspace	81
qRFC Saved Inbound Queue Details workspace	82
Refresh Database Statistics Results workspace	82
Reset Gateway Statistics Results workspace	82
SAP Office Inbox workspace	83
SAProuter Logs workspace	83
Server Details workspace	83
Server Overview workspace	84
Service Response Time workspace	84
Software Components Details workspace	85
Solution Overview workspace	85
Spool Output workspace	85
Spool Requests workspace	86
Sub-Application Performance workspace	86
Synchronous Asynchronous Communication workspace	86
System Details workspace	87
System Log Detail workspace	87
System Log workspace	88
System Monitoring Current Status workspace	88
System Monitoring Historical Alerts workspace	88
System Monitoring Open Alerts workspace	89
System Overview workspace	89
System Summary (:mySAP level) workspace	90
System Summary (:Sys level) workspace	90

System Topology workspace	90
Transaction Performance workspace	90
Transactional RFC workspace	91
Transport Log workspace	91
Transport Objects and Steps workspace	92
Transport Requests workspace	92
User Information workspace	93
User Performance workspace	93
User Transaction Performance workspace	94
Work Processes workspace	94
Workflow Trace Logs Details workspace	95
XML Message Log Workspace	95
XML Messages Processing Statistics workspace	95

Chapter 4. Attributes reference 97

Historical data collection attributes	97
Attribute groups and attributes	98
Disk capacity planning for historical data	100
ABAP Dumps attributes	106
Active Users attributes	108
Alerts attributes	109
Archive Monitor attributes	111
Background Job attributes	113
Batch Data Create attributes	114
Batch Data Create Logs attributes	116
Batch Jobs attributes	117
Batch Job Logs attributes	119
Buffer Performance attributes (Superseded)	120
Buffer Performance attributes	125
Business Process Engine Inbound Status Monitoring attributes	130
Business Process Engine Status attributes	131
CCMS Current State attributes	132
Client Information attributes	134
Component Monitoring attributes	135
Data Base Detail attributes	135
Database Logs attributes	138
Data Base Summary attributes	139
DB2 Configuration attributes	141
DB2 Performance History attributes	145
Developer Traces attributes	146
EDI Files attributes	147
File Systems attributes	148
Gateway Connections attributes	150
Gateway Statistics attributes (Superseded)	152
Gateway Statistics attributes	157
Historical Alerts attributes	163
HTTP Services attributes	164
ICM MONITOR attributes	165
ICM Monitor Services attributes	167
Instance Configuration attributes	168
Integration Engine Job Overview attributes	175
Intermediate Documents attributes	176
Lock Entries attributes	178
Logon Groups attributes	179
Logon Information attributes	181
Message Server Monitor attributes	183
Number Range Buffer Details attributes	183
Number Range Buffer Summary attributes	184
Operating System Performance attributes	186
Output Requests attributes	188

Perform Requested Action attributes	191	Delete Product-provided situations	271
Persistence Layer Analysis attributes	191	Dialog situations	272
Process Statistics attributes	193	Excess Memory situations	272
qRFC Inbound Queues attributes	193	File System situations	273
qRFC Inbound Queues Logical Unit of Work (LUW) attributes	195	Gateway Connection situation	273
qRFC Outbound Queues attributes	197	HTTP Service situations	273
qRFC Outbound Queues Details attributes	199	ICM Service situations	274
qRFC Saved Inbound Queues attributes	201	Instance Configuration situations	274
qRFC Saved Inbound Queues LUW attributes	203	Job Monitoring situations	274
SAP Office Inbox attributes	205	Locks situations	274
Saprouter Log attributes	207	Login and Logoff situations	275
Servers Details attributes	208	Message Server situations	275
Servers Overview attributes	209	Number Range situation	275
Service Response Time attributes	210	OS and LAN situations	275
Set Default Sample Period attributes	213	Output situations	276
Solution Manager Business Process Alerts attributes	213	Private Memory situation	277
Solution Manager Early Watch Alerts attributes	214	Private Mode situation	277
Solution Manager Landscape Databases attributes	215	qRFC situations	277
Solution Manager Landscape Software Components attributes	216	Response Time situation	278
Solution Manager System Instance attributes	217	SAPGUI situations	278
Solution Overview attributes	218	SAP Router situation	279
Spool Requests attributes	219	SAP Office situation	279
Synchronous and Asynchronous communication alerts attributes	221	Service Response situations	279
System Log attributes	222	Spool situations	280
System Log Details attributes	223	System Log situations	281
System Monitoring Alert View attributes	224	Transport situations	282
System Overview attributes	226	Transaction RFC situation	282
System Topology attributes	227	Transactional RFC Logs situations	282
Topology Information attributes	228	Updates situations	282
Transactional RFC Activity attributes	228	Workflow Trace Logs situations	283
Transactional RFC Logs attributes	230	Work Processes situations	283
Transaction Performance attributes	231	XML Message situations	283
Transaction Performance Task Type attributes	236		
Transport Logs attributes	243		
Transport Objects attributes	244		
Transport Requests attributes	245		
Transport Steps attributes	247		
Updates Information attributes	249		
User Information attributes	250		
Workflow Trace Logs attributes	252		
Work Processes attributes	253		
XML Message Logs attributes	257		
Chapter 5. Situations reference.	259	Chapter 6. Take Action commands reference	285
Predefined situations	259	Predefined Take Action commands	285
Situations activated at startup	264	Alert Take Action command	286
Situation values	265	Batch Jobs Take Action command	286
ABAP Dump situations	265	File Systems Take Action command	287
Active Users situations	265	Output Request Take Action command	287
Alert situations	265		
Batch Data Create situations	267	Chapter 7. Policies reference.	289
Batch Jobs situations	267	Predefined policies	289
Buffer situations	267	R3 Monitor ABAP dumps policy	289
Business Process Engine situations	270	R3 Monitor Batch Jobs policy	290
Database situations	270	R3 Monitor File Systems policy	290
DB2 Database situations	271	R3 Monitor Production Repairs policy	290
		R3 Start Buffer Monitoring policy	290
		Chapter 8. Troubleshooting	291
		Product information gathering and IBM Software Support	291
		Built-in troubleshooting features	293
		Problem classification	293
		Upgrading the agent and Restarting by using non-root	293
		Trace logging	295
		Overview of log file management	295
		Log file naming and examples	295
		Principal trace log files	296

RAS trace parameters	299
Manually setting RAS trace parameters.	299
Control files	300
Setting trace options by using the GUI	301
RFC tracing	302
Enabling and disabling RFC tracing	302
RFC trace log problems	303
Problems and workarounds	304
Installation and configuration troubleshooting	305
Agent troubleshooting	311
Tivoli Enterprise Portal troubleshooting	318
Workspace troubleshooting	319
SAP function module.	321
Enabling the SAP agent function module	322
Disabling the SAP function module	322
Situation troubleshooting Overview	322
General situation problems	323
Problems with situation configuration	324
Take Action command troubleshooting	326

Chapter 9. Tivoli Common Reporting for the SAP monitoring agent 329

More information about Tivoli Common Reporting	329
Prerequisites.	329
Install Tivoli Common Reporting V2.1	329
Obtain the reports from the product media	330
Configure historical collection	330
Connect to the Tivoli Data Warehouse	331
Importing and running Cognos reports.	331
Predefined Cognos reports	333
Performance trends reports.	334
SAP Agent Server Performance report	334
SAP Agent ICM Monitoring Performance report	334
SAP Agent Instance Performance report	335
SAP Agent qRFC Inbound Queue performance report	336
SAP Agent DB2 Database Performance report	336

Appendix A. Upgrading for warehouse summarization 339

Tables in the warehouse.	339
Effects on summarized attributes.	339
Upgrading your warehouse with limited user permissions	340
Types of table changes	341
Table summary.	341
Warehouse upgrade	343
Affected attribute groups and supporting scripts	343
Database script files	346
Upgrade the database by using the MS SQL database	348

Appendix B. IBM Tivoli Enterprise Console event mapping 351

Event mapping.	351
Event mapping for IBM Tivoli Monitoring V5.1 events	410

IBM Tivoli Monitoring V5.1 Centralized Computing Center Management System (CCMS) event adapter events	410
IBM Tivoli Monitoring V5.1 Syslog Event Adapter events	413
Generating IBM Tivoli Monitoring V5.1 Syslog event adapter events	413
Event classes for Syslog events	413
Adding Syslog event classes	414
Example for Syslog events	414

Appendix C. Commands for utilities 415

ksanfy.	415
ksar3nfy	416
ksar3	418
ksar3exe	419
ksapwd	422
ksar3pwd	423

Appendix D. Discovery Library Adapter for the SAP agent. 425

DLA data model class types represented in CDM	425
DLA data model classes for the SAP agent	425

Appendix E. Integration with Tivoli Business Service Manager 431

Components for integrating with Tivoli Business Service Manager	431
Tasks to integrate the agent with Tivoli Business Service Manager	432
Installing the Discovery Library Toolkit on the Tivoli Business Service Manager server.	432
Configuring the Tivoli Event Integration Facility (EIF) probe to enrich events	432
Creating a service in Tivoli Business Service Manager	432
Creating a data source mapping for each data source.	433
Configuring additional IBM Tivoli Monitoring web services.	433
Viewing data in the Tivoli Enterprise Portal	433

Appendix F. Documentation library 435

Prerequisite publications.	435
Related publications	436
Other sources of documentation	436

Appendix G. Accessibility 439

Notices	441
Trademarks	443

Index 445

Tables

1. SAP RFC library	18	17. Workspace problems and solutions	320
2. Properties for remote deployment mySAP Properties tab in the portal	19	18. Specific situation problems and solutions	323
3. Required values for remote deployment properties parameter	20	19. Problems with configuring situations that you solve in the Situation Editor	324
4. Optional values for remote deployment properties parameter	20	20. Problems with configuration of situations that you solve in the workspace area	325
5. Logon environment variables	34	21. Problems with configuration of situations that you solve in the Manage Tivoli Enterprise Monitoring Services window	325
6. Environment variables for the Application server mode and the Logon group mode.	35	22. Take Action commands problems and solutions	326
7. R/3 Instance Configuration attributes not collected at the Tivoli Enterprise Monitoring Server	98	23. Daily summarization	330
8. Capacity planning for historical data	101	24. Time periods and suffixes for summary tables and views.	339
9. Information to gather before contacting IBM Software Support	291	25. Additional columns to report summarization information	340
10. Trace log files for troubleshooting agents	297	26. Primary key and warehouse changes for the SAP agent	341
11. Trace log problems.	303	27. Scripts and summary tables for affected attribute groups for the SAP agent	343
12. Problems and solutions for installation and configuration for agents that run on UNIX and Windows systems	305	28. Overview of attribute groups to event classes and slots	352
13. Problems and solutions for installation and configuration of the SAP agent.	308	29. IBM Tivoli Monitoring V5.1 CCMS event slots mapped to IBM Tivoli Monitoring V6.2 CCMS adapter event slots	412
14. General problems and solutions for uninstallation	311	30. IBM Tivoli Monitoring V5.1 Syslog event slots mapped to IBM Tivoli Monitoring V6.2 Syslog Adapter event slots	414
15. Agent problems and solutions	312		
16. Tivoli Enterprise Portal problems and solutions	319		

Chapter 1. Overview of the SAP agent

The IBM® Tivoli® Composite Application Manager Agent for SAP Applications provides you with the capability to monitor your SAP system. You can also use the agent to take basic actions with the SAP system. IBM Tivoli Monitoring is the base software for the SAP agent. The SAP agent offers a central point of management for gathering the information you need to detect problems early, and to take steps to prevent them from recurring. It enables effective systems management across SAP releases, applications, and components; and the underlying databases, operating systems, and external interfaces.

IBM Tivoli Monitoring overview

IBM Tivoli Monitoring helps you to monitor the availability and performance of all the systems in your enterprise from one or several designated workstations. It also provides useful historical data that you can use to track trends and to troubleshoot system problems.

You can use IBM Tivoli Monitoring to achieve the following tasks:

- Monitor for alerts on the systems that you are managing by using predefined situations or custom situations.
- Establish your own performance thresholds.
- Trace the causes leading to an alert.
- Gather comprehensive data about system conditions.
- Use policies to take actions, schedule work, and automate manual tasks.

The Tivoli Enterprise Portal is the interface for IBM Tivoli Monitoring products. You can use the consolidated view of your environment as seen in the Tivoli Enterprise Portal to monitor and resolve performance issues throughout the enterprise.

See the publications listed in “Prerequisite publications” on page 435 for complete information about IBM Tivoli Monitoring and the Tivoli Enterprise Portal.

Features of the monitoring agent

The SAP agent offers a central point of management for gathering the information you need to detect problems early, and to take steps to prevent them from recurring.

By using this agent, you can enable effective systems management across SAP releases, applications, and components; and the underlying databases, operating systems, and external interfaces. You can easily collect and analyze the following components and procedures to learn about your SAP enterprise:

- Operating system and the associated local area network (LAN)
- Databases that are used by SAP, for example, Oracle and DB2®.
- SAP memory and buffer performance
- Layout and configuration of SAP system components
- Layout and configuration of SAP application instances and databases
- Batch processing, including batch data create sessions
- Monitoring the imported transport history
- Performance monitoring reported by SAP service, transaction, user, application, subapplication, or program
- IBM Tivoli Monitoring generated alerts from our best practice monitoring situations and SAP CCMS alerts from the systems that are running SAP solutions

- Transport system activity that might affect the integrity of your development, test, and production systems
- Monitoring the system by using syslog and ABAP memory dumps
- Monitoring inbound and outbound queues for RFC calls in SAP
- Monitoring services that are defined in SAP and the message server
- Monitoring SAP instances that are selected by the user
- Solution Manager monitoring that includes information about the following alerts:
 - Early Watch
 - System Monitoring
 - Historical
 - Business Process Monitoring

Note: Business Process monitoring alerts are generated in the satellite systems that are connected to Solution Manager.

- Monitoring the system landscape (server and database) as defined in Solution Manager
- PI/XI monitoring that includes the following information:
 - XML messages, business process engine, synchronous/asynchronous communication in PI/XI
 - Job overview and details, workflow details

New in this release

The SAP agent version 7.1 Fix Pack 1 monitors two SAP applications, including SAP Solution Manager and PI/XI. The SAP agent version 7.1 Fix Pack 1 also monitors some important features in relation to SAP servers, for example, HTTP services, ICM, Message Server, qRFC, and DB2 monitoring. For version 7.1 Fix Pack 1 of the SAP agent, the following enhancements were made since version 6.2, including the fix packs:

- Additional supported operating systems as listed in the Prerequisites topic for the SAP agent in the agent Information Center
- New groups
 - Lds level:
 - Attribute groups specific to Solution Manager Landscape
 - PI level
 - Attribute groups specific to PI/ XI system
 - Sol level
 - Attribute groups specific to Solution manager system
- New attribute groups
 - Background Job:
 - Provides information about the PI/XI integration engine background job.
 - Business Process Engine Status
 - Describes the PI/XI BPE status.
 - Solution Manager Client Information
 - Describes the client information in the Solution Manager landscape.
 - Component Monitoring
 - Provides information about the PI/XI components.
 - DB2 Configuration
 - Shows the DB2 Monitor details.
 - DB2 Performance History

- Shows the DB2 performance history details.
- Historical Alerts
 - Provides information about the Solution Manager historical alerts.
- HTTP Services
 - Shows the HTTP Services details.
- ICM Monitor
 - Shows the ICM Monitor with service list details.
- Integration Engine Job Overview
 - Provides information about the job overview of the PI/XI Integration Engine.
- Message Server Monitor
 - Describes detailed information about the Message Server Monitor for a given SAP System.
- Persistence Layer Analysis
 - Describes information about the persistence layer tables on the PI/XI system.
- Process Statistics
 - Describes the number of XML messages that are processed by the PI/XI Integration Engine.
- qRFC Inbound Queues
 - Describes the qRFC inbound queues in the SAP system.
- qRFC Inbound Queues Logical Unit of Work (LUW)
 - Describes the qRFC Inbound queue LUW details for each queue in the SAP system.
- qRFC Outbound Queues
 - Describes the qRFC outbound queues in the SAP system.
- qRFC Outbound Queues Details
 - Describes the qRFC Outbound queue LUW details for each queue in the SAP system.
- qRFC Saved Inbound Queues
 - Describes the qRFC saved inbound queues information for the SAP system.
- qRFC Saved Inbound Queues LUW
 - Describes the qRFC Inbound queue LUW details for each queue in the SAP system.
- Solution Manager Servers Details
 - Provides details about the SAP servers that are defined in Solution Manager.
- Solution Manager Servers Overview
 - Provides information about SAP servers (hosts) that are configured with Solution Manager.
- Solution Manager Early Watch Alerts
 - Provides information about early watch alerts that are defined in Solution Manager.
- Solution Manager Landscape Databases
 - Describes the databases that are configured in Solution Manager.
- Solution Manager Landscape Software Components
 - Describes software component information in the solution manager landscape.
- Solution Manager System Instance
 - Describes instance information in the solution manager landscape.
- Solution Manager Solution Overview
 - Provides solution overview information in the solution manager.
- System Log Details
 - Describes detailed system information from the system log.
- System Monitoring Alert View
 - Describes the system monitoring alerts in Solution Manager.

- System Overview
 - Describes system overview information in the solution manager landscape.
- System Typology
 - Provides information about creating the System Topology.
- Transactional RFC Logs
 - Provides information about the Transactional RFC Logs.
- Transaction Performance Task Type
 - Provides information about the performance task types in relation to transactions.
- Workflow Trace Logs
 - Describes information about Workflow Traces that are created by the users in PI/XI
- XML Message Logs
 - Provides information about the xml log in PI/XI.
- New or changed workspaces
 - Background job logs
 - BPE Inbound Processing Status Monitoring for Error
 - BPE Inbound Processing Status Monitoring for Temporary Errors
 - Business Process Engine Status
 - Business Process Monitoring Alerts
 - Clients Details
 - Database Details
 - Database Overview
 - Early Watch Alerts
 - HTTP Services
 - ICM Monitor
 - ICM Monitor Service
 - Instances Details
 - Job Monitoring
 - qRFC Inbound Queue Details
 - qRFC Inbound Queue Overview
 - qRFC Outbound Queue Details
 - qRFC Outbound Queue Overview
 - qRFC Saved Inbound Queue Details
 - qRFC Saved Inbound Queue Overview
 - Synchronous Asynchronous Communication
 - Solution Manager System Details
 - System Monitoring Current® Status
 - System Monitoring Historical Alerts
 - System Monitoring Open Alerts
 - Solution Manager System Overview
 - System Summary (agent level)
 - Solution Manager System Typology
 - Transactional RFC Logs
 - Workflow Trace Logs Details
 - XML Messages Processing Statistics
- Updated ksa.baroc file to support IBM Tivoli Enterprise Console event mapping changes.

- Added support for the IBM Prerequisite Scanner, which is a stand-alone prerequisite checking tool. This tool analyzes system environments before the installation or upgrade of a Tivoli product or IBM solution.
- Agent Management Services Agent Management Services are designed to keep the SAP agent available, and to provide information about the status of the product to the Tivoli Enterprise Portal.
- Copy, Backup, and Restore operations allow you to save IBM Tivoli Monitoring configurations on the SAP system by using the following transaction code: /n/IBMMON/ITM_CNFG.
- Customizing functions for which the SAP Instance is monitored.
- Discovery Library Adapter: Provides a DLA template to match events and discovered alerts in IBM Tivoli Monitoring within IBM Tivoli Application Dependency Discovery Manager.
- Image Extraction tool: Extracts only required files from an installation image so you extract images that are specific to a platform or operating system.
- Inventory Tagging: A new requirement that allows IBM Tivoli Monitoring to adopt a consistent mechanism for inventory collection. It specifies how to create inventory tag files that are used by external IBM Software Group to assemble an inventory list of installed Software Group software.
- Max Record Count: Restricts the data that is returned for workspaces in the Tivoli Enterprise Portal. This data restriction optimizes the performance of the agent.
- Self-describing agent: Makes it possible for a new or updated agent to become operational after installation, without completing additional product support installation steps.
- Tivoli Common Reporting: The SAP agent uses the following Tivoli Common Reporting reports:
 - SAP Agent Server Performance Report
Describes the server performance for a specific time duration.
 - SAP Agent ICM Monitoring Performance Report
Describes the ICM Monitoring performance for a specific time duration.
 - SAP Agent Instance Performance Report
Provides process information in relation to all the hosts.
 - SAP Agent qRFC Inbound Queue Performance Report
Provides information in relation on the queue entries for each queue.
 - SAP Agent DB2 Database Performance Report
Describes the DB2 Database performance for a specific time duration.
- Transport Request Count: Now included in the Transport History workspace that counts the number of times that a transport is imported. The **Import Count** parameter lists the transport numbers imported in the previous hour.
- Test Connection: Tests the connectivity between the SAP agent and the SAP Server while creating or configuring an agent instance.
- New utility to upgrade the SAP agent from version 6.2 to version 7.1, that includes support for Logon group, the CFG file for Take Action, and SAP Office Mail utilities.

Components of the IBM Tivoli Monitoring environment

After you install and set up the SAP agent, you have an environment that contains the client, server, and monitoring agent implementation for IBM Tivoli Monitoring.

This IBM Tivoli Monitoring environment contains the following components:

Tivoli Enterprise Portal client

The portal has a user interface based on Java™ for viewing and monitoring your enterprise.

Tivoli Enterprise Portal Server

The portal server is placed between the client and the Tivoli Enterprise Monitoring Server and

enables retrieval, manipulation, and analysis of data from the monitoring agents. The Tivoli Enterprise Portal Server is the central repository for all user data.

Tivoli Enterprise Monitoring Server

The monitoring server acts as a collection and control point for alerts received from the monitoring agents, and collects their performance and availability data. The Tivoli Enterprise Monitoring Server is also a repository for historical data.

Tivoli Enterprise Monitoring Agent: SAP agent (one or more instances of the monitoring agent).

The agent instances communicate with the systems or subsystems that you want to monitor. This monitoring agent collects and distributes data to a Tivoli Enterprise Portal Server.

Tivoli Enterprise Monitoring Agent: SAP agent, installed on a remote system

This monitoring agent collects and distributes data to a Tivoli Enterprise Portal Server.

IBM Tivoli Enterprise Console

The Tivoli Enterprise Console[®] is an optional component that acts as a central collection point for events from various sources, including events from other Tivoli software applications, Tivoli partner applications, custom applications, network management platforms, and relational database systems. You can view these events through the Tivoli Enterprise Portal (by using the event viewer), and you can forward events from IBM Tivoli Monitoring situations to the Tivoli Enterprise Console component.

IBM Tivoli Netcool/OMNIbus

Tivoli Netcool/OMNIbus is an optional component and an alternative to the Tivoli Enterprise Console. The Netcool/OMNIbus software is a service level management (SLM) system that delivers real-time, centralized monitoring of complex networks and IT domains. The Tivoli Netcool/OMNIbus components work together to collect and manage network event information.

IBM Tivoli Common Reporting

Tivoli Common Reporting is a separately installable feature available to users of Tivoli software that provides a consistent approach to generating and customizing reports. Some individual products provide reports that are designed for use with Tivoli Common Reporting and have a consistent look and feel.

IBM Tivoli Application Dependency Discovery Manager (TADDM)

TADDM delivers automated discovery and configuration tracking capabilities to build application maps that provide real-time visibility into application complexity.

IBM Tivoli Business Service Manager

The Tivoli Business Service Manager component delivers real-time information to help you respond to alerts effectively based on business requirements. Optionally, you can use this component to meet service-level agreements (SLAs). Use the Tivoli Business Service Manager tools to help build a service model that you can integrate with IBM Tivoli Netcool/OMNIbus alerts or optionally integrate with data from an SQL data source. Optional components provide access to data from other IBM Tivoli applications such as IBM Tivoli Monitoring and IBM Tivoli Application Dependency Discovery Manager.

Agent Management Services

You can use IBM Tivoli Monitoring Agent Management Services to manage the SAP agent.

Agent Management Services is available for the following IBM Tivoli Monitoring OS agents: Windows, Linux, and UNIX. The services are designed to keep the SAP agent available, and to provide information about the status of the product to the Tivoli Enterprise Portal. For more information about Agent management Services, see "Agent Management Services" in the IBM Tivoli Monitoring Administrator's Guide.

User interface options

Installation of the base software and other integrated applications provides the following interfaces that you can use to work with your resources and data:

Tivoli Enterprise PortalTivoli Enterprise Portal browser client interface

The browser interface is automatically installed with Tivoli Enterprise Portal. To start Tivoli Enterprise Portal in your Internet browser, enter the URL for a specific Tivoli Enterprise Portal browser client installed on your Web server.

Tivoli Enterprise Portal desktop client interface

The desktop interface is a Java-based graphical user interface (GUI) on a Windows or Linux workstation.

IBM Tivoli Enterprise Console

Event synchronization component for synchronizing the status of situation events that are forwarded to the event server. When the status of an event is updated because of IBM Tivoli Enterprise Console® rules or operator actions, the update is sent to the monitoring server, and the updated status is reflected in both the Situation Event Console and the Tivoli Enterprise Console event viewer.

Manage Tivoli Enterprise Monitoring Services window

The window for the Manage Tivoli Monitoring Services utility is used for configuring the agent and starting Tivoli services that are not already designated to start automatically.

IBM Tivoli Monitoring command line

IBM Tivoli Monitoring commands are run from the command line. These commands are primarily used in the UNIX environment. They can be used for installing, configuring, starting, and stopping the agent.

IBM Tivoli Application Dependency Discovery Manager

The Discovery Management Console is the IBM Tivoli Application Dependency Discovery Manager client user interface for managing discoveries.

Tivoli Business Service Manager

The Tivoli Business Service Manager console provides a graphical user interface (GUI) that you can use to logically link services and business requirements within the service model. The service model provides an operator with a second-by-second view of how an enterprise is performing at any specific moment in time or how the enterprise performed over a specific time period.

Chapter 2. Agent installation and configuration

Agent installation and configuration requires the use of the IBM Tivoli Monitoring Installation and Setup Guide and agent-specific installation and configuration information.

To install and configure the SAP agent, use the "Installing monitoring agents" procedures in the *IBM Tivoli Monitoring Installation and Setup Guide* with the agent-specific installation and configuration information.

If you are installing silently by using a response file, see "Performing a silent installation of IBM Tivoli Monitoring" in the *IBM Tivoli Monitoring Installation and Setup Guide*.

With the self-describing agent capability, new or updated IBM Tivoli Monitoring agents that use IBM Tivoli Monitoring V6.2.3 or later can become operational after installation without completing additional product support installation steps. To take advantage of this capability, see "Enabling self-describing agent capability at the hub monitoring server" in the *IBM Tivoli Monitoring Installation and Setup Guide*. Also, see "Self-describing monitoring agents" in the *IBM Tivoli Monitoring Administrator's Guide*.

Prerequisites checking

The prerequisite checker utility verifies whether all the prerequisites that are required for the agent installation are met. The prerequisite checker creates a log file that contains a report of all the prerequisites checks when the prerequisite checker was run.

For the SAP agent, the prerequisite checker verifies the following requirements:

- Memory
- Disk
- Operating systems

For detailed information about installation prerequisites, see the Prerequisites topic for the agent in the ITCAM for Applications Information Center(http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_7.2/prerequisites/apps72_systemreqs.html).

You can run the prerequisite checker in stand-alone mode or remotely. For more information about the prerequisite checker, see "Prerequisite Checking for IBM Tivoli Monitoring Agents" in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Verifying the prerequisites for data collection

Verify the following prerequisites for data collection:

- "Oracle historical statistics information"
- "Oracle data collection" on page 10
- "OS Collector" on page 10
- "Setting the SAP system time zone" on page 10

Oracle historical statistics information

The COLLECTOR_FOR_PERFORMANCE batch job provides information on Oracle historical statistics.

The SAP agent relies on the COLLECTOR_FOR_PERFORMANCE batch job to report Oracle historical statistics. Use transaction SM37 to verify that the COLLECTOR_FOR_PERFORMANCE batch job is set up as described in the mySAP installation documentation and SAP Note 16083. The actual job name might be different on your system.

Oracle data collection

Data collection problems might occur when the SAP program, RSDB_TDB, which collects the Oracle statistics, does not work correctly. Too many data rows are stored in MONI. Collection might stop or run sluggishly on busy systems. See SAP Notes: 591801, 713211.

To correct this problem, perform the following steps:

1. Have your SAP Administrator implement these SAP notes.
2. Run the specified program, RSORAUD0, with the recommended cleanup options.
3. Update the Oracle statistics manually through transaction DB02.

After implementing these steps, the number of rows being returned to the agent is correct, the volume of data in MONI does not increase, and agent data collection periods are normal.

OS Collector

The SAP agent relies on the saposcol program provided by SAP to collect operating system and file system metrics. Have your SAP Administrator enable this service on all computers hosting SAP application servers.

Setting the SAP system time zone

The SAP agent depends on SAP statistics collection working correctly on the SAP systems that it monitors. On SAP 7.0 systems, you must set the SAP system time zone to match the time zone for the operating system so that SAP statistics are collected with the correct time stamps. You must make this change for the SAP agent to successfully collect data. See SAP Note 926290 for more information about this issue.

Language pack installation

The steps for installing language packs depend on which operating system and mode of installation you are using.

To install a language pack for the agent support files on the Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Monitoring Agent, and the Tivoli Enterprise Portal Server, make sure that you installed the product in the English language. Then use the steps for the operating system or mode of installation you are using:

- “Installing language packs on Windows systems” on page 11
- “Installing language packs on AIX or UNIX systems”
- “Silent installation of language packs for agents” on page 11

Installing language packs on AIX or UNIX systems

You can install the language packs on an AIX® or UNIX system.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. Enter the following command to create a temporary directory on the computer: `mkdir dir_name`. Make sure that the full path of the directory does not contain any spaces.

2. Mount the language pack CD to the temporary directory that you created.
3. Enter the following command to start the installation program: `cd dir_name lpinstaller.sh -c install_dir` where *install_dir* is where you installed IBM Tivoli Monitoring. Typically, the directory name is `/opt/IBM/ITM` for AIX and UNIX systems.
4. Select the language of the installer and click **OK**.
5. In the Introduction panel, click **Next**.
6. Click **Add/Update** and click **Next**.
7. Select the folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are located in the `nlspackage` folder where the installer executable file is located.
8. Select the language support for the agent of your choice and click **Next**. To make multiple selections, press Ctrl and select the language that you want.
9. Select the languages that you want to install and click **Next**.
10. Examine the installation summary page and click **Next** to begin installation.
11. After installation completes, click **Finish** to exit the installer.
12. Restart the Tivoli Enterprise Portal Tivoli Enterprise Portal Server, and Eclipse Help Server if any of these components are installed.

Installing language packs on Windows systems

You can install the language packs on a Windows system.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. On the language pack CD, double-click the `lpinstaller.bat` file to start the installation program.
2. Select the language of the installer and click **OK**.
3. In the Introduction panel, click **Next**.
4. Click **Add/Update** and click **Next**.
5. Select the folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are located in the `nlspackage` folder where the installer executable file is located.
6. Select the language support for the agent of your choice and click **Next**. To make multiple selections, press Ctrl and select the language that you want.
7. Select the languages that you want to install and click **Next**.
8. Examine the installation summary page and click **Next** to begin installation.
9. After installation completes, click **Finish** to exit the installer.
10. Restart the Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Eclipse Help Server if any of these components are installed.

Silent installation of language packs for agents

You can use the silent-mode installation method to install the language packs. In silent mode, the installation process obtains the installation settings from a predefined response file. It does not prompt you for any information.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. Copy and paste the ITM_Agent_LP_silent.rsp response file template as shown in “Response file example.”
2. Change the following parameter settings:

NLS_PACKAGE_FOLDER

Folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are in the nlspackage folder, for example, NLS_PACKAGE_FOLDER = //tmp//LP//nlspackage.

PROD_SELECTION_PKG

Name of the language pack to install. Several product components can be included in one language package. You might want to install only some of the available components in a language pack.

BASE_AGENT_FOUND_PKG_LIST

Agent for which you are installing language support. This value is usually the same as PROD_SELECTION_PKG.

LANG_SELECTION_LIST

Language you want to install.

3. Enter the command to install the language pack with a response file (silent installation):

- For Windows systems:
lpinstaller.bat -f *path_to_response_file*
- For UNIX or Linux systems:
lpinstaller.sh -c *candle_home* -f *path_to_response_file*

where *candle_home* is the IBM Tivoli Monitoring base directory.

Response file example

```
# IBM Tivoli Monitoring Agent Language Pack Silent Installation Operation
#
#This is a sample response file for silent installation mode for the IBM Tivoli
#Monitoring Common Language Pack Installer.
#
#This file uses the IBM Tivoli Monitoring Common Agent Language Pack with the
#install package as an example.
#Note:
#This response file is for the INSTALLATION of language packs only.
#This file does not support UNINSTALLATION of language packs in silent mode.
#-----
#-----
#To successfully complete a silent installation of the the example of Common Agent
#localization pack, complete the following steps:
#
#1.Copy ITM_Agent_LP_silent.rsp to the directory where lpinstaller.bat or
#lpinstaller.sh is located (IBM Tivoli Monitoring Agent Language Pack build
#location).
#
#2.Modify the response file so that it is customized correctly and completely for
#your site.
# Complete all steps listed below in the response file.
#
#3.After customizing the response file, invoke the silent installation using the
#following command:
#For Windows:
# lpinstaller.bat -f <path_to_response_file>
#For UNIX and Linux:
# lpinstaller.sh -c <candle_home> -f <path_to_response_file>
#Note:<candle_home> is the IBM Tivoli Monitoring base directory.
#-----
```



```

#-----
#Force silent install mode.
#-----
INSTALLER_UI=silent
#-----
#Run add and update actions.
#-----
CHOSEN_INSTALL_SET=ADDUPD_SET
#-----
#NLS Package Folder, where the NLS Packages exist.
#For Windows:
#   Use the backslash-backslash(\\) as a file separator (for example,
#C:\\zosgm\\LCD7-3583-01\\nlspackage).
#For UNIX and Linux:
#   Use the slash-slash (//) as a file separator (for example,
#//installtivolii/lpsilenttest//nlspackage).
#-----
#NLS_PACKAGE_FOLDER=C:\\zosgm\\LCD7-3583-01\\nlspackage
NLS_PACKAGE_FOLDER=//tmp//LP//nlspackage
#-----
#List the packages to process; both variables are required.
#Each variable requires that full paths are specified.
#Separate multiple entries with a semicolon (;).
#For Windows:
#       Use the backslash-backslash(\\) as a file separator.
#For Unix and Linux:
#       Use the slash-slash (//) as a file separator.
#-----
#PROD_SELECTION_PKG=C:\\zosgm\\LCD7-3583-01\\nlspackage\\KIP_NLS.nlspkg
#BASE_AGENT_FOUND_PKG_LIST=C:\\zosgm\\LCD7-3583-01\\nlspackage\\KIP_NLS.nlspkg
PROD_SELECTION_PKG=//tmp//LP//nlspackage//kex_nls.nlspkg;//tmp//LP//nlspackage//
koq_nls.nlspkg
BASE_AGENT_FOUND_PKG_LIST=//tmp//LP//nlspackage//kex_nls.nlspkg;//
tmp//LP//nlspackage//koq_nls.nlspkg
#-----
#List the languages to process.
#Separate multiple entries with semicolons.
#-----
LANG_SELECTION_LIST=pt_BR;fr;de;it;ja;ko;zh_CN;es;zh_TW

```

Requirements

Before installing and configuring the agent, make sure your environment meets the requirements for the IBM Tivoli Composite Application Manager Agent for SAP Applications.

For information about requirements, see the Prerequisites topic for the agent in the ITCAM for Applications Information Center(http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcam.doc_7.2/welcome_itcamfapps72.html).

Image extraction tool

The Image extraction tool extracts only the required files from an installation image and then creates a separate image for you. It extracts images that are specific to platforms and operating systems.

Use the **tacmd exportBundles** command to export one or more silent installation deployment bundles to the specified export directory for use with software distribution products. You must run the **exportBundles** command locally on a server and specify a populated agent depot or agent installation image as input.

Note: A bundle is the combination of an agent silent installation image and any necessary prerequisites and configuration information required to silently install an agent on a remote system. An agent depot is a directory on the monitoring server from which you deploy agents and maintenance packages to remote systems across your environment.

If the current OS user has the correct permissions, it is not necessary to run the **login** command before you run the **exportBundles** command.

Extracting an image

You complete specific steps to extract an image by using the Image extraction tool.

Before you begin

For a description of the Image extraction tool, see “Image extraction tool” on page 13.

Procedure

1. Extract the .gz file and extract the .tar file from the SAP Agent version 7.1 Fix Pack 1 installer.
2. Open the CANDLE_HOME folder and run the following command:

- **C:\IBM\ITM\BIN> tacmd exportBundles -o LOCAL -t sa -e c:\temp1 -i c:\set_up\unix -p li6263**

An image is created on the LINUX li6263 platform only.

- **C:\IBM\ITM\BIN> tacmd exportBundles -i c:\set_up\unix -e c:\temp -o LOCAL -t sa -os LINUX**

An image is created on the LINUX operating system. This command is available on all LINUX platforms.

- **C:\IBM\ITM\BIN> tacmd exportBundles -i c:\set_up\unix -e c:\temp -o LOCAL -t sa -os HP**

An image is created on Hewlett Packard operating systems and platforms.

- **C:\IBM\ITM\BIN> tacmd exportBundles -i c:\set_up\WINDOWS\Deploy -e c:\temp -o LOCAL -t sa -os WINDOWS**

An image is created for Windows operating systems. This command is available on all Windows platforms.

Note: The following options are available:

- **o** – Output Format {LOCAL/SPD/SPB}
- **-t** – Product code
- **-e** – Extraction Folder
- **-I** – Image Path
- **-p** – Platform
- **-os** – Operating System.

3. Copy the platform-specific image folder to the test system and run it through a silent installation.

Installation and configuration of the SAP agent

Agent specific information includes the following procedures:

Basic Installation:

- “Importing the Advanced Business Application Programming (ABAP) transport on the SAP system” on page 15
- “Prerequisite verification” on page 15
- “Using SAP transport and defining the user” on page 16

- “Local installation” on page 17
- “Remote installation” on page 18

Configuration:

- “Configuring the SAP agent locally” on page 21
- “Configuring the SAP agent remotely” on page 25
- “Product upgrade configuration” on page 28

Note: You install and configure only one SAP agent for each mySAP system, not one agent per application server.

Be sure to plan your monitoring. For example, determine which situations to use and which CCMS trees to monitor. Obtain information about requirements from your SAP Administrator. The SAP agent is a powerful tool that, when configured correctly, can effectively monitor your SAP environment. The key is careful planning. Your monitoring team and SAP Administrators must carefully plan the areas to monitor. You must also periodically review and update your plan as circumstances warrant. Follow these guidelines when developing a monitoring plan:

- Select the key SAP applications, transactions, programs, and processes that you want to monitor.
- Select specific attributes that represent the most critical aspects of your environment.
- Document thresholds and cycle times for each monitoring attribute.
- Use historical data collection to trend and predict potential issues.
- Prioritize areas you want to monitor. Too much data can cloud analysis and hinder preventive diagnosis.
- Review implementation, integration, and business process documentation.
- Review past problem areas, outages, and performance degradations.
- Consider the entire enterprise and all of the applications, components, services, computers, and infrastructure that enable the critical business operations.
- Gather input from as many people as possible. Ensure that the plan addresses the business requirements.

Importing the Advanced Business Application Programming (ABAP) transport on the SAP system

You can install one SAP agent for each SAP system.

Procedure

1. Verify the prerequisites for import.
2. Install the SAP transport and define the user with which the agent connects to the SAP system.
3. Verify the prerequisites for data collection.

Prerequisite verification

You must verify the prerequisites before you import the transport request.

When you import the ABAP (Advanced Business Application Programming) transport to the SAP agent, you must ensure that the DDIC user is set up on the client where you install the SAP transport.

R3trans Version 01.07.04 or later is required for a successful import of the product transport request because of Dynpro and Export and Import table incompatibility. The basic operation of the agent is not affected by the Dynpro or Export and Import incompatibility issues; only the SAP configuration windows are affected.

For more information, see the following OSS Notes, including a list of required SAP service pack levels:

- OSS Note 454321
- OSS Note 330267
- OSS Note 743155

Using SAP transport and defining the user

The SAP agent provides a set of ABAP (Advanced Business Application Programming) routines to support data collection in the SAP system. This ABAP code is delivered as a SAP transport that must be installed on each SAP system that is to be monitored. Your SAP Administrator installs the transport.

About this task

The authorization profile **ZITM_610AUTH** and authorization role **ZITM_610AUT** are valid until the 6.1 release only. From release 6.2 onwards, the **/IBMMON/AUTH** authorization profile is used.

Note: To protect against unauthorized use, the ABAP code that is installed in the SAP system is not visible from within the SAP system. In addition, this code cannot be modified or generated. Support for this code must be obtained through IBM Software Support.

In addition to installing ABAP code, the transport also installs translated language text elements to provide NLS support for SAP transport text elements.

Important: If you need to import the transport on the SAP system, you must not start the SAP agent instance that is configured to monitor the SAP system. Also, before you delete the transport from the SAP system, you must stop the SAP agent instance that is configured to monitor the SAP system.

Use this procedure to install the SAP transport into the SAP system.

Procedure

1. Go to the /ABAP directory on the product CD.
2. Copy the following transport files into the SAP environment from the ABAP directory of the SAP agent CD or image:
 - K710_00xxx.ITM and R710_00xxx.ITM
These files are non-Unicode versions of the transport. They contain the SAP agent ABAP code and non-Unicode language support for Latin code pages. See “Non-Unicode double-byte language support” on page 44 for additional language support.
 - K710_00xxxU.ITM and R710_00xxxU.ITM
These files are Unicode versions of the transport. They contain the SAP agent ABAP code and Unicode support for text strings for Latin code pages and double-byte code pages.
 - K710_00xxx_DELETE.ITM and R710_00xxx_DELETE.ITM
These transport files remove the ABAP code. The DELETE transport does not need to be imported, unless you stop using the product entirely and want to remove the transports from their SAP systems. See “Uninstalling the Advanced Business Application Programming (ABAP) transport from the SAP system” on page 44
3. Determine which transport is required for your SAP system: Unicode or non-Unicode.
4. Copy your transport files to the SAP Transport System data directory as follows, and do not change the transport file name:
 - Non-Unicode transport
 - a. Copy the K710_00xxx.ITM file to the cofiles directory.
 - b. Copy the R710_00xxx.ITM file to the data directory.
 - Unicode transport
 - a. Copy the K710_00xxxU.ITM file to the cofiles directory
 - b. Copy the R710_00xxxU.ITM file to the data directory.

5. Run the following commands:

- **Non-Unicode**

```
tp addtobuffer ITMK710_00xxx SID
pf=\usr\sap\trans\bin\PROFILE_NAME
tp import ITMK710_00xxx SID client=nnn U16
pf=\usr\sap\trans\bin\PROFILE_NAME
```

- **Unicode**

```
tp addtobuffer ITMK710_00xxxU SID
pf=\usr\sap\trans\bin\PROFILE_NAME
```

Where:

SID Target SAP system ID

PROFILE_NAME

Name of the tp profile file. Make sure that the current tp parameter file is specified when importing the agent transport files from the command line. The tp parameter file is typically named TP_DOMAIN_SID.PFL. This file name is case sensitive on UNIX systems.

nnn Number for the target client where the agent is to run and in which the user ID, IBMMON_AGENT, and authorization profile, /IBMMON/AUTH, are defined.

If you are using Central User Administration (CUA), see “Using Central User Administration (CUA)” on page 33. Alternately, you can use the SAP STMS transaction to import the ITMK710_00xxx.ITM and ITMK710_00xxxU.ITM transport requests. Ensure that the **Import Transport Request Again** and the **Overwrite Objects in Unconfirmed Repairs** options are checked on the **Import Options** tab of the Import Transport Request window.

Results

Depending on your SAP release level, when running the **tp import** command, you might receive return code 4, which does not indicate a problem, and is an expected result from the **import** command.

Transport files

The transport files are located in the ABAP directory of the SAP agent CD or image.

There are three sets of transport files:

- K710_00xxx.ITM and R710_00xxx.ITM

These files are non-Unicode versions of the transport. They contain the SAP agent ABAP code as well as non-Unicode language support for Latin code pages. See “Non-Unicode double-byte language support” on page 44 for additional language support.

- K710_00xxxU.ITM and R710_00xxxU.ITM

These files are Unicode versions of the transport. They contain the SAP agent ABAP code as well as Unicode support for text strings for Latin code pages and double-byte code pages.

- K710_00xxx_DELETE.ITM and R710_00xxx_DELETE.ITM

These transport files remove the ABAP code. The DELETE transport does not need to be imported, unless you stop using the product entirely and want to remove the transports from their SAP systems. See “Uninstalling the Advanced Business Application Programming (ABAP) transport from the SAP system” on page 44.

Local installation

You can install the SAP agent to the IBM Tivoli Monitoring system.

Procedure

To install the SAP agent to the IBM Tivoli Monitoring system, complete the agent installation steps in the "Installing monitoring agents" section of the *IBM Tivoli Monitoring Installation and Setup Guide*.

What to do next

After you install the SAP agent, ensure that you complete the following steps:

1. Download the SAP RFC library for the platform to the location where you plan to deploy the SAP agent.
2. Depending on your architecture and environment, copy the RFC library to one of the following paths as shown in the following table:

Table 1. SAP RFC library

Platform	Path
UNIX	\$CANDLE_HOME/{Interp}/sa/lib
Windows	For a 32-bit agent: %CANDLE_HOME%/TMAITM6/ For a 64-bit agent: %CANDLE_HOME%/TMAITM6_x64

Remote installation

You can install the SAP agent remotely from the Tivoli Enterprise Portal or from the command line.

Prerequisite:

If you deploy the SAP agent to a UNIX or Linux computer, you must ensure that the korn (ksh) shell is installed on that computer.

Note: The ksh shell is only supported to run the installation and runtime scripts.

See the *IBM Tivoli Monitoring Installation and Setup Guide* for procedural information. See the following sections for agent-specific parameters:

- "Remote deployment from the Tivoli Enterprise Portal" on page 19
- "Deploying the monitoring agent by using the tacmd command" on page 20

Deploying the monitoring agent remotely in a Windows environment

You can deploy the SAP agent remotely in a Windows environment.

Procedure

1. Download the SAP RFC library for the platform to the location where you plan to deploy the SAP agent remotely.
2. Depending on your architecture and environment, copy the RFC library into one of the following paths:
 - %CANDLE_HOME%/TMAITM6 for a 32-bit agent on a 32-bit Windows computer.
 - %CANDLE_HOME%/TMAITM6_x64 for a 64-bit agent on a 64-bit Windows computer.
3. Deploy the agent either through the Tivoli Enterprise Portal or by using the **tacmd** command. To deploy the SAP agent on the Windows 2008 Enterprise Edition 64 bit platform, use IBM Tivoli Monitoring V6.2.2 Fix Pack 8.

Deploying the monitoring agent remotely in a non-Windows environment

You can deploy the SAP agent remotely in a non-Windows environment.

Procedure

1. Download the SAP RFC library for the platform to the location where you plan to deploy the SAP agent remotely.
2. Find the sa<interp>.jar file specifically for the computer where you plan to deploy the SAP agent.
3. Compress the SAP RFC library (librfcccm.*) into the sa<interp>.jar file in the <interp>/sa/lib subfolder.
4. Complete the addbundles procedure.
5. Deploy the agent either through the Tivoli Enterprise Portal or by using the **tacmd** command.

Related reference:

"Remote deployment from the Tivoli Enterprise Portal"

"Deploying the monitoring agent by using the tacmd command" on page 20

Remote deployment from the Tivoli Enterprise Portal

For the **mySAP Properties** tab, complete the properties in Table 1. For information about these properties, see the descriptions of the values in step 2 here: "Configuring the SAP agent locally" on page 21.

Table 2. Properties for remote deployment mySAP Properties tab in the portal

Properties	Values described in Configuring the SAP agent locally, Step 2: "Configuring the SAP agent locally" on page 21
mySAP System ID	System identifier
mySAP Hostname (Primary)	Host name Primary
mySAP Hostname (Alternate 1)	Host name Alternate 1
mySAP Hostname (Alternate 2)	Host name Alternate 2
mySAP System Number (Primary)	System number Primary
mySAP System Number (Alternate 1)	System number Alternate 1
mySAP System Number (Alternate 2)	System number Alternate 2
mySAP Gateway Name (Primary)	Gateway name Primary
mySAP Gateway Name (Alternate 1)	Gateway name Alternate 1
mySAP Gateway Name (Alternate 2)	Gateway name Alternate 2
mySAP Gateway Service (Primary)	Gateway service Primary
mySAP Gateway Service (Alternate 1)	Gateway service Alternate 1
mySAP Gateway Service (Alternate 2)	Gateway service Alternate 2
mySAP Client Number	Client number
mySAP User ID	User ID
mySAP User Password	Password or Password File
mySAP Language Code	Language

Use the following settings for the **Agent** tab "Run as" information:

Use local system account

(Windows only) Select this setting.

Allow service to interact with desktop

(Windows only) Leave this check box clear.

User Name

(UNIX only and optional) If you do not use the default User ID and password (the ID that is selected when you configure the OS agent), you can override them by using this field.

Group Name

(UNIX only and optional) If you do not use the default group name (the name that is selected when you configure the OS agent), you can override it by using this field.

Deploying the monitoring agent by using the tacmd command

See the *IBM Tivoli Monitoring Command Reference* for the complete **tacmd addSystem** command.

Use the **-t | --type TYPE** parameter to specify the SAP agent that you are configuring: SA

Use the values in Table 3 for the **-p | --properties** parameter to configure the SAP agent. For information about these values, see the descriptions of the values in Step 2 in: “Configuring the SAP agent locally” on page 21.

Table 3. Required values for remote deployment properties parameter

Values in properties parameter	Values described in Configuring the SAP agent, Step 2: “Configuring the SAP agent locally” on page 21
INSTANCE	System identifier
sap_conn.sap_conn_mode	Connection Mode
sap_appsrvmode.sap_hostname	Host name Primary
sap_appsrvmode.sap_systemno	System number Primary
sap_logon.sap_clientno	Client number
sap_appsrvmode.sap_gwhost	Gateway name Primary
sap_appsrvmode.sap_gwservice	Gateway service Primary
sap_logon.sap_userid	User ID
sap_logon.sap_password	Password
sap_logon.sap_language	Language

You can also use the optional values in Table 2 . For information about these values, see the descriptions of the values in Step 2 in: “Configuring the SAP agent locally” on page 21.

Table 4. Optional values for remote deployment properties parameter

Values in properties parameter (optional)	Values described in Configuring the SAP agent, Step 2: “Configuring the SAP agent locally” on page 21
sap_appsrvmode.sap_hostname2	Host name Alternate 1
sap_appsrvmode.sap_hostname3	Host name Alternate 2
sap_appsrvmode.sap_systemno2	System number Alternate 1
sap_appsrvmode.sap_systemno3	System number Alternate 2
sap_appsrvmode.sap_gwhost2	Gateway name Alternate 1
sap_appsrvmode.sap_gwhost3	Gateway name Alternate 2
sap_appsrvmode.sap_gwservice2	Gateway service Alternate 1
sap_appsrvmode.sap_gwservice3	Gateway service Alternate 2

See the following example of using the Application Server Mode

```
tacmd addSystem -t sa -n v5254008dfc89:LZ -p INSTANCE=PS4
sap_conn.sap_conn_mode=appsrvmode
sap_appsrvmode.sap_hostname=10.44.232.202
sap_appsrvmode.sap_systemno=00
```

```
sap_logon.sap_clientno=100
sap_appsrvmode.sap_gwhost=10.44.232.202
sap_appsrvmode.sap_gwservice=3300
sap_logon.sap_userid=ps4usr
sap_logon.sap_password=Agnt2tst
sap_logon.sap_language=EN
```

Configuring the SAP agent locally

To monitor an SAP system, the SAP agent must connect to an application server in the system to be monitored so the agent can access the Advanced Business Application Programming (ABAP) code provided with the product. The specification of these connection parameters is the configuration process.

About this task

This section describes the basic configuration steps for the SAP agent on both Windows and UNIX systems. If you want to use remote management (install the SAP agent on a computer that is different from the SAP application server), see “Advanced installation and configuration of the SAP agent” on page 30.

You must choose between the Application Server Mode or the Logon Group Mode when you configure the SAP agent in the configuration window.

To configure a new instance of the SAP agent by using the Application Server Mode, perform the following steps:

Procedure

1. Do one of the following depending on your operating system:
 - For Windows systems:
 - a. From the Manage Tivoli Enterprise Monitoring Services window, double-click **IBM Tivoli Composite Application Manager Agent for SAP Applications Template**
 - b. Use the information in Step 2 to complete the agent-specific parameters.
 - For UNIX systems, do one of the following procedures:

Use the GUI:

 - a. In the Manage Tivoli Enterprise Monitoring Services window, select **SAP agent**.
 - b. Select **Actions > Configure** to display the Configured SAP agents window.
 - c. Select the **Create new configuration** check box.
 - d. Enter a 3-character identifier.
 - e. Click **Configure**.
 - f. Use the information in Step 2 to complete the agent-specific parameters.
 - or

Use the command line:

 - a. Run the **itmcmd config** command:

```
itmcmd config -A -o system_identifier sa
system_identifier
```

Unique three-character SAP system identifier, for example, QA1. This identifier is the same as the system identifier described below.

sa Product code for the SAP agentThe following example command configures the SAP agent for a system named "QA1":

```
itmcmd config -A -o QA1 sa
```

This example command configures the SAP agent for a system named "QA1." You can have multiple configurations for the agent, one for each SAP system ID (SID). Each configuration must be created separately by running the **itmcmd config** command.

- b. Complete the parameters for configuring IBM Tivoli Monitoring.
- c. Use the information in Step 2 to complete the line prompts for the agent-specific parameters.

For additional information about the **itmcmd config** command, see the *IBM Tivoli Monitoring Administrator's Guide*. You must configure only one instance of the agent per SAP system. You do not need one instance per application server.

2. Use the following values to configure the SAP agent. Depending on the configuration mode selected by the user, the input parameters vary.

Application Server Mode:

Obtain these values from your SAP Administrator.

System identifier

3-character SAP system identifier (SID).

More than one instance of the SAP agent might run on this computer, so you want to supply a name to uniquely identify this agent instance. The name you supply is shown in the **Task/Subsystem** column of the Manage Tivoli Enterprise Monitoring Services window. It is also shown in the agent name in the Navigator tree of the Tivoli Enterprise Portal.

You can use the SID for the SAP system that you want this agent to monitor. However, in some cases where you might want to supply a different identifier. For example, if you plan to run two instances of the agent to monitor two different SAP systems with the same SID, you can supply a different identifier to ensure uniqueness. The identifier is used only as a label.

Host name

Primary

Host name of the SAP application server to which this agent is to connect. If your SAP servers communicate over a private LAN, the computers that host the servers have two or more network cards. For the host name, enter a name by which the application server can be reached from external systems, such as through the SAPGUI logon. Do not use the private LAN host name. The default is the host name on which the agent is installed.

Use an application server, such as the central instance, that is highly available in the SAP system.

Alternate 1

(optional) Second choice for the host name if the Primary host is unavailable.

Alternate 2

(optional) Third choice for the host name if both the Primary and Alternate 1 hosts are unavailable.

System number

Two-digit SAP system or instance number used for connecting to an SAP host server, defaults to 00.

Primary

System number for the primary host name.

Alternate 1

(optional) System number for the host name that is the first alternate.

Alternate 2

(optional) System number for the host name that is the second alternate.

Gateway name

Primary

Host name on which the SAP gateway service runs. Typically, this computer is the same computer as the application server. You must specify the name that you used for the host name value. If you must access to the SAP server that uses a SAP router, you must specify the SAP router string. For example, the /H/host/H/ router string must be in the following format: /H/beagle/H/brittany/H/ or /H/amsaix11.tivlab.raleigh.ibm.com/W/tivoli/H/amsaix25.

Alternate 1

(optional) Second choice for the Gateway name if the Primary gateway host is unavailable.

Alternate 2

(optional) Third choice for the Gateway name if both the Primary and Alternate 1 gateway hosts are unavailable.

Gateway service

Port number used by the Gateway hosts. The gateway ports are always in the following form: 33xx. The xx value is typically the same as the two-digit System number.

Primary

Port number for the primary Gateway host.

Alternate 1

(optional) Gateway host port number for the Gateway name that is the first alternate Alternate 2.

(optional) Gateway host port number for the Gateway name that is the second alternate.

Logon group Mode:

Obtain these values from your SAP Administrator.

Logon Group: Name of the SAP Server Logon group.

Message Server Hostname: Host name of the SAP message server.

Message Service: Name of the service where the SAP Message server is located.

Note: For example, you might use the sapmsTV1 Message service name, or the 3601 full message service port number.

You must include service names in the following operating system services files:

- On UNIX systems: /etc/services
- On Windows systems: \windows\system32\drivers\etc\services

Route String: Contains the SAP router string. Specify the SAP router string if you want access to the SAP server with a SAP router.

For example, the /H/host/H/ router string must be in the following format:

/H/beagle/H/brittany/H/

or

/H/amsaix11.tivlab.raleigh.ibm.com/W/tivoli/H/amsaix25

Common parameters

The following parameters are common to both configuration modes:

Client number

SAP client number for the RFC logon to SAP, defaults to 000. If the predefined IBM Tivoli Monitoring user generated by ABAP is used, enter the client number that was specified in the transport import. This number is the same as the *nnn* client number under the Profile Name here: "Using SAP transport and defining the user" on page 16.

User ID

SAP user ID for the RFC login to SAP, defaults to IBMMON_AGENT, which is the predefined user ID created during the import.

Password

Use one of these two options:

Password

SAP password for the user ID that you specified, for example, you enter a user-defined ID and password.

A default password, for example, ITMYSAP for an IBMMON_AGENT user.

Language

Language code that indicates the language that the agent is to use when it connects to the SAP system. The language specified here determines the language in which you see SAP information, such as alert messages, syslog messages, and job log messages.

All SAP systems are delivered in English and German. If you require a different language, confirm with your SAP Administrator that the language is installed on the SAP system. Specifying an unsupported language prevents the agent from connecting to the SAP system.

The following languages and codes are supported:

- CS - Czech
- EN - English
- FR - French
- DE - German
- HU - Hungarian
- IT - Italian
- ES - Spanish
- JA - Japanese
- KO - Korean
- PL - Polish
- PT - Portuguese
- RU - Russian
- ZH - Chinese
- ZF - Traditional Chinese

RFC Trace

RFC trace setting for the SAPTRACE variable. When you select this check box, you activate RFC tracing and the default is no RFC tracing. For the command line, 0 = No trace and 1 = Do trace. Because RFC tracing generates extensive diagnostic information, use RFC tracing with the guidance of IBM Software Support.

View RFC Trace

If you are using the GUI, click **OK** to save the configuration values in the system registry.

3. If you are using the GUI, click **OK** to save the SAPROUTESTRING configuration value that you define in the system registry. SAPROUTESTRING is a route string that describes a connection required between two hosts using one or more SAProuters. Each of these SAProuters then checks the Route Permission Table to see whether the connection between the predecessor and successor is allowed, and if the connection is allowed, the SAProuter sets it up.
4. If you want to create another instance of the SAP agent, repeat Steps 1 - 3. Use a unique System Identifier for each SAP agent instance that you create.

Configuring the SAP agent remotely

You configure the SAP agent remotely by using either the **tacmd** command or the **configureSystem** command.

Procedure

1. To configure the SAP agent remotely by using the **configureSystem** command, enter the information for the property that you are changing. For information about the configuration settings, see Table 2 in “Deploying the monitoring agent by using the tacmd command” on page 20.
2. Open the Tivoli Enterprise Portal.
3. Navigate to the system where the agent that you want to configure is located.
4. Select the agent.
5. Right-click the agent and click **Configuration**.
6. Modify the parameters.
7. Click **OK** to save the changes.

The following examples show the **ConfigureSystem** command:

Remote reconfiguration for the Application server mode

```
./tacmd configureSystem -m P10-ps8805:fvssun11-1:mySAP -p INSTANCE=P10
sap_conn.sap_conn_mode=appsrvmode
sap_apprsvmode.sap_hostname=ps8805sap_apprsvmode.sap_systemno=00
sap_logon.sap_clientno=200
sap_apprsvmode.sap_gwhost=IBMSAP1 sap_apprsvmode.sap_gwservice=3300
sap_logon.sap_userid=IBMMON_AGENT
sap_logon.sap_password=ITMYSAPsap_logon.sap_language=EN
```

Remote reconfiguration for the Logon Group mode

```
./tacmd configuresystem -m PS5-ibmsap3v1:fvssun11-1:mySAP -p INSTANCE=PS5
sap_conn.sap_conn_mode=loggrpmode sap_loggrpmode.sap_logongroup=LG1
sap_loggrpmode.sap_msgserver=ibmsap3v1 sap_loggrpmode.sap_msgservice=3600
sap_logon.sap_userid=IBMMON_AGENT sap_logon.sap_password=ITMYSAP
sap_logon.sap_clientno=100
sap_logon.sap_language=EN
```

Upgrading the SAP agent from a previous installation

You can upgrade from a previous installation of IBM Tivoli Composite Application Manager Agent for SAP Applications in an IBM Tivoli Monitoring environment.

Procedure

1. Upgrade the IBM Tivoli Monitoring installation to one of the minimum supported versions. For more information about the minimum supported versions, see the *IBM Tivoli Monitoring Installation and Setup Guide*.
2. Upgrade the IBM Tivoli Composite Application Manager Agent for SAP Applications installation to version 7.1 Fix Pack 1.
3. Import the IBM Tivoli Composite Application Manager Agent for SAP Applications version 7.1 Fix Pack 1 Advanced Business Application Programming (ABAP) transport to the SAP system. For more information about importing this transport, see “Importing the Advanced Business Application Programming (ABAP) transport on the SAP system” on page 15.
4. Start IBM Tivoli Composite Application Manager Agent for SAP Applications. For more information about starting IBM Tivoli Composite Application Manager Agent for SAP Applications, see “Starting or stopping the SAP agent” on page 29.

Upgrading the SAP agent in Windows

You can upgrade the SAP agent from a previous installation locally on Windows monitoring servers. As you complete the upgrade procedure, the SAP agent is stopped.

Procedure

1. To start the installation, in the \WINDOWS subdirectory, double-click the setup.exe file. For distributed products, use the agent product CD and for z/OS® products, use the data files CD.
2. In the Welcome window, click **Next**.
3. In the Install Prerequisites window, read the prerequisites and the information about the SAP agent, and click **Next**.
4. After you accept the license agreement, to select the agent that you want to install, expand the **Tivoli Enterprise Monitoring Agent-TEMA** node. A list of monitoring agents to install on the monitoring server is shown.
5. In the Select Features window, select IBM Tivoli Composite Application Manager Agent for SAP and click **Next**.
6. In the Start Copying Files window, read the list of actions that must be completed. To start the installation, click **Next**.
7. To continue the installation, click **YES**. The upgrade procedure starts.
8. Ignore the feature installation error and to proceed with the installation, click **OK**.
9. In the Setup Type window, click **Next**.
10. Enter the following configuration details for the SAP agent in the Configuration Defaults for Connecting to a TEMS dialog box.
 - a. Enter the host name or the IP address of the Tivoli Enterprise Monitoring Server, for example, IBMSAP2V15 and click **OK**.

Note: When you upgrade the SAP agent to version 7.1 Fix Pack 1, you might receive the following error: An error occurred during password decryption. Return code:44. For more information about troubleshooting this error, see “Installation and configuration troubleshooting” on page 305.

- b. Select one of the following SAP connection modes: Application Server Mode or Logon Group Mode. For more information about the SAP connection modes, see “Configuring the SAP agent locally” on page 21
 - c. Enter the configuration parameters and values for the connection mode that you selected and click **OK**. For more information about these configuration parameters, see “Environment variables in script files” on page 34.
 - d. Enter the mySAP system information. For example, enter 10.77.85.100 as the SAP host name and 04 as the System number.
 - e. Use the Test Connection feature to verify that you can connect to the SAP system successfully. For more information about this feature, see “Test Connection feature” on page 45.
 - f. Click **OK**.
11. Click **Finish**.

Upgrading the SAP agent on UNIX or Linux

You can upgrade the SAP agent on UNIX or Linux monitoring servers. The SAP agent is stopped during the upgrade process.

Procedure

1. Run the `./install.sh` command by using the following installation media:
 - Use the agent product CD for the distributed agent products.
 - Use the data files CD for the z/OS agent products.
2. Press **Enter** to accept the /opt/IBM/ITM default directory as the IBM Tivoli Monitoring home directory, or type the full path to the installation directory that you used for the previous installation.
3. Select one of the following options, for example, type 1 to install the products locally, or type 2 to install the products remotely.

- 1) Install the products to the local host.
- 2) Install the products to the depot for remote deployment.
- 3) Install Tivoli Enterprise Monitoring Server support for remote seeding.
- 4) Exit the installation.

Important: The **Install the products to the depot for remote deployment** option requires the Tivoli Enterprise Monitoring Server.

4. Read through the agreement, and type 1 to accept the agreement or type 2 to reject the agreement.
5. To install the additional components, type 1. For example, to select the **IBM Tivoli Monitoring components for this operating system** component from the following list of options, type 1:
 - 1) IBM Tivoli Monitoring components for this operating system
 - 2) Tivoli Enterprise Portal Browser Client support
 - 3) Tivoli Enterprise Portal Server support
 - 4) Tivoli Enterprise Monitoring Server support
 - 5) Other operating systems
6. To confirm your selection, type 1.
7. To upgrade the SAP agent, and to select the **all of the above** option from the following list of options, type 3:
 - 1) IBM Tivoli Composite Application Manager Agent for SAP V07.10.01.00
 - 2) Tivoli Enterprise Services User Interface Extensions V06.22.02.00
 - 3) all of the above
8. Type 1 to confirm your selection.
9. Complete one of the following steps:
 - To add an additional component, for example, Tivoli Enterprise Portal Server support or Tivoli Enterprise Monitoring Server support, type 1.
 - To proceed with the installation, type 2.
10. To refresh the TEMS server, in the Manage TEMS Mode window, in the **View** menu, click **Refresh**. After you upgrade the SAP agent successfully, you must refresh the Tivoli Enterprise Monitoring Server configuration to check for the upgraded version of the SAP agent.

Upgrading the SAP agent remotely

You can upgrade the SAP agent remotely by using the command line.

Procedure

1. Complete the addbundles procedure. For more information about the **tacmd addbundles** command, see the *IBM Tivoli Universal Agent API and Command Programming Reference Guide*.

2. Use the **updateagent** command as shown in the following example:

```
tacmd updateagent -t SA -n Primary:IBMSAP1-V20:NT -v 071001000
```

This command has the following syntax: `managed-os [{-v | --version} version] [{-f | --force}]` where:

-t type Specifies the type of agent to update.

-n node managed-os

Identifies the node on the computer where the agent that you want to update resides.

-v version

Specifies the version of the agent to which you want to upgrade.

You must use the following format to specify the version of the agent: `vvrrmmfff` where *vv* = *version number* and *rr* = *release number*.

3. To check the status of the upgrade, use the **getDeployStatus** command, as shown in the following example:

```
tacmd getDeployStaus -c UPDATE  
or  
tacmd getDeployStatus -g
```

Product upgrade configuration

Use manual updates if you upgrade from a previous version of the SAP agent.

Perform manual updates in the following cases:

- If you are using a password file created with the `ksapwd` utility.
- If you are using Take Action command wrapper scripts, such as **ksar3** or **ksanfy**, or copies of these scripts.

Password file changes

Version 6.2 of the SAP agent uses a new password encryption algorithm that is different from the one used in prior releases. This new algorithm is used when encrypting new clear-text passwords and when decrypting all encrypted passwords.

If the agent encounters an encrypted password that was encrypted with the old algorithm, the agent decrypts the password to an incorrect clear-text string and uses that password in an RFC OPEN call. The SAP system rejects the logon request because of an invalid password. If you make repeated attempts to log on with the incorrect password, the SAP system locks that user ID.

Encrypted passwords exist in upgraded installations in the following areas:

- Agent configuration files: Registry on Windows or `localhost_sa_SID.cfg` files on UNIX systems
- Password files created with the `ksapwd` utility
- Take Action command wrapper scripts such as **ksar3** and **ksanfy**

During the upgrade process, the SAP agent upgrade converts encrypted passwords that exist in the agent configuration files. This conversion occurs for all configured agents on both Windows and UNIX systems. You do not need to perform any actions to correct these passwords.

Encrypted passwords that are stored in `ksapwd` files are not converted during the upgrade process. You might be using a password file for the agent itself or for Take Action command utility scripts. If so, you must rerun the `ksapwd` utility after the upgrade to generate a new encrypted password in your password file. Failure to upgrade your password files can result in locked user IDs on your SAP system.

Encrypted passwords that are hard-coded in wrapper scripts are not converted during the upgrade process. See “Take Action command script changes” for more information about these files.

Take Action command script changes

The Take Action command scripts are updated to include environment variables that access and reference new encryption libraries and paths. Also, UNSET statements pass default values from the runtime agent to the Take Action command scripts.

The Take Action command scripts include the following scripts:

- For the `ksar3exe` program, **ksar3** on UNIX systems and **ksar3.bat** on Windows systems
- For the `ksar3nfy` program, **ks3nfy** on UNIX systems and **ksanfy.bat** on Windows systems

On non-windows systems, the following SAP agent environment variables are updated in the shell scripts for Take Action and SAPOffice Mail utilities:

- **ARCHITECTURE**: The value for the **ARCHITECTURE** variable is updated from **tmaitm6** to **TAMITM6**.
- **ICCRTE_DIR**: In previous versions of the SAP agent, the value for the **ICCRTE_DIR** variable was taken from `/usr/local/ibm/gsk7`. However, in SAP Agent 7.1, this value is taken from `//gskit.config`.

The following tracing exports are included to generate the logs:

```
### set RAS1 tracing
export CTIRA_LOG_PATH=|CANDLEHOME|/logs
export KBB_VARPREFIX='% '
export KBB_RAS1_LOG='% (CTIRA_LOG_PATH)/aquarius_sa_
%(SAPSYSTEMNAME)_%(syspgm)_%(sysutcstart)-.log
INVENTORY=% (CTIRA_LOG_PATH)/aquarius_sa_
%(SAPSYSTEMNAME)_%(syspgm).inv COUNT=03
LIMIT=5 PRESERVE=1 MAXFILES=9'
export KBB_RAS1='ERROR'
```

Note: In this example, the variables are used in Take Action, SAP Office and Password Encryption/Decryption shell scripts for exporting the *LD_LIBRARY_PATH*, *LIBPATH*, *SHLIB_PATH*, and *ICCRTE_DIR* to the respective utilities binaries.

```
export LD_LIBRARY_PATH=|CANDLEHOME|/|BINARCH|/sa/lib:|CANDLEHOME|
/|ARCHITECTURE|/lib:|ICCRTE_DIR|/lib
export LIBPATH=|CANDLEHOME|/|BINARCH|/sa/lib:|CANDLEHOME|
/|ARCHITECTURE|/lib:|ICCRTE_DIR|/lib
export SHLIB_PATH=|CANDLEHOME|/|BINARCH|/sa/lib:|CANDLEHOME|
/|ARCHITECTURE|/lib:|ICCRTE_DIR|/lib:/usr/lib
export ICCRTE_DIR=|ICCRTE_DIR|
export KEYFILE_DIR=|CANDLEHOME|/keyfiles
```

During the upgrade process, the default wrapper scripts, *ksar3* and *ksanfy*, are updated for all of the environment variable and UNSET statement changes. If you are using the default wrapper scripts, the only changes you must make are for updated password values if you included these values in the wrapper scripts.

If you made copies of the default wrapper scripts, your copies are not updated during the upgrade process. You must make all the updates manually. Compare the updated 6.2 wrapper scripts with your scripts to determine the changes that you need to make.

If you included encrypted passwords in the wrapper script files, you must update these encrypted passwords also to avoid locking your SAP system user ID. Use the *ksapwd* utility after upgrade to encrypt your password. If your wrapper script includes the encrypted password, then copy the new encrypted password into the wrapper script. If your wrapper script is using a password file, regenerate the password file with the *ksapwd* utility.

Starting or stopping the SAP agent

Depending on your operating system, to start or stop the SAP agent, you can use either the Windows or UNIX GUI or a command line.

You use the GUI in Windows or UNIX to start and stop the SAP agent. For UNIX operating systems, you can also use the command line.

When using the command line to start or stop the SAP agent, use the *-o* option to specify which SAP instance to control. For example:

```
itmcmd agent -o system_identifier start sa
```

or

```
itmcmd agent -o system_identifier stop sa
```

where:

system_identifier

Three-character SAP system ID for the SAP system.

For example, the following command starts a SAP system with the system ID of QA1:

```
itmcmd agent -o QA1 start sa
```

For more information about the **itmcmd agent** command, see the *IBM Tivoli Monitoring Command Reference*.

Advanced installation and configuration of the SAP agent

The following installation and configuration topics are described:

- “Using remote management” on page 31
- “SAP user IDs” on page 32
- Utilities for the SAP agent
 - “Automated functions” on page 33
 - “SAP Office email” on page 34
 - “Environment variables in script files” on page 34
 - “SAP password encryption” on page 36
 - “Using the sapshcut command” on page 36
- “SAP RFC connections” on page 32
- “Test Connection feature” on page 45
- “Optional advanced configuration in SAP” on page 37
- “CEN CCMS reporting” on page 43
- “Non-Unicode double-byte language support” on page 44
- “Uninstalling the Advanced Business Application Programming (ABAP) transport from the SAP system” on page 44

SAP function module

When the data volume is high on the SAP server, you might experience problems with certain workspaces causing a slow response time from the server. If the workspaces are not critical, you can disable the associated SAP function module.

By default, the SAP agent function modules are enabled. When you disable the SAP function module, if you select a workspace, data is not displayed on the Tivoli Enterprise Portal. Therefore, you avoid any performance-related problems.

The following function modules are disabled by default and you can enable them:

- HTTP services under the SYS subnode (/IBMMON/ITM_HTTP_SRVS)
- XML messages under the PI/XI subnode (/IBMMON/ITM_SXMB_MONI_NEW)
- Sync/Async communication under the PI/XI subnode (/IBMMON/ITM_SYN_ASYNC_COMM)
- qRFC inbound queue details under the Sys subnode (/IBMMON/ITM_QIN_QDETAILS)

Related tasks:

“Enabling the SAP agent function module”

By default, the SAP agent function module is enabled. However, you may need to enable it again if you have disabled it previously to resolve performance problems.

“Disabling the SAP function module” on page 31

Some workspaces may cause a slow response from the SAP server and you can disable the SAP function module to improve the server performance.

Enabling the SAP agent function module

By default, the SAP agent function module is enabled. However, you may need to enable it again if you have disabled it previously to resolve performance problems.

Procedure

1. By using the SAP GUI, logon to the SAP system.
2. Run the SE16 transaction code.
3. Enter /IBMMON/ITM_CNFG as the table name.
4. Select the row to delete and press **shift + F2** to delete the entry.
5. Click **Save**.

Disabling the SAP function module

Some workspaces may cause a slow response from the SAP server and you can disable the SAP function module to improve the server performance.

Procedure

1. By using the SAP GUI, logon to the SAP system.
2. Run the SE16 transaction code.
3. Enter /IBMMON/ITM_CNFG as the table name.
4. To create a new entry, press **F5**.
5. In the **PARM NAME** field, enter the name of the SAP function module.
6. In the **VALUE CHAR** field, enter No.
7. Click **Save**.

Using remote management

The SAP agent completes its functions by using SAP Remote Function Calls (RFC).

About this task

The RFC architecture allows calls between network connected computers. That is, the SAP agent must not stay on the same physical computer as your SAP servers. It can remain on a remote computer. You might want to use remote management in the following cases:

- When SAP systems are under strict change control, minimize SAP system changes by not having the monitoring component on the SAP computers.
- Minimize resource usage (CPU, memory, disk) on the SAP computers. This minimal resource usage is useful if you use intensive historical data collection operations on the SAP agent or when SAP platforms have limited resources for additional operations.
- Monitor SAP systems on any operating system or hardware platform. For example, the SAP agent does not run natively on OS/400®, but you can manage your OS/400 SAP systems by using remote management.

To implement remote management, complete the following steps:

Procedure

1. Install the SAP agent on a computer or operating system supported by the agent, such as Windows 2003 Enterprise Edition.
2. Ensure that you have not set firewall limitations between this computer and the SAP application server to which you want to connect.
3. Configure the agent on this computer. When prompted for the host name and gateway host names, enter the name of the computer on which the SAP application server is running.
4. Complete the rest of the configuration section.

Local management is appropriate in the following environments:

- Environments that require other local IBM Tivoli Monitoring operating system and database agents on SAP systems

- Environments with SAP systems that have sufficient resources for additional operations
- Small environments with few SAP systems

SAP user IDs

This section provides information about SAP user IDs and permissions required by the SAP agent.

User IDs support the following purposes:

- “Basic agent monitoring”
- “Take Action commands and SAP permissions” on page 33
- “SAPGUI” on page 33
- “Using Central User Administration (CUA)” on page 33

SAP RFC connections

The SAP agent uses Remote Function Calls (RFC) connections for internal Centralized Computing Center Management (CCMS) polling and CCMS alert data collection. This behavior is specific to the SAP RFC architecture.

The SAP agent opens one dedicated RFC connection to the SAP system that is monitored by the agent. The SAP system then opens one internal connection per application server for data collection through function modules and programs. If CCMS alerts are collected by the agent, the SAP system opens one additional (system internal) RFC connection to each application server for this collection thread. When data collection starts, one RFC connection for the agent is opened. Then, up to twice the number of SAP application servers for additional internal system RFC connections are opened.

You must ensure that the instance that is monitoring can accommodate the additional RFC sessions, especially in large systems with 10 or more instances. When the anticipated RFC load for monitoring might adversely affect system performance and tolerances, adjust the SAP profile parameter. Contact your SAP Administrator and see the following SAP Notes:

- Terminal Sessions (default setting: 200) 22099
- communication/Gateway/Conversation Settings 887909 316877 384971

Basic agent monitoring

The SAP agent creates an IBMMON_AGENT in the SAP system when the agent transport is imported.

This user ID is IBMMON_AGENT with the default password ITMMYSAP. It is preconfigured to be Communications user-only and to use the /IBMMON/AUTH authorization profile. This profile, which is created at transport import time, contains the minimal set of permissions to run the agent Advanced Business Application Programming (ABAP) code. Also, this profile accepts a set of limited actions on your SAP system.

If this user ID name is unacceptable, for example, if it violates your installation naming conventions, you can create a different user ID. The user ID can be any allowable SAP user ID, but it requires the complete set of permissions in the /IBMMON/AUTH profile. The user ID requires Communication user-only access.

The default user ID provides sufficient authority only for the following purposes:

- Monitoring and data collection
- Closing Computing Center Management System (CCMS) alerts
- Enabling, disabling, and resetting gateway statistics
- Resetting Oracle database statistics

If you choose to limit the action capabilities of the agent, you can remove some of the action permissions such as closing CCMS alerts.

Take Action commands and SAP permissions

Take Action commands such as **Cancel Job**, **Delete Job**, **Start job**, and **Output Request** require additional SAP permissions.

The agent provides a set of Take Action commands that require additional SAP permissions. The default user ID does not have permission for these functions. The following Take Action commands are affected:

- **Cancel Job**
- **Delete Job**
- **Output Request**
- **Start Job**

If you want to allow the agent to take these actions, you must grant additional permissions to the agent user ID. Alternatively, you can provide a separate user ID with these limited permissions. You configure the user ID to use the SAP agent by using the `ksar3` and `ksapwd` capabilities.

For configuration information, see:

- “Automated functions”
- “SAP Office email” on page 34
- “SAP password encryption” on page 36

SAPGUI

Use the SAP agent to open a SAPGUI session directly in the SAP system from workspace views within the agent.

The SAPGUI logon parameters default to the Windows user ID.

If you want to allow users to access your SAP systems and take actions in them, you can provide additional user IDs for this purpose. Any user IDs that you add with permissions to open the GUI can be configured into the SAP agent by using the procedures described in “Using the `sapshcut` command” on page 36.

Using Central User Administration (CUA)

You use the CUA to monitor a SAP system.

Procedure

To use the predefined user ID and authorization role to monitor a SAP system set up with Central User Administration, complete one of the following steps:

- Install the transport into the Central User Administration parent logical system client.
- Manually create the user ID or role in the client where you want to install the transport. The user ID or role is in the client where the transport is installed (imported).
- Manually create the user ID or role in the Central User Administration parent logical system client. Then, distribute the user ID or role to the client where the agent runs.
- Manually create the user ID or role in the Central User Administration parent logical system client and run the agent in this client.

Automated functions

You use the `ksar3` and `ksar3exe` utilities to run automated functions.

The SAP agent provides the `ksar3exe` utility to run an action in a SAP system that you are monitoring. The SAP agent provides the `ksar3` script (batch or shell) as a wrapper for this utility. The script is used to

set or override environment variables required by the utility, in particular, the SAP user ID and password. Always use the script in your automation functions such as Take Action commands, situation actions, and policy actions.

For more information about setting environment variables in these scripts, see “Environment variables in script files.”

For detailed command syntax and examples, see “ksar3” on page 418 and “ksar3exe” on page 419.

SAP Office email

You use the `ksanfy` and `ksar3nfy` utilities to send SAP Office email.

The SAP agent provides the `ksar3nfy` utility to send mail items to SAP Office inboxes in a SAP system that you are monitoring. Then, you deliver information or instructions to administrative users. The SAP agent provides the `ksanfy` script (batch or shell) as a wrapper for this utility. The script is used to set or override environment variables required by the utility, in particular the mySAP user ID and password. Always use the script in your automation functions such as Take Action commands, situation actions, and policy actions.

For more information about setting environment variables in these scripts, see “Environment variables in script files.”

For detailed command syntax and examples, see “`ksanfy`” on page 415 and “`ksar3nfy`” on page 416.

Environment variables in script files

All required environment variables are passed to the `ksar3` and `ksanfy` scripts from the Tivoli Enterprise Portal.

Use the information in this section to modify your `ksar3` and `ksanfy` script files to override these variables. You can set the logon environment variables in Table 5. For information about these variables, see the descriptions for the values in Step 2 in: “Configuring the SAP agent locally” on page 21.

Note: Do not modify the series of lines at the top of the script that use the **unset** command to set environment variables to empty values. Make changes after the top section of the script that is marked as DO NOT MODIFY THESE LINES.

Table 5. Logon environment variables

Variables	Values described in Configuring the SAP agent, Step 2: “Configuring the SAP agent locally” on page 21
INSTANCE	System identifier
sap_conn.sap_conn_mode	Connection Mode
sap_loggrpmode.sap_logongroup	SAP Logon Group
sap_loggrpmode.sap_msgserver	Logon group SAP Message Server
sap_loggrpmode.sap_msgservice	Logon group SAP Message Service
sap_logon.sap_userid	User ID
sap_logon.sap_password	Password
sap_logon.sap_language	Language
sap_routestring	SAP Route String

See the following example for using the Logon Group Mode:


```
tacmd addSystem -t sa -n ibmsap2v16:LZ -p INSTANCE=PS5
sap_loggrpmode.sap_logongroup=PSL
sap_loggrpmode.sap_msgserver=IBMVSA1
sap_loggrpmode.sap_msgservice=3600
sap_logon.sap_userid=IBMMON_AGENT
sap_logon.sap_password=ITMMYSAP
sap_logon.sap_clientno=100
sap_loggrpmode.sap_routestring=
sap_logon.sap_language=EN
```

SAPPASSWORD can have the following values:

Password

Plain text or encrypted password

FILE() Instructs the utility to read the encrypted password from the default ksa.pwd file in the current directory. To create this file, see “SAP password encryption” on page 36.

FILE(file_name)

Instructs the utility to read the encrypted password from the file_name file. file_name can be either a simple file name or a path and file name. To create this file, see “SAP password encryption” on page 36.

Use the **ksanfy** command to send SAP Office email to SAP users.

Note: The command is called **ksanfy.exe** on Windows systems and **ksanfy** on UNIX systems.

Before you send mail, you must set the environment variables shown in the following table in the ksanfy.bat file.

Table 6. Environment variables for the Application server mode and the Logon group mode

Mode	Environment variables
Application Server Mode	set SAPHOST=
	set SAPHOST2=
	set SAPHOST3=
	set SAPSYSTEMNUMBER=
	set SAPSYSTEMNUMBER2=
	set SAPSYSTEMNUMBER3=
	set SAPGATEWAY=
	set SAPGATEWAY2=
	set SAPGATEWAY3=
	set SAPGATEWAYSERVICE=
	set SAPGATEWAYSERVICE2=
	set SAPGATEWAYSERVICE3=
	set SAPSYSTEMNAME=
	set SAPCLIENT=
	set SAPUSER=
	set SAPPASSWORD=

Table 6. Environment variables for the Application server mode and the Logon group mode (continued)

Mode	Environment variables
Logon Group Mode	set SAPHOST=
	set SAPSYSTEMNAME=
	set SAPCLIENT=
	set SAPUSER=
	set SAPPASSWORD=
	set SAPLOGONGROUP=
	set SAPMSGSERVER=
	set SAPMSGSERVICE=
	set SAPROUTESTRING=

Important: All parameters with a field name that includes the digit 2 or the digit 3 are **alternate1** and **alternate2** parameters. For example, SAPHOST, SAPSYSTEMNUMBER, SAPGATEWAY, and SAPGATEWAYSERVICE. All parameters with a filename that ends with the digit 2 or 3 are **primary** parameters.

If you do not provide **primary** parameters, you must provide **alternate1** or **alternate2** parameters.

For example, to send a mail to a user, use this syntax: `ksanfy Recipient(User) Message(Message)`

The following return code is shown in the log:

```
0000 - for Successful send Mail to SAP User
0012 - for Connection Failure with SAP Server
```

SAP password encryption

The SAP agent provides the `ksar3pwd` utility to enable you to encrypt a SAP password and save it in a file.

The SAP agent provides the `ksapwd` script (batch or shell) as a wrapper for this utility.

See “`ksapwd`” on page 422 and “`ksar3pwd`” on page 423 for detailed command syntax and examples.

Using the `sapshcut` command

You use the **sapshcut** command to open the SAPGUI.

About this task

In most of the SAP agent workspace tables, you right-click on a table row and select **Launch**. A list of SAP transactions are shown that are relevant to the IBM Tivoli Monitoring workspace that you are viewing are shown.

When you select one of the Launch options, IBM Tivoli Monitoring starts the SAP command called **sapshcut** that in turn brings up the SAPGUI. IBM Tivoli Monitoring passes the appropriate parameters that start the selected SAP transaction on the SAP system that is being monitored.

For this feature to work, you must complete the following procedure:

Procedure

1. Install the SAPGUI on the computer where you are running the Tivoli Enterprise Portal desktop or browser. This computer must have a Windows operating system because the **sapshcut** command is available on Windows systems only. The SAP agent supports the Windows SAPGUI only, not the Java SAPGUI.
2. Add the directory that contains the **sapshcut.exe** command to your system or user path. The **sapshcut.exe** command is installed as part of the SAP client into the following directory: C:\Program Files\SAP\FrontEnd\SAPgui. To add additional directories to the system or user path on Windows systems, select **Control Panel > System > Advanced > Environment Variables**.
3. Restart the Tivoli Enterprise Portal desktop or browser after you modify the path.
4. Configure saplogon for any systems to which you want to connect. It is optional to reduce the number of SAPGUI prompts.
5. Make sure the saplogon description starts with the SID. It is optional to reduce the number of SAPGUI prompts.

By default you are logged on to the SAPGUI as follows:

- SAP system that is being monitored
- SAP client that was specified for the SAP agent
- Windows user ID

You can override these default logon parameters (client and user) by setting them in the sapshcut.bat file. You can also set the password and other SAP environment variables in this file.

You can override these default logon parameters (client and user) by setting them in the sapshcut.bat file. You can also set the password and other SAP environment variables in this file.

You can create and run a Windows sapshcut.bat file as a front end to the sapshcut executable file. The .bat file must be named sapshcut.bat(or sapshcut.cmd) and must be located in your default path preceding the sapshcut.exe file.

The following parameters are passed to the sapshcut.bat file when called from a predefined Launch definition:

- %1 keyword "-command"
- %2 transaction_name, for example: SM13
- %3 keyword "-system"
- %4 SAP_system_identifier, for example: TV1
- %5 keyword "-client"
- %6 client_number, for example: 100

The following example shows a sample sapshcut.cmd file. In this example, you use a different user ID and password when **sapshcut** is run through the Application Launch for the SAP system TV1. All other SAP systems use the default logon parameters.

```
@echo off set sapshcut="C:\Program Files\SAP\FrontEnd\SAPgui\sapshcut.exe"
if "%4" == "TV1" (
    %sapshcut% %* -user=myid -password=mypwd
) else (
    %sapshcut% %*
)
```

Optional advanced configuration in SAP

You configure the SAP agent by using standard SAP or agent-provided SAP functions.

Use agent-provided transactions in SAP to customize a number of agent behaviors. After you run the /n/IBMMON/ITM_CONFIG transaction to access the main configuration menu in SAP, select one of the following configuration options:

- “Copy, back up, restore feature and transactions”
- “Copy, back up, and restore data by using transactions” on page 39
- “Command line utility tool” on page 40
- “Running the command line utility on a Windows environment” on page 40
- “Running the command line utility on a Non-Windows environment” on page 41
- “IBM Tivoli Monitoring generated alerts maintenance” on page 41
- “Default sample periods maintenance” on page 41
- “Log file name maintenance” on page 41
- “Managed groups maintenance” on page 42
- “Select monitor sets and monitors transaction” on page 42

Note: You must preface all /IBMMON/ITM* transactions with /n.

Configuration changes made in these transactions are used immediately by the SAP agent except for those changes made to maintain managed groups. When the managed group configuration changes, the changes are discovered by the SAP agent at the next heartbeat.

Use SAP standard functions to complete the following configuration: “Configure Dialog Step Response Threshold in the SAP system” on page 42

Copy, back up, restore feature and transactions

The Copy, back up, and restore feature is available to you after you log on to the SAP server and run the following transaction: /n/IBMMON/ITM_CONFIG.

Copy, backup, and restore operations allow you to backup, restore, and copy IBM Tivoli Monitoring configuration data.

Use this feature to select from the following functions and to save the IBM Tivoli Monitoring configuration data:

- **Copy**

Use this feature to copy the IBM Tivoli Monitoring configuration settings from one SAP server to another SAP server. For example, you might want to copy the IBM Tivoli Monitoring configuration settings from agent **a1** to SAP server instance SAP2. This agent runs on system **m1** and is configured for SAP server instance SAP 1. All the IBM Tivoli Monitoring configuration settings, except the SAP server instance monitoring settings are copied to the target SAP system. You implement the copy feature by using either the command line utility or the SAP GUI.

- **Backup**

You store agent specific configurations that you completed on the SAP server by taking a backup of the system. Use this feature to save IBM Tivoli Monitoring specific configuration settings on the SAP system. You use the /IBMMON/ITM_CONFIG transaction to enter the settings. The backup file is stored in the work directory on the SAP server to the following path: /usr/sap//DVEBMGS/work.

- **Restore**

Use this feature to restore IBM Tivoli Monitoring configuration data on the SAP server from the work directory. You restore the IBM Tivoli Monitoring configuration data on the same SAP server where you completed the backup procedure of this configuration data or another SAP server. You can restore IBM Tivoli Monitoring configuration data to specific SAP and IBM Tivoli Monitoring tables. Configuration files are stored with a date and time stamp so you can select the point to which you want to restore your files.

You can backup IBM Tivoli Monitoring configurations that you completed for the SAP agent version 6.20. Then, after you upgrade to the SAP agent version 7.1 Fix Pack 1, you apply these saved configurations to the SAP system.

However, you must complete the following procedure to import a separate ABAP transport to the SAP server before you upgrade the agent:

1. Import the IBM Tivoli Monitoring file from the \ABAP\UPGRADE directory in the Installer.
2. Run the **se38** transaction code.
3. Enter **ZITM_CONFIG_BACKUP** as the program name and run this program to create a backup file.

Agent-specific configurations include configuration settings in the /IBMMON/ITM_CONFIG transaction in SAP. You can complete the following configuration procedures:

- Sample the frequency for alerts.
- Enable specific alerts.
- Store log file names.
- Manage group definitions.
- Select monitor sets and monitors.
- Select SAP instances for monitoring purposes.

Related tasks:

“Copy, back up, and restore data by using transactions”

On the SAP user interface, you copy, back up, and restore data by using the /n/IBMMON/ITM_CONFIG transaction.

Copy, back up, and restore data by using transactions

On the SAP user interface, you copy, back up, and restore data by using the /n/IBMMON/ITM_CONFIG transaction.

Before you begin

Use the Copy, Backup, and Restore procedures to copy the IBM Tivoli Monitoring configuration settings from one SAP server to another SAP server. All the IBM Tivoli Monitoring configuration settings, except the SAP server instance monitoring settings are copied to the target SAP system.

Procedure

Complete the following procedures to copy, back up, and restore your data on SAP:

• Copy

1. Enter the target SAP system ID and the existing file name as source system
id__<filename>date_time.

The /IBMMON/ITM_COPY transaction creates an IBM Tivoli Monitoring configuration file in the work directory with the filename as SAP target SAP system id__<filename>_date_time.

2. Click **Execute** to copy the IBM Tivoli Monitoring configuration data to the file.
3. To return to the previous IBM Tivoli Monitoring configuration screen, click **Back** or **Cancel**.

Input parameters expected are **Target System id** and **filename** that has to be copied.

• Backup

1. Log on to the SAP server and start the /IBMMON/ITM_CONFIG transaction.
2. Select **Backup**.
3. Enter the backup filename.
The file name is stored as sys_id_<filename>_date_time.
4. Click **Execute** to run the backup and to store the file on the Application Server.

Note: The backup file is stored in the work directory of the application server.

5. To return to the previous IBM Tivoli Monitoring configuration screen, click **Back** or **Cancel**.

• Restore

1. Log on to the SAP server and start the /IBMMON/ITM_CONFIG transaction.
2. Select **Restore**.
3. Enter the filename to restore as sys_id_<filename>_date_time.
4. Click **Execute** to restore IBM Tivoli Monitoring configuration data.
5. To return to the previous IBM Tivoli Monitoring configuration screen, click **Back** or **Cancel**.

Command line utility tool

You use the command line utility tool to copy, backup, and restore IBM Tivoli Monitoring configuration data on the SAP server.

You run the command line utility tool on Windows and Non-Windows environment. See “Running the command line utility on a Windows environment” and “Running the command line utility on a Non-Windows environment” on page 41.

• Copy

You run the **backup** command to copy the IBM Tivoli Monitoring configuration file from the agent directory SAP server instance sap1 to sap2. You enter the filename and sap1 as the source system from the sap1 agent directory. Then, the ABAP function is called that copies the IBM Tivoli Monitoring settings from this file to the IBM Tivoli Monitoring configuration file for Sap2. You select **Copy** from the sap1 agent directory utility tool and enter a filename and sap2 as the target SAP system.

• Backup

After you run the command line utility tool, you select the **Backup** option. Then, you enter the filename and the SAP system ID. The tool calls the /IBMMON/ITM_BACKUP SAP function module. The function module reads the specific IBM Tivoli Monitoring configuration settings that are stored in tables and stores them with a row and column separator. Then, the command line utility tool reads the string and writes the data into a file. The filename that is generated has the following format: ID>_<filename>-<date&time>. This file is stored in the directory where the utility program is stored.

• Restore

After you run the command line utility tool, you enter the filename to restore and the target SAP system where you want to restore the file. The command line utility tool reads the file from the agent directory and calls the /IBMMON/ITM_RESTORE SAP function module. Then, the tool passes the IBM Tivoli Monitoring configurations as a string. The SAP function module updates the specific IBM Tivoli Monitoring tables and restores the specific IBM Tivoli Monitoring configurations.

Running the command line utility on a Windows environment

You run the command line utility on a Windows environment to complete copy, backup, and restore procedures.

Procedure

1. Depending on your operating system, complete one of the following procedures:
 - For a 32-bit operating system, run the **ksacopybackuprestore.exe** command from the following path: %candle_home%\ TMAITM6.
 - For a 64-bit operating system, run the **ksacopybackuprestore.exe** command from the following path: %candle_home%\ TMAITM6x64.
2. To create a backup file, complete the following steps:
 - a. Select **Backup** and enter the file name and source SAP system name.
 - b. The backup file is created with the following format: SYS ID>_<filename>_<date&time>.
3. To restore the file, complete the following steps:
 - a. Select **Restore** and enter the target SAP system name.
 - b. Enter the filename.
4. To copy the file, complete the following steps:
 - a. From the source agent, select **Backup** and create a backup file.

- b. Copy the backup file from the source agent directory to the target agent directory.
- c. From the source directory, run the command line utility tool and select **Copy**.
- d. Enter the file name and the target SAP system.

Related tasks:

“Running the command line utility on a Non-Windows environment”

You run the command line utility on a Non-Windows environment to complete copy, backup, and restore procedures.

Running the command line utility on a Non-Windows environment

You run the command line utility on a Non-Windows environment to complete copy, backup, and restore procedures.

Procedure

1. Run the **ksacopybackuprestore.sh** command from the following path: /candle_home/<arch>/sa/shell.
2. To create a backup file complete the following steps:
 - a. Select **Backup** and enter the file name and source SAP system name.
 - b. The backup file is created with the following format: SYS ID>_<filename>_<date&time>. The backup file is saved to this location: %candlehome% / arch /sa/bin.
3. To restore the file, complete the following steps:
 - a. Select **Restore** and enter the target SAP system name.
 - b. Enter the filename.
4. To copy the file, complete the following steps:
 - a. From the source agent, select **Backup** and create a backup file.
 - b. Copy the backup file from the source agent directory to the target agent directory.
 - c. From the source directory, run the command line utility tool and select **Copy**.
 - d. Enter the file name and the target SAP system.

IBM Tivoli Monitoring generated alerts maintenance

You can modify alerts that are generated by Tivoli Monitoring by changing their status and thresholds.

This transaction is used to enable or disable alerts generated by Tivoli Monitoring and to set warning and critical thresholds. All alerts generated by Tivoli Monitoring are shown with their current status and threshold values.

When you modify alert status and thresholds, the modified values are used at the next sample time.

Default sample periods maintenance

The default sample period provides information about real-time reporting for certain attribute groups.

Some attribute groups have an implicit date and time for each record in the group. For example, the R/3_Abap_Dumps attribute group reports the create time for the dump and the R/3_System_Log attribute group reports the create time for the log entry. These records have a date and time field. You can obtain a report for a short history of the table instead of just the most recent information. This time interval is the time span for data collection and is used as the real-time interval when collecting data. The /IBMMON/ITM_PERIOD transaction defines a default sample period (time span for real-time reporting) for each of these attribute groups. The sample period identifies the length of the data sample period that starts from the current time and works back in time.

Log file name maintenance

Specific log files that are matched only to instances are included in IBM Tivoli Monitoring reports with log file information.

This transaction is used to identify which log files to consider for inclusion in IBM Tivoli Monitoring reports that contain log file information. All log files with a name that matches the specified name patterns on the specified instances are included in the report at the next data collection interval.

Managed groups maintenance

The Managed Group names transaction monitors and processes specific transactions in the SAP system.

Use this transaction to maintain IBM Tivoli Monitoring Managed Group definitions. All Managed Group names are passed to the Tivoli Enterprise Portal and shown in the Managed System Selection Lists. At the time of data collection, only data that matches the Attribute selection conditions are sent to the SAP agent. This data is shown in reports or used for evaluation in situations and policies.

You use Managed Groups to monitor subsets of information in the SAP system. You focus only on the parts of the SAP system in which you are interested and you ignore other parts that do not concern you. For example, if you are only interested in the response time of transactions that are part of the Financial Application, you create a Managed Group named Financials. Then, you include only Financial transaction codes in it. Whenever the Financials Managed Group is processed by the Tivoli Enterprise Portal only information that contains the specified transaction codes is considered when showing a report, evaluating a situation, or evaluating a policy.

Note: Managed group names cannot contain double-byte characters.

Select monitor sets and monitors transaction

Use the select monitor sets and monitors transaction to edit the Centralized Computing Central Management (CCMS) alerts configuration. For example, you can turn off CCMS alert collection completely.

This transaction is used to select the CCMS monitors from which IBM Tivoli Monitoring retrieves alerts. By default, the Entire System monitor is selected the first time this window is shown. You can change the monitor set, the monitor, or both the monitor set and monitor, and then save the configuration. You can select a maximum of three monitors for which to collect CCMS alerts.

To turn off CCMS alert collection completely, clear the check boxes for all of the monitors and save this configuration.

The agent that is already running reads this configuration and collects the CCMS alerts for the monitors that you selected. However, any CCMS alerts that were already collected by the agent before changing the CCMS alerts configuration remain with the agent and IBM Tivoli Monitoring.

In addition to selecting monitors and monitors sets, this transaction specifies the number of occurrences of an alert type to retrieve. Also, it helps you to decide whether to automatically close the older occurrences of the alerts that are not retrieved.

Configure Dialog Step Response Threshold in the SAP system

You configure a Dialog Step Response Threshold for any transaction by running the SE16 transaction.

Procedure

1. In the **Table Name** field, type /IBMMON/ITM_TRSH, and then select **Table Contents (F7)** to access the table.
2. To view the current threshold settings, select **Execute (F8)**. The transaction names are shown under **WORKLOAD** column; the threshold values are shown under the **THRESHOLD** column.
3. To add a new threshold setting, select **Create (F5)**. Type the transaction name in the **WORKLOAD** field. The following wildcards are accepted for the **WORKLOAD** value:
 - * matches multiple characters
 - + matches any single character

4. Type the threshold value, in milliseconds, in the **THRESHOLD** field. Select **Save** to save this setting. New and changed threshold values do not take effect immediately, but take effect under either of the following conditions:
 - The agent is restarted.
 - The agent reopens its RFC connection to the SAP system. This procedure occurs every 12 heartbeats which, by default, is about every 2 hours and 10 minutes.

Results

The value entered for the **Threshold** column is returned in the Dialog Step Response Threshold attribute of the R/3_Transaction_Performance attribute group.

CEN CCMS reporting

Centralized (CEN) Computing Center Management System (CCMS) is a SAP monitoring capability.

Use this capability to report CCMS alerts for multiple SAP systems to a central monitoring hub. You monitor the SAP environment from one CCMS console. Centralized CCMS reporting is best used in the following environments:

- Primarily a CCMS operation where CCMS alerts are the only monitoring data needed.
- Centralized CCMS is part of the SAP environment.
- Large SAP environments with many SAP systems such as ISV and ISP.
- IBM Tivoli Monitoring V5.x integration with SAP agent CCMS adapters.
- Collect alerts from non-ABAP SAP components and application servers.

The SAP agent supports Centralized CCMS for reporting alerts only. Then, you place one SAP agent on a Centralized SAP system and view CCMS alerts for the entire SAP environment. This support is provided in the following ways:

- When reporting CCMS alerts, the agent checks if the alerts are associated with the SAP system that is directly monitored by the agent. If the agent determines that an alert belongs to a different SAP system, it assumes Centralized CCMS and automatically creates additional R3_Group managed systems.
- The <local_SID>-All_CCMS_alerts:Grp managed system is used to report the complete set of alerts from all remote SAP systems. The value of <local_SID> is the system identifier for the SAP system that is directly monitored. For example, if the local SAP system is QA1, this group name would be QA1-All_CCMS_alerts:Grp.
- The <local_SID>-<remote_SID>_CCMS_alerts:Grp managed system is used to report all alerts for one remote SAP system. The value of <local_SID> is the system identifier for the SAP system that is directly monitored. The value of <remote_SID> is the system identifier for the remote SAP system. For example, if the local SAP system is QA1 and the remote SAP system is QA2, this group name would be QA1-QA2_CCMS_alerts:Grp.
- Each of these managed systems in the Navigator tree has the complete set of workspaces under it, but only the Alerts workspace has meaningful data.

The SAP agent maintains its definitions of Centralized CCMS groups in the Advanced Business Application Programming (ABAP) code in the directly managed SAP system. You might need to modify these definitions if a SAP system for which you are receiving centralized alerts is also being monitored directly by another instance of the SAP agent. You do not want alerts reported under both systems. You can limit the centralized alert reporting as follows:

- Use the /IBMMON/ITM_CONFIG transaction to Maintain Managed Groups. Change the All CCMS alerts group. Remove the remote system from this list by editing the group definition to EXCLUDE the remote system identifier.

- Use the /IBMMON/ITM_CONFIG transaction to Maintain Managed Groups. Delete the <remote_SID> CCMS alerts group. For example, if the remote SAP system is QA2, this group name would be QA2 CCMS alerts.

Alternatively, you can use Centralized CCMS to report alerts from all SAP systems, but prevent alert reporting from each locally installed agent. Use the following steps to set up this configuration:

- Configure an instance of the SAP agent to monitor the Centralized CCMS system. Allow the agent to detect and report all alerts from all remote SAP systems.
- Configure an instance of the SAP agent to monitor each remote SAP system. Disable alert collection and reporting for these agent instances by using the /IBMMON/ITM_CONFIG transaction to Select Monitor Sets and Monitors. Within this function, clear the check boxes for all monitors and save this configuration.

The SAP agent support for Centralized CCMS is used in a pure CCMS monitoring environment to view all alerts on a common console. Also, it can be used with its complete set of functions to provide situations, policies, and Take Action commands for the remote SAP systems.

Non-Unicode double-byte language support

You can install double-byte language support into a non-Unicode SAP system.

About this task

The SAP agent transport includes a number of text elements such as the following:

- Text elements obtained from the SAP system
- Text elements displayed on the SAP system by agent configuration windows

When you installed the transports into the SAP system, you selected either a Unicode transport or a non-Unicode transport. The Unicode transport contains translation support for all languages. The non-Unicode transport contains translation support for the single-byte Latin languages only.

You can install double-byte language support for Japanese, Korean, Simplified Chinese, or Traditional Chinese. You can install only the SAP agent language texts for a language that is already installed on your SAP system and your SAP system codepage supports the select language.

Procedure

1. Run the SA38 transaction for the /IBMMON/ITM_LOAD_LANGUAGES program. (At the initial screen, click **Display Instruction** to read the online instructions.)
2. Press **F4** to receive a list of available languages. The list contains all languages that are installed on your SAP system and identifies each language that is provided by the SAP agent
3. Select the language for which you require the SAP agent texts.
4. Press **F8** to install these text elements. Language text elements are normally installed in SAP systems as final text elements. The process outlined here uses raw translated text to generate text elements in your SAP system.

Uninstalling the Advanced Business Application Programming (ABAP) transport from the SAP system

If you choose to remove the SAP agent from your system, you must import Delete transport to the SAP system. Delete transport deletes the SAP agent dictionary objects and function modules.

Before you begin

If the SAP system is version 7.20 or later, before you import the delete transport, in your transport profile, you must add the following transport profile parameter: **tadirdelations=true**. This transport

profile parameter is available in tp version 375.57.68 and also in the R3trans version 6.14 release 700 or higher. For more information about removing transport requests from the SAP system, see Deleting transport requests.

Procedure

1. Go to the/ABAP directory on the product CD.
2. Copy the transport files into the SAP environment, see “Transport files” on page 17.
3. Copy the K710_00xxx_DELETE and R710_00xxx_DELETE files to the SAP Transport System data directory as follows:
 - a. Copy the K710_00xxx_DELETE file to the cfiles directory.
 - b. Copy the R710_00xxx_DELETE file to the data directory.
4. Run the following commands:
 - a. **tp addtobuffer ITMK710_00xxx_DELETE SID pf=\usr\sap\trans\bin\PROFILE_NAME**
 - b. **tp import ITMK710_00xxx_DELETE SID client=nnn U16 pf=\usr\sap\trans\bin\ PROFILE_NAME**
where:

SID Target SAP system ID

PROFILE_NAME

Name of the tp profile file

nnn Number for the target client where the agent is to run

SAP instance customization

By default, all the instances of the SAP system are monitored and shown on the Tivoli Enterprise Portal.

As an administrator, you choose which SAP instance you want to monitor. Also as an administrator, you can turn off an SAP instance that you do not want to monitor.

The /IBMMON/ITM_CONFIG_INSTANCE custom transaction links to the /IBMMON/ITM_CONFIG transaction.

You select the **SAP Instances** option to view the available instances of the SAP server. Then, you select the instance that you want to monitor. These instances are displayed on the Tivoli Enterprise Portal. Any inactive or cleared instances are not shown on the Tivoli Enterprise Portal.

Test Connection feature

The Test Connection feature allows you to verify that you can connect your agent to the SAP system that is monitored.

You enter parameters on the GUI to complete the test connection procedure. If you connect to the SAP system successfully, a success message is displayed. Alternatively, if the connection fails, then a failure message is displayed.

The **Test Connection** button is available only in the Manage Tivoli Enterprise Monitoring Service (MTEMS) window.

Important:

The Test Connection feature has limitations as it works only when you configure your agent instance from the Manage Tivoli Enterprise Monitoring Service (MTEMS) window. If you configure your system from the Tivoli Enterprise Portal the **Test Connection** button is visible only but it does not function.

Enabling CCMS design

Computing Center Management System (CCMS) monitoring is enhanced to collect CCMS records that are in an open or closed state from the last sample period. You can configure the Sample period and by default it has a value of 3 minutes. However, you must ensure that the transport files that are referenced by the SAP agent and the Advanced Business Application Programming (ABAP) transport are the same version.

Procedure

1. Log on to the SAP GUI.
2. Open the SE16 transaction and add the /IBMMON/ITM_CNFG table name to the transaction.
3. To run the /IBMMON/ITM_CNFG ABAP function module and to provide configurations for the ABAP program, press **Enter** and then press **F8**.
4. To create a new entry to which you add new configuration parameters, press **F5**.
5. To create a new configuration parameter called **ISNEWCCMSDESIGN** with the value **YES** on the SAP server, in the **PARM NAME** field enter ISNEWCCMSDESIGN and in the **VALUE CHAR** field, enter YES.
6. Click **Save**. You can ignore the VALUE INT field.

Modifying the threshold value of an alert

You can modify the **max ccms alert** threshold value that is associated with an alert. By default, the value is 1000, which means that you can view 1000 alerts in the Tivoli Enterprise Portal. Older alerts are removed from the cache

Procedure

1. Complete one of the following steps:
 - On Windows operating system, open the <cancel home>\tmaitm6\KSAENV file.
 - On a Non-Windows operating system open the <cancel home>/config/sa.ini file.
2. Add the **MAX_CCMS_ALERT_THRESHOLD=< Value>** to the end of the file.

Note: The value must be greater than 100.

Disabling CCMS design

You can disable Computing Center Management System (CCMS) design.

Procedure

1. Log on to the SAP GUI.
2. Open the SE16 transaction and add the /IBMMON/ITM_CNFG table name to the transaction.
3. To run the /IBMMON/ITM_CNFG ABAP function module and to provide configurations for the ABAP program, press **Enter** and then press **F8**.
4. To delete the existing entry, select and right-click **ISNEWCCMSDESIGN**, and then click **Delete**.

Verifying CCMS design

After you enable Computing Center Management System (CCMS) design, you can verify that it is enabled to ensure that CCMS alerts are triggered for the SAP system.

Procedure

1. Log on to the SAP GUI.
2. Open the SE16 transaction and type /IBMMON/ITM_CNFG.
3. To run the /IBMMON/ITM_CNFG ABAP function module and to provide configurations for the ABAP programs, press **Enter** and then press **F8**.

4. Check whether the `ISNEWCCMSDESIGN=YES` entry is present. If the `ISNEWCCMSDESIGN` variable is set to `YES`, then CCMS design is enabled. Alternatively if this variable is set to `N0`, then CCMS design is disabled.
5. Click **Save**.
6. Open the agent log file that is saved to one of the following paths:
 - On Windows systems: `\tmaitm6\logs_sa__ksaagent_<8 digit num>-01.log`.
 - On Non-Windows systems: `/logs/_sa__ksaagent_<8 digit num>-01.log`.
7. Search the agent log file for the following messages:

New CCMS design is enabled on ABAP side

The CCMS design is enabled.

CCMS alerts cache capacity `MAX_CCMS_ALERT_THRESHOLD` is set to `<1000>`

The max alert threshold is set to a value of 1000.

New CCMS Design calling function module: `<IBMMON/ITM_ALERTS>`

The SAP agent logs this message before it requests CCMS alerts data from the SAP system.

Chapter 3. Workspaces reference

A workspace is the working area of the Tivoli Enterprise Portal application window. The Navigator tree that is displayed at the left of the workspace contains a list of the workspaces provided by the agent.

About workspaces

Use the Navigator tree that is displayed at the left of the workspace to select the workspace you want to see. As part of the application window, the right side of the status bar shows the Tivoli Enterprise Portal Server name and port number to which the displayed information applies and the ID of the current user.

When you select an item in the Navigator tree, a default workspace is displayed. When you right-click a Navigator item, a menu that includes a Workspace item is displayed. The Workspace item contains a list of workspaces for that Navigator item. Each workspace has at least one view. Some views have links to other workspaces. You can also use the Workspace Gallery tool as described in the *IBM Tivoli Enterprise Portal User's Guide* to open workspaces.

The workspaces in the Navigator are displayed in a Physical view that shows your enterprise as a physical mapping or a dynamically populated logical view that is agent-specific. You can also create a Logical view. The Physical view is the default view.

This monitoring agent provides predefined workspaces. You cannot modify or delete the predefined workspaces, but you can create new workspaces by editing them and saving the changes with a different name.

The SAP agent provides various default workspaces. These workspaces are displayed in the Navigator tree under the following subnodes for this monitoring agent:

:Grp subnode

Contains both instance and system specific workspaces

:Ins subnode

Contains instance level workspaces

:Lds subnode

Contains Solution Manager Landscape workspaces

:mySAP node

Contains agent level workspaces

:PI subnode

Contains SAP PI server details workspaces

:Sol: subnode

Contains Solution Manager server details workspaces

:Sys subnode

Contains system level workspaces

Workspace views can be any combination of query-based views, event views, and special purpose views.

Additional information about workspaces

For more information about creating, customizing, and working with workspaces, see "Using workspaces" in the *Tivoli Enterprise Portal User's Guide*.

For a list of the predefined workspaces for this monitoring agent and a description of each workspace, see *Predefined workspaces* and the information about each individual workspace.

Some attribute groups for this monitoring agent might not be represented in the predefined workspaces or views for this agent. For a full list of the attribute groups, see “Attribute groups and attributes” on page 98.

Predefined launch definitions

Predefined launch definitions enable you to analyze SAP data by connecting to transactions in the SAP system.

Some workspace table views contain predefined launch definitions that enable you to connect to a specific transaction on the SAP system being monitored. These launch definitions open the SAPGUI on the Tivoli Enterprise Portal client. The predefined transactions are those that might be helpful in analyzing the SAP data shown on a particular workspace. See the *IBM Tivoli Monitoring User's Guide* for information about how to work with launch definitions.

See “Using the `sapshcut` command” on page 36 for information about how to configure **sapshcut** to work with the launch feature.

Action links

You use Action links to complete a specific action, such as close an alert.

Some workspace table views have action links. These links perform some action on the SAP system related to the data being displayed. The link takes you to a new Results workspace that displays the status and result of executing the requested action. The following action links are included:

- Close Alert
- Close Alerts of the same type
- Refresh Database Statistics
- Enable Gateway Statistics
- Reset Gateway Statistics
- Disable Gateway Statistics

Note: These action links differ from regular workspace links because they result in an action taking place.

Time spans

The SAP agent workspace views presents data over real time and extended time interval time spans.

SAP agent workspace views are designed to present both summary and detailed information. You might find that the summary and detailed workspaces present different data in some workspaces. This difference can happen when the views report data over different time spans.

The following guidelines apply to IBM Tivoli Composite Application Manager Agent for SAP Applications views and time spans:

- By default, all views report real time data. In this case, all views in a workspace report a consistent set of information.
- Views that support extended time span reporting show the Tivoli Enterprise Portal time span symbol in the view.
- When you use the time span option to collect more data for a view, it only affects that view. Summary views continue to report real time data only. In this case, the views might show different information.

- The real time interval varies for each attribute group. You change the real time interval by using the configuration transaction in SAP that is provided by the SAP agent. See “Default sample periods maintenance” on page 41. You also change the real time interval for the attribute group from the Tivoli Enterprise Portal by using the predefined Launch definition, Sample Periods for IBM Tivoli Monitoring Reports. See “Predefined launch definitions” on page 50 for setup information.

Transport request count

You use transport Request count to count the number of times that a transport is imported.

The duration for measuring the count of transport import is taken from the `/IBMMON/ITM_CNFG` table. The duration is a configurable parameter. You view the Import Count in the Transport Request table under the Transport Requests navigator item.

The Import Count shows the transport numbers that are imported during the past X hour, for example. X is a parameter from `/IBMMON/ITM_PERD` and it represents the number of times that a transport was imported.

Using max record count

Maximum record count restricts the data returned in the Tivoli Enterprise Portal for workspaces. You optimize the performance of the agent by using this feature.

About this task

By default the maximum row count is 100, and the workspace returns a maximum of 100 rows.

Procedure

To change the maximum row count that is returned, complete the following steps:

- On a Windows platform:
 1. Go to the `%candle_home%\TMAITM6` directory.
 2. Open the `KSAENV_XXX` file.
 3. Change the Row Count setting.
 4. Restart the agent.

For example, update the "ITM_BPM_ALERTS" entry for the Business Process Alert row count.

- On a non Windows platform:
 1. Go to the `$candle_home/config` directory.
 2. Open the `hostname_XXX.config` file.
 3. Change the Row Count setting.
 4. Restart the agent.

For example, update the "ITM_BPM_ALERTS" entry for the Business Process Alert row count

Predefined workspaces

Predefined workspaces provide information, such as instance configuration, alerts, and work processes. You cannot delete predefined workspaces but you can edit them.

The SAP agent provides the following predefined workspaces, which are organized by Navigator item:

- :SAP
 - System Summary (default)

- Agent Log
- :Ins
 - Instance Configuration
 - Instance Configuration (default)
 - CCMS Monitoring
 - Alerts (default)
 - Current State Overview
 - Current State Details
 - Work Processes
 - Work Processes (default)
 - Operating System
 - Operating System and LAN (default)
 - Historical Operating System
 - File Systems
 - File Systems (default)
 - Buffers and Memory
 - Buffer Performance (default)
 - Memory
 - Number Range Buffer
 - Workload Performance
 - Service Response Time (default)
 - Transaction Performance
 - User Transaction Performance
 - User Performance
 - Application Performance
 - Sub-Application Performance
 - Historical Service Response Time
 - User Activity
 - Active Users (default)
 - Logon Information
 - User Information (linked)
 - Gateway Statistics
 - Gateway Statistics (default)
 - Disable Gateway Statistics Results (linked)
 - Enable Gateway Statistics Results (linked)
 - Reset Gateway Statistics Results (linked)
 - Log and Traces
 - System Log (default)
 - Developer Traces
 - System Log Detail (linked)
- :Sys
 - System Summary
 - System Summary (:Sys level)
 - System Summary (:SAP level)
 - Locks and Updates

- Enqueue Locks (default)
- Asynchronous Updates
- Batch Processing
 - Batch Jobs (default)
 - Batch Data Create
 - Batch Data Create Log (linked)
 - Batch Job Log (linked)
- Spool and Output
 - Spool Requests (default)
 - Spool Output (linked)
 - Output Requests
- Document Interchange
 - Transactional RFC (default)
 - Data Transfer Information
- Document Archiving
 - Archive Monitor (default)
- Logon and Server Groups
 - Logon Groups (default)
- SAP Office
 - SAP Office Inbox (default)
- Database
 - Database (default)
 - DB2 Performance History
 - DB2 Performance History for Last Week
 - DB2 Database Summary
 - DB2 Database Details
 - Refresh Database Statistics Results
 - Historical Database
- Transport Requests
 - Transport Log (linked)
 - Transport Objects and Steps (linked)
 - Transport Requests (default)
- Logs and ABAP Dumps
 - ABAP Dumps (default)
 - Database Logs
 - SAProuter Log
- HTTP Services
 - HTTP Services Details (default)
- ICM Monitor
 - ICM Monitor (default)
 - ICM Monitor Service
- Message Server Monitor
 - Message Server Monitor
- qRFC Queues
 - qRFC Inbound Queue Details

- qRFC Inbound Queue Overview
- qRFC Outbound Queue Details
- qRFC Outbound Queue Overview
- qRFC Queues Overview
- qRFC Saved Inbound Queue Overview
- qRFC Saved Inbound Queue Details
- tRFC
 - Transactional RFC
- lds
 - Databases
 - Database Details
 - Database Overview (default)
 - Systems
 - Clients Details (linked)
 - Instance Details (linked)
 - Software Components Details (linked)
 - Systems Overview (default)
 - System Details (linked)
 - System Topology (linked)
- sol
 - Solution Monitoring
 - Business Process Monitoring Alerts
 - Early Watch Alerts
 - Solution Overview (default)
 - System Monitoring Current Status
 - System Monitoring Historical Alerts
 - System Monitoring Open Alerts
- pl
 - Business Process Engine
 - Business Process Engine Status
 - Component Monitoring
 - Component Monitoring URL
 - Job Monitoring
 - Job Monitoring (default)
 - qRFC Queues
 - qRFC Inbound Queue Details
 - qRFC Inbound Queue Overview
 - qRFC Outbound Queue Details
 - qRFC Outbound Queue Overview
 - qRFC Queues Overview
 - qRFC Saved Inbound Queue Overview
 - qRFC Saved Inbound Queue Details
 - tRFC
 - Transactional RFC
 - Workflow Trace Logs

- Workflow Trace Logs Detail
- XML Messages Monitoring
 - XML Message Log
 - Persistence Layer Analysis
 - XML Message Processing Statistics
 - Synchronous Asynchronous Communication

The descriptions of each workspace apply to the default settings (the components of the workspace in its original configuration). Any changes or updates that you make to a workspace might not be reflected in the description of the workspace.

ABAP Dumps workspace

Advanced Business Application Programming (ABAP) Dumps is the default workspace for the Logs and ABAP Dumps navigator group.

The ABAP Dumps workspace provides status information for each SAP ABAP dump generated for the SAP managed systems that you are monitoring. This workspace provides the following specific information for each dump:

- Program associated with the dump
- Host computer where the dump originated
- User who created the dump
- Date and time the dump was created
- Names of the instances associated with ABAP dumps
- Summary count of dumps by program
- Summary count of dumps by user

You can use the data for specific dumps for the following purposes:

- Identify the number of ABAP dumps generated for a specific SAP instance
- Identify runtime problems that are occurring on your system

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- ABAP Dump Analysis (ST22)
- Sample Period for ITM Reports

Active Users workspace

Active Users is the default workspace for User Activity navigator group. This predefined workspace provides information about all users currently logged on to your SAP instance.

This workspace provides the following information about all users currently logged on to your SAP instance:

- Summary count of users by client
- Summary count of all sessions by user
- Complete list of logged on users
- Terminal name and address for each user
- Session start time for each user
- Current transaction for each user
- Memory usage for each user

You can use the session data for specific users for the following purposes:

- Learn about who is logged on to your system
- Determine if the user load is correctly distributed across all the servers
- Anticipate and plan for optimal performance on your SAP system components

The workspace table view has predefined launch definitions. You can use the launch definitions to run the following transaction on the SAP system: User List (SM04)

All user entries listed in the workspace have predefined Link options. You can use the link options to perform the following action: Get detailed user information. This links to the User Information workspace, allowing you to see more detailed information about the logged on user.

Agent Log workspace

The Agent Log workspace provides information about the agent and the connection to the SAP system.

Agent Log is a predefined workspace that provides information about the monitoring agent connection to the SAP system. This workspace shows the following types of conditions:

- Agent connected and fully operational
- Failure to connect to the SAP system, with detailed messages describing the connection failure. The following reasons for connection failure are typical:
 - Incorrect agent configuration for hostname, instance number, user ID, or client number
 - Network connection problems or firewall problems between systems, if using remote management
 - Locked or undefined user ID
 - Incorrect password
- Connection established, but incompatible versions between the agent code and the installed SAP agent transport. In this case, install the corresponding transport on the SAP system.

Use this workspace to ensure that the agent has connected to the SAP system and is fully operational. If any errors are shown, correct those errors.

Alerts workspace

Use the Alerts workspace to view alerts from the Centralized (CEN) Computing Center Management System (CCMS) and the SAP agent. This workspace provides specific information about each alert, such as the date and time that the alert occurred.

Alerts is the default workspace for the Alerts navigator group. Alerts is a predefined workspace that provides a comprehensive view of SAP CCMS alerts occurring on the SAP systems that you are monitoring. This workspace displays all alerts reported by CCMS and all alerts reported by the SAP agent. The following specific information is provided for each alert:

- Date and time that the alert occurred
- Severity level of the alert, either critical or warning
- Message text associated with the alert
- Identifying information, such as the alert number and class, assigned by SAP
- Identifier to show whether the alert was raised by the SAP agent or by SAP CCMS
- Summary count of alerts by severity
- Summary count of alerts by class

You use the alert data for SAP systems collected by the SAP agent for the following purposes:

- Review the severity of an alert and plan corrective action
- Identify system conditions that result in poor performance

- Learn more about an alert by reviewing its message and class

All alerts listed in the workspace have predefined Link options. You use the link options to complete the following actions:

- Close Alert. This action closes the selected alert in the SAP system and displays the results in the Close Alert Results workspace.
- Close Alerts of the same type. This action closes the selected alert in the SAP system. In addition, it closes all other alerts in the SAP system that are members of the same CCMS MTE class. The results of this action are displayed in the Close All Alerts Results workspace.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- CCMS Monitoring (RZ20)
- Performance Monitoring Menu (STUN)
- Performance, SAP Statistics, Workload (ST03)
- DB Performance Monitor (ST04)
- Operating System Monitor (ST06)
- Statistical Records (STAT)
- Thresholds for ITM Generated Alerts
- Sample Periods for ITM Reports

For each alert with a severity of warning, a system administrator evaluates the conditions that causes the alert and considers available options for taking corrective action.

For each alert with a severity of critical, a system administrator evaluates the conditions that causes the alert and plans immediate corrective action. The following actions are possible:

- Identifying and reconfiguring instances with heavy usage
- Rebalancing system loads
- Supplying application instances with additional memory
- Correcting archiving problems

Alert timestamps

Alerts have two timestamps associated with them: user time and Greenwich Mean Time (GMT). You can view alerts in the Tivoli Enterprise Portal by these timestamps. These timestamps are reported as Occurrence Time and Occurrence Time GMT.

When viewing Computing Center Management System (CCMS) alerts in the Tivoli Enterprise Portal, it is important to understand the meaning of the Occurrence Time attribute, what influences its value, and how it affects the information you see. This is particularly important when monitoring SAP systems across large geographic areas.

- All CCMS alerts have two timestamps associated with them: user time and Greenwich Mean Time (GMT). Both of these timestamps are available in the SAP agent. User time is reported as Occurrence Time; GMT is reported as Occurrence Time GMT.
- When you view CCMS alerts in the Tivoli Enterprise Portal, the default workspace displays alerts using only Occurrence Time.
- The value of Occurrence Time is based on the SAP user ID used to retrieve the alerts. You specify this user ID when you configure the SAP agent for a SAP system. The default user ID is IBMMON_AGENT.
- The value of Occurrence Time is also based on the Time Zone setting in the SAP system for this SAP user ID. By default, the IBMMON_AGENT Time Zone setting is the SAP System Time Zone, which is

generally the time zone in which the SAP servers reside. This might not be the time zone in which you are viewing the Tivoli Enterprise Portal, so you might not be certain about the age of the alerts.

- If you are viewing alerts and the Occurrence Time does not meet your expected times, you can do any of the following:
 - To see the alerts in your local time, have the SAP administrator change the time zone of the user ID to match your local time zone. To do this, change the default user ID (IBMMON_AGENT) or create a new user ID specifically for your use with the SAP Agent. When you see the alerts, the times are relative to your local time, so you can determine the exact age of the alerts. This approach is recommended if all the servers in one SAP system reside in the same time zone.
 - View all alerts in GMT by modifying the Alert workspace and querying to report the Occurrence Time GMT attribute. In this way, you must mentally adjust the alert times based on the time difference between your time zone and GMT. This approach might be required if the servers in one SAP system are distributed across multiple time zones.

Special alerts generated by the SAP agent

This workspace provides information about alerts from Computing Center Management System (CCMS) and alerts that are raised from the agent. For example, the class associated with the alert and the alert severity is shown.

In addition to reporting alerts from CCMS, this workspace also reports internal alerts raised by the agent itself. These predefined agent alerts are listed in the following table.

Alert number	Alert severity	Alert class	Alert message
9900	Critical	System	Lost connection to SAP system SSS SSS = SID
9901	Critical	Update	Updates not active
9902	Critical	Update	Terminated updates
9903	Warning (nn > 0) Critical (nn => 10)	Update	nn updates pending nn = number
9904	Warning (nn => 5) Critical (nn => 10)	Printer	nn output requests pending for printer PPPP nn = number PPPP = printer
9905	Critical	System	Logon not possible
9906	Critical	System	Spool consistency check failed
9907	Warning (nn => 1) Critical (nn => 2)	Database	nn Oracle exclusive lock waits nn = number
9908	Warning (nn => 30) Critical (nn => 60)	Database	Oracle exclusive lock wait pending nn seconds nn = number
9909	Critical	System	Statistics file too large (The SAP statistics file is over twice the optimum size.)
9910	Warning	System	Performance collector job not running

Alert number	Alert severity	Alert class	Alert message
9911	Warning (nnnn > 1000) Critical (nnnn => 1500)	Tivoli	Excessive data collected for workspace, nnnn rows deleted workspace = workspace name nnnn = number
9912	Critical	CCMS Alerts	CCMS alerts collection did not complete. Last started at HH:MM:SS on MM/DD/YYYY
9913	Critical	System	Operating system collector (saposcol) error occurred - eeeee
9914	Critical	Database	Oracle statistics are not available, verify performance collector job is running

Application Performance workspace

The Application Performance workspace provides information about the performance of the application, such as the number of database calls for each instance.

Application Performance is a predefined workspace that contains the following specific information about application performance for each instance:

- Application
- Description
- Number of dialog steps
- Average and total response time, CPU time, wait time, and database request in milliseconds
- Total database bytes requested in KB
- Total number of database calls

Archive Monitor workspace

The Archive Monitor workspace provides information about the Archive Monitor, such as the number of archiving errors and the number of background archiving jobs that are active.

Archive Monitor is the default workspace for the Document Archiving navigator group. Archive Monitor is a predefined workspace that provides the following information about data in the Archive Monitor:

- Number of open asynchronous errors
- Archive device status information
- Number of open spool requests
- Number of background archiving jobs that are active
- Number of background jobs scheduled
- Number of archiving errors

You use the data for specific instances for the following purposes:

- Learn about the number of errors on the system
- Reduce the potential for bottlenecks and future trouble spots

- Anticipate and plan for optimal performance on your SAP system components

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transaction on the SAP system: ArchiveLink: Monitoring (OAM1)

Asynchronous Updates workspace

The Asynchronous Updates workspace identifies database update requests that must be either reprocessed or deleted.

Asynchronous Updates is a predefined workspace that provides information about the status of pending and failed database update requests. You use this information to identify failed database updates that need to be reprocessed or deleted. This workspace includes the following information:

- Server on which database updates are occurring
- User ID of the person performing the update requests
- Status of the update request
- Type of error that occurred during an update
- Name of the function module for the program executing the update request
- Program executing the update request
- Summary count of updates by status
- Summary count of failed updates by program

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- Update Records (SM13)
- Sample Periods for ITM Reports

Background Job Logs workspace

The Background Job Logs workspace provides information on logs for Background Jobs.

Use the Background Job Logs workspace to display information about Background Jobs for the Job Monitoring navigator group.

This workspace provides the following information about Background Jobs:

- Message Text
- Message Class
- Message Number
- Message Type
- Timestamp

Batch Data Create workspace

The Batch Data Create workspace enables you to monitor BDC sessions, so that you can improve performance. For example, you can reduce scheduling conflicts in your mySAP system.

Batch Data Create (BDC) is a predefined workspace that provides information about the contents of BDC sessions and metrics that enable you to monitor the status of a session. You use the Batch Data Create workspace to review the contents of defined BDC sessions and monitor their progress. The following information is included for BDC sessions:

- Summary count of sessions by status
- Name of session including its status, such as being created, in error, or completed
- Date and time the session was created, and by whom

- Date and time the session was most recently modified
- Start mode for the session, such as automatic or manual
- Metrics for transactions and screens associated with this BDC session

You use the data in the Batch Data Create workspace for the following purposes:

- Anticipate scheduling conflicts for BDC sessions running in your mySAP system
- Reduce the risk for system bottlenecks and trouble spots
- Plan reconfiguration of BDC sessions to improve performance
- Identify sessions with errors for manual correction

All batch data create sessions listed in the workspace have predefined Link options. You use the link options to complete the following action: View batch data create log. This option links to the Batch Data Create Log workspace in which you view detailed information about the batch data create processing.

The workspace table view has predefined launch definitions. You can use the launch definitions to execute the following transactions on the mySAP system:

- Batch Input Monitoring (SM35)
- Sample Periods for ITM Reports

Batch Data Create Log workspace

The Batch Data Create Log workspace provides information about batch data create sessions.

Batch Data Create Log is a predefined workspace that contains the following specific information about a batch data create session:

- Session name
- Execution host
- Transaction
- Screen number
- Message number and text

After reviewing the information in this workspace, return to the Batch Data Create workspace to continue reviewing other batch data create requests.

Batch Job Log workspace

The Batch Job Log workspace provides information about specific batch jobs. For example, this workspace includes information about the job, such as the job name and the job number.

Batch Job Log is a predefined workspace that shows the log for a given batch job. This workspace contains the following specific information about a batch job:

- Job name
- Job number
- Message number
- Message time
- Message text

After reviewing the information in this workspace, return to the Batch Jobs workspace to continue reviewing other batch jobs.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the mySAP system:

- Job Selection (SM37)
- Sample Periods for ITM Reports

Batch Jobs workspace

The Batch Jobs workspace is the default workspace for the Batch Processing navigator group.

The Batch Jobs workspace provides information about defined batch jobs that are scheduled to run or that completed running on your mySAP systems. Use the Batch Jobs workspace to evaluate information about completed and scheduled batch processing and plan for adjustments to improve performance.

This workspace provides the following information about defined batch jobs on your mySAP systems:

- Summary count of all jobs by job class
- Summary count of all jobs by job completion status
- Job name and class
- Status of the job, such as defined, scheduled, or active
- Identifying information for the system executing the job
- Start and end time for the job, including the most recent changes in its scheduling
- Name of the person who defined the job initially
- Name of the person who has made recent changes in its scheduling

All batch jobs listed in the workspace have predefined Link options. You use the link options to complete the following action: View batch log. This option links to the Batch Job Log workspace in which you view detailed information about the batch job processing.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the mySAP system:

- Job Selection (SM37)
- Sample Periods for ITM Reports

BPE Inbound Processing Status Monitoring for Errors workspace

The BPE Inbound Processing Error Status workspace provides information on the status of queued errors and errors in BPE Inbound Processing.

BPE Inbound Processing Status Monitoring for Error is a predefined workspace for the Business Process Engine navigator group.

Use the BPE Inbound Processing Error Status workspace to provide information on the status of queued errors and errors in BPE Inbound Processing

This workspace provides the following information about BPE Inbound Processing Errors:

- Message ID
- Queue Name
- Retry Count
- Status
- Received Timestamp
- Maximum Number of Messages
- Quality of Service
- Maximum Wait Time
- Configuration Version
- Queue Assignment

- Maximum Memory per Message Package
- Maximum Wait Time
- Number of Queues

BPE Inbound Processing Status Monitoring for Temporary Errors workspace

The BPE Inbound Processing Status Monitoring for Temporary Errors workspace provides information on the status of temporary errors, logically deleted and locked messages in BPE Inbound Processing.

BPE Inbound Processing Status Monitoring for Temporary Errors is a workspace for the Business Process Engine navigator group.

This workspace provides the following information about BPE Inbound Processing Temporary Errors:

- Message ID
- Queue Name
- Retry Count
- Status
- Received Timestamp
- Maximum Number of Messages
- Quality of Service
- Maximum Wait Time
- Configuration Version
- Queue Assignment
- Maximum Memory per Message Package
- Maximum Wait Time
- Number of Queues

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- BPE Inbound Processing Message Monitoring Details by Message Id (SXI_SHOW_MESSAGE)

Buffer Performance workspace

The Buffer Performance workspace provides information about buffers in your mySAP system, such as the buffer space allocated and the number of requests, hits, and misses in your mySAP system.

Buffer Performance is the default workspace for the Buffers and Memory navigator group. The Buffer Performance workspace provides information about the performance of buffers on your mySAP systems. You use the Buffer Performance workspace to evaluate information about anticipated buffer performance and to plan for adjustments to improve performance.

Buffer Performance is a predefined workspace that provides the following information about the performance of buffers on your mySAP systems:

- Hit ratio for the buffer you are monitoring
- Number of buffer requests, hits, and misses
- Number of times requested information was not available in the buffer
- Buffer space allocated and the space available, in KB
- Number of directory entries allocated and those available
- Number of objects and number of frames swapped
- Number of buffer resets, as well as the date and time that the last reset occurred

- Number of objects in the buffer
- Number of inserts, changes, and deletes for each monitored object

You use the buffer performance data for your mySAP systems for the following purposes:

- Monitor buffer performance and anticipate necessary adjustments to improve future performance
- Reduce the size of over allocated and under utilized buffers

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transaction on the mySAP system: Setups/Tune Buffers (ST02)

Business Process Engine Status workspace

The Business Process Engine Status workspace allows you to review the status of the Business Process Engine in the SAP PI/XI system.

The Business Process Engine (BPE) Status workspace is the default workspace for the Business Process Engine navigator group under the PI/XI subnode.

This workspace provides the following information about the Business Process Engine

- Class Name
- Component Name
- Engine Status
- Process Type

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- Business Process Engine Status (SWF_XI_ADM_BPE_DISP)

Business Process Monitoring Alerts workspace

The Business Process Monitoring Alerts workspace provides information about the status of Business Process Monitoring alerts and alert messages for predefined business processes in Solution Manager

The Business Process Monitoring Alerts is the link workspace from the Solution Overview workspace for Solution Monitoring navigator group.

Note: Business processes configured in the Solution Manager system for the connected satellite system have threshold values defined. When these threshold values are crossed an alert is generated in the Solution Manager.

This workspace provides the following information about the Business Process Engine:

- Solution Id
- Monitoring Id
- Alert Type
- Alert Rating
- Alert Message
- Alert Timestamp
- Monitoring Type
- SAP System

Clients Details workspace

The Clients Details workspace provides information about clients that are available in the satellite systems and also configured in the Solution Manager System landscape.

Clients Details is a predefined workspace under the Systems navigator group.

This workspace provides the following client information

- Client- A legally and organizationally independent unit which uses the SAP system.
- Client Name
- Group Keys
- Host name of the satellite system
- IP address of the satellite system
- Name of the user who lastly change client configuration
- Date of last change
- Name of the logical system to which this client corresponds to

The workspace table view has predefined launch definitions. You can use the launch definitions to execute the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

Close Alert Results workspace

The Close Alert Results workspace provides information about the results of closed alerts.

Close Alert Results is a predefined workspace that displays the results of closing a single mySAP alert.

After seeing these results, you can return to the Alerts workspace to see the updated list and to continue handling other open alerts.

Close All Alerts Results workspace

The Close All Alerts Results workspace provides information about the closed alerts in a CCMS MTE class.

You must confirm that all alerts closed successfully.

After seeing these results, you return to the Alerts workspace to see the updated list and to continue handling other open alerts.

Component Monitoring URL workspace

The Component monitoring URL workspace allows you to review the url and the user name in component monitoring.

This predefined workspace contains only one row, which is the URL associated with Component Monitoring. Component Monitoring URL is the workspace for the Component Monitoring navigator group under PI/XI subnode. You click the URL to open the browser workspace that contains details of any error messages for the PI/XI components.

This workspace provides the following information:

- Component Monitoring URL
- User name

Current State Details workspace

Current state Details is the predefined workspace for the Centralized (CEN) Computing Center Management System (CCMS) monitoring navigator group.

This workspace provides information about the current state from the CCMS. This workspace contains the following information:

- Summary count of the current state by status
- Name of the application instance
- Current state of the MTE (Monitoring tree element)
- Name of the monitoring context
- Occurrence time of the alert
- Name of the monitor set and monitor

Related concepts:

“Alerts workspace” on page 56

Use the Alerts workspace to view alerts from the Centralized (CEN) Computing Center Management System (CCMS) and the SAP agent. This workspace provides specific information about each alert, such as the date and time that the alert occurred.

Current State Overview workspace

Current state Overview is the predefined workspace for the CCMS monitoring navigator group.

This workspace shows a topology view of the alerts and the current state that is configured for the monitor sets. This workspace contains the following information:

- Topology view of alerts
- Name of the configured monitor set
- Name of the configured monitor
- Status of the alert and the current state of the alert

Database Details workspace

The Database Details workspace provides information about the databases configured in the Solution Manager System Landscape.

Database Details is a predefined workspace under the Systems navigator group.

This workspace provides the following database information:

- Name of the database system configured in the Solution Manager System Landscape
- Database system status in the solution manager (It can be Active or Inactive).
- Database vendor name
- Database release information
- Database patch level
- Database host name

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

Database Logs workspace

Database Logs is a predefined workspace that contains data from the Database Backup Log file, the Database Archive Log file, and the SAPBA log file.

This workspace helps you monitor specific information that indicates if errors occurred, for example, in backing up the database. For the selected managed system, this workspace includes information such as the following:

- Text from each Database Log file
- Name of the log file
- Date and time the data was collected

You can use this data for the following purposes:

- Determine if your database is reporting errors. If so, contact your database administrator with this information.
- Examine the log data for new or unexpected messages and investigate why they are occurring.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- DBA Operation Logs (DB14)
- Sample Periods for ITM Reports
- Log File Names for ITM Reports

Database Overview workspace

The Database overview workspace provides overview information about the database configured in the Solution Manager System landscape.

Database Overview is the default workspace for the Databases navigator group.

This workspace provides the following database information:

- Name of the database system configured in the Solution Manager System landscape.
- Database system status in the solution manager (Active or Inactive).

All database systems listed in the workspace have predefined Link options. You use the link options to complete the following action:

- View database details: This option links to the Database Details workspace in which you view detailed information about the database system.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

Data Base workspace

The Data Base workspace provides information about the metrics that are available in an Oracle database. It provides summary and detailed information about your Oracle database.

Data Base is the default workspace for the Database navigator group. This predefined workspace reports database metrics for Oracle databases. It displays the database instance and the type of objects in it.

If your mySAP system is not using an Oracle database, then this workspace does not display any information about your database.

This workspace provides summary and detailed information about your database. Summary information reports the following information that is aggregated by major object type:

- Number of objects of this type
- Size information

Detailed information reports the following information for each object in the database:

- Object name and type
- Status
- Size information

You use the database metrics for your mySAP systems for the following purposes:

- Identify objects that will fail on the next attempt to extend them
- Identify objects that are in too many extents
- Anticipate bottlenecks and trouble spots in database performance
- Plan changes to improve database performance
- Create situations that generate alerts that notify you of potential trouble spots in database performance

This workspace supports a predefined Link option. You can use the link option to perform the following action: Refresh database statistics. This option opens the Refresh Database Statistics workspace, and submits job RSORAT0D to the mySAP system for processing.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the mySAP system:

- Tables and Indexes Monitor (DB02)
- DB Performance Monitor (ST04)

Data Transfer Information workspace

The Data Transfer Information workspace provides information about the data transfer between Intermediate Documents (IDocs) and Electronic Data Interchange (EDI) files.

This workspace contains the following information about IDocs:

- Summary count of IDocs by their current status
- Summary count of IDocs by transfer partner
- Date and time the IDoc was created
- IDoc status description
- Logical message type
- IDoc partner port

This workspace contains the following information about EDI files:

- Number of the record within a file that was last processed successfully
- Path and file name of the EDI file being processed
- Name of the mySAP system being monitored

Review the information in the Data Transfer Information workspace to monitor the flow of Intermediate Documents into and out of your mySAP system. You identify errors that affect the timely update of production data in the local or the remote mySAP system, or in external applications.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Display IDoc (WE02)
- IDoc Lists (WE05)
- IDoc Statistics (WE07)
- Status File Interface (WE08)
- Sample Periods for ITM Reports

DB2 Database Details workspace

The DB2 database details workspace provides information about the DB2 database.

DB2 Database Details is the workspace for the Database navigator group.

This workspace contains graphical and table views. The graphical view shows the comparison of log files. The table view shows database details and it includes the following information:

- Log Files
- Dynamic Query Management
- Lock Timeout (microSec)
- Number of I/O Servers
- Logs space used by Database (byte)

DB2 Database Summary workspace

The DB2 Database Summary is a workspace for the Database navigator group that contains information about the DB2 Database.

Use the graphical and table views of this workspace to compare the size of different database files like for example primary file size and secondary file size.

This workspace provides the following DB2 database information:

- Cache Page Size
- Heap Size
- Log File Size
- Operating System
- Database Release Level

DB2 Performance History workspace

The DB2 performance history workspace shows the performance history of the DB2 database in the SAP system.

DB2 Performance History is the workspace for the Database navigator group.

You use this workspace to review commit statements, deadlocks, and rollback statements. This workspace provides the following information:

- Commit statements
- Deadlocks
- Rollback statements
- Index physical reads
- Index logical reads
- Index physical writes
- Lock wait time
- Average Logical Read Time (ms)
- Average Physical Writes Time (ms)

DB2 Performance History for Last Week workspace

The DB2 performance history for last week workspace shows the Performance History of the DB2 database for the last seven days.

DB2 Performance History for Last Week is the workspace for the Database navigator group. You use this workspace to review commit statements, rollback statements, deadlocks, and lock waits.

This workspace provides the following information:

- Commit Statements
- Deadlocks
- Rollback Statements
- Index Physical Reads
- Index Logical Reads
- Index Physical Writes
- Lock Escalation
- X Lock Escalation

Developer Traces workspace

Developer Traces is a predefined workspace that contains data from the developer trace files and the error files.

Use the Developer Traces workspace to review error messages pertaining to mySAP system. This workspace provides the following information:

- Data lines from the trace or the error file
- Name of the mySAP instance being monitored
- Name of the trace file or of the error file

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Display Developer Traces (ST11)
- Sample Periods for ITM Reports
- Log File Names for ITM Reports

Disable Gateway Statistics Results workspace

Disable Gateway Statistics Results is a predefined workspace that provides status information on a request to disable gateway statistics.

A message that indicates that the statistics were disabled is displayed.

Ensure that gateway statistics were disabled.

After seeing these results, you return to the Gateway Statistics workspace, but you cannot see any gateway statistics information because this collection is now disabled.

Early Watch Alerts workspace

The Early Watch Alerts workspace provides information about early watch alerts occurring in the satellite SAP systems.

Early Watch Alerts is the link workspace from the Solution Overview workspace for the Solution Monitoring navigator group.

This workspace provides the following early watch alert information

- Solution Id
- Session Number

- Rating
- Type
- Planned Date
- Installation Number

Enable Gateway Statistics Results workspace

The Enable Gateway Statistics Results predefined workspace provides status information on a request to enable gateway statistics.

A message indicating that the statistics were enabled is displayed.

Ensure that gateway statistics are enabled.

After seeing these results, you return to the Gateway Statistics workspace to see the available gateway statistics information.

Enqueue Locks workspace

The Enqueue Locks workspace is the default workspace for the Locks and Updates navigator group.

Use the lock statistics provided by the Enqueue Locks workspace to review lock information for work processes on specific instances. This workspace provides the following information:

- Number of locks held
- User ID of the person locking a process
- Name of the object being locked

Viewing lock statistics in this workspace helps you to protect concurrent access to work processes.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transaction on the SAP system: Display and Delete Locks (SM12)

File Systems workspace

The File Systems workspace is the default workspace for the File Systems navigator group. This workspace provides information about the file systems on the mySAP instance, such as the capacity of the file system.

Use the File Systems workspace to view information about the configuration and usage of the file systems on the mySAP instance that you are monitoring.

This workspace provides the following file system information:

- Name of the file system
- Allocated capacity of the file system, including space used and space available
- Text describing the file system status, for example, static or dynamic
- Estimated number of days for non-static file systems to become full

You use the file system data for your mySAP systems for the following purposes:

- Anticipate trouble spots in management of your file systems
- Plan for changes to your file system allocation to improve performance
- Create situations that generate alerts to notify you of potential trouble spots in your file systems, such as the system filling rapidly

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- CCMS Monitoring (RZ20)
- Local File System Monitor (AL18)

Gateway Statistics workspace

The Gateway Statistics workspace is the default workspace for the Gateway Statistics navigator group.

Use the Gateway Statistics workspace to view statistical information for the specific mySAP instance that you are monitoring.

This workspace provides the following statistical information:

- Connection identifier
- Remote host name
- Number of connections on the mySAP Gateway
- Local TCP/IP address
- Local APPC version
- Local transaction program name
- Connection number
- Remote logical unit name
- User ID of the person connected to the Gateway
- Number of errors encountered by the gateway

All gateway connections listed in the workspace have predefined Link options. You can use the link options to perform the following actions:

- Enable statistics. This option causes the mySAP system to start collecting statistics for this gateway connection. Use this option if the workspace reports no data available for a gateway connection.
- Disable statistics. This option causes the mySAP system to stop collecting statistics for this gateway connection.
- Reset gateway statistics. This option causes the mySAP system to reset its gateway statistics counters to zero. Use this option to get the most recent information about the gateway connection.

The workspace table view has predefined launch definitions. You can use the launch definitions to run the following transaction on the mySAP system: Gateway Monitor (SMGW)

Historical Database

The Historical Database workspace provides summary and detailed historical information about your database.

Historical Database is a predefined workspace that provides the same information as the summary information in the Data Base workspace, but at historically spaced time intervals.

Historical Operating System workspace

The Historical Operating System workspace provides historical information about the operating system and LAN on which the mySAP instance runs.

Historical Operating System is a predefined workspace that provides the same information as the Operating System and LAN workspace, but at historically spaced time intervals.

Historical Service Response Time workspace

The Historical Service Response Time workspace provides historical diagnostic information about the services that are configured in the mySAP system.

Historical Service Response Time is a predefined workspace that provides the same information as the Service Response Time workspace, but focused on Dialog response time, at historically spaced time intervals.

HTTP Services workspace

The HTTP Services workspace provides information about the HTTP Services in graphical view.

HTTP Services is the default workspace for the HTTP Services navigator group.

This workspace provides the following HTTP Services information:

- Number of services used by user
- Number of active inactive services
- Number of services for a host

HTTP Services Details workspace

The HTTP services details workspace is the default workspace for the HTTP Services navigator group.

Use the HTTP services details workspace to display information about HTTP Services in graphical view.

This workspace provides the following information:

- Number of services used by user
- Number of active and inactive services
- Number of services for a host

Internet Communication Manager (ICM) Monitor Service workspace

The ICM monitor service workspace provides information on the status of ICM Services.

ICM Monitor Service is a predefined workspace for the ICM Monitor navigator group.

This workspace provides the following information about services configured for ICM Monitor:

- Status of the service
- Internet Protocol ID used
- Timeout period in seconds for keeping service alive
- Timeout period in seconds for maximum processing time
- SSL Client Verification
- ICM Service Name or Port Number on which the ICM request accepts the corresponding protocol
- Fully qualified host name to which the port is linked

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- Internet Communication Manager (SMICM)

Internet Communication Manager (ICM) Monitor workspace

The ICM monitor workspace monitors the status of ICM requests to and from the internet.

ICM Monitor is the default workspace for the ICM Monitor navigator group.

Note: ICM requests and responses are handled by worker threads.

This workspace provides the following information about ICM Monitor:

- ICM status
- Thread ID assigned by operating system (similar to PID for processes)
- Current trace level
- Current, peak and Maximum worker threads that can be created
- Current, peak and Maximum connection that can be used
- Current, peak and Maximum queue entries
- Status of the thread
- Type of request the thread is currently processing
- Connection Identifier of Service
- GUID for the Connection Identifier

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- Internet Communication Manger (SMICM)

Instance Configuration workspace

The Instance Configuration workspace is the default workspace for the Instance Configuration navigator group.

Use the Instance Configuration workspace to view information about the mySAP instance configuration.

This workspace provides the following information:

- Number and type of mySAP configured services
- Name and TCP/IP address for application instances

You use the configuration data for application instances for the following purposes:

- Evaluate the current configuration of your mySAP system components
- Review the current configuration of mySAP services, such as batch, dialog, enqueue, gateway, message, spool, and update
- Reduce the potential for bottlenecks and future trouble spots
- Anticipate and plan for optimal performance on your mySAP system components

Instance Details workspace

The Instance Details workspace provides information about instances of satellite systems configured in the Solution Manager System landscape.

Instance Details is a predefined workspace under the Systems navigator group.

This workspace provides the following instance information:

- Instance Name
- Server name on which this instance is running
- Logical system name
- Product name of the satellite system
- Group keys

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

Instance Summary workspace

The Instance Summary workspace is the default workspace for the sub-agent-level navigator node.

Use the Instance Summary workspace to quickly determine which areas of instance monitoring require more detailed investigation by viewing summary information about a mySAP instance, such as the number of alerts, work processes, and CPU utilization.

This workspace provides the following information:

- Type and number of work processes
- Number of Critical and Warning alerts
- CPU utilization for the server on which the instance is running
- Number of logged on users
- Average response time for programs and transactions

Job Monitoring workspace

The Job Monitoring workspace provides information about jobs and background jobs.

Job Monitoring is the workspace for the Job Monitoring navigator group.

The Job Monitoring workspace contains two views, the first view shows overview information about jobs and the second view shows information about Background Jobs.

This workspace provides the following job monitoring information:

- Job Status
- Job Name
- Job ID
- Job Type
- Job Created By

Logon Groups workspace

The Logon Groups workspace provides information about Logon Group and Server Group statistics.

Logon Groups is the default workspace for the Logon and Server Groups navigator group. Logon Groups is a predefined workspace that provides Logon Group and Server Group statistics that you can use to monitor individual groups. This workspace includes the following information:

- Maximum allowed response time for a particular instance in this Logon group
- Number of events occurring per minute on an instance
- Maximum number of users allowed in this Logon group for a particular instance

You can use the data for specific logon groups to identify system load problems.

The workspace table view has predefined launch definitions. Use the launch definitions to execute the following transactions on the mySAP system:

- Maintain CCMS Logon Groups (SMLG)
- Maintain RFC Server Group Assignment (RZ12)

Logon Information workspace

The Logon Information workspace provides information about the logon and logoff statistics for the mySAP system.

Logon Information is a predefined workspace that provides user logon and user logoff statistics so that you can monitor the security of your system. Specifically, this workspace includes the following information:

- List of users who are currently locked
- List of users who currently have failed password attempts
- Chronological log of all logon and logoff activity to this instance, showing user ID, the action taken, and additional detailed information

Use this workspace to maintain security throughout your mySAP system. If this information indicates an unusually high number of unsuccessful logon attempts for a particular user, immediately evaluate why this is occurring, then take prompt action to resolve this possible breach of security.

Use this workspace to quickly determine if a user is having trouble logging on because the user ID is locked. If the user ID is locked, determine the cause. If the user ID must be unlocked, enter the mySAP system to unlock the ID.

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transaction on the SAP system:

- Sample Periods for ITM Reports

Memory workspace

The Memory workspace provides information about non-buffer areas, such as the size allocated to these memory areas.

Memory is a predefined workspace that contains the following specific information about non-buffer memory areas:

- Size allocated, used, and free in KB and percentage
- Maximum used in KB and percentage

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transaction on the mySAP system:

- Setups/Tune Buffers (ST02)

Message Server Monitor workspace

Message Server Monitor is the default workspace for the Message Server Monitor navigator group. Message Server Monitor is the predefined workspace that provides the following information about Message Server:

- Name of the message server
- Status of the server
- Host name of the message server
- Connection time
- Login time
- Number of messages received
- Number of messages sent

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transaction on the SAP system:

- Message Server Monitor (SMMS)

Number Range Buffer workspace

The Number Range Buffer workspace provides information about the number range buffer, for example, the buffer size.

Number Range Buffer is a predefined workspace that contains the following specific information about the number range buffer for the instance:

- Maximum and current number of entries
- Maximum and current number of indexes
- Buffer size
- Number of Buffer, Get, Server, and Database calls
- Number of conflicts
- Number of timeouts
- Number of Buffer responses less than 50 microseconds, less than 1 millisecond, and greater than 1 millisecond
- Number of server responses less than 1 millisecond, less than 50 milliseconds, and greater than 50 milliseconds
- Sample time

Operating System and LAN workspace

The Operating System and LAN workspace provides information about the operating system and the local area network on which the SAP instance runs.

Operating System and LAN is the default workspace for the Operating System navigator group. Operating System and LAN is a predefined workspace that you can use to monitor the performance of your SAP instance, the operating system on which it runs, and the local area network (LAN) to which it is connected. You view the monitored operating system data in the Operating System and LAN workspace to determine whether external conditions are affecting your SAP application server performance.

This workspace includes the following information:

- CPU utilization
- Load average
- Memory configuration
- Paging and swapping activity
- LAN activity

Additionally, the SAP agent provides a historical version of this workspace. You can request to view up to 24 hours of historical data for each component of this workspace.

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transaction on the SAP system:

- Operating System Monitor (ST06)

Oracle Database workspace

Oracle database is the default workspace for the Database navigator group.

This predefined workspace provides information about the Oracle database. This workspace includes the following information:

- Name of the database instance
- Type of database object, for example, table index, or database
- Status of the database object
- Amount of space used by the database object and the amount of space available

Oracle Historical database workspace

Oracle Historical database is the predefined workspace for the Database navigator group.

This workspace provides a summary of the oracle database information. This workspace contains the following information:

- Name of the database instance
- Name of the database server
- Type of database object, for example, table index, or database

More information about workspaces

For more information about creating, customizing, and working with workspaces, see the IBM Tivoli Monitoring User's Guide.

For a list of the predefined workspaces for this monitoring agent and a description of each workspace, see the Predefined workspaces section below and the information in that section for each individual workspace.

Output Requests workspace

The Output Requests workspace provides information about output requests, such as the number of print requests that were processed.

Output Requests is a predefined workspace that contains the following specific information about output requests:

- Spool number and title
- Client
- Creator
- Print request time and minutes pending
- Output device and format
- Recipient
- Department
- Copies
- Size
- Number of print requests processed, in error, and failed
- Host spool ID
- Spooler system and host names

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transactions on the mySAP system:

- Output Controller (SP01)
- Display Spool Requests (SP02)
- Sample Periods for ITM Reports

Persistence Layer Analysis workspace

Persistence Layer Analysis is a predefined workspace under the XML Message Monitoring navigator group. This workspace provides information related to XML messages processed by the PI/XI Integration Engine and persisted in the switch tables.

This workspace provides the following information about the persistence layer of the PI/XI system:

- XML messages overview - Provides information about the number of XML messages currently present in the database, and in client, deleted, or archived messages
- Switch table overview - Shows the number of messages persisted in various switch tables
- Current fill level
- Name of the current container table
- Name of the current master table
- Number of table entries in the master table
- Reorganization Status

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transaction on the SAP system:

- Persistence Layer Analysis (SXMS_MONI_DB)

qRFC Inbound Queue Details workspace

The qRFC Inbound Queue Details workspace provides information about logical units of work (LUW) of the qRFC inbound queue.

qRFC Inbound Queue Details is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

This workspace provides the following information about logical units of work (LUW) of the inbound queue:

- Logical unit of work (LUW) Host ID
- Logical unit of work (LUW) Process ID
- Logical unit of work (LUW) timestamp
- User name
- Name of Function Module
- Status of an aRFC call
- Number of attempts
- Name of the calling program
- Queue status
- Queue error message

qRFC Inbound Queue Overview workspace

The qRFC Inbound Queue Overview workspace allows you to view information about inbound qRFC Communication within the SAP system, or within a remote system.

qRFC Inbound Queue Overview is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

Note: The inbound queue is at the server side.

This workspace provides the following information about qRFC inbound queues:

- Inbound queue name

- Inbound queue destination
- qRFC Inbound queue status
- Queue error message
- Number of queue entries
- First time of queue execution
- Last time of queue execution
- First Transaction ID (TID) of the queue
- Queue version
- Queue supplement

All inbound queues listed in the workspace have predefined Link options. You use the link options to complete the following action:

- View inbound queue details: This option links to the qRFC inbound Queue Details workspace in which you can view inbound queue Logical unit of work (LUW) details.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- qRFC Monitor (Inbound Queue) (SMQ2)

qRFC Outbound Queue Overview workspace

The qRFC Outbound Queue Overview workspace provides information about outbound qRFC Communication within the SAP system, or with a remote system.qRFC

qRFC Outbound Queue Overview is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

Note: The qRFC Outbound Queue Overview outbound queue is at the client side.

This workspace provides the following information about qRFC outbound queues:

- Outbound queue name
- Outbound queue destination
- qRFC Outbound queue status
- Queue error message
- Number of queue entries
- Name of queue for which the current queue is waiting
- First time of queue execution
- Last time of queue execution
- First Transaction ID (TID) of the queue
- Queue version
- Queue supplement

All outbound queues listed in the workspace have predefined Link options. You use the link options to complete the following action:

- View outbound queue details: This option links to the qRFC outbound Queue Details workspace in which you can view outbound queue Logical unit of work (LUW) details.

The workspace table view has predefined launch definitions. You use the launch definitions to execute the following transactions on the SAP system:

- qRFC Monitor (Outbound Queue) (SMQ1)

qRFC Outbound Queue Details workspace

The qRFC Outbound Queue Details workspace provides information about logical units of work (LUW) of the qRFC outbound queue.

The qRFC Outbound Queue Details is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

This workspace provides the following information about logical units of work (LUW) of the outbound queue:

- Logical unit of work (LUW) Host ID
- Logical unit of work (LUW) Process ID
- Logical unit of work (LUW) timestamp
- User name
- Name of Function Module
- Status of an aRFC call
- Number of attempts
- Name of the calling program
- Queue status
- Queue error message

qRFC Queues Overview

qRFC Queues Overview is the predefined default workspace for the qRFC Queues navigator group.

This workspace provides the following information about qRFC queues:

- Number of outbound queues by queue status
- Number of inbound queues by queue status

qRFC Saved Inbound Queue Overview workspace

The qRFC Saved Inbound Queue Overview workspace provides information about inbound qRFC Communication queues that are saved while processing.

qRFC Saved Inbound Queue Overview is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

This workspace provides the following information about qRFC saved inbound queues:

- Saved Inbound queue name
- Saved Inbound queue destination
- qRFC Inbound queue status
- Queue error message
- Number of queue entries
- First time of queue execution
- Last time of queue execution
- First Transaction ID (TID) of the queue
- Queue version
- Queue supplement

All saved inbound queues listed in the workspace have predefined Link options. You use the link options to complete the following action:

- View saved inbound queue details: This option links to the qRFC saved inbound Queue Details workspace in which you can view saved inbound queue Logical unit of work (LUW) details.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- qRFC Monitor (Saved Inbound Queue) (SMQ3)

qRFC Saved Inbound Queue Details workspace

The qRFC Saved Inbound Queue Details workspace provides information about logical units of work (LUW) of the qRFC inbound queue.

qRFC Saved Inbound Queue Details is a predefined workspace for the qRFC Queues navigator group under the Sys subnode.

This workspace provides the following information about logical units of work (LUW) of the saved inbound queue:

- Logical unit of work (LUW) Host ID
- Logical unit of work (LUW) Process ID
- Logical unit of work (LUW) timestamp
- User name
- Name of Function Module
- Status of an aRFC call
- Number of attempts
- Name of the calling program
- Queue status
- Queue error message

Refresh Database Statistics Results workspace

The Refresh Database Statistics Results workspace provides information about database statistics that have been updated.

Refresh Database Statistics Results is a predefined workspace that provides status information about a request to refresh the database statistics. The expected information is that job RSORAT0D was submitted in the mySAP system and that updated statistics will be available shortly.

After you review the information in this workspace, return to the Data Base workspace to view the updated database statistics.

Reset Gateway Statistics Results workspace

The Reset Gateway Statistics Results workspace provides information about gateway statistics.

Reset Gateway Statistics Results is a predefined workspace that provides status information about a request to reset gateway statistics. A message that indicates that the statistics were reset is displayed.

Ensure that gateway statistics were reset.

After seeing these results, you can return to the Gateway Statistics workspace to see the latest gateway statistics information.

SAP Office Inbox workspace

The SAP Office Inbox workspace provides statistics for the SAP office inbox, such as the name of the user that owns a mail item.

SAP Office Inbox is the default workspace for the SAP Office navigator group. SAP Office Inbox is a predefined workspace that contains the following SAP Office inbox statistics:

- Date and time the mail item was received
- Name of the user who currently owns a mail item
- Number of attachments included in the mail item
- Status of the mail item

Use this workspace to monitor and to import SAP Office Inbox mail items. You can also ensure that important items are being processed in a timely manner.

Each row in the SAP Office Inbox table links to the User Information workspace for the given user ID.

All inbox items listed in the workspace have predefined Link options. You can use the link options to complete the following action:

- Get User Information

This option links to the User Information workspace, where you can see detailed information about the user.

The workspace table view has predefined launch definitions. Use the launch definitions to execute the following transactions on the mySAP system:

- SAPoffice Inbox (SO01)
- Sample Periods for ITM Reports

SAProuter Logs workspace

The SAProuter Logs workspace provides information about the SAP router log file.

SAProuter Logs is a predefined workspace that provides information about data in the SAP router log file. You use the SAProuter Logs workspace to review log data pertaining to your mySAP system.

SAProuter Logs is a predefined workspace that contains data from the log file. You use this information to see who is using the mySAP systems and from which IP address. Specifically, this workspace includes the following information:

- Text from the SAPROUTER log file
- Date and time recorded in the SAPROUTER log
- Name of the mySAP system being monitored

The workspace table view has predefined launch definitions. Use the launch definitions to execute the following transactions on the mySAP system:

- Sample Periods for ITM Reports
- Log File Names for ITM Reports

Server Details workspace

Server Details is the predefined workspace for the Servers navigator group.

This workspace provides information about the SAP systems that run on a specific server. This workspace contains the following information:

- Name of the SAP system

- Version of the SAP system
- Name of the instance
- SAP system number and system ID

Server Overview workspace

Server Overview workspace is the default workspace for the Servers navigator group.

This predefined workspace contains information about all the servers and hosts that run on SAP systems that are configured with Solution Manager. The following information is provided for each server:

- Host name
- IP address
- CPU details
- CPU frequency in Mhz
- Number of CPUs
- Main memory (RAM) size in kb
- Virtual memory size in mb
- Type of operating system
- Version of the operating system
- Hardware manufacturer information
- Application server hardware information
- Central system routing information
- Central system to server routing information
- Sap Application Performance and Sustainability (SAPS) measured value
- SAPS vendor information

This workspace shows the hardware information in relation to each server. It also shows the performance of the SAP system that runs on the server.

Service Response Time workspace

The Service Response Time workspace provides diagnostic information about the services that are configured in the mySAP system.

Service Response Time is the default workspace for the Workload Performance navigator group. Service Response Time is a predefined workspace that provides diagnostics for each configured mySAP service running on the application instances you are monitoring. This workspace includes metrics for response time, wait time, CPU time, and database request time. For each configured mySAP service, this workspace provides the following information:

- Metrics for minimum, maximum, and average response time
- Metrics for minimum, maximum, and average wait time
- Frequency of requests per minute for this service during the sample period

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transactions on the mySAP system:

- Performance, SAP Statistics, Workload (ST03)
- Sample Periods for ITM Reports

Software Components Details workspace

Software Components Details is a predefined workspace under the Systems navigator group that provides information about the software components of the satellite system configured in Solution Manager System Landscape.

This workspace provides the following information:

- Software component name, which is a set of objects that are always delivered together
- Type of component
- SAP release information
- Support package level of the software component
- Group keys

The workspace table view has predefined launch definitions. You can use the launch definitions to run the Solution Manager System Landscape (SMSY) transaction on the SAP system.

Solution Overview workspace

Solution Overview is the default workspace for the Solution Monitoring navigator group. This predefined workspace contains information about solutions present in the SAP system.

You can use this workspace to review solution name, solution ID, solution status, and so on. This workspace includes the following information:

- Solution name
- Solution ID
- Solution status

The workspace table view displays the attributes from the SolMan_Solution_Overview attribute group.

Spool Output workspace

Spool Output is a predefined workspace that provides information about all output requests for one spool request.

This workspace includes the following information:

- Spool number and title
- Client
- Creator
- Print request time and minutes pending
- Output device and format
- Recipient
- Department
- Copies
- Size
- Number of print requests processed, in error, and failed
- Host spool ID
- Spooler system and host names

After reviewing the information in this workspace, return to the Spool Requests workspace to continue viewing other spool requests.

The workspace table view has predefined launch definitions. You can use the launch definitions to run the following transactions on the mySAP system:

- Output Controller (SP01)
- Display Spool Requests (SP02)
- Sample Periods for ITM Reports

Spool Requests workspace

The Spool Requests workspace is a predefined workspace that provides information about spool requests in the mySAP system, such as the number and size of spool requests that are created.

Spool Requests is the default workspace for the Spool and Output navigator group. Spool Requests is a predefined workspace that provides information about spooling activity on the mySAP systems that you are monitoring, including associated output requests to designated devices and the following information:

- Summary count of print requests by output device
- Summary count of errors by output device
- Number and size of spool requests created
- Creator of the spool requests
- Number of copies and the form required for printing
- Print device selected for printing and the print status

All spool requests listed in the workspace have predefined Link options. You use the link options to complete the following action: View output requests. This link option opens the Output Requests workspace.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Output Controller (SP01)
- Display Spool Requests (SP02)
- Sample Periods for ITM Reports

Sub-Application Performance workspace

Sub-Application Performance is a predefined workspace that contains information about sub-application performance for each instance, such as the total number of database calls in the mySAP system.

This workspace provides the following information about sub-application performance for each instance:

- Application
- Description
- Number of dialog steps
- Average and total response time, CPU time, wait time, and database request in milliseconds
- Total database bytes requested in KB
- Total number of database calls

Synchronous Asynchronous Communication workspace

The Synchronous Asynchronous Communication workspace provides information about the Synchronous Asynchronous communication status.

Synchronous Asynchronous Communication is the workspace for the XML Message Monitoring navigator group.

This workspace provides the following information about Communication status:

- Synchronous Message ID
- Asynchronous Message ID
- Transfer Date
- Status
- Server

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- XML Message Details by Synchronous Message Id (SXI_SHOW_MESSAGE)
- XML Message Details by Asynchronous Message Id (SXI_SHOW_MESSAGE)

System Details workspace

The System Details workspace provides information about satellite systems configured in the Solution Manager System landscape

System Details is a predefined workspace under the Systems navigator group.

This workspace provides the following system information:

- Host name of the database of the satellite system
- IP Address of the database system
- Database operating system release
- Operating system type of the database system
- Host name of the satellite system
- Installation number
- Host name of the message server
- IP address of the message server
- Message server operating system release
- Message server operating system type
- Product type of the satellite system
- Product version of the satellite system
- Name of the transport domain

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

System Log Detail workspace

The System Log Detail workspace provides information about system log messages.

System Log Detail is a predefined workspace that contains complete detailed information about a selected system log message.

After viewing this detailed information, you can return to the System Log workspace to continue viewing other system log messages.

The workspace table view has predefined launch definitions. Use the launch definitions to run the following transactions on the mySAP system:

- Online System Log Analysis (SM21)
- Sample Periods for ITM Reports

System Log workspace

System Log is the default workspace for the Logs and Traces navigator group. This predefined workspace provides detailed information about system log entries, such as the transaction code associated with the log entry.

This workspace provides the following information:

- Type of task associated with the entry
- Client and user activity that resulted in the log entry
- Transaction code associated with the entry
- Message information, such as number, class, and descriptive text
- Summary count of messages by message ID
- Summary count of messages by message class

All messages listed in the workspace have predefined Link options. You use the link options to complete the following action: Get detailed message information. This option links to the System Log Detail workspace, in which you can see all the detailed information about the syslog message.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Online System Log Analysis (SM21)
- Sample Periods for ITM Reports

System Monitoring Current Status workspace

The System Monitoring Current Status workspace displays the status of system monitoring alerts in the satellite systems.

The System Monitoring Current Status is the link workspace from the Solution Overview workspace for the Solution Monitoring navigator group.

This workspace provides the following information about system monitoring alerts:

- Alert Description
- Alert Rating
- Monitoring Object
- MTE (Monitoring Tree Element) name
- Previous Object

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- System Monitoring Current Status (SOLUTION_MANAGER)

System Monitoring Historical Alerts workspace

The System Monitoring Historical Alerts workspace provides information about historical alerts generated for satellite systems of the selected solution.

System Monitoring Historical Alerts is a predefined workspace for the Solution Monitoring navigator group.

This workspace provides the following historical alert information:

- Alert message
- Alert severity

- Alert unique identifier
- Client number
- Occurrence time of the alert
- User name

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- SAP Solution Manager (DSWP)

System Monitoring Open Alerts workspace

The System Monitoring Open Alerts workspace displays information about open system monitoring alerts in the satellite systems.

System Monitoring Open Alerts is the link workspace from the Solution Overview workspace for the Solution Monitoring navigator group.

This workspace provides the following System Monitoring alert information:

- Alert Description
- Alert Rating
- Monitoring object
- Type
- MTE (Monitoring Tree Element) Name
- Previous Object

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- System Monitoring Open Alerts (SOLUTION_MANAGER)

System Overview workspace

The System Overview workspace provides overview information about satellite systems configured in the Solution Manager System landscape.

System Overview is the default workspace for the Systems navigator group.

This workspace provides the following system overview information:

- Name of the satellite system configured in the Solution Manager System Landscape
- Host name of the satellite system
- Message server host name of the satellite system
- Database host name of the satellite system
- Type of the database of satellite system
- Installation number of the satellite system

All satellite systems listed in the workspace have predefined Link options. You use the link options to perform the following actions:

- View system topology: This option links to the System Topology View workspace where you see a topology view of the satellite system.
- View clients details: This option links to the Client Details workspace where you view detailed information about clients that are available in the satellite system.
- View instances details: This option links to the Instances Details workspace where you view detailed information about instances of the satellite system.

- View software components details: This option links to the Software Component Details workspace where you view detailed information about software components that are available in the satellite system
- View system details: This option links to the System Details workspace where you view detailed information about the satellite system.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- Solution Manager System Landscape (SMSY)

System Summary (:mySAP level) workspace

The System Summary (:mySAP level) workspace provides summary information, such as the number of work processes on each instance.

System Summary (agent level) is the default workspace for the agent-level navigator node. This predefined workspace provides the following summary information about a mySAP system:

- System identifying information, such as SID, system description, system releases, database host, and central instance
- Summary information about each instance in the system: instance name, host on which the instance is running, type and number of work processes on each instance

Use this workspace to quickly determine which instances might require more detailed investigation.

System Summary (:Sys level) workspace

System Summary (system level) is the default workspace for the System Summary navigator group. This predefined workspace provides information about the selected mySAP managed system that you are monitoring.

Use this System Summary workspace to correlate data with information from associated workspaces so that you can evaluate key elements that impact system performance throughout your mySAP enterprise efficiently.

Use this information to plan the following corrective actions:

- Reconfigure application instances and associated mySAP services
- Reconfigure the Operation Mode State for one or more instances
- Reconfigure logon load balancing to more evenly distribute the user load between application servers

System Topology workspace

The System Topology workspace provides a topology view of the satellite systems that are configured in the Solution Manager System landscape.

System Topology is a predefined workspace that provides a view of the satellite systems in the Solution Manager System Landscape.

This workspace provides the following system topology information:

- Clients created in the system
- Instances available in the system
- Software components of the system

Transaction Performance workspace

Transaction Performance is a predefined workspace that contains information about all transactions for each instance, such as the total number of database calls.

This workspace provides the following information about all transactions for each instance:

- Program or Tran code
- Description
- Dialog steps
- Average response time, CPU time, wait time, and database request time in milliseconds
- Total response time, CPU time, wait time, database request time in milliseconds
- Total bytes requested for databases in KB
- Total number of database calls
- Average extended memory and private memory in KB
- Maximum extended memory per session and per tran in KB

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Performance, SAP Statistics, Workload (ST03)
- Sample Periods for ITM Reports

Transactional RFC workspace

Transactional RFC is the default workspace for the Document Interchange navigator group. This workspace provides information about data in the Transactional RFC file. This predefined workspace provides information that helps you determine the status of asynchronous Remote Function Calls. For example, this workspace describes the size of the data that is transferred by the RFC.

This workspace provides the following information:

- Unique transaction identifier for the RFC
- Logical target of the RFC
- Size of the data that is transferred by the RFC
- Number of retries allowed in attempting to connect to a specified system
- Summary count of transactions by status
- Summary of total amount of data for each target system

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Asynchronous RFC Error Log (SM58)
- Sample Periods for ITM Reports

Transport Log workspace

Transport Log is a predefined workspace that provides detailed log information about monitored transport steps, such as the Log file name.

This workspace provides the following information:

- Log file name
- Display and error levels
- Message numbers and message text

After reviewing the information in this workspace, return to the Transport Objects and Steps workspace to continue reviewing other transport step logs.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Transport Organizer (SE10)
- Sample Periods for ITM Reports

Transport Objects and Steps workspace

Transport Objects and Steps is a predefined workspace that shows the objects and steps for a given transport request. Because all transports contain objects, you always see information about transport objects. Transport step information is available only after the transport has been run. If you do not see transport step information, the transport might not have been run yet.

This workspace provides the following information about transport objects:

- Object name
- Object type
- Object function
- Program ID

This workspace provides the following information about transport steps:

- Target system
- Step name
- Return code
- Execution time
- Logfile name

All transport steps listed in the workspace have predefined link options. You use the link options to complete the View log action. This option links to the Transport Log workspace, where you can see detailed information about this transport step.

All transport steps listed in the workspace have predefined Link options. You use the link options to complete the following actions: View log. This option links to the Transport Log workspace, allowing you to see detailed information about this transport step.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Transport Organizer (SE10)
- Sample Periods for ITM Reports

After reviewing the information in this workspace, return to the Transport Requests workspace to continue reviewing other transport requests.

Transport Requests workspace

Transport Requests is the default workspace for the Transport Requests navigator group. This predefined workspace provides detailed information about transport requests in the mySAP systems that you are monitoring. For example, the User ID for the owner of the request is shown.

Use the Transport Requests workspace to monitor transport system activity and find specific details about transport requests in your enterprise. You can make changes to your development, test, and production systems.

This workspace contains information about the request (for example, numeric identifier and description), and its category (for example, customizing, repair, task, and workbench). This workspace also includes the following information:

- User ID for the owner of the request

- Date and time the request was most recently changed
- Status of the request, such as documentation, locked, or released
- Identifiers for the system and computer where the request originated
- Identifiers for the systems and computers to which the requests have been imported
- Indicator for the highest return code for the request

All transport requests listed in the workspace have predefined Link options. You use the link options to complete the following action: View transport objects and steps. Use this link to open the Transport Objects and Steps workspace.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Transport Organizer (SE10)
- Sample Periods for ITM Reports

User Information workspace

User Information is a predefined workspace that contains the information for each user, such as the User ID and the name of the user in the mySAP system.

User Information is a predefined workspace that contains the following specific information for each user:

- User ID
- Client
- Full name of user
- Telephone number
- Fax number
- Function
- Department
- Cost Center
- Country
- Building
- Room

After viewing the information in this workspace, return to your previous workspace to resume your normal work activities.

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- User Maintenance (SU01)
- Work Process Overview (SM50)

User Performance workspace

User Performance is a predefined workspace that contains information about application performance for each instance, such as the User ID associated with the user. This workspace also provides information about application performance, such as the total number of calls in the mySAP system.

This workspace provides the following information about application performance for each instance:

- User ID
- Description
- Number of dialog steps

- Average and total response time, CPU time, wait time, and database request in milliseconds
- Total database bytes requested in KB
- Total number of database calls

User Transaction Performance workspace

User Transaction Performance is a predefined workspace that contains information about every unique combination of user ID and transaction or program name for each instance. For example, user information such as the User ID is shown and information about transactions is shown, such as the total number of database calls.

This workspace provides the following information:

- User ID
- Program or Tran code
- Description
- Dialog steps
- Average response time, CPU time, wait time, and database request time in milliseconds
- Total response time, CPU time, wait time, database request time in milliseconds
- Total bytes requested for databases in KB
- Total number of database calls
- Average extended memory and private memory in KB
- Maximum extended memory per session and per tran in KB

This workspace provides information that is more specific than the Transaction Performance or User Performance workspaces. The Transaction Performance workspace provides information about every transaction, but this information is aggregated across all users. The User Performance workspace provides information about every user, but this information is aggregated across all transactions. The User Transaction Performance workspace provides information about all users and all transactions, but aggregates only on the combination of user and transaction pair to provide greater granularity in the report.

Work Processes workspace

Work Processes is the default workspace for the Work Processes navigator group. This predefined workspace contains information about the mySAP work processes in this instance. Use this workspace to review status and performance information for all defined work processes in this instance.

This workspace provides the following information:

- Number of database reads
- User ID of the person currently using a process
- Total memory allocated to a specific process
- Summary of work processes by type
- Identification of long running work processes

Use the data for specific work processes for the following purposes:

- Find out which processes are running, how long they have been running, and how many errors have occurred
- Reduce the potential for bottlenecks and future trouble spots
- Anticipate and plan for optimal performance on your mySAP system components

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the mySAP system:

- Work Process Overview (SM50)
- List of SAP Systems (SM51)

Workflow Trace Logs Details workspace

The Workflow Trace Logs Details workspace allows you to view logs for workflows that are defined in the PI/XI subnode.

Workflow Trace Logs Details is the workspace for the Workflow Trace Logs navigator group under the PI/XI subnode.

This workspace provides the following workflow trace log information:

- Description
- Status
- Trace component of the workflow trace
- Name of the creator of workflow trace
- Log creation time
- Activation time
- Activation end time
- Expiry time
- Description of trace level
- Workflow trace id
- Parent workflow trace id

XML Message Log Workspace

The XML Message Log workspace displays information about XML Message Logs.

XML Message Logs is the default workspace for the XML Message Monitoring navigator group under the PI/XI subnode.

This workspace provides the following XML Message Log information:

- Message ID
- Sending System
- Receiving System
- Message Type
- Interface Name to receive and send XML message

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- XML Message Details by Message ID(SXI_SHOW_MESSAGE)

XML Messages Processing Statistics workspace

The XML Messages Processing Statistics workspace displays information about XML Message Processing Statistics.

XML Messages Processing Statistics is the predefined workspace for XML Message Monitoring navigator group.

This workspace provide the following XML Message Processing information:

- XML Messages with Errors

- XML Messages Manually Canceled
- XML Messages Not Yet Processed
- XML Messages Being Edited
- Correctly Processed XML Messages
- Archived XML Messages
- XML Messages Marked for Deletion
- Deleted XML Messages
- Average XML Messages Processed per Day
- Minimum XML Messages Processed per Day
- Maximum XML Messages Processed per Day
- XML Messages Processed Today

The workspace table view has predefined launch definitions. You use the launch definitions to run the following transactions on the SAP system:

- Processing Statistics (SXI_STAT)

Chapter 4. Attributes reference

Attributes are the application properties that are being measured and reported by the IBM Tivoli Composite Application Manager Agent for SAP Applications.

About attributes

Attributes represent the detailed information about SAP resources reported by the SAP agent. Attributes are organized by tables or attributes groups, where each attribute group is a collection of related attributes. This section provides a description of all attribute groups and the attributes they contain.

There are five types of attribute groups:

Instance level

Instance level attributes provide information about one SAP application server or instance.

Lds level

Lds level attributes provide information about Solution Manager Landscape details.

PI level

PI level attributes provide information about SAP PI server details.

Solution level

Solution level attributes provide information about Solution Manager solution monitoring details.

System level

System level attributes provide information about the SAP system as a whole. These attributes are not specific to one application server or instance.

Use attributes to create new queries to report only those attributes of interest and to create customized workspace views. The attributes you select in your queries are displayed as column headings in your table views.

Use attributes to create new situations to monitor conditions of interest to you. Tailor the situations by specifying one or more attributes and their corresponding threshold values.

For information about workspaces, click **Workspaces** in the help contents. For information about situations, click **Situations** in the help contents.

Additional information about attributes

For more information about using attributes and attribute groups, see the *Tivoli Enterprise Portal User's Guide*.

For a list of the attribute groups, a list of the attributes in each attribute group, and descriptions of the attributes for this monitoring agent, see "Attribute groups and attributes" on page 98.

Historical data collection attributes

When an attribute group is configured for historical data collection, the attributes that are entered into the historical database are determined differently depending on whether you configured historical data collection to take place on the Tivoli Enterprise Monitoring Server or the Tivoli Enterprise Monitoring Agent.

A size restriction limits the attributes that are collected and stored for historical data collection on the Tivoli Enterprise Monitoring Server. In particular, the R/3_Instance_Configuration attribute group limits the attributes that it collects for historical data collection. The attributes that are not collected for this attribute group are listed in this table:

Table 7. R/3 Instance Configuration attributes not collected at the Tivoli Enterprise Monitoring Server

Column name	Attribute name
OPMODE	Operation Mode
DESCRIPT	System Description
PMVALUE	Value
ORIGINNODE	Managed System
APPSRVNM	—
SAMP_TIME	Sample_Time
SYSNAME	—
UDESCRPT	System Description
PMDESC	Description
PARAMETER	Logon Parameters
SAMPLENO	—
ROWNO	—

No size restriction is associated with data stored at the Tivoli Enterprise Monitoring Agent, so all attributes in the R/3_Instance_Configuration attribute group are collected and stored for historical data collection. This can result in some rows in the historical database having values for these attributes and some rows not having values for these attributes depending on where historical data collection took place.

Attribute groups and attributes

The SAP agent contains many different attributes and attribute groups.

This monitoring agent contains the following attribute groups:

- ABAP Dumps attributes
- Active Users
- Alerts
- Archive Monitor
- Background Job
- Batch Data Create
- Batch Data Create Log
- Batch Jobs
- Batch Job Logs
- Buffer Performance
- Buffer Performance
- Business Process Engine Inbound Status Monitoring
- Business Process Engine Status
- CCMS Current State
- Client Information
- Component Monitoring

- Data Base Detail
- Database Logs
- Data Base Summary
- DB2 Configuration
- DB2 Performance History
- Developer Traces
- EDI Files
- File Systems
- Gateway Connections
- Gateway Statistics
- Historical Alerts
- HTTP Services
- ICM Monitor
- Instance Configuration
- Integration engine Job Overview
- Intermediate Documents
- Lock Entries
- Logon Groups
- Logon Information
- Message Server Monitor
- Number Range Buffer Details
- Number Range Buffer Summary
- Operating System Performance
- Output Requests
- Perform Requested Action
- Persistence Layer Analysis
- Process Statistics
- qRFC Inbound Queues
- qRFC Inbound Queues Logical Unit of Work (LUW)
- qRFC Outbound Queues
- qRFC Outbound Queues Details
- qRFC Saved Inbound Queues
- qRFC Saved Inbound Queues LUW
- SAP Office Inbox
- Saprouter Log
- Servers Details
- Servers Overview
- Service Response Time
- Set Default Sample Period
- Solution Manager Business Process Alerts
- Solution Manager Early Watch Alerts
- Solution Manager landscape Database
- Solution Manager Landscape Software Components
- Solution Manager System Instance
- Solution Overview

- Spool Requests
- Synchronous and Asynchronous communication alerts
- System Log
- System Log Details
- System Monitoring Alert View
- System Overview
- System Topology
- Topology Information
- Transactional RFC
- Transactional RFC Logs
- Transaction Performance
- Transaction Performance Task Type
- Transport Logs
- Transport Objects
- Transport Requests
- Transport Steps
- Updates Information
- User Information
- Workflow Trace Logs
- Work Processes
- XML Message Logs

IBM Tivoli Monitoring provides other attribute groups that are available to all monitoring agents, for example Universal Time and Local Time. The attributes in these common attribute groups are documented in the Tivoli Enterprise Portal Help.

The remaining sections of this chapter contain descriptions of the SAP agent attribute groups, which are listed alphabetically. Each description contains a list of attributes in the attribute group.

Disk capacity planning for historical data

Disk capacity planning for a monitoring agent is a prediction of the amount of disk space to be consumed for each attribute group whose historical data is being collected. Required disk storage is an important factor to consider when you are defining data collection rules and your strategy for historical data collection.

Calculate expected disk space consumption by multiplying the number of bytes per row by the expected number of rows, and then multiplying that product by the number of samples. Table 8 on page 101 provides the following information required to calculate disk space for the SAP agent attribute groups:

- *DB table name* is the table name as it would appear in the warehouse database, if the attribute group is configured to be written to the warehouse.
- *Bytes per row (agent)* is an estimate of the record length for each row written to the agent disk for historical data collection. This estimate can be used for agent disk space planning purposes.
- *Bytes per row (warehouse)* is an estimate of the record length for detailed records written to the warehouse database, if the attribute group is configured to be written to the warehouse. Detailed records are those that have been uploaded from the agent for long-term historical data collection. This estimate can be used for warehouse disk space planning purposes.
- *Bytes per summarized row (warehouse)* is an estimate of the record length for aggregate records written to the warehouse database, if the attribute group is configured to be written to the warehouse. Aggregate

records are created by the Summarization agent for attribute groups that have been configured for summarization. This estimate can be used for warehouse disk space planning purposes.

- *Expected number of rows* is a guideline that can be different for each attribute group, because it is the number of rows of data that the agent returns for a given attribute group, and depends upon the application environment that is being monitored. For example, if your attribute group is monitoring each processor on your machine and you have a dual processor machine, the number of rows is 2.

Some attribute groups return mySAP system wide data. For these tables the “Expected number of rows” column indicates that the number of rows must be multiplied by each monitored mySAP system. Other tables return mySAP application server wide data. For these tables the “Expected number of rows” column indicates that the number of rows must be multiplied by each application server in each monitored mySAP System.

For some tables, the “Expected number of rows” varies greatly between mySAP systems. In this case where there is no way to present a suitable guideline, the typical range for number of rows is specified. The maximum limit on the number of rows returned by the agent during a data collection is configurable. You can set it in the mySAP Configuration panel. See “IBM Tivoli Monitoring generated alerts maintenance” on page 41.

The *IBM Tivoli Monitoring Installation and Setup Guide* contains formulas that can be used to estimate the amount of disk space used at the agent and in the warehouse database for historical data collection of an attribute group.

Table 8. Capacity planning for historical data

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_Instance_Configuration	KSASYS	1425	1416	3442	Multiple, 1 row for each application server in each monitored mySAP System
R/3_Service_Response_Time	KSAPERF	582	605	1200	Multiple, 8 rows for each application server in each monitored mySAP System
R/3_Alerts	KSAALERTS	2354	2304	2341	Multiple, 1 row for each CCMS alert that the agent is configured to report times the number of application servers in each monitored mySAP System

Table 8. Capacity planning for historical data (continued)

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_Operating_System/_Performance	KSAOSP	636	625	1478	Multiple, 1 row for each transaction, each user, each application, each sub-application, and each user transaction for each application server in each monitored mySAP system
R/3_Transaction_Performance	KSATRANS	1064	1079	1896	Multiple
R/3_Batch_Jobs	KSAJOBS	944	961	1052	Multiple, 1 row for each job for each monitored mySAP system
R/3_Transport_Requests	KSACTS	886	896	933	Multiple, 1 row for each transport for each monitored mySAP system
R/3_Spool_Requests	KSASPOOL	786	801	1033	Multiple, 1 row for each spool that had activity in the sample period for each monitored mySAP system
R/3_Output_Requests	KSAOUTPUT	1013	1030	1301	Multiple, 1 row for each output request that had activity in the sample period for each monitored mySAP system

Table 8. Capacity planning for historical data (continued)

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_File_Systems	KSAFSYSTEM	868	870	1180	Multiple, 1 row for each file system in each application server in each monitored mySAP system
R/3_Buffer_Performance	KSABUFFER	669	719	1950	Multiple, 17 rows for each application server in each monitored mySAP system
R/3_Batch_Data_Create	KSABDC	677	691	1118	Multiple, 1 row for each BDC session that had activity in the sample period for each monitored mySAP system
R/3_Data_Base_Summary	KSAORASUM	557	566	1149	Multiple, 4 rows for each monitored mySAP system
R/3_Active_Users	KSAUSERS	850	862	1133	Multiple, 1 row for each logged on user for each application server in each monitored mySAP system
R/3_Work_Processes	KSAPROCESS	1024	1046	1590	Multiple, 1 row for each work process (typically <100) for each application server in each monitored mySAP system

Table 8. Capacity planning for historical data (continued)

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_ABAP_Dumps	KSADUMPS	899	904	941	Multiple, 1 row for each dump that occurred during the sample period for each monitored mySAP system
R/3_Lock_Entries	KSALOCKS	726	734	888	Multiple, 1 row for each lock (typically <1000) for each monitored mySAP system
R/3_Updates_Information	KSAUPDATES	1313	1324	1361	Multiple, 1 row for each update (typically <100) for each monitored mySAP system
R/3_Gateway_Connections	KSAGWYCONN	1343	1362	1438	Multiple, 1 row for each RFC connection made to the gateway for each application server in each monitored mySAP system
R/3_Number_Range_Buffer/_Summary	KSANUMSUMM	624	574	1274	Multiple, 1 row for each application server in each monitored mySAP system

Table 8. Capacity planning for historical data (continued)

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_Number_Range_Buffer/_Details	KSANUMDTL	602	605	642	Multiple, 1 row for each number range (typically <100) for each application server in each monitored mySAP system
R/3_Transactional_RFC	KSATRANRFC	1414	1439	1566	Multiple, 1 row for each transactional RFC for each monitored mySAP system
R/3_Logon_Groups	KSALOGNGRP	694	700	932	Multiple, 1 row for each logon group (typically <20) for each monitored mySAP system
R/3_Intermediate_Documents	KSAIDOCs	1158	1171	1208	Multiple, row for each IDOC (typically > 1000) for each monitored mySAP system
R/3_EDIFiles	KSAEDIFILE	885	886	923	Multiple, 1 row for each EDI File (typically < 20) for each monitored mySAP system

Table 8. Capacity planning for historical data (continued)

Attribute group	DB table name	Bytes per row (agent)	Bytes per row (warehouse)	Bytes per summarized row (warehouse)	Expected number of rows
R/3_Logon_Information	KSALOGNINF	673	680	795	Multiple, 1 row for each logon attempt or successful logon for each application server for each monitored mySAP system
R/3_Archive_Monitor	KSAARCHIVE	613	565	1148	Multiple, 1 row for each monitored mySAP system
R/3_SAP_Office_Inbox	KSAOFFICE	1270	1291	1367	Multiple, 1 row for each inbox entry for each monitored mySAP system

For more information about historical data collection, see the *IBM Tivoli Monitoring Administrator's Guide*.

ABAP Dumps attributes

ABAP Dumps is a system level attribute group that provides information about ABAP short dumps occurring in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier or name for the source client where the ABAP dump was created.

Create Time The timestamp for the date and time the ABAP dump was created.

Dump Title A text string identifier or name for the ABAP dump that was created. For example, DBIF RSQL INVALID CURSOR indicates the name of the ABAP dump.

Hold Status The hold status for the ABAP dump. One of the following values is possible:

X = Held

F = Free

Host A text string identifier or name for the computer serving as the host where the ABAP dump was created. For example, ddrum2 indicates the name of the host where the ABAP dump was created.

Include Name A text string identifier or name for the ABAP INCLUDE name. This attribute provides single-byte character support only. For example, LY210U58 indicates the ABAP INCLUDE name.

Include Name (Unicode) A text string identifier or name for the ABAP INCLUDE name. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Line Number The numeric identifier for the line of code in the ABAP INCLUDE where the error occurred.

Line Number (Superseded) The numeric identifier for the line of code in the ABAP INCLUDE where the error occurred. For example, 750 indicates the line in the code where the error occurred. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Mode Number The mode number for the ABAP dump.

Program Name The text string identifier for the ABAP program that generated the ABAP dump. This attribute provides single-byte character support only. For example, SAPLY210 indicates the name of the ABAP program.

Program Name (Unicode) The text string identifier for the ABAP program that generated the ABAP dump. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Userid The text string identifier for the person who generated the ABAP dump. For example, LSMITH is the name of the person who generated the ABAP dump.

Active Users attributes

Active Users is an instance level attribute group that provides information about users that are currently logged on to a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier or name for the source client session. For example, 800 identifies the name of the client for this session.

Echoed To Session The user ID for a different user on this mySAP system. Use this text string attribute to identify sessions being echoed to the SAPGUI screens of other users for the purposes of monitoring, troubleshooting, or training personnel. For example, LBROWN identifies the name of the session echoed.

External Sessions An integer value for the total number of external (true) sessions. For example, 2 specifies the total number of external sessions. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Instance Name The name of the application instance you are monitoring. The valid format is a text string. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Internal Sessions An integer value for the total number of automatically opened internal sessions. For example, 3 specifies the total number of internal sessions. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

IP Address The IP address of the workstation running the SAPGUI presentation. For example, 170.106.1.1 is the IP address.

IP Address (v4/v6) The IP address of the workstation running the SAPGUI presentation. This attribute is long enough to hold IPv4 or IPv6 addresses.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Time The timestamp for the date and time the agent collected the data. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Session Number The identifier for the user session, a numeric value. For example, 2 is the number of the session.

Session Time The timestamp for the date and time of the last session.

Session Title The screen title of the session, a text string. For example, ABAP/4 Function Modules is the screen title of the session. This attribute provides single-byte character support only.

Session Title (Unicode) The screen title of the session, a text string. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Terminal The hostname of the terminal running the SAPGUI presentation. Use this text string attribute to specify or exclude a specific terminal. For example, LBROWN is the name of the terminal being used.

Time The timestamp for the time of the last user activity.

Transaction Code The transaction code in which the most recent activity for a user took place. The code identifies each program that can be started from a menu in the mySAP system using a text string. For example, ST03 is the identifier for the mySAP transaction code.

User Key The numeric identifier for the memory protection key for the user. For example, 216 is the name of the memory protection key for the user.

User Page Size The page size, in KB, consumed by the user, a numeric value. For example, 16384 is the page size consumed by the user. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

User Private Memory The private memory, in KB, allocated to the user, a numeric value. For example, 34267 is the private memory allocated to the user. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

User Roll Size The roll size (where user memory is temporarily saved and retrieved from roll space), in KB, allocated to the user, a numeric value. For example, 11468 is the roll size allocated to the user. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

User Total Memory The total memory, in KB, consumed by the user, a numeric value. For example, 739313 is the total memory consumed by the user. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Userid The name of the user logged on to this session, a text string. For example, LBROWN is the name of the person using this session.

Alerts attributes

Alerts is an instance level attribute group that provides information about CCMS and mySAP Agent alerts occurring in a mySAP instance. CCMS alerts are similar to IBM Tivoli Monitoring situations in that they alert you to conditions in which a monitored valued has exceeded a threshold value. This attribute group can be used in queries, situations, and workspace views.

Alert Field Name The MTE attribute name, a text string. This attribute applies to CCMS alerts only.

Alert Index Internal handle for the alert id.

Alert Msg An alert message from the CCMS that provides more details on the reason for the alert.

Alert Object Name The MTE object name, a text string. This attribute applies to CCMS alerts only.

Alert Severity Actual alert severity value from the SAP system.

Alert Status The alert status, a number that indicates Open or Acknowledged. This attribute applies to CCMS alerts only. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Alert Unique Identifier The alert unique identifier that is used to close an alert in a SAP system. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Alert Value The severity value from the CCMS. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Class A category associated with an alert, as defined by mySAP. For example, DATABASE indicates that this alert involves database performance.

Instance Name The name of the application instance you are monitoring, a text string. For example, DDRUM2_PRD_00.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message The text associated with an alert generated by mySAP. This attribute provides single-byte character support only. For example, NO BACKUPS ON RECORD indicates that no backup was detected. For CCMS alerts, this attribute contains a concatenation of all of the texts from the branches of the CCMS alert tree. This is the whole alert tree for the single alert in one attribute.

Message (Unicode) The text associated with an alert generated by mySAP. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. For CCMS alerts, this attribute contains a concatenation of all of the texts from the branches of the CCMS alert tree. This is the whole alert tree for the single alert in one attribute.

Monitoring Segment Name Name of the monitoring segment.

Monitor The CCMS Monitor to which this alert belongs, a text string. This attribute applies to CCMS alerts only.

Monitor Set The CCMS Monitor Set to which this alert belongs, a text string. This attribute applies to CCMS alerts only.

MTE Class A text string for the monitoring tree element in CCMS with which this alert is associated.

MT Index Internal handle for TID that is used for the link from the current state view to the alert view.

Number A unique identifier assigned by the SAP agent that represents the alert type and subtype. Use this numeric value or range of values to identify or exclude an alert. For example, 517.

Occurrence Time The timestamp for the date and time that an alert or range of alerts occurred.

Occurrence Time GMT The time at which the alert occurred in Greenwich mean time.

Raised By The system that raised the alert, which is either the SAP agent or mySAP CCMS, a text string value. The following values are included

S = SAP

C = IBM Tivoli Monitoring

Sample Time The timestamp for the date and time the agent collected the data. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Severity A number that represents the level of severity used to identify or exclude a category of alert. The following values are possible:

0 = Normal (never reported by the SAP agent)

1 = Warning

2 = Critical

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

+++ = No_applicable_data

Archive Monitor attributes

Archive Monitor is a system level attribute group that provides information about document archiving occurring in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Archive Device Status The status of the archive device. The following values are possible:

0 = OK

1 = Missing

2 = N/A

Archiving Errors The number of errors that occurred during the archiving process. For example, 8 indicates the number of errors that occurred. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Archiving Queues The number of queues that were generated during the archiving process. For example, 8 indicates the number of queues that were created. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Background Archiving The number of background archiving jobs that are active. For example, 3 indicates the number of archiving jobs that are active in the background.

Background Confirmation The number of background files that are confirmed. For example, 5 indicates the number of background files that are confirmed.

Background File Processing The number of background files processed. For example, 13 indicates the number of background files processed. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Background Retrieval The number of background jobs retrieved. For example, 12 indicates the number of background jobs retrieved.

Background Scheduled The number of background jobs scheduled. For example, 25 indicates the number of background jobs scheduled.

Bar Code Archive Files The number of bar code archive files. For example, 152 indicates the number of bar code archive files.

Confirmation Errors The number of archiving confirmation errors. For example, 15 indicates the number of archiving confirmation errors. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Confirmation Queues The number of archiving confirmation queues. For example, 23 indicates the number of archiving confirmation queues. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Logging Entries The number of logging entries. For example, 15 indicates the number of logging entries.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Open Asynchronous Errors The number of open asynchronous errors. For example, 6 indicates the number of open asynchronous errors.

Open Asynchronous Requests The number of open asynchronous requests. For example, 9 indicates the number of open asynchronous requests.

Open Bar Codes The number of open bar codes. For example, 7 indicates the number of open bar codes.

Open Spool Errors The number of open spool errors. For example, 4 indicates the number of open spool errors. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Open Spool Requests The number of open spool requests. For example, 7 indicates the number of open spool requests. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Retrieval Errors The number of retrieval errors. For example, 6 indicates the number of retrieval errors. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Retrieval Queues The number of retrieval queues. For example, 4 indicates the number of retrieval queues. The following value is also possible:

-1 = Missing. The archiving process is not configured in the SAP system.

Sample Time The timestamp for the date and time the agent collected data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Transactional Rfc Requests The number of transactional RFC spool requests. For example, 4 indicates the number of Transactional RFC spool requests. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Background Job attributes

Background Job is an instance level attribute group that provides monitoring information of PI/XI Background Jobs and Job Logs. This attribute group can be used in queries, reports, and workspace views.

Job Created By The name of the SAP user who scheduled a job or a job-step to run. This user does not have to be the user who authorized the job to run. The valid format is an alphanumeric string, with a maximum of 12 characters.

Job ID ID of the background Job. The valid format is an alphanumeric string, with a maximum of 8 characters.

Job Name Name of the background job. The valid format is an alphanumeric string, with a maximum of 32 characters.

Job Status Status of the Job. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- F = Finished
- A = Canceled
- R = Active
- Y = Ready
- S = Released
- P = Scheduled
- Z = Released/Scheduled
- Other = Unknown

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Message Class Class associated with the background Job. The valid format is an alphanumeric string, with a maximum of 20 characters.

Message Number Message Number associated with the background job. The valid format is a 4-byte integer.

Message Text Message text uncoded, including the parameters inserted and the text. The valid format is an alphanumeric string, with a maximum of 200 characters.

Message Type Type of background job that is shown in the log. The valid format is an alphanumeric string, with a maximum of 1 characters.

Sample Time The date and time that the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is Timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data (No data available on SAP)

Timestamp Job start date and time. The valid format is timestamp.

Batch Data Create attributes

Batch Data Create is a system level attribute group that provides information about the configuration, progress, and performance of BDC sessions in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Authorization ID for the permission for the session, a text string. For example, RSMITH indicates the person who authorized the session.

Client The name of the client session. For example, 800 identifies the source client for this session.

Completed Screens The number of completed screens in this BDC session. For example, 21 indicates the number of screens that completed.

Completed Transactions The number of completed transactions in this BDC session. For example, 35 indicates the number of transactions that completed.

Created The timestamp for the date and time the BDC session or range of sessions occurred.

Creator A text string identifier or user ID for the user who created the session. For example, RSMITH indicates the name of the person who created the session.

Deleted Screens The number of deleted screens in this BDC session. For example, 3 indicates the number of screens that were deleted in this session.

Deleted Transactions The number of deleted transactions in this BDC session. For example, 4 indicates the number of transactions that were deleted in this session.

Error Screens The number of screens with errors. For example, 2 indicates the number of screens with errors.

Error Transactions The number of transactions with errors. For example, 4 indicates the number of transactions with errors.

Last Changed The timestamp for the date and time the session was most recently modified.

Locked Until The timestamp for the specific date and time, or range, before which this session or a range of sessions cannot be processed.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Pending Screens The number of screens not yet completed in this BDC session. For example, 2 indicates the number of screens not yet completed.

Pending Transactions The number of transactions not yet completed in this BDC session. For example, 4 identifies the number of transactions not yet completed in this session.

Queue Id The BDC queue Id from APQI-QID. This attribute is not for use in situations.

Sample Interval End The timestamp for the specific date and time that the collection period stopped. This attribute is not for use in situations.

Sample Interval Start The timestamp for the specific date and time that the collection period started. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Session Name A text string identifier or name for the BDC session. This attribute provides single-byte character support only. For example, RSMITH081358 indicates the name of the session.

Session Name (Unicode) A text string identifier or name for the BDC session. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Start Mode The process used to begin the session. The following values are possible:

A = Automatic

M = Manual

? = Unknown

Status The status for the session. The following values are possible:

C = Being Created
E = Errored
F = Completed
P = Pending
R = Processing
S = InBackground
L = Locked
? = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Total Screens The total number of screens in this BDC session. For example, 6 indicates the total number of screens for this session.

Total Transactions The total number of transactions in this BDC session. For example, 67 identifies the number of transactions for this session.

Batch Data Create Logs attributes

Batch Data Create Logs is a system level attribute group that provides log information for a particular Batch Data Create session. This attribute group can be used in queries, situations, and workspace views.

Created The timestamp for the date and time the BDC session was created.

Execution Host A text string identifier or name for the computer serving as the execution host. For example, agoura1 indicates the name of the execution host.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Number A text string identifier or name for the system message. For example, S74 indicates the identifier for the system message.

Message Text The descriptive text of the system message. This attribute provides single-byte character support only. For example, CONVERSATION ID 53659 indicates the text of the system message.

Message Text (Unicode) The descriptive text of the system message. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Message Time The timestamp for the date and time the message was logged in to the BDC log.

Queue Id The BDC queue Id from APQI-QID. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Screen Number A text string identifier or name for the transaction screen. For example, RSMITH081358 is the identifier for the transaction screen.

Session Name A text string identifier or name for the BDC session. This attribute provides single-byte character support only. For example, RSMITH081358 indicates the identifier for the BDC session.

Session Name (Unicode) A text string identifier or name for the BDC session. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Transaction A unique identifier for the transaction whose processing resulted in the log entry. This attribute provides single-byte character support only. For example, A309 indicates the identifier for the transaction.

Transaction (Unicode) A unique identifier for the transaction whose processing resulted in the log entry. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Batch Jobs attributes

Batch Jobs is a system level attribute group that provides information about the configuration, progress, and performance of batch jobs in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Client An identifier for the execution client. For example, 800 indicates the identifier for the client.

Defined By An identifier for the user who defined the batch job. For example, RSMITH specifies the user who defined the batch job.

Definition Time The timestamp for the date and time that the batch job was defined.

Delay A parameter that calculates the delayed time in seconds.

Duration The calculated run time in minutes. A value of -1 indicates that there is no data at this time.

End Time The timestamp for the date and time the batch job stopped.

Execution Host The name of the computer serving as the execution host. For example, agoura1 is the name of the computer serving as the execution host.

Execution Instance The name of the instance where this job actually ran.

Job Class A category for the batch job. The following values are possible:

A = A

B = B

C = C

Job ID String identifier for a batch job. This attribute replaces the Job Number attribute. For example, 1158100A identifies the number of a batch job.

Job Name A text string identifier or name for the batch job. This attribute provides single-byte character support only. For example, COLLECTOR FOR PERFORMANCE specifies the name of the batch job.

Job Name (Unicode) A text string identifier or name for the batch job. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Job Number The identifying number for the IDoc.

Job Number (Superseded) A numeric identifier for the batch job. This attribute is being deprecated. Refer to the Job ID attribute. The following value is possible:

-1 = Non-numeric_job_number

Last Changed By A text string identifier or user ID for the user who last modified the batch job. For example, SBROWN specifies the name of the user who last changed the batch job.

Last Changed Time The timestamp for the date and time the batch job was most recently modified.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number of Steps The sum of the number of steps completed for this job. For example, 9 indicates the number of steps completed for this job.

Other Scheduling Type A text string identifier for alternative types of scheduling. The following values are possible:

E = Event

J = AfterJob

O = Opmode

Other Scheduling Value A text string identifier for alternative scheduling values. For example, FIRST JOB indicates the job name for an alternate scheduling type of AfterJob.

Periodic A text string indicator for how often the batch job is scheduled to run. For example, 02 HOURS indicates the job is scheduled to run every two hours.

Sample Interval End The timestamp for the stopping time of the data supplied by the Monitoring Agent for mySAP. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data returned by the Monitoring Agent for mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Scheduled Latest Time The timestamp for the date and time after which the job must not run.

Scheduled Start Time The timestamp for the date and time the batch job is scheduled to begin.

Start Time The date and time the batch job began.

Status The status of the batch job. The following values are possible:

- A = Cancelled
- F = Finished
- P = Scheduled
- R = Active
- S = Released
- ? = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Target Host An identifier or name for the computer designated as the target host.

Target Instance The name of the application instance where this job is configured to run.

Batch Job Logs attributes

Batch Job Logs is a system level attribute group that provides log information about one batch job in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Job ID String identifier for a batch job. This attribute replaces the Job Number attribute. For example, 1158100A identifies the number of a batch job.

Job Name A text string identifier or name for the batch job. This attribute provides single-byte character support only. For example, COLLECTOR_FOR_PERFORMANCE specifies the name of the batch job.

Job Name (Unicode) A text string identifier or name for the batch job. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Job Number A numeric identifier for the batch job. This attribute is being deprecated. Refer to the Job ID attribute. The following value is possible:

- 1 = Non-numeric_job_number

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Number A text string identifier or name for the system message. For example, S741 indicates the identifier for the system message.

Message Number (610) Job log message number from TBTC5-MSGID and TBTC5-MSGNO through BP_JOBLOG_READ. This number consists of the message ID plus the message number.

Message Text Descriptive text associated with the system message. This attribute provides single-byte character support only. For example, CONVERSATION ID 53659 indicates the text of the system message.

Message Text (Unicode) Descriptive text associated with the system message. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Message Time The timestamp for the date and time the message was logged in to the job log.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +JB = Non-numeric_job_number
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Buffer Performance attributes (Superseded)

Buffer Performance is an instance level attribute group that provides information about mySAP buffers and memory areas in one mySAP instance. This attribute group contains a large number of attributes. Not all attributes apply to every object reported. When an attribute does not apply to a particular object type, the attribute will have a value of -1. This attribute group can be used in queries, situations, and workspace views.

Changes The number of buffer updates. For example, 9 indicates the number of buffer updates. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

DB Accesses The number of times the database was accessed when the requested data was not available in the buffer. For example, 254 indicates the number of times the database was accessed. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

DB Access Quality (%) An indicator expressed as a percentage to indicate the percentage of requests that were satisfied from the buffer. This percentage must be close to 100%, and is calculated as $(\text{db_accesses_saved} * 100) / (\text{db_accesses} + \text{db_accesses_saved})$. For example, 99.37 indicates the percentage of requests that were satisfied.

DB Accesses Saved The number of times the database accesses were saved. Database accesses occur when the requested data is not available in the buffer. For example, 57456 indicates the number of times the database accesses were saved. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Deletes The number of buffer deletes. For example, 9 indicates the number of buffer deletes. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Directory Allocated The maximum number of objects that the buffer can hold, because one directory entry is required for each object that the buffer contains. For example, 12289 indicates the number of directory entries defined for a buffer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Directory Free The number of directory entries that are currently not in use, which is the number of new objects that can be added to this buffer if the buffer size is large enough. For example, 12140 indicates the number of directory entries not in use. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Directory Free Percent The percentage of the directory that is free. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Directory Used The number of directory entries that are currently in use, which is the number of objects currently in the buffer. For example, 149 indicates the number of directory entries currently in use. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Directory Used Percent The percentage of the directory that was used. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Encoded Name The encoded version of the Name attribute. The following values are possible:

A = CALE

B = CUA
 C = EIBUF
 D = ESM
 E = FTAB
 F = IRBD
 G = OTR
 H = PRES
 I = PXA
 J = SNTAB
 K = TABL
 L = TABLP
 M = TTAB
 N = MDH
 1 = ExtendedMemory
 2 = HeapMemory
 3 = PageArea
 4 = RollArea
 ? = Unknown

Frames Swapped The number of frames swapped in the buffer. For example, 1 indicates the number of frames swapped in the buffer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
 -2147483648 = Value_Exceeds_Minimum
 2147483647 = Value_Exceeds_Maximum

Hitratio (%) An identifier, expressed as a percentage, indicating the percentage of requests that were satisfied from the buffer. The percentage is calculated $(\text{buffer_hits} * 100) / \text{buffer_requests}$, and must be close to 100%. For example, 99.37 indicates the percentage of requests that were satisfied from the buffer.

Hits The number of times the requested data was available in the buffer. For example, 17268 indicates the number of times the data was available in the buffer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
 -2147483648 = Value_Exceeds_Minimum
 2147483647 = Value_Exceeds_Maximum

Inserts The number of buffer inserts. For example, 28 indicates the number of buffer inserts. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
 -2147483648 = Value_Exceeds_Minimum
 2147483647 = Value_Exceeds_Maximum

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Last Reset The timestamp for most recent date and time that the buffer was cleared out.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Max Used A numeric value metric specific to roll area, page area, heap, and extended memory. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Max Used Percent A numeric value metric specific to roll area, page area, extended memory, and heap. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.

Misses The number of times the requested data was not available in the buffer. For example, 468 indicates the number of times the requested data was not available in the buffer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Name A text string identifier or name for the buffer or memory area. For example, Heap memory indicates the name of a memory area and IRBD Initial Records indicates the name of the buffer.

Objects In Buffer The number of objects in the buffer. For example, 189 indicates the number of objects in the buffer. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Objects Swapped The number of objects swapped in the buffer. For example, 3 indicates the number of objects swapped in the buffer. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Requests The number of buffer requests. For example, 17417 indicates the number of buffer requests. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Sample Time The timestamp for the date and time the agent collected data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Size Allocated (kb) The amount of space, in KB, allotted for the buffer. For example, 5859 indicates the amount of space allotted for the buffer. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2147483648 = Value_Exceeds_Minimum
- 2147483647 = Value_Exceeds_Maximum

Size Free (kb) The amount of buffer space or memory area available, in KB. For example, 4836 indicates the amount of buffer space available. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Size Free Percent The percentage free for buffers and memory areas such as roll, page, and extended memory. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Size In Memory (kb) A memory size metric specific to roll area, page area, and extended memory. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Size On Disk (kb) A disk-size metric specific to roll area and page area. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Size Reserved (kb) The size reserved by mySAP for internal buffer management. The value is Size Allocated minus Size Used and Size Free. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Size Reserved Percent The percentage reserved by mySAP for internal buffer management. The values are Size Reserved divided by Size Allocated. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Size Used (kb) The amount of buffer space used, in KB. Use this attribute to specify the amount of buffer space used. For example, 629 indicates the amount of buffer space used. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-2147483648 = Value_Exceeds_Minimum

2147483647 = Value_Exceeds_Maximum

Size Used Percent The percentage used for buffers and memory areas such as roll and page. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Total Resets The total number of times the buffer space was cleared out. Resets occur automatically during system initialization, as well as manually. For example, 9 indicates the number of times the buffer space was cleared out. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
-2147483648 = Value_Exceeds_Minimum
2147483647 = Value_Exceeds_Maximum

Buffer Performance attributes

Buffer Performance is an instance level attribute group that provides information about SAP buffers and memory areas in one SAP instance. This attribute group contains a large number of attributes and it represents buffer utilization. Not all attributes apply to every object reported. When an attribute does not apply to a particular object type, the attribute has a value of -1. You use this attribute group in queries, situations, and workspace views.

Changes Number of buffer updates. For example, 9 indicates the number of buffer updates. The valid format is a 8-byte integer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
-9223372036854775808 = Value_Exceeds_Minimum
9223372036854775807 = Value_Exceeds_Maximum

DB Accesses Number of times the database was accessed when the requested data was not available in the buffer. For example, 254 indicates the number of times the database was accessed. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
-9223372036854775808 = Value_Exceeds_Minimum
9223372036854775807 = Value_Exceeds_Maximum

DB Access Quality (%) An indicator expressed as a percentage to indicate the percentage of requests that were satisfied from the buffer. This percentage must be close to 100%, and is calculated as follows: $(\text{db_accesses_saved} * 100) / (\text{db_accesses} + \text{db_accesses_saved})$. For example, 99.37 indicates the percentage of requests that were satisfied.

DB Accesses Saved Number of times the database accesses were saved. Database accesses occur when the requested data is not available in the buffer. For example, 57456 indicates the number of times that the database accesses were saved. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
-9223372036854775808 = Value_Exceeds_Minimum
9223372036854775807 = Value_Exceeds_Maximum

Deletes Number of buffer deletes. For example, 9 indicates the amount of buffer deletes. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.
-9223372036854775808 = Value_Exceeds_Minimum
9223372036854775807 = Value_Exceeds_Maximum

Directory Allocated Maximum amount of objects that the buffer holds because one directory entry is required for each object that the buffer contains. For example, 12289 indicates the amount of directory entries defined for a buffer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Directory Free Number of directory entries that are currently not in use. If the buffer size is large enough, this amount determines the new objects that you can add to this buffer. For example, 12140 indicates the number of directory entries not in use. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Directory Free Percent Percentage of the directory that is free. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Directory Used Number of directory entries that are currently in use, which is the number of objects currently in the buffer. For example, 149 indicates the amount of directory entries currently in use. The valid format is a 8-byte integer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Directory Used Percent Percentage of the directory that was used. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time

Encoded Name Encoded version of the Name attribute. The following values are possible:

A = CALE

B = CUA

C = EIBUF

D = ESM

E = FTAB

F = IRBD

G = OTR

H = PRES

I = PXA

J = SNTAB

K = TABL

L = TABLP

M = TTAB

MDH=N

N = MDH

1 = ExtendedMemory

2 = HeapMemory

3 = PageArea

4 = RollArea

? = Unknown

Frames Swapped Number of frames swapped in the buffer. For example, 1 indicates the number of frames swapped in the buffer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Hitratio (%) An identifier, expressed as a percentage, indicating the percentage of requests that were satisfied from the buffer. The percentage is calculated as follows: $(\text{buffer_hits} * 100) / \text{buffer_requests}$ and it must be close to 100%. For example, 99.37 indicates the percentage of requests that were satisfied from the buffer.

Hits Amount of times that the requested data was available in the buffer. For example, 17268 indicates the number of times the data was available in the buffer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Inserts Number of buffer inserts. For example, 28 indicates the number of buffer inserts. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Instance Name Name of the application instance that you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance that you are monitoring.

Last Reset Timestamp for the most recent date and time that the buffer was cleared out.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not available for use in situations.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Max Used Metric specific to roll area, page area, extended memory and heap. The valid format is a 8-byte integer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Max Used Percent Metric specific to roll area, page area, and extended memory. The valid format is a 4-byte integer. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.

Misses Number of times that the requested data was not available in the buffer. For example, 468 indicates the number of times the requested data was not available in the buffer. The valid format is a 8-byte integer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Name A text string identifier or name for the buffer or memory area. For example, Heap memory indicates the name of a memory area and IRBD Initial Records indicates the name of the buffer. The valid format is an alphanumeric string, with a maximum of 36 characters.

Objects In Buffer Number of objects in the buffer For example, 189 indicates the number of objects in the buffer. The valid format is a 8-byte integer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Objects Swapped Number of objects swapped in the buffer For example, 3 indicates the number of objects swapped in the buffer. The valid format is a 8-byte integer. Valid fixed values are:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Requests Number of buffer requests. For example, 17417 indicates the amount of buffer requests The valid format is a 8-byte integer. The following values are also possible

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Sample Time Timestamp for the date and time the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Size Allocated Number of space in KB allocated to the buffer The valid format is a 8-byte integer. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Size Free Number of buffer space or memory area available, in KB. For example, 4836 indicates the amount of buffer space available. The following values are also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Size Free Percent Free percentage for buffers and memory areas such as roll, page, extended memory. The valid format is a 4-byte integer. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.

Size In Memory A memory size metric specific to roll area, page area, and extended memory. The valid format is a 8-byte integer. A disk-size metric specific to roll area and page area

- 1 = N/A. Data for this attribute is not applicable at this time.
- 9223372036854775808 = Value_Exceeds_Minimum
- 9223372036854775807 = Value_Exceeds_Maximum

Size On Disk A disk-size metric specific to roll area and page area. The valid format is a 8-byte integer.

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Size Reserved (kb) Size reserved by SAP for internal buffer management. The value is Size Allocated minus Size Used and Size Free. The valid format is a 8-byte integer. Valid fixed values are:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Size Reserved (%) Percentage reserved by SAP for internal buffer management. The value is Size Reserved divided by Size Allocated. The valid format is a 4-byte integer. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Size Used Number of buffer space used, in KB. Use this attribute to specify the amount of buffer space used. For example, 629 indicates the amount of buffer space used. The valid format is a 8-byte integer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Size Used Percent Percentage used for buffers and memory areas such as roll and page. The valid format is a 4-byte integer. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

ABAP_Version_Mismatch = +AB

+++ = No_applicable_data

Total Resets Total number of times that the buffer space was cleared out. Resets occur automatically during system initialization, as well as manually. For example, 9 indicates the number of times that the buffer space was cleared out. The valid format is a 8-byte integer. The following values are also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

-9223372036854775808 = Value_Exceeds_Minimum

9223372036854775807 = Value_Exceeds_Maximum

Business Process Engine Inbound Status Monitoring attributes

This attribute group provides information about the XML message packaging status in the business process engine.

Configuration Version The version of the configuration for the message packaging in the Business Process engine for inbound processing.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Maximum Memory per Message package Maximum Memory allocated per Message Package of an XI Message.

Maximum Number of Messages Maximum number of messages for each message package.

Maximum Wait Time Maximum Wait Time of the oldest message in the message package.

Message ID The ID associated with the message.

Message Packaging Mode Message packaging of the XI message mode. The following values are possible:

X=Message_Packaging_Active

Y=Message_Packaging_Inactive

Number of Queues Number of queues per process type.

Quality of Service The quality of the service that runs the pipeline. The following values are possible:

BE=Best_Effort

EO=Exactly_Once

EOIO=Exactly_Once_In_Order

Queue Assignment Queue assignment in Inbound Processing. The following values are possible:

0=One_Queue

1=One_Configurable_Queue

2=Multiple_Queues_Random

3=Multiple_Queues_Content_Specific

Queue Name The name of the queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Received Timestamp The date and timestamp that the message was received in the Business Process Engine.

Relation between message and process instance Relation between the message and the process instance. The following values are possible:

N=No_Instance_Assignment

S=Message_has_Started_Process

D=Message_Delivered_to_Process_in_Progress

Retry Count The number of failed delivery attempts.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the starting time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Time The timestamp for the date and time that the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Status of errors The status of the errors that occur. The following values are possible:

- F=Error_in_Queue
- V=Temporary_Errors_in_Queue
- E=Error
- T=Temporarily_with_Errors
- C=Logically_Deleted
- U=Locked

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data (No data available for SAP)

Business Process Engine Status attributes

This attribute group shows the status of the business process engine component. This attribute group can be used in queries, reports, and workspace views.

Class Name The object type name. The valid format is an alphanumeric string, with a maximum of 30 characters.

Component Business Process Engine administration application name. The valid format is an alphanumeric string, with a maximum of 80 characters.

Engine Status Status of the engine, for example, processing, running, error, or stop. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are available:

- S = Stopped
- P = In_process
- R = Running
- E = Error

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Process Type Business Process Engine administration type of process. The valid format is an alphanumeric string, with a maximum of 10 characters.

SAP Server Current Time Current Time of the application server. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID. DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

User Name PI/XI User Name. The valid format is an alphanumeric string, with a maximum of 12 characters.

CCMS Current State attributes

CCMS Current State is a instance level attribute group that shows current state information from CCMS in the SAP system.

Current State Current status of MTE. This attribute group can be used in reports, queries, and workspace views. The valid format is a 4-byte integer. The following values are possible:

- Unknown=0
- Green=1
- Yellow=2
- Red=3

Customization Group Name Name of the customization group. The valid format is an alphanumeric string, with a maximum of 40 characters.

Instance Name Name of the application instance that you are monitoring, for example, DDRUM2_PRD_00. The valid format is an alphanumeric string, with a maximum of 20 characters.

Last Value Change Timestamp Last value change timestamp. The valid format is Timestamp.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 200 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Monitor Name CCMS Monitor to which this alert belongs. The valid format is an alphanumeric string, with a maximum of 180 characters.

Monitor Object Name Name of the monitoring object. The valid format is an alphanumeric string, with a maximum of 40 characters.

Monitoring Context Name Name of the monitoring context. The valid format is an alphanumeric string, with a maximum of 40 characters.

Monitoring Segment Name Name of the monitoring segment. The valid format is an alphanumeric string, with a maximum of 40 characters.

Monitoring Types Class Class for the monitoring type. The valid format is an alphanumeric string, with a maximum of 3 characters.

Monitoring Types Full Name Full name of the monitoring type. The valid format is an alphanumeric string, with a maximum of 256 characters.

Monitoring Types ID Unique Identifier for monitoring types. The valid format is an alphanumeric string, with a maximum of 10 characters.

Monitoring Types Number Monitoring type number range. The valid format is an alphanumeric string, with a maximum of 3 characters.

Monitoring Types Short Name Short name of monitoring type. The valid format is an alphanumeric string, with a maximum of 40 characters.

Monitor Set CCMS Monitor set to which this alert belongs. The valid format is an alphanumeric string, with a maximum of 180 characters.

MT Index Index of MT in Tree, used for the topology view. The valid format is a 4-byte integer.

Number Used for counting MTE state in chart view, or used as a flag in topology view. The valid format is a 4-byte integer.

Occurrence Time Alert timestamp. The valid format is Timestamp.

Parent MT Index Index of Parent of MT in Tree, used for topology view. The valid format is a 4-byte integer.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

TID Internal Handle Internal handle for TID, used to link from the current state view to the alert view. The valid format is an alphanumeric string, with a maximum of 20 characters.

Client Information attributes

The Client information attributes provides you with information on the client connected to the Solution Manager landscape. This attribute group can be used in queries, reports, and workspace views.

Client Number A three digit client number for the SAP system. The valid format is an alphanumeric string, with a maximum of 3 characters.

Client Name Name of the client in the SAP system. The valid format is an alphanumeric string, with a maximum of 25 characters.

Group Keys Group keys used by the clients to group users or customers logically in the SAP system. The valid format is an alphanumeric string, with a maximum of 10 characters.

Hostname Hostname of the server where the SAP system is running. The valid format is an alphanumeric string, with a maximum of 20 characters.

IP Address IP Address of the SAP server. The valid format is an alphanumeric string, with a maximum of 31 characters.

Last Change User The user name of the person who last changed the client information. The valid format is an alphanumeric string, with a maximum of 12 characters.

Last Change Date The date when the client information was last changed. The valid format is timestamp.

Logical System Logical name of the SAP system. The valid format is an alphanumeric string, with a maximum of 10 characters.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Name The name of the SAP system that is monitored by SAP. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Label System label generated from the SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string with a maximum of 3 characters. The following values provide information about the system:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running =
+RF = RFC_Error_Check_Agent_Log=
No_applicable_data = +++

Version Version of the current SAP system and whether it is active or inactive. The valid format is an alphanumeric string, with a maximum of 10 characters.

Component Monitoring attributes

Component Monitoring is an instance level attribute group that provides an overview of the status of the different monitoring components in PI/XI. The component monitoring information is provided in Runtime Workbench. This attribute group can be used in queries, reports, and workspace views.

Component Monitoring URL Component Monitoring URL that redirects you to Runtime Workbench. The valid format is an alphanumeric string, with a maximum of 255 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. The valid format is an alphanumeric string, with a maximum of 3 characters, for example, PRD. The following values provide information about the system:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data (No data available from SAP)

User Name User Name for login. The valid format is an alphanumeric string, with a maximum of 255 characters.

Data Base Detail attributes

Data Base Detail is a system level attribute group that provides detailed information about an Oracle database used in the mySAP system. This attribute group can be used in queries, situations, and workspace views. Data Base Detail information can be voluminous, so the number of situations written using this attribute group must be limited to only what is needed and the frequency must be very low. The majority of the database detail information is obtained from the MONI database in SAP. This information is usually updated only once or twice per day. Therefore, there is no benefit to running situations more than once or twice per day.

Analysis Time The timestamp for the date and time mySAP collected the sample based on a periodic sample schedule. This attribute is not for use in situations.

Extents The number of reserved blocks of continuous storage.

Extents (Superseded) The number of reserved blocks of continuous storage. For example, 43 indicates the number of reserved blocks of continuous storage.

Extents Change (per day) The number of changes in the reserved blocks of continuous storage per day.

Extents Change (per day) (Superseded) The number of changes in the reserved blocks of continuous storage per day. For example, 49 indicates the number of changes per day in the reserved blocks.

Files The number of files in tablespace.

Files (Superseded) The number of files in tablespace. For example, 236 indicates the number of files in tablespace. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

<Max> Next Extent (kb) The maximum size allowed for the next extent allocated. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Maximum Free (kb) The maximum amount of free space, in KB, in the database object.

Maximum Free (kb) (Superseded) The maximum amount of free space, in KB, in the database object. For example, 3267656 indicates the maximum amount of free space for the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Minimum Free (kb) The minimum amount of free space, in KB, in the database object.

Minimum Free (kb) (Superseded) The minimum amount of free space, in KB, in the database object. For example, 3267656 indicates the minimum amount of free space for the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Next Extent The maximum size allowed for the next extent allocated.

Object Name A text string identifier or name for the database object. For example, REFERENCE indicates the name of the database object.

Object Type The category of the database object, such as, table, index, tablespace, or database. For example, Database indicates the object type.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Size (kb) The defined space, in KB, of the database object.

Size (kb) (Superseded) The defined space, in KB, of the database object. For example, 52553 indicates the defined space of the database object.

Size Change (per day) The amount of change, in KB, in the space used by the database during the last 24 hours.

Size Change (per day) (Superseded) The amount of change, in KB, in the space used by the database during the last 24 hours. For example, 5893 indicates the amount of change in the space used by the database object.

Size Free (kb) The amount of space available, in KB, for the database object.

Size Free (kb) (Superseded) The amount of space available, in KB, for the database object. Use this attribute to specify the amount of space available for a database object. For example, 5255656 indicates the amount of space available for the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Size Free Percent The percentage of free space available for the database object. For example, 48 indicates the percentage of free space available for the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Size Used (kb) The amount of space, in KB, used by the database object. For example, 45986 indicates the amount of space used by the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Size Used Percent The percentage of space used by the database object. For example, 13 indicates the percentage of space used by the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Space Critical Indicates whether space for a database object has reached a critical stage during the last 24 hours. Space critical means that the object fails the next time it needs to extend space, either because of max-extents, tablespace full, or some other reason. The following values are possible:

0 = No

1 = Yes

Status The status of the database object, such as online, offline, or unknown. The following values are possible:

- Online = Online
- Offline = Offline
- Unknown = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DB = No_support_for_this_database

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+OR = Oracle_statistics_not_available

+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Tables & Indices The number of tables and indices in tablespace.

Tables & Indices (Superseded) The number of tables and indices in tablespace. For example, 523 indicates the number of tables and indices in tablespace. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Tables & Indices Change (per day) The number of tables and indices that have changed during the last 24 hours.

Tables & Indices Change (per day) (Superseded) The number of tables and indices that have changed during the last 24 hours. For example, 23 indicates the number of tables and indices in table space that have changed per day. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Used The amount of space, in KB, used by the database object.

Used Change (per day) The amount of change, in KB, in the space used by the database object during the last 24 hours.

Used Change (per day) (Superseded) The amount of change, in KB, in the space used by the database object during the last 24 hours. For example, 78533 indicates the amount of space used per day by the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Database Logs attributes

Database Logs is a system level attribute group that provides information about database log files created in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

File Name The path and name of the database log file that you are monitoring. For example, K\oracle\PRD\saparch\aczabeqq.SVE specifies the path and name of the database log file that you are monitoring.

Log Data The text of the database log file that you are monitoring. For example, BRI01 Parameters is an example of text from the database log file.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Data Base Summary attributes

Data Base Summary is a system level attribute group that provides summary information about an Oracle database used in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Analysis Time The timestamp for the date and time mySAP collected the sample based on a periodic sample schedule. This attribute is not available for situations.

Database A text string identifier or name for the database server. Use this attribute to specify the name of the database server. For example, ORACLE indicates the name of the database server.

Freespace Problems The number of freespace problems. For example, 3 indicates the number of free space problems. The following value is also possible:

- 1 = **blank**. There is no relevant numeric data for this attribute at this time.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Minimum Free (kb) The minimum amount of free space, in KB, for the database object.

Minimum Free (kb) (Superseded) The minimum amount of free space, in KB, for the database object. For example, 1928 indicates the amount of free space for a database object. The following values are also possible:

- 1 = No data available
- 2147483647 = Value Exceeds Maximum
- 2147483647 = Value Exceeds Minimum

Minimum Free (mb) The minimum amount of free space, in MB, for the database object.

Minimum Free (mb) (Superseded) The minimum amount of free space, in MB, for the database object. For example, 1928 indicates the amount of free space for a database object. The following values are also possible:

- 1 = No data available
- 2147483647 = Value Exceeds Maximum
- 2147483647 = Value Exceeds Minimum

Missing In Database The number of objects unaccounted for in the database. Use this attribute to identify the number of objects unaccounted for. For example, 3 indicates the number of objects unaccounted for in the database. The following value is also possible:

- 1 = **blank**. There is no relevant numeric data for this attribute at this time.

Missing In Dictionary The number of objects unaccounted for in the Oracle data dictionary. For example, 2 indicates the number of objects unaccounted for in the data dictionary. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Name A text string identifier or name for the database instance. For example, CN1 indicates the name of the database instance.

Object Type The category of the database object, such as, table, index, tablespace, or database. For example, Index indicates the type of database object.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DB = No_support_for_this_database
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +OR = Oracle_statistics_not_available
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Total Free (kb) The total amount of free space, in KB, for the database object.

Total Free (kb) (Superseded) The total amount of free space, in KB, for the database object. For example, 5090163 indicates the total amount of free space, in KB, for the database object. The following values are also possible:

- 1 = No data available
- 2147483647 = Value Exceeds Maximum
- 2147483647 = Value Exceeds Minimum

Total Free (mb) The total amount of free space for the database object, in MB.

Total Free (mb) (Superseded) The total amount of free space for the database object, in MB. For example, 5090163 indicates the total MB of free space for the database object. The following values are also possible:

- 1 = No data available
- 2147483647 = Value Exceeds Maximum
- 2147483647 = Value Exceeds Minimum

Total Free Percent The total amount of free space for the database object, expressed as a percentage. The following value is also possible:

- 1 = No data available

Total Number The total number of database objects.

Total Size (kb) The total amount of space, in KB, for the database object.

Total Size (kb) (Superseded) The total amount of space, in KB, for the database object. For example, 1045883 indicates the total amount of space for the database object. The following values are also possible:

2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

Total Size (mb) The total amount of space, in MB, for the database object.

Total Size (mb) (Superseded) The total amount of space, in MB, for the database object. For example, 1045883 indicates the total amount of space for the database object. The following values are also possible:

2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

Total Used (kb) The total amount of space used, in KB, for the database object.

Total Used (kb) (Superseded) The total amount of space used, in KB, for the database object. For example, 5255653 indicates the amount of space used for the database object. The following values are also possible:

-1 = No data available
2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

Total Used (mb) The total amount of space used, in MB, for the database object.

Total Used (mb) (Superseded) The total amount of space used, in MB, for the database object. For example, 5255653 indicates the amount of space used for the database object. The following values are also possible:

-1 = No data available
2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

Total Used Percent The total amount of space used, expressed as a percentage, for the database object. For example, 51 indicates the percentage amount of space used for the database object. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

DB2 Configuration attributes

This attribute group shows details of the DB2 configuration. This attribute group can be used in queries, reports, and workspace views.

Application Control Heap Size (Pages) Specifies the maximum size for the application control shared memory. The valid format is a 4-byte integer. This parameter is used primarily for sharing information between agents working on the same request. The Unit of Measure is Pages. Each Page size is 4 KB.

Application Heap Size (Pages) Defines the number of private memory pages that are available for use by the database manager on behalf of a specific agent or subagent. This parameter is allocated when an agent or subagent is initialized for an application. The Unit of Measure is Pages. Each Page size is 4 KB.

Auto Restart Determines whether the database manager can, in the event of an abnormal termination of the database, automatically call the restart database utility when an application connects to a database. The default value is ON.

Average Number of Active Applications Used by the query optimizer to help estimate how much buffer pool space is available at run time for the access plan chosen.

Backup Pending Indicator Indicates that you must do a full backup of the database before accessing it. This parameter is on only if the database configuration is changed

Catalog Cache Size (Pages) The maximum space in pages that the catalog cache uses from the database heap. In a partitioned database system, there is one catalog cache for each database partition. The unit of measure is Pages (4 KB).

Database Heap Size (Pages) The maximum memory used by the database heap. There is one database heap per database and the database manager uses it for the applications that are connected to the database. The unit of measure is Pages (4 KB).

Database Release Level The release level of the database manager that uses the database. If a database upgrade doesn't complete or fails, this parameter shows the release level of the database before the upgrade. This release level can differ from the release parameter that is associated with the release level of the database configuration file.

Database Status Determines the status of your database Information on DB2 Connect applications.

Deadlocks Since First DB Connect The total number of deadlocks that have occurred since the first database connection. The valid format is a 4-byte integer.

Dynamic Query Management This parameter determines whether Query Patroller captures information about submitted queries. If this parameter is set to ENABLE, Query Patroller captures information about the query. If parameter is set to DISABLE, Query Patroller does not capture any information about submitted queries. The valid format is an alphanumeric string, with a maximum of 10 characters.

Locks Currently Held This parameter shows the number of locks currently held. The valid format is a 4-byte integer. If the monitor information is at the database level, this is the total number of locks currently held by all applications in the database.

Lock List Before Escalation(%) This parameter defines a percentage of the lock list held by an application that must be filled before the database manager performs escalation. When the number of locks held by any one application reaches this percentage of the total lock list size, lock escalation occurs for the locks held by that application. Lock escalation also occurs if the lock list runs out of space. The valid format is a 4-byte integer.

Lock Timeout (microSec) The time taken in microseconds that a request to lock an object timed-out instead of being granted, since the first database connection.

Lock Waits Since First Connect (microSec) The time taken in microseconds that applications or connections waited for locks. The valid format is a 4-byte integer.

Log Buffer Size (Pages) Allows you to specify how much of the database heap (defined by the dbheap parameter) that you want to use as a buffer for log records before you write these records to disk. The unit of measure is Pages (4 KB)

Log File Size (Pages) Defines the size of each primary and secondary log file. The size of these log files determines and limits the number of log records that you can write to them before they become full and a new log file is required. The unit of measure is Pages (4 KB).

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Maximum Number of Active Applications Specifies the maximum number of concurrent applications that you connect, both local and remote, to a database. The valid format is a 4-byte integer.

Maximum Number of Database Files Open per Application Specifies the maximum number of file handles that you open per application. The valid format is a 4-byte integer.

Maximum Storage for Lock List (Pages) Indicates the amount of storage that is allocated to the lock list. There is one lock list per database and it contains the locks held by all applications concurrently connected to the database. The valid format is a 4-byte integer. The unit of measure is Pages (4 KB).

Number of Asynchronous Page Cleaners Specifies the number of asynchronous page cleaners for a database. These page cleaners write changed pages from the buffer pool to disk before the space in the buffer pool is required by a database agent. The valid format is a 4-byte integer.

Number of Database Backups to Retain Specifies the number of database backups to retain for a database. After the specified number of backups is reached, old backups are marked as expired in the recovery history file. The valid format is a 4-byte integer.

Number of I/O Servers Specifies the number of I/O servers for a database. A database can not have any more than this number of I/O servers for prefetching and utilities in progress at any time. The valid format is a 4-byte integer.

Number of Lock Timeouts Number of Lock Timeouts Since First Connect number of I/O Servers.

Number of Primary Log Files Specifies the number of primary log files to be pre-allocated. The primary log files establish a fixed amount of storage allocated to the recovery log files. The valid format is a 4-byte integer.

Number of Secondary Log Files Specifies the number of secondary log files that are created and used for recovery log files. The valid format is a 4-byte integer.

Number of Sort Overflows Number of Sort Overflows additional overhead that is incurred because the sort requires a merge phase.

Number of Sorts Since First Connect Number of sorts since first connect. The valid format is a 4-byte integer.

Package Cache Size (Pages) Allocated out of the database shared memory, and is used for caching of sections for static and dynamic SQL and XQuery statements on a database. The valid format is a 4-byte integer. Unit of measure is Pages (4 KB).

Restore Pending States whether a RESTORE PENDING status exists in the database. The valid format is an alphanumeric string, with a maximum of 25 characters.

Rollforward Pending Indicator Informs you whether or not a roll forward recovery is required, and where it is required. The recovery (using ROLLFORWARD DATABASE) must complete before you can access the database or table space. The valid format is an alphanumeric string, with a maximum of 25 characters.

Sample Time The sample time. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Operating System Information Retrieves operating system information about the database management system.

Sort Heap Size (Pages) Defines the maximum number of private memory pages used for private sorts, or the maximum number of shared memory pages used for shared sorts. The valid format is a 4-byte integer. Unit of measure is Pages (4 KB).

Statement Heap Size (Pages) Specifies the size of the statement heap that is used as a work space for the SQL or XQuery compiler during compilation of an SQL or XQuery statement. The valid format is a 4-byte integer. Unit of measure is Pages (4 KB)

Statistics Heap Size (Pages) Indicates the maximum size of the heap that is used in collecting statistics by using the RUNSTATS command. The valid format is a 4-byte integer. Unit of measure is Pages (4 KB).

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System ID The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data (No data available on SAP)

Temporary Table Sort Heaps Includes heaps for sorts of temporary tables that were created during relational operations.

Territory of the Database Shows the territory used to create the database. Territory is used by the database manager when processing data that is sensitive to territory. The valid format is an alphanumeric string, with a maximum of 33 characters.

Total Amount of Active Log Space currently used The total amount of active log space currently used (in bytes) in the database.

Total Amount of Active Log Space not used The amount of active log space in the database that is not being used by uncommitted transactions (in bytes).

Total Elapsed Time The total elapsed time for all sorts that have been executed.

Total Sort Heap Allocated The total number of allocated pages of sort heap space for all sorts at the level chosen and at the time the snapshot was taken.

Total Time Database Waited for Locks (microSec) The total amount of time that the database waited for locks. The valid format is a 4-byte integer.

Utility Heap Size (Pages) Indicates the maximum amount of memory that is be used simultaneously by the BACKUP, RESTORE, and LOAD (including load recovery) utilities. The valid format is a 4-byte integer.

DB2 Performance History attributes

Database performance history is system level attribute group that provides information about DB2 database performance history occurring in a SAP system. This attribute group can be used in queries, reports, and workspace views.

Average Physical Read Time(ms) Average Physical Read Time in milliseconds. The valid format is a 8-byte integer.

Average Physical Write Time(ms) Average Physical Write Time in milliseconds. The valid format is a 8-byte integer.

Commit Statements The total number of SQL COMMIT statements that have been attempted. The valid format is a 8-byte integer.

Data Logical Reads Number of data Logical Reads. The valid format is a 8-byte integer.

Data Physical Reads Number of data Physical Reads. The valid format is a 8-byte integer.

Data Physical Writes Number of data Physical Writes. The valid format is a 8-byte integer.

Deadlocks The total number of deadlocks that have occurred since the first database connection. The valid format is a 8-byte integer.

Index Logical Reads Number of Index Logical Reads. The valid format is a 8-byte integer.

Index Physical Reads Number of Index Physical Reads. The valid format is a 8-byte integer.

Index Physical Writes Number of Index Physical Writes. The valid format is a 8-byte integer.

Lock Escalations The number of times that locks have been escalated from several row locks to a table lock. The valid format is a 8-byte integer.

Lock Waits The total amount of time that applications or connections waited for locks. The valid format is a 8-byte integer.

Lock Wait Time (ms) The total elapsed time waited for a lock. Elapsed time is given in milliseconds. The valid format is a 8-byte integer.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Rollback Statements The total number of SQL ROLLBACK statements that have been attempted. The valid format is a 8-byte integer.

Row Insert Timestamp The date and time when the row is inserted. The valid format is timestamp.

Sample Time The timestamp for the date and time when the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Id System Name. The valid format is an alphanumeric string, with a maximum of 3 characters. Valid fixed values are:

- +++ = No_applicable_data
- +NR = Instance_not_running
- +DB = No_support_for_this_database
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +RF = RFC_Error_Check_Agent_Log
- +AB = ABAP_Version_Mismatch

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

Workload Type of workload. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- T = Total_Day
- P = Peak

Exclusive Lock Escalations The number of times that locks have been escalated from several row locks to one exclusive table lock, or the number of times an exclusive lock on a row caused the table lock to become an exclusive lock. The valid format is a 8-byte integer.

Developer Traces attributes

Developer Traces is an instance level attribute group that provides information about trace files created by a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

File Name The name of the trace file or the error file that you are monitoring. For example, dev_w0 is the name of the trace file that you are monitoring.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Log Data The text of the error message or the warning message from the trace file or the error file that you are monitoring. For example, ***enqueue Log File Process-Id=450*** is sample text of the error message from the error file.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Component The code from the first character in each line, if applicable.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

EDI Files attributes

EDI Files is a system level attribute group that provides information about electronic document interchange files used in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Delete File An indicator of whether the EDI file must be deleted after processing. The following values are possible:

- 0 = No
- 1 = Yes

File Name The path and file name of the EDI file being processed. This attribute provides single-byte character support only.

File Name (Unicode) The path and file name of the EDI file being processed. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Last IDOC The number of the IDOC within the file that was last processed successfully.

Last IDOC (Superseded) The number of the IDOC within the file that was last processed successfully. For example, 4083 indicates the number of the IDOC within the file that was last processed.

Last Record The number of the record within the file that was last processed successfully. For example, 108 indicates the number of the record within the file that was last processed.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Time The timestamp for the date and time that the agent collected data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

File Systems attributes

File Systems is an instance level attribute group that provides information about file systems and directory structures used in a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Capacity (mb) The allocated size, in megabytes, of the file system.

Capacity (mb) (Superseded) The allocated size, in megabytes, of the file system. For example, 4083 indicates the allocated size of the file system. The following values are also possible:

2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

Full Forecast (days) The number of days the system estimates that it will take for the file system to become full based on calculations for increased usage during the last 24 hours. A value of -1 indicates that there is no data at this time.

Note: This field only displays data when there is an increase in file system usage during the last 24 hours.

INodes The Total number of Filesystem INodes.

INodes (Superseded) Total number of Filesystem INodes. For UNIX only. The following values are also possible:

-1 = No data available
2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

INodes used The number of Filesystem INodes used.

INodes Used (Superseded) Filesystem INodes used. For UNIX only. The following values are also possible:

-1 = No data available
2147483647 = Value Exceeds Maximum
-2147483647 = Value Exceeds Minimum

INodes Used Percent Percentage of Filesystem INodes used. For UNIX only. The following value is also possible:

-1 = No data available

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Descriptive text indicating the status of the file system. This attribute provides single-byte character support only. For example, Static indicates the status of the file system. The following values are possible:

- empty
- emptying rapidly
- emptying slowly
- filling rapidly
- filling slowly
- full
- static

Message (Unicode) Descriptive text indicating the status of the file system. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. The following values are possible:

- empty
- emptying rapidly
- emptying slowly
- filling rapidly
- filling slowly
- full
- static

Name A text string identifier or name for the file system. This attribute provides single-byte character support only. For example, L indicates the name of the file system.

Name (Unicode) A text string identifier or name for the file system. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Operating System Type of operating system.

Sample Time The timestamp for the date and time the agent collected data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Size Free (mb) The amount of space, in megabytes, available in the file system.

Size Free (mb) (Superseded) The amount of space, in megabytes, available in the file system. For example, 108 indicates the amount of space available in the file system. The following values are also possible

- 2147483647 = Value Exceeds Maximum
- 2147483647 = Value Exceeds Minimum

Size Used (mb) The amount of space, in megabytes, used in the file system.

Size Used (mb) (Superseded) The amount of space, in megabytes, used in the file system. For example, 3978 indicates the amount of space used in the file system. The following values are also possible

- 2147483647 = Value Exceeds Maximum

-2147483647 = Value Exceeds Minimum

Size Used Percent The amount of space, expressed as a percentage, used in the file system. For example, 97 indicates the percentage of space used in the file system.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +OS = SAP_OS_collector_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Gateway Connections attributes

Gateway Connections is an instance level attribute group that provides information about the connections between a mySAP instance and external systems. This attribute group can be used in reports, queries, and workspace views.

Connection or Client Number The identifier for the connection number. For example, 6 specifies the connection number.

Connection or Client Type The type of the mySAP gateway client you are using. For example, LOCAL_R3 specifies the type of mySAP gateway client.

Connection Speed The speed of the connection on your mySAP Gateway. The following values are possible:

-

SLOW = slow connection

FAST = fast connection

For example, SLOW might specify the speed of a telephone line. FAST might indicate that a LAN connection is being used.

Conversation Identifier The identifier for the connection conversation. For example, 862335 specifies the connection conversation number.

In Use Indicator of whether or not the connection is in use. The following values are possible:

0 = No

1 = Yes

Instance Name The name of the application instance that you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Local APPC Version The identifier for the local APPC version. For example, 6 specifies Version 6 of the local APPC.

Local Host The identifier for the name of the computer serving as the local host. For example, CAN2 is an example of a local host name.

Local IP Address The local TCP/IP address. For example, 195.0.2.3 is an example of a local TCP/IP address.

Local IP Address (v4/v6) The local TCP/IP address. This attribute is long enough to hold IPv4 or IPv6 addresses.

Local Logical Unit Name The identifier for the local logical unit. For example, drum2 is an example of a local logical unit name.

Local Transaction Prog. Name The name of the local transaction program. For example, ksaagent is an example of a local transaction program name.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number of Connections The number of connections on your mySAP Gateway. For example, 14 specifies the number of connections. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Registration Status The registration status for the system connection. For example, UNUSED specifies the registration status for the system connection.

Remote APPC Version The version number for the remote APPC. For example, 6 specifies Version 6 of the remote APPC. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Remote Host The identifier for the name of the computer serving as the remote host. For example, agoura1 is an example of a remote host name.

Remote IP Address The identifier for the remote TCP/IP address. For example, 10.58.9.12 is an example of a remote TCP/IP address.

Remote IP Address (v4/v6) The identifier for the remote TCP/IP address. This attribute is long enough to hold IPv4 or IPv6 addresses.

Remote Logical Unit Name The identifier for the remote logical unit. For example, CAN2 is an example of a remote logical unit name.

Remote Transaction Prog. Name The name of the remote transaction program. For example, sapdp00 is an example of a remote transaction program name.

Request Time The timestamp for the time of the last request.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAP Return Code The last SAP return code from structure GWY_CONNAT, field SAPRC, using function GWY_READ_CONNECTION_ATTRIBUTES. For example, 0 indicates the identifier for the last SAP return code. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

SNA Return Code The identifier for the last SNA return code. For example, 0 indicates the identifier for the last return code. The last SNA return code from structure GWY_CONNAT, field APPCRC, using function GWY_READ_CONNECTION_ATTRIBUTES. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Status The status of the mySAP Gateway connection. For example, CONNECTED indicates the connection to the gateway is active.

Symbolic Destination Name The symbolic destination name. For example, sapgw00 indicates the symbolic destination name.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+GD = Gateway_Monitor_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Trace Level The trace detail level. For example, 0 specifies the trace level. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Userid The name of the user making use of the connection. For example, RBROWN is the name of the user connected to the Gateway.

Gateway Statistics attributes (Superseded)

Gateway Statistics is an instance level attribute group that provides performance and status information about gateway connections used by a SAP instance. Gateway statistics are intended to be enabled for a short period of time during specific analysis. Enabling gateway statistics for a long period of time can result in the gateway statistics values becoming too large to report. This attribute group can be used in queries, situations, and workspace views.

Avg Reader Time (msecs/request) The average Gateway reader time, in milliseconds, per request. For example, 28514 indicates the average Gateway reader time, in milliseconds, per request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Avg SNA Read Time (msecs/read) The average SNA read time, in milliseconds, per read. For example, 47667 indicates the average SNA read time, in milliseconds, per read. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Avg SNA Write Time (msecs/write) The average SNA write time, in milliseconds, per write. For example, 23854 indicates the average SNA write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Avg TCP Read Time (msecs/read) The average TCP read time, in milliseconds, per read. For example, 20482 indicates the average TCP read time, in milliseconds, per read. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Avg TCP Write Time (msecs/write) The average TCP write time, in milliseconds, per write. For example, 18476 indicates the average TCP write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Avg Work Process Time (msecs/request) The average mySAP Gateway work process time, in milliseconds, per request. For example, 18433 indicates the average mySAP Gateway work process time, in milliseconds, per request. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

CMINITS The total number of CMINITs. For example, 2608 indicates the total number of CMINITs. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Connect Accepts The number of accepted connections to the mySAP Gateway. For example, 52 indicates the total number of accepted connections. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Connection with Maximum Stack The number of the connection using the size of its maximum data stack. For example, 0 indicates the maximum data stack number of the connection.

Current Data Stack The size of the current data stack. For example, 0 indicates the size of the current data stack. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Current Overflow Usage The size of the current overflow usage. For example, 0 indicates the size of the current overflow usage. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Data Stack Limit The limit of the data stack size. For example, 30 indicates the limit of the data stack size. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Fragmented TCP Reads The total number of fragmented TCP reads. For example, 2329 indicates the total number of fragmented TCP reads. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Fragmented TCP Writes The total number of fragmented TCP writes. For example, 1 indicates the total number of fragmented TCP writes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Instance Name The name of the application instance you are monitoring. For example, ddum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters A reserved field for holding execution parameters for KSAR3. This attribute is not for use in situations.

Longest Reader Request The identifier for the longest reader request. For example, F_RECEIVE specifies the longest reader request.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Max Data Stack The maximum size of the data stack. For example, 3 indicates the limit of the data stack size. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max Overflow Usage The maximum size of the overflow usage. For example, 5 indicates the maximum size of the overflow usage. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max Reader Time (msecs/request) The maximum mySAP Gateway reader time, in milliseconds, per request. For example, 28589600 indicates the maximum mySAP Gateway reader time, in milliseconds, per request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max SNA Read Time (msecs/read) The maximum SNA read time, in milliseconds per read. The following value is also possible

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max SNA Write Time (msecs/write) The maximum SNA write time, in milliseconds, per write. For example, 47624 indicates the maximum SNA write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max TCP Read Time (msecs/read) The maximum TCP read time, in milliseconds, per read. For example, 346000 indicates the maximum TCP read time, in milliseconds per read.

Max TCP Write Time (msecs/write) The maximum TCP write time, in milliseconds, per write. For example, 353300 indicates the maximum TCP write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Max Work Process Time (msecs/request) The maximum mySAP Gateway work process time, in milliseconds, per request. For example, 2329 indicates the maximum mySAP Gateway work process time, in milliseconds, per request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min Reader Time (msecs/request) The minimum mySAP Gateway reader time, in milliseconds, per request. For example, 1600 indicates the minimum mySAP Gateway reader time, in milliseconds, per request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min SNA Read Time (msecs/read) The minimum SNA read time, in milliseconds, per read. For example, 1112 indicates the minimum SNA read time, in milliseconds, per read. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min SNA Write Time (msecs/write) The minimum SNA write time, in milliseconds, per write. For example, 1374 indicates the minimum SNA write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min TCP Read Time (msecs/read) The minimum TCP read time, in milliseconds, per read. For example, 346000 indicates the minimum TCP read time, in milliseconds, per read. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min TCP Write Time (msecs/write) The minimum TCP write time, in milliseconds, per write. For example, 400 indicates the minimum TCP write time, in milliseconds, per write. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Min Work Process Time (msecs/request) The minimum mySAP Gateway work process time, in milliseconds, per request. For example, 478 indicates the minimum mySAP Gateway work process time, in milliseconds, per request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Overflows The total number of overflows. For example, 47 indicates the total number of overflows. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Reader Requests The total number of mySAP Gateway reader requests. For example, 597844 indicates the total number of mySAP Gateway reader requests. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

SNA Errors The total number of SNA errors. For example, 35 indicates the total number of SNA errors. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Read Rate (kb/sec) The SNA read rate, in KB, per second. For example, 13982 indicates the SNA read rate, in KB, per second. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Reads The total number of SNA reads. For example, 3675 indicates the total number of SNA reads. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Read Size (bytes) The SNA read size, in bytes. For example, 38947 indicates the SNA read size, in bytes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Write Rate (kb/sec) The SNA write rate, in KB, per second. For example, 478 indicates the SNA rate, in KB, per second. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Writes The total number of SNA writes. For example, 3675 indicates the total number of SNA writes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

SNA Write Size (bytes) The SNA write size, in bytes. For example, 38947 indicates the SNA write size, in bytes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Statistics Active Indicator of whether gateway statistics are active or not active. If not active, they are not available. The following values are possible:

0 = No

1 = Yes

3 = Values_too_large._Reset_gateway_statistics

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+GD = Gateway_Monitor_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF=RFC_Error_Check_Agent_Log

+++ = No_applicable_data

TCP Errors The total number of TCP errors. For example, 4 indicates the total number of TCP errors. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Read Rate (kb/sec) The TCP read rate, in KB, per second. For example, 1112 indicates the TCP read rate, in KB, per second. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Reads The total number of TCP reads. For example, 124175 indicates the total number of TCP reads. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Read Size (bytes) The TCP read size, in bytes. For example, 28965243 indicates the TCP read size, in bytes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Write Rate (kb/sec) The TCP write rate, in KB, per second. For example, 1374 indicates the TCP write rate, in KB, per second. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Writes The total number of TCP writes. For example, 111173 indicates the total number of TCP writes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

TCP Write Size (bytes) The TCP write size, in bytes. For example, 28895498 indicates the TCP write size, in bytes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Timeouts The total number of timeouts. For example, 3 indicates the total number of timeouts. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Total Reader Time (secs) The total reader time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 170468058 indicates the total reader time, in seconds.

Total SNA Read Time (secs) The total SNA read time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 13 indicates the total SNA read time, in seconds.

Total SNA Write Time (secs) The total SNA write time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 20 indicates the total SNA write time, in seconds.

Total TCP Read Time (secs) The total TCP read time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 25433236 indicates the total TCP read time, in seconds.

Total TCP Write Time (secs) The total TCP write time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 320489 indicates the total TCP write time, in seconds.

Total Work Process Time (secs) The total work process time, in seconds. This attribute can also be one of the following values

-1 = NoData

-2 = NumberTooLarge

For example, 170298487 indicates the total work process time, in seconds.

Work Process Requests The total number of mySAP Gateway work process requests. For example, 47 indicates the total number of mySAP Gateway work process requests. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Gateway Statistics attributes

Gateway Statistics is an instance level attribute group that provides performance and status information about gateway connections used by a mySAP instance. Gateway statistics are intended to be enabled for a

short period of time during specific analysis. Enabling gateway statistics for a long period of time results in the gateway statistics values becoming too large to report. This attribute group can be used in queries, situations, and workspace views.

Avg SNA Read Time The average SNA read time, in milliseconds, per read. For example, 47667 indicates the average SNA read time, in milliseconds, per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Avg SNA Write Time The average SNA write time, in milliseconds, per write. For example, 23854 indicates the average SNA write time, in milliseconds, per write. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Avg Reader Time The average Gateway reader time, in milliseconds, per request. For example, 28514 indicates the average Gateway reader time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Avg TCP Read Time The average TCP read time, in milliseconds, per read. For example, 20482 indicates the average TCP read time, in milliseconds, per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Avg TCP Write Time The average TCP write time, in milliseconds, per write. For example, 18476 indicates the average TCP write time, in milliseconds, per write. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Avg Work Process Time The average mySAP Gateway work process time, in milliseconds, per request. For example, 18433 indicates the average mySAP Gateway work process time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

CMINITs The total number of CMINITs. For example, 2608 indicates the total number of CMINITs. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Connect Accepts The number of accepted connections to the mySAP Gateway. For example, 52 indicates the total number of accepted connections. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Connection with Maximum Stack The number of the connection using the size of its maximum data stack. For example, 0 indicates the maximum data stack number of the connection. The valid format is a 8-byte integer.

Current Data Stack The size of the current data stack. For example, 0 indicates the size of the current data stack. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Current Overflow Usage The size of the current overflow usage. For example, 0 indicates the size of the current overflow usage. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Data Stack Limit The limit of the data stack size. For example, 30 indicates the limit of the data stack size. The valid format is a 8-byte integer. The following value is also possible:

=-1

Fragmented TCP Reads The total number of fragmented TCP reads. For example, 2329 indicates the total number of fragmented TCP reads. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Fragmented TCP Writes The total number of fragmented TCP writes. For example, 1 indicates the total number of fragmented TCP writes. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring. The valid format is an alphanumeric string, with a maximum of 20 characters.

Longest Reader Request The identifier for the longest reader request. For example, F_RECEIVE specifies the longest reader request. The valid format is an alphanumeric string, with a maximum of 16 characters.

Logon Parameters A reserved field for holding execution parameters for KSAR3. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 200 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

Max Data Stack The maximum size of the data stack. For example, 3 indicates the limit of the data stack size. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max Overflow Usage The maximum size of the overflow usage. For example, 5 indicates the maximum size of the overflow usage. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max SNA Read Time The maximum SNA read time, in milliseconds per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max SNA Write Time The maximum SNA write time, in milliseconds, per write. For example, 47624 indicates the maximum SNA write time, in milliseconds, per write. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max Reader Time The maximum mySAP Gateway reader time, in milliseconds, per request. For example, 28589600 indicates the maximum mySAP Gateway reader time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max TCP Read Time The maximum TCP read time, in milliseconds, per read. For example, 346000 indicates the maximum TCP read time, in milliseconds per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max TCP Write Time Maximum TCP writed time per write from structure GWY_STAT, field TW_TIMEMAX / 1000, using function GWY_READ_STATISTICS. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Max Work Process Time The maximum mySAP Gateway work process time, in milliseconds, per request. For example, 2329 indicates the maximum mySAP Gateway work process time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min Reader Time The minimum mySAP Gateway reader time, in milliseconds, per request. For example, 1600 indicates the minimum mySAP Gateway reader time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min SNA Read Time The minimum SNA read time, in milliseconds, per read. For example, 1112 indicates the minimum SNA read time, in milliseconds, per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min SNA Write Time The minimum SNA write time, in milliseconds, per write. For example, 1374 indicates the minimum SNA write time, in milliseconds, per write. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min TCP Read Time The minimum TCP read time, in milliseconds, per read. For example, 346000 indicates the minimum TCP read time, in milliseconds, per read. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min TCP Write Time The minimum TCP write time, in milliseconds, per write. For example, 400 indicates the minimum TCP write time, in milliseconds, per write. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Min Work Process Time The minimum mySAP Gateway work process time, in milliseconds, per request. For example, 478 indicates the minimum mySAP Gateway work process time, in milliseconds, per request. The valid format is a 8-byte integer. The following values are possible:

=-1

Overflows The total number of overflows. For example, 47 indicates the total number of overflows. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Reader Requests The total number of mySAP Gateway reader requests. For example, 597844 indicates the total number of mySAP Gateway reader requests. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

SNA Errors The total number of SNA errors. For example, 35 indicates the total number of SNA errors. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Reads The total number of SNA reads. For example, 3675 indicates the total number of SNA reads. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Read Rate The SNA read rate, in KB, per second. For example, 13982 indicates the SNA read rate, in KB, per second. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Read Size The SNA read size, in bytes. For example, 38947 indicates the SNA read size, in bytes. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Write Rate The SNA write rate, in KB, per second. For example, 478 indicates the SNA rate, in KB, per second. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Writes The total number of SNA writes. For example, 3675 indicates the total number of SNA writes. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

SNA Write Size The SNA write size, in bytes. For example, 38947 indicates the SNA write size, in bytes. The valid format is a 8-byte integer. The following values are possible:

=-1 There is no relevant numeric data for this attribute at this time.

Statistics Active Are gateway statistics active, Yes or No, if No gateway statistics are not available. The valid format is an alphanumeric string, with a maximum of 1 characters. The following value is also possible:

0 = No

1 = Yes

3 = Values_too_large_Reset_gateway_statistics

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 3 characters. The following value is also possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+GD = Gateway_Monitor_disabled

+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

TCP Errors The total number of TCP errors. For example, 4 indicates the total number of TCP errors. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Read Rate The TCP read rate, in KB, per second. For example, 1112 indicates the TCP read rate, in KB, per second. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Reads The total number of TCP reads. For example, 124175 indicates the total number of TCP reads. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Read Size The TCP read size, in bytes. For example, 28965243 indicates the TCP read size, in bytes. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Write Rate The TCP write rate, in KB, per second. For example, 1374 indicates the TCP write rate, in KB, per second. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Writes The total number of TCP writes. For example, 111173 indicates the total number of TCP writes. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

TCP Write Size The TCP write size, in bytes. For example, 28895498 indicates the TCP write size, in bytes. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Timeouts The total number of timeouts. For example, 3 indicates the total number of timeouts. The valid format is a 8-byte integer.

=-1 There is no relevant numeric data for this attribute at this time.

Total Reader Time The total reader time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Total SNA Read Time The total SNA read time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Total SNA Write Time The total SNA write time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Total TCP Read Time The total TCP read time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Total TCP Write Time The total TCP write time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Total Work Process Time The total work process time, in seconds. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Work Process Requests The total number of mySAP Gateway work process requests. For example, 47 indicates the total number of mySAP Gateway work process requests. The valid format is a 8-byte integer. The following value is also possible:

=-1 There is no relevant numeric data for this attribute at this time.

Historical Alerts attributes

Historical Alerts is an instance level attribute group that provides information about CCMS and the mySAP agent alerts history occurring in a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Alert Message Contains the reason for generating the alert. The valid format is an alphanumeric string, with a maximum of 255 characters.

Alert Unique Identifier The alert unique identifier that is used to close an alert in a SAP system. The valid format is a 4-byte integer.

Client Number A text string identifier or name for the source client. For example, 800 identifies the name of the client. The valid format is an alphanumeric string, with a maximum of 3 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

MTE Name The Monitoring tree element name for which alerts are generated. The valid format is an alphanumeric string, with a maximum of 256 characters.

Occurrence Time Alert timestamp. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Severity Alert severity. The valid format is a 4-byte integer. The following values are possible:

1 = Green

2 = Yellow

3 = Red

4 = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Userid Username. The valid format is an alphanumeric string, with a maximum of 12 characters.

HTTP Services attributes

This attribute group shows HTTP Services details. This attribute group can be used in queries, reports, and workspace views.

Changed for Client Client for HTTP service changed The valid format is an alphanumeric string, with a maximum of 3 characters.

Changed On The date on which the HTTP services were changed. The valid format is an alphanumeric string, with a maximum of 8 characters.

Changed On Timestamp The time and date when the HTTP services were changed. The valid format is Timestamp.

Client The client that is used to connect to the SAP server. The valid format is an alphanumeric string, with a maximum of 3 characters.

Created By The HTTP Services that are created by default and also those HTTP services that are created by the user. The valid format is an alphanumeric string, with a maximum of 12 characters.

Created for Client The Internet Communication Framework (ICF) created for the client The valid format is an alphanumeric string, with a maximum of 3 characters.

Created on The date on which the HTTP services were created. The valid format is an alphanumeric string, with a maximum of 8 characters.

Created on Timestamp The date and time on which the HTTP services were created. The valid format is Timestamp.

Description Description of the HTTP Service. The valid format is an alphanumeric string, with a maximum of 210 characters.

Host Name Host of the service. The valid format is an alphanumeric string, with a maximum of 15 characters.

Host Number Number of a Virtual Host. The valid format is a 4-byte integer.

Last Changed By The user name of the person who last changed the HTTP Service. The valid format is an alphanumeric string, with a maximum of 12 characters.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Parent GUID GUID of the parent node. The valid format is an alphanumeric string, with a maximum of 25 characters.

Path Path of the HTTP service. The valid format is an alphanumeric string, with a maximum of 512 characters.

SAP Authority Authorization to use an ICF service. The valid format is an alphanumeric string, with a maximum of 8 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Service Name Name of a Service in Internet Communication Framework. The valid format is an alphanumeric string, with a maximum of 15 characters.

Service Node GUID GUID of the ICF Service node. The valid format is an alphanumeric string, with a maximum of 25 characters.

Session Timeout Session Timeout for a stateful connection in time format. The valid format is an alphanumeric string, with a maximum of 8 characters.

Session Timeout (Sec.) Session Timeout for a stateful connection in seconds. The valid format is a 4-byte integer.

Status Status of the service, for example, Active or Inactive. The valid format is an alphanumeric string, with a maximum of 1 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system that you are monitoring. The valid format is an alphanumeric string, with a maximum of 3 characters. For example, PRD. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data = +++

User Logon name of the user. The valid format is an alphanumeric string, with a maximum of 12 characters.

ICM MONITOR attributes

This ICM monitor attribute group provides various functions for monitoring the status of the ICM and for detecting any possible errors. ICM sends and receives requests through the internet. Worker threads handle the ICM requests and responses. This attribute group can be used in queries, reports, and workspace views.

Connection Identifier The connection identifier of the service. The valid format is a 4-byte integer.

Current Connections The number of connections that are being used currently. The valid format is a 4-byte integer.

Current Queue Entries Current number of queue entries found. The valid format is a 4-byte integer.

Current Thread Count Number of worker threads currently created. The valid format is a 4-byte integer.

GUID Connection Identifier The GUID for the Connection Identifier. The valid format is a 4-byte integer.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Maximum Connections The maximum connection that can be used. The valid format is a 4-byte integer.

Maximum Queue Entries The maximum number of Queue entries. The valid format is a 4-byte integer.

Maximum Thread Count The maximum amount of worker threads that you can create. The valid format is a 4-byte integer.

Number of Requests The number of requests that are processes by a thread. The valid format is a 4-byte integer.

Peak Connections The peak number of connections used. The valid format is a 4-byte integer.

Peak Queue Entries The peak number of queue entries. The valid format is a 4-byte integer.

Peak Thread Count The peak thread count of the worker threads created. The valid format is a 4-byte integer.

Request Type Number of a Request type Threads. The valid format is an alphanumeric string, with a maximum of 20 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Status of ICMN Current status of the Internet Communication Manager (ICM). The valid format is a 4-byte integer. The following values are possible:

- 0 = Not running
- 1 = Initial
- 2 = Running
- 3 = Shutdown
- 4 = Completed
- 5 = Maintenance

Thread Status Status of the thread. The valid format is an alphanumeric string, with a maximum of 20 characters. The following values are possible:

- 0 = Unknown
- 1 = Available
- 2 = Running
- 3 = completed

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system that you are monitoring. The valid format is an alphanumeric string, with a maximum of 3 characters. Valid fixed values are:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Specific Thread ID System specific ID assigned by the operating system. This ID is similar to the PID for processes. The valid format is an alphanumeric string with a maximum of 16 characters.

Trace Level Current trace level. The valid format is a 4-byte integer. The following values are possible:

- 0 = No_Trace
- 1 = Error_Trace
- 2 = Complete_Prcess_Short_Data_Trace
- 3 = Complete_Prcess_Complete_Data_Trace

ICM Monitor Services attributes

This attribute group provides information on the services that are configured for Internet Communication Manager (ICM). This attribute group can be used in queries, reports, and workspace views.

Host Name The fully qualified host name to which the port is linked. The valid format is S ,32.

ICM Service Name or Port Number Port number or service name on which the ICMAN request accepts the corresponding protocol. The valid format is an alphanumeric string, with a maximum of 32 characters.

Internet Protocol ID The internet Protocol ID that is used. ICM currently supports HTTP, HTTPS and SMTP. The valid format is a 4-byte integer.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

Maximum Processing Time in Back End (Sec) Timeout in seconds for processing in the backend. The valid format is a 4-byte integer.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Service Status The status of the service and whether it is currently active. The ICM does not accept requests on an inactive port. The valid format is an alphanumeric string, with a maximum of 1 characters.

SSL Client Verification The SSL Client Verification number. The valid format is a 4-byte integer.

System ID The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

System Label System label that is generated from SID_DBhostname where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

Time Period for Keep Alive (Sec) Keep alive timeout in seconds. If no data is exchanged on an existing connection for this period of time, the network connection is terminated. The valid format is a 4-byte integer.

Virtual Host Index The index of the virtual host. The valid format is a 4-byte integer.

Instance Configuration attributes

Instance Configuration is both a system level and instance level attribute group. At the system level, it provides configuration information about the mySAP system and about each instance. At the instance level, it provides configuration information about one mySAP instance. This attribute group can be used in queries, situations, and workspace views. See the historical data collection section for information about historical data collection for attributes in this attribute group, including attributes for which data is not collected.

Active Users The current number of users logged on to this application instance. For example, 47 indicates the number of users currently logged on to the instance you are monitoring.

Active Users (Server) Number of active users currently for this server. It includes RFC users and interactive users.

Assigned Update Instance The name of the application server assigned to a specific update server. For example, Updinst_SY1_00 is the instance configured with the mySAP update service for this application instance.

Batch Complete Percent Percent of Batch work processes in the Complete state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Batch Job Queue The number of batch jobs in Ready state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Batch Processes The number of batch processes running on this application instance.

Batch Running Percent Percent of Batch work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Batch Service Configured A Yes/No switch to indicate if the batch service is configured. The following values are possible:

•

0 = No. The batch service is not configured.

1 = Yes. The batch service is configured.

Batch Stopped Percent Percent of Batch work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Batch Waiting Percent Percent of Batch work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Central Instance A Yes/No switch to indicate if the application server is the central instance. This attribute can be useful when tailoring a situation. The following values are possible:

•

0 = No. The application server is not the central instance.

1 = Yes. The application server is the central instance.

Central Instance Name The name of the central instance application server that is configured for this mySAP system.

Configuration String The services mask, or string, for this application server. For example, DVEBMGS indicates that the following mySAP services are configured for this instance:

D = Dialog

V = Update (stands for Verbucher in German)

E = Enqueue

B = Background

M = Message server

G = SNA gateway

S = Spool

Database Host IP Address The IP address of the physical system on which the database instance resides. This value is the same for all instances of a mySAP system. For example, 170.106.1.1 is the IP address for the database host in the mySAP system you are monitoring.

Database Host IP Address (v4/v6) The IP address of the physical system on which the database instance resides. This attribute is long enough to hold IPv4 or IPv6 addresses.

Database Host Name The name of the host computer running the database instance of a system. For example, DBhost is the name of the database host in the mySAP system you are monitoring.

Database Name The name of the database instance defined for this mySAP system. This name is frequently the same as the mySAP SID, and is the same for each instance of a mySAP system. For example, DB4 is the name of the physical system on which the database server resides in the mySAP system you are monitoring.

Dialog Complete Percent Percent of Dialog work processes in the Complete state. The following value is also possible

-1 = N/A. Data for this attribute is not applicable at this time.

Dialog Processes The number of dialog processes running on this application instance.

Dialog Queue The number of tasks in the dispatch queue waiting for a Dialog work process. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Dialog Queue Percent Percentage of the dispatcher queue allotted for Dialog that is being used by waiting tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Dialog Running Percent Percent of Dialog work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Dialog Service Configured A Yes/No switch to indicate if the dialog service is configured. The following values are possible:

0 = No. The dialog service is not configured.

1 = Yes. The dialog service is configured

Dialog Stopped Percent Percent of Dialog work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Dialog Waiting Percent Percent of Dialog work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Complete Percent Percent of Enqueue work processes in the Complete state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Processes Number of enqueue work processes running on this application instance.

Enqueue Queue The number of tasks in the dispatch queue waiting for an Enqueue work process. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Queue Percent Percentage of the dispatcher queue allotted for Enqueue that is being used by waiting tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Running Percent Percent of Enqueue work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Service Configured A Yes/No switch to indicate if the enqueue service is configured. The following value is possible:

•

0 = No. The message enqueue is not configured.

1 = Yes. The message enqueue is configured.

Enqueue Stopped Percent Percent of Enqueue work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Enqueue Waiting Percent Percent of Enqueue work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Gateway Service Configured A Yes/No switch to indicate if the gateway service is configured. The following values are possible:

- 0 = No. The gateway service is not configured.
- 1 = Yes. The gateway service is configured.

Instance Down Duration The amount of time, in minutes, an application instance has been down. For example, 12 indicates that a particular instance has been down for 12 minutes. A value of -1 indicates that there is no data at this time.

Instance Host IP Address The IP address of the physical system on which the application instance resides. For example, 170.106.1.11 is the IP address of the physical system on which the application instance you are monitoring resides.

Instance Host IP Address (v4/v6) The IP address of the physical system on which the application instance resides. This attribute is long enough to hold IPv4 or IPv6 addresses.

Instance Host Name The name of the physical system, without the domain, on which this application server resides. For example, Insthost is the name of the application instance you are monitoring.

Instance Name The name of the application server.

Instance Op Mode State The state in which the instance is included in the current operation mode of this application server. The following values are possible:

- 0 = Configured. The instance is included in an operation mode.
- 1 = Not configured. The instance is not included in an operation mode.
- 2 = Misconfigured. The instance was configured improperly.
- ? = Unknown

Instance Start Time The timestamp for the date and time the application instance started.

Instance Status The status of this application instance, either running or not running. The following values are possible:

- 0 = Not running. This value is only reported for instances defined in an operation mode profile.
- 1 = Running

Instance Stop Time The timestamp for the date and time the application instance stopped.

Instance Up Duration The amount of time, in minutes, an application instance has been up in this system. For example, 12 indicates that a particular instance has been up for 12 minutes. A value of -1 indicates that there is no data at this time.

Instances Down The total number of application instances that are down in this system. This values are only reported for instances defined in an operation mode profile. For example, 3 indicates that 3 of the instances you are monitoring are not running.

Instances Running The total number of instances that are running in this system. For example, 15 indicates that 15 instances you are monitoring are running.

Interactive UsersNumber of interactive (GUI) users currently for this server.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Service Configured A Yes/No switch to indicate if the message server is configured. The following values are possible:

0 = No. The message service is not configured.

1 = Yes. The message service is configured. This instance is the central instance.

NoWP Queue The number of tasks in the dispatch queue waiting to be processed by the dispatcher itself or some other system service. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Operation Mode A text string identifier or name for the current operation mode of the system. For example, Private indicates the current operation mode of the system. This attribute provides single-byte character support only.

Operation Mode (Unicode) A text string identifier or name for the current operation mode of the system. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Registered Users Number of total registered users currently for this SAP system.

RFC Users Number of RFC users currently for this server.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Spool Complete Percent Percent of Spool work processes in the Complete state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Spool Processes The number of spool processes running on this application instance.

Spool Queue The number of tasks in the dispatch queue waiting for a Spool work process. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Spool Queue Percent Percentage of the dispatcher queue allotted for Spool that is being used by waiting tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Spool Running Percent Percent of Spool work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Spool Service Configured A Yes/No switch to indicate if the spool service is configured. The following values are possible:

0 = No. The spool is not configured.

1 = Yes. The spool is configured.

Spool Stopped Percent Percent of Spool work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Spool Waiting Percent Percent of Spool work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

System Description A user-provided description of this application instance as defined in the mySAP system transport table. This attribute provides single-byte character support only.

System Description (Unicode) A user-provided description of this application server instance as defined in the mySAP system transport table. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.<

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

System Number The number assigned to this application server instance. For example, 01 is the number of the mySAP instance you are monitoring.

System Release The release number for the level of software installed on this application server. For example, 640 indicates the level of software installed in the SAP mySAP system you are monitoring.

System Start Time The timestamp for the date and time the system started.

System Up Duration The amount of time, in minutes, that the system has been up. For example, 12 indicates that the system has been up for 12 minutes. A value of -1 indicates that there is no data at this time.

Total External Sessions The total number of user sessions (GUI and RFC). The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Total GUI Sessions The total number of non-APPC-TM GUI sessions. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Total RFC Sessions The total number of RFC sessions. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Complete Percent Percent of Update work processes in the Complete state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Processes The number of update processes running on this application instance.

Update Queue The number of tasks in the dispatch queue waiting for an Update work process. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Queue Percent Percentage of the dispatcher queue allotted for Update that is being used by waiting tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Running Percent Percent of Update work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Service Configured A Yes/No switch to indicate if the update service is configured. The following values are possible:

0 = No. The update service is not configured.

1 = Yes. The update service is configured.

Update Stopped Percent Percent of Update work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update Waiting Percent Percent of Update work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Complete Percent Percent of Update2 work processes in the Complete state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Processes Number of Update2 work processes running on this application instance.

Update2 Queue The number of tasks in the dispatch queue waiting for an Update2 work process. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Queue Percent Percentage of the dispatcher queue allotted for an Update2 that is being used by waiting tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Running Percent Percent of Update2 work processes in the Running state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Service Configured A Yes/No switch to indicate if the Update2 service is configured. The following values are possible:

0 = No. The Update2 service is not configured.

1 = Yes. The Update2 service is configured.

Update2 Stopped Percent Percent of Update2 work processes in the Stopped state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Update2 Waiting Percent Percent of Update2 work processes in the Waiting state. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Integration Engine Job Overview attributes

Integration Engine Job Overview attributes provide information on the background jobs, such as the status of the jobs and if they are successful. This attribute group can be used in queries, reports, and workspace views.

Job Name Name of the background job. The valid format is an alphanumeric string, with a maximum of 32 characters.

Job Status Status of a job. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

105 = Successful

104 = Incorrect

117 = Active

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Sample Time The timestamp for the date and time that the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the starting time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

+++ = No_applicable_data (No data available for SAP)

Timestamp The data and time that the job started. The valid format is timestamp.

Type Type of Job. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

I11 = Archiving
I12 = Delete
I13 = Extractor
I14 = Copy
IAS = Adapter Status Set
W01 = No job information available
I18 = Refresh Adapter Status

Intermediate Documents attributes

Intermediate Documents is a system level attribute group that provides information about documents transferred between this mySAP system and external systems. This attribute group can be used in queries, situations, and workspace views.

Create Time The timestamp for the date and time the Intermediate Document (IDoc) was created.

Direction The direction in which the IDoc transmission is being transmitted. The following values are possible:

- 1 = Outbound
- 2 = Inbound

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Code The logical message code, derived from an EDI message. This code further defines the type of message being transmitted. For example, 220 indicates that the message being transmitted is a purchase order.

Message Function The logical message function in relation to its transmission. It contains a code derived from the message function of an EDI message. For example, TU indicates that the message transferred is a special invoice.

Message Type The logical message type. This identification further defines the type of message being transmitted. For example, ORDERS indicates that the message type is a purchase order (outbound) or a sales order (inbound).

Number (Superseded) The identifying number for the IDoc. For example, 546 specifies the identifying number for the IDoc.

Number The identifying number for the IDoc. For example, 546 specifies the identifying number for the IDoc.

Partner Function The function of the IDoc partner. For example, LF indicates that the partner is a vendor.

Partner Name The name of the IDoc partner (for example vendor, customer, or a logical system). For example, LSYSTEM010 indicates the name of the partner.

Partner Port The IDoc partner port, identifying the system that receives or sends IDocs. For example, RECEIVER indicates the port name of a receiver.

Partner Type The IDoc partner type of receiver or sender. For example, KU indicates that the IDOC partner is a customer.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Status Description The IDoc status description, for example Created or Translated. This attribute provides single-byte character support only.

Status Description (Unicode) The IDoc status description. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Status for Statistics The IDoc statistical information. For example, InExternalSystem is the name of the mySAP system you are monitoring.

- 1 = Generated
- 2 = ReadyForDispatch
- 3 = InExternalSystem
- 4 = Dispatched
- 5 = ErrorsInInterface
- 6 = ErrorsInExternalSystem
- 7 = WithDeleteFlag
- B = TransferredToApplication
- C = TransferredToDialog
- D = Posted
- ? = Unknown

Status Information The IDoc status information. This attribute provides single-byte character support only. For example, CREATED indicates that the IDoc has been created.

Status Information (Unicode) The IDoc status information. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Status Number The IDoc status number. For example, 02 indicates an error passing data to port.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Test Production Indicator of whether the message corresponding to the IDoc is a test message or a production message. The following values are possible:

1 = PROD

2 = TEST

For example, TEST specifies that the IDoc is a test message.

Type Defines the structure of the data associated with a message type. For example, DEBMAS02 for message type DEBMAS - customer master. This attribute provides single-byte character support only.

Type (Unicode) Defines the structure of the data associated with a message type. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Update Time The timestamp for the date and time the Intermediate Document (IDoc) was updated.

Lock Entries attributes

Lock Entries is a system level attribute group that provides information about locked objects in the mySAP system. This attribute group can be used in reports, queries, and workspace views.

Argument The argument value (key fields) of a lock entry. An entry locks the entries in a table that are specified by the argument value. For example, SAPLY210 is an example of an argument value.

Backup Flag The identifier for the backup flag. For example, Y indicates that the backup flag is set.

Client A text string identifier or number for the originating client. For example, 800 indicates the client.

Create Time The timestamp for the date and time the lock was created.

Group The name of the group associated with the lock. For example, RZLLITAB indicates the name of the lock group.

Hold Count The total number of locks held. For example, 1 indicates the total number of locks held.

Host A text string identifier or name for the computer serving as the host. For example, agoura1 indicates the identifier for the host.

Lock Age (mins) The amount of time, in minutes, elapsed since the lock was created.

Lock Age (mins) (Superseded) The amount of time, in minutes, elapsed since the lock was created. For example, 33 indicates the number of minutes elapsed since the lock was created.

Lock Object Name The name of the object being locked. For example, ES_RZL_LIP indicates the name of the object being locked.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Owner The name of the person associated with the lock. For example, LGREEN indicates the name of the person generating the lock.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Number The identifier for the mySAP system you are monitoring. For example, 06 is the name of the mySAP system you are monitoring.

Transaction Code The identifier for the transaction code. For example, SMLG is the identifier for the transaction code.

Update Hold Count The total number of locks held for update. For example, 2 indicates the total number of locks held for update.

Update Owner The identifier for the person who holds the locks for update. For example, ddrum2..0002199901041 is the identifier for the person who holds the locks for update.

Userid The name of the user who has set a lock. For example, RBROWN is the name of the user generating locks.

Work Process The numeric identifier for the work process. For example, 3 is the number of the work process.

Logon Groups attributes

Logon Groups is a system level attribute group that provides information about the logon groups and server groups used to connect users to the instances in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Alternate IP Address The alternate IP address for this instance. For example, 10.21.1.11 is the name of the alternate IP address.

Alternate IP Address (v4/v6) The alternate IP address for this instance. This attribute is long enough to hold IPv4 or IPv6 addresses.

Current Favorite The current favorite status for this instance in this logon group, which means this instance is picked for the next user that requests this logon group. For example, YES indicates that this instance is picked for the next user that requests this Logon group. The following values are possible:

- 0 = No
- 1 = Yes

Current Response Time The current response time, in milliseconds, for this instance. For example, 56 is the number of milliseconds it takes for responses. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Current Users The current number of users on this instance. For example, 9 is the current number of users on this instance. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Event Frequency (per/min) The number of events per minute on this instance. For example, 13 is the number of events per minute on this instance. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Instance Name The name of the mySAP instance that is a member of this Logon/Server group. For example, ddrum2 PRD 00 is the name of the mySAP instance you are monitoring.

Logon Parameters This attribute is reserved for internal use only. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Maximum Response Time (ms) The maximum allowed response time, in milliseconds, for this instance in this Logon group. For example, 0 is the maximum allowed response time for this instance in this group. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Maximum Users The maximum allowed number of users in this Logon group on this instance. For example, 52 is the maximum allowed number of users in this Logon group on this instance. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Name The name of the Logon/Server group that is assigned to a number of instances. Users are automatically logged on to the instance with the best response time. This attribute provides single-byte character support only. For example, ALL SERVERS is the name of the Server group you are monitoring.

Name (Unicode) The name of the Logon/Server group that is assigned to a number of instances. Users are automatically logged on to the instance with the best response time. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Statistics Sample Time The timestamp for the date and time that the agent created these current statistics.

Status The current instance status for this Logon/Server group. The following values are possible:

0 = Active

1 = Not Active

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Type The type of group that is being monitored. The following values are possible:

- L = Logon
- S = Server

Logon Information attributes

Logon Information is a system level attribute group that provides both current and historical information about users who have logged on to the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Changing Time The date and time when this user ID was locked or unlocked.

Changing UserID The user ID that locked or unlocked the user specified in the Userid attribute.

Client The name of the client to which you are logged on. For example, 800 is the name of the client to which you are logged on.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Invalid Password Count The current number of invalid logons for this particular user ID. For example, 3 indicates the current number of invalid logons for this particular user ID. The following value is also possible:

- 1 = **blank**. There is no relevant numeric data for this attribute at this time.

IP Address The IP address of the workstation being used. For example, 10.20.112.14 is the IP address for the workstation.

IP Address (v4/v6) The IP address of the workstation being used. This attribute is long enough to hold IPv4 or IPv6 addresses.

Logon Logoff The action presently occurring at the workstation. The following values are possible:

- 0 = Logon Pending
- 1 = Logged On
- 2 = Invalid Logon
- 3 = Logged Off
- 9 = Current State

For example, Logon Pending indicates that a user is presently logging on to the workstation.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Session Duration (mins) The duration of the logon session, in minutes, calculated from the logon time and the logoff time. For example, 22 indicates the duration of the logon session, in minutes. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF=RFC_Error_Check_Agent_Log

+++ = No_applicable_data

Terminal A text string identifier or name for the computer terminal where the user logged on to the mySAP system. For example, LBROWN indicates the computer terminal.

Time The timestamp for the date and time of the logon, the logoff, or the failed logon.

Userid The name of the user logging on to the session. For example, RBROWN is the name of the user initiating the session.

Userid State The lock state of the user ID. The following values are possible:

0 = Not locked. User ID is currently not locked and there was no locking or unlocking activity on the user ID during the sample period. This user state is not reported by the ABAP unless the user ID has an invalid password count greater than 0.

1 = Locked. User ID is currently locked and there was no locking or unlocking activity on the user ID during the sample period. This user state is always reported.

2=Unlocked. User ID is currently not locked and was in a locked state at some time during the sample period. There was one or more unlocking activities on the user ID during the sample period with the last activity being an unlock. This user state is reported only during the sample period in which it is detected.

3=Relocked. User ID is currently locked and was in an unlocked state at some time during the sample period. There was one or more locking activities on the user ID during the sample period with the last activity being a lock. This user state is reported only during the sample period in which it is detected.

Userid Type The type of user ID. The following values are possible:

A = Dialog

B = Batch

C = CPIC
D = BDC
? = Unknown

Message Server Monitor attributes

This attribute group shows the detailed information about the client Message Server Monitor for a given SAP System. This attribute group can be used in queries, reports, and workspace views.

Field Name Shows Message Server Monitor Information. The valid format is an alphanumeric string, with a maximum of 50 characters.

Field Value Shows the Message Server Monitor value. The valid format is s, 40.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data (No data available on SAP)

Number Range Buffer Details attributes

Number Range Buffer Details is an instance level attribute group that provides information about the Number Range Buffer used in a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier, or number, for the originating client to which the number object applies. For example, 800 indicates the client system.

External Range Indicator of whether a number range is externally assigned or internally assigned. The following values are possible:

- 0 = No. Internally assigned
- 1 = Yes. Externally assigned

For example, NO indicates that number ranges are automatically assigned by the system.

From Number The lowest number in this number range. For example, 000000000100 indicates the lowest number in this number range.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Interval To Number The highest number in this interval of this number range. For example, 0000000007699 indicates the highest number in this number range.

Last Number The last number assigned in this number range. For example, 0000000007631 indicates the last number assigned in this number range.

Logon Parameters A reserved field for holding execution parameters for KSAR3. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Object Name The name of this number object. For example, SPO_NUM is the name of this number object.

Range Number The number associated with the number range. For example, 01 indicates the number associated with the number range.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Sub-object Name The name associated with the sub-object number. For example, NUM is the name of this sub-object.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

To Number The highest number in this number range. For example, 00000000032000 indicates the highest number in this number range.

Year The year to which the number range applies. For example, 1998 indicates the year that the number range applies to. The following value is also possible:

- 1 = **blank**. There is no relevant numeric data for this attribute at this time.

Number Range Buffer Summary attributes

Number Range Buffer Summary is an instance level attribute group that provides summary and statistical information about the Number Range Buffer used in a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Buffer Calls The total number of calls to the number range buffer. For example, 78 indicates the number of calls to the number range buffer.

Buffer Responses Less Than 50us The total number of buffer responses less than 50 microseconds. For example, 54 indicates the number of buffer responses that are less than 50 microseconds.

Buffer Responses Less Than 1ms The total number of buffer responses that are less than 1 millisecond and greater than 50 microseconds. For example, 26 indicates the number of buffer responses that are less than 1 millisecond and greater than 50 microseconds.

Buffer Responses 1ms or Greater The total number of buffer responses that are 1 millisecond or greater. For example, 43 indicates the number of buffer responses that are greater than 1 millisecond.

Buffer Size The allocated buffer size in KB. For example, 669354 indicates the number of KB allocated to the buffer.

Conflicts The total number of number range buffer conflicts. For example, 6 indicates the number of number range buffer conflicts.

Current Entries The current number of entries in the number range buffer. For example, 43 indicates the current number of entries in the number range buffer.

Current Indexes The current number of indexes in the number range buffer. For example, 12 indicates the current number of indexes in the number range buffer.

Database Calls The number of calls to the database for number ranges. For example, 32 indicates the number of calls to the database for number ranges.

Get Calls The number of get calls to the number range buffer. For example, 78 indicates the number of get calls to the number range buffer.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters A reserved field for holding execution parameters for KSAR3. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Max Entries The maximum number of entries in the number range buffer. For example, 1000 indicates the maximum number of entries in the number range buffer.

Max Indexes The maximum number of indexes in the number range buffer. For example, 500 indicates the maximum number of indexes in the number range buffer.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Server Calls The number of calls to the server for the number range buffer. For example, 3 indicates the number of calls to the number range server.

Server Responses Less Than 1 ms The total number of server responses less than 1 millisecond. For example, 26 indicates the number of buffer responses that are less than 1 millisecond.

Server Responses Less Than 50 ms The total number of server responses less than 50 milliseconds and greater than 1 millisecond. For example, 54 indicates the number of buffer responses that are less than 50 milliseconds and greater than 1 millisecond.

Server Responses 50 ms or Greater The number of server responses that are 50 milliseconds or greater. For example, 22 indicates the number of server responses that 50 milliseconds or greater.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Timeouts The number of timeouts to the number range buffer. For example, 3 indicates the number of timeouts to the number range buffer.

Operating System Performance attributes

Operating System Performance is an instance level attribute group that provides information about the operating system on which a mySAP instance is running. The SAP OS collector must be running on the mySAP instance for data to be returned for these attributes. This attribute group can be used in queries, situations, and workspace views.

Idle CPU Percent The amount of time the CPU is not processing instructions, expressed as a percentage. For example, 93 indicates that the CPU is idle 93 percent of the time it is available. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Instance Name (Superseded) The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

KB Paged In (sec) The number of KB paged in per second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

KB Paged Out (sec) The number of KB paged out per second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

LAN Collisions (sec) The number of times LAN packets could not be delivered because two nodes attempted to send data at the same time.

LAN Collisions (sec) (Superseded) The number of times LAN packets could not be delivered because two nodes attempted to send data at the same time. For example, 2 indicates the number of times LAN packets could not be delivered because two nodes attempted to send data at the same time during the last second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

LAN Errors (sec) The total number of errors on the LAN during the last second.

LAN Errors (sec) (Superseded) The total number of errors on the LAN during the last second. For example, 2 indicates the total number of errors on the LAN. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

LAN Packets In (sec) The number of units, known as packets, that were transferred from the LAN to mySAP during the last second.

LAN Packets In (sec) (Superseded) The number of units, known as packets, that were transferred from the LAN to mySAP during the last second. For example, 2 indicates the number of packets transferred per second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

LAN Packets Out (sec) The number of units, known as packets, that were transferred from mySAP to the LAN during the last second.

LAN Packets Out (sec) (Superseded) The number of units, known as packets, that were transferred from mySAP to the LAN during the last second. For example, 2 indicates the number of packets transferred out per second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Load Average Last Minute The average computing burden the system carried during the last 60 seconds. For example, 0.08 indicates the average computing burden the system carried.

Load Average Last 5 Minutes The average computing burden the system carried during the last five minutes. For example, 0.09 indicates the average computing burden the system carried.

Load Average Last 15 Minutes The load average during the last 15 minutes.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Pages In (sec) The number of pages read from disk to update memory references to pages that were not previously referenced during the last second. For example, 0 indicates that no pages were read from disk to update memory references. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Pages Out (sec) The number of modified pages written to disk during the last second. For example, 3 indicates the number of pages written to disk per second. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Physical Memory (kb) The total amount of physical memory (RAM). For example, 131136 indicates the total amount of physical memory, in KB. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Physical Memory Free (kb) The amount of physical memory (RAM) available, in KB. For example, 68976 indicates that 67 MB of RAM are available on this instance. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Physical Memory Free Percent The percentage of physical memory (RAM) available. For example, 78 indicates that 78% of RAM is available on this instance. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Sample Time The timestamp for the date and time the agent collected the data from mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Swap Space (kb) The total amount of swap space configured, in KB. For example, 205224 indicates the total amount of swap space configured, in KB. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Swap Space Free (%) The percentage of swap space available. For example, 78 indicates that 78% of swap space is available on this instance. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Swap Space Free (kb) The amount of swap space available, in KB. For example, 411452 indicates that 411 MB of swap space are available on this instance. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+OS = SAP_OS_collector_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

System CPU Utilization Percent The percentage of CPU used by system services. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

User CPU Utilization Percent The percentage of CPU used by user tasks. The following value is also possible:

-1 = N/A. Data for this attribute is not applicable at this time.

Output Requests attributes

Output Requests is a system level attribute group that provides information about all output requests in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier or name for the originating client. For example, A800 indicates the identifier for the originating client.

Copies The number of copies requested. For example, 31 indicates the number of copies requested.

Creator The user ID for the originator of the request. For example, RSMITH indicates the originator of the request.

Department A text string identifier or name for the current department receiving the request. This attribute provides single-byte character support only. For example, DEV indicates the current department receiving the request.

Department (Unicode) A text string identifier or name for the current department receiving the request. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Error Print Requests The number of print requests with errors. For example, 3 indicates the number of print requests with errors.

Failed Print Requests The number of print requests that did not complete. For example, 2 indicates the number of print requests that did not complete.

Host Spool Id A text string identifier for the print host spooler. For example, CAN2 indicates the identifier for the host spooler.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Output Device A text string identifier or name for the current output device. This attribute provides single-byte character support only. For example, LP01 indicates the name of the output device.

Output Device (Unicode) A text string identifier or name for the current output device. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Output Format A text string identifier for the current output format. This attribute provides single-byte character support only. For example, X_65_255 indicates the output format.

Output Format (Unicode) A text string identifier for the current output format. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Print Pending Time Time calculated for the pending output request.

Print Pending Time (Superseded) Time calculated for the pending output request. A value of -1 indicates that there is no data at this time.

Print Reason The reason for the print request. The following values are possible:

- M = Manual request
- G = Print immediately
- A = Archive request
- ? = Unknown

Print Request Time The timestamp for the date and time the print request was created.

Print Status The status of a print request. The following values are possible:

- 0 = Problem
- 1 = Scheduled
- 3 = Unknown_in_OMS

4 = Completed_(problem)
 7 = Printing
 9 = Complete
 A = Printer_is_disabled
 B = Waiting_for_output_formatter
 C = Being_processed
 D = On_hold_after_a_problem
 E = Printer_is_locked
 F = Waiting_for_suitable_layout_set
 G = Fatal_Error_during_Processing
 H = Output_device_unavailable
 I = Internal_error_when_printing
 J = Status_unknown
 K = Deleted
 L = Incorrect
 M = Frontend_unavailable
 N = Query_problems
 O = Transferred_by_Command_to_the_Host_Spool
 P = Sent_to_LPD
 Q = Sent_to_SAPlpd
 R = Sent_to_Host_Spool
 S = Sent_to_IPP_Through_Host_Spool
 T = Sent_via_Mail
 U = Sent_to_RFC_Through_Host_Spool
 V = Waiting_for_Transfer_from_Front_End
 W = Sent_to_Front_End
 X = Forwarded_by_host_spool
 Y = Being_sent_to_host_spooler
 Z = Waiting_in_host_spooler
 ? = Unknown

Processed Print Requests The number of processed print requests. For example, 2 indicates the number of processed print requests.

Recipient A text string identifier or name for the current recipient of the request. For example, RBROWN indicates the name of the recipient for the request.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Size The amount of disk space or memory to which the request can spool. For example, 4056 indicates that 4 MB of disk space is available for the request.

Spool Number A numeric identifier for the spool file. For example, 31806 indicates the numeric identifier for the spool file.

Spool Title A text identifier or name for the spool file. This attribute provides single-byte character support only. For example, PRINTA indicates the title of the spool file.

Spool Title (Unicode) A text identifier or name for the spool file. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Spooler Host Name A text string identifier or name for the host where the spooler is running. For example, DDRUM2 indicates the name of the spooler host.

Spooler System Name A text string identifier or name for the system where the spooler is running. For example, DDRUM2_PRD indicates the system where the spooler is running.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Perform Requested Action attributes

Perform Requested Action attributes are reserved for internal use only.

Persistence Layer Analysis attributes

Persistence layer analysis is an attribute group that provides information about the current configuration of the switch procedure and number of messages present in the SAP instance. This attribute group can be used in queries, situations, and workspace views.

Archived and Logically Deleted Messages Number of archived and logically deleted messages in the client. The valid format is a 4-byte integer.

Current Container Name of the current container table. The valid format is an alphanumeric string, with a maximum of 11 characters.

Current Fill Level in % Current fill level specified in percentage format. The valid format is an alphanumeric string, with a maximum of 4 characters.

Current Master Table Name of the current master table. The valid format is an alphanumeric string, with a maximum of 30 characters.

Instance Name Name of the instance for which you complete the persistence layer configuration. The valid format is an alphanumeric string, with a maximum of 320 characters.

Logically Deleted Messages Number of logically deleted messages in the client. The valid format is a 4-byte integer.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Maximum Entries Maximum number of table entries for the master table. The valid format is a 4-byte integer.

Messages for Reorganization Number of messages for reorganization in the client. The valid format is a 4-byte integer.

Messages in Client Number of messages in the client. The valid format is a 4-byte integer.

Messages in CLUP Number of messages in the CLUP table. The valid format is a 4-byte integer.

Messages in CLUR Number of messages in the CLUR table. The valid format is a 4-byte integer.

Messages in Database Number of messages in the database. The valid format is a 4-byte integer.

Messages in EMAST Number of messages in the EMAST table. The valid format is a 4-byte integer.

Messages in ERROR Number of messages in the ERROR table. The valid format is a 4-byte integer.

Messages in MAST Number of messages in the MAST table. The valid format is a 4-byte integer.

Messages in VERS Number of messages in the VERS table. The valid format is a 4-byte integer.

Messages to be Archived Number of messages to be archived in the client. The valid format is a 4-byte integer.

Number of Entries Number of table entries in the master table. The valid format is a 4-byte integer.

Reorganization Status Status of reorganization and if it required or not. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- 0 = Reorganization_not_(yet)_required
- 1 = Delete_or_archive_processed_XML_messages
- 2 = Reorganization_required

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System ID The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

Switch Mode Current mode of the switch. The valid format is s,1. The following values are possible:

0 = Not Activated

1 = Activated

2 = Activated

Process Statistics attributes

This attribute group contains information about the number of XML messages processed by the Integration Engine. The statistics provides information about average, minimum, and maximum number of XML messages processed each day by the Integration Engine. This attribute group can be used in queries, reports, and workspace views.

Category The Category shows process statistics status and workload information. The valid format is an alphanumeric string, with a maximum of 50 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the starting time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

+++ = No_applicable_data (No data available on SAP)

Value Shows process statistics status and workload count. The valid format is a 4-byte integer.

qRFC Inbound Queues attributes

This attribute group provides information about the inbound queues, its destination status and error messages. This attribute group can be used in queries, reports, and workspace views.

Client Client ID of the current User. The valid format is an alphanumeric string, with a maximum of 3 characters.

First TID First transaction ID of the Logical Unit of Work (LUW) of the inbound queue The valid format is an alphanumeric string, with a maximum of 24 characters.

First Timestamp First Execution timestamp. The valid format is timestamp.

Last Timestamp Last Execution timestamp. The valid format is timestamp.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Queue Count Number of queues group by queue status. The valid format is a 4-byte integer.

Queue Destination qRFC inbound queue logical destination in function call. The valid format is an alphanumeric string, with a maximum of 32 characters.

Queue Entries Number of Logical Unit of Work (LUW) entries of qRFC inbound queue. The valid format is a 4-byte integer.

Queue Error Messages Inbound queue error message according to the status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue LUW Counter Inbound queue Logical Unit of Work (LUW) counter within a transaction. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Name Name of qRFC Inbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Status qRFC inbound queue status. The valid format is an alphanumeric string, with a maximum of 8 characters. Valid fixed values are:

READ = READ
READY = READY
RUNNING = RUNNING
EXECUTED = EXECUTED
SYSFAIL = SYSFAIL
CPICERR = CPICERR
STOP = STOP
WAITSTOP = WAITSTOP
WAITING = WAITING
NOSEND = NOSEND
NOSENDS = NOSENDS
WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM = WCONFIRM

Queue Supplement Current qRFC supplement number. The valid format is a 4-byte integer.

Queue Version Current qRFC version. The valid format is an alphanumeric string, with a maximum of 8 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System ID of the SAP System running on the server. The valid format is an alphanumeric string, with a maximum of 3 characters. Valid fixed values are:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

tRFC First Count First counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

tRFC Last Count Last counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

qRFC Inbound Queues Logical Unit of Work (LUW) attributes

This attribute group describes the qRFC Inbound queue LUW details for each queue. This attribute group can be used in queries, situations, and workspace views.

Application Server Timestamp Current timestamp for the Application Server. The valid format is Timestamp.

Client Client ID of the current user. The valid format is an alphanumeric string, with a maximum of 3 characters.

Current Transaction Code Current code for a transaction. The valid format is an alphanumeric string, with a maximum of 20 characters.

LUW Host ID Host IP address that is converted from hex. The valid format is an alphanumeric string, with a maximum of 64 characters.

LUW Host ID in HEX Logical Unit of Work Host IP in hex. The valid format is an alphanumeric string, with a maximum of 8 characters.

LUW Process ID The Logical Unit of Work aRFC process ID. The valid format is an alphanumeric string, with a maximum of 4 characters.

LUW Timestamp aRFC timeStamp. The valid format is Timestamp.

LUW Timestamp in HEX aRFC timeStamp in hex format. The valid format is an alphanumeric string, with a maximum of 8 characters.

LUW Transaction ID aRFC transaction ID. The valid format is an alphanumeric string, with a maximum of 4 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

No Send No send. The valid format is an alphanumeric string, with a maximum of 1 characters.

Number of Attempts Number of attempts allowed when trying to establish a connection to the SAP System specified. The valid format is a 4-byte integer.

Original Transaction ID aRFC transaction ID. It is the part of the Logical Unit of Work unique transaction ID for the queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

qRFC Function Module Name of the function module for the qRFC inbound queue. The valid format is an alphanumeric string, with a maximum of 30 characters.

qRFC User Logon name of the user. The valid format is an alphanumeric string, with a maximum of 12 characters.

Queue aRFC Program In externally called procedures, this is the name of the calling program, otherwise it is the name of the current program. The valid format is an alphanumeric string, with a maximum of 40 characters.

Queue aRFC State Status of an aRFC call, for example, RECORDED, CPICERR, or MAILED,READ. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Destination Inbound queue logical destination used in the function call. The valid format is an alphanumeric string, with a maximum of 32 characters.

Queue Error Message Inbound queue error message according to the status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue LUW Counter Inbound queue Logical Unit of Work (LUW) counter within a transaction. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Mailed Value for queue mailed. The valid format is an alphanumeric string, with a maximum of 1 characters.

Queue Name Name of qRFC Inbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Reply Expected Reply expected from the queue. The valid format is an alphanumeric string, with a maximum of 1 characters.

Queue Status qRFC inbound queue status. The valid format is an alphanumeric string, with a maximum of 8 characters. Valid fixed values are:

READ = READ

READY = READY

RUNNING = RUNNING

EXECUTED = EXECUTED

SYSFAIL = SYSFAIL

CPICERR = CPICERR

STOP = STOP

WAITSTOP = WAITSTOP

WAITING = WAITING
NOSEND = NOSEND
NOSENDS = NOSENDS
WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM = WCONFIRM

Retry Timestamp Retry timestamp of the Application Server. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name R/3 system name. The valid format is an alphanumeric string, with a maximum of 3 characters. Valid fixed values are:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

tRFC Counter Counter for serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

tRFC Lock Counter Counter for serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

qRFC Outbound Queues attributes

qRFC Outbound Queues provides information about the outbound queues, the destination status, and error messages associated with the queues. This attribute group can be used in queries, reports, and workspace views.

Client Client ID of the current User. The valid format is an alphanumeric string, with a maximum of 3 characters.

First Timestamp First execution timestamp. The valid format is timestamp.

First Transaction ID First Transaction ID of the Logical Unit of Work (LUW) of the Outbound queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Last Application Server Timestamp Last execution timestamp. The valid format is timestamp.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Queue Count Number of queues grouped by queue status. This attribute is for internal use in query. The valid format is a 4-byte integer.

Queue Destination qRFC outbound queue logical destination in function call. The valid format is an alphanumeric string, with a maximum of 32 characters.

Queue Entries Number of queue Logical Unit of Work (LUW) entries. The valid format is a 4-byte integer.

Queue Name Name of the qRFC outbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Status Status of the qRFC outbound queue. The valid format is an alphanumeric string, with a maximum of 8 characters. The following values are possible:

READ = READ
READY = READY
RUNNING = RUNNING
EXECUTED = EXECUTED
SYSFAIL = SYSFAIL
CPICERR = CPICERR
STOP = STOP
WAITSTOP = WAITSTOP
WAITING = WAITING
NOSEND = NOSEND
NOSENDS = NOSENDS
WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM = WCONFIRM

Queue Error Message Outbound queue error message according to status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue Counter In LUW Outbound queue Logical Unit of Work (LUW) Counter within a transaction. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Version Current qRFC version. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Supplement number Current qRFC supplement number. The valid format is a 4-byte integer.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from the SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System ID of the SAP System running on server. The valid format is an alphanumeric string, with a maximum of 3 characters. Valid fixed values are:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

tRFC First Counter First counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

tRFC Last Counter Last counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

Wait for Queue Name of the queue for which the current queue execution is waiting. The valid format is an alphanumeric string, with a maximum of 24 characters.

qRFC Outbound Queues Details attributes

This attribute group describes the qRFC outbound queue LUW details for each queue. This attribute group can be used in queries, reports, and workspace views.

Appserver Timestamp Current timestamp of the Application Server. The valid format is timestamp.

Client Client ID of the current user. The valid format is an alphanumeric string, with a maximum of 3 characters.

Queue Name Name of the qRFC outbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

LUW Host ID Host IP address converted from hex. The valid format is an alphanumeric string, with a maximum of 64 characters.

LUW Process ID Logical Unit of Work process ID. The valid format is an alphanumeric string, with a maximum of 4 characters.

LUW Host ID in HEX Logical Unit of Work host IP ID in hex format. The valid format is an alphanumeric string, with a maximum of 8 characters.

LUW Timestamp aRFC time stamp. The valid format is timestamp.

LUW Timestamp in HEX aRFC time stamp in hex. The valid format is an alphanumeric string, with a maximum of 8 characters.

LUW Transaction ID aRFC Transaction ID. The valid format is an alphanumeric string, with a maximum of 4 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

No Send No send. The valid format is an alphanumeric string, with a maximum of 1 characters.

Number of attempts Number of attempts allowed when trying to establish a connection to the SAP System specified. The valid format is a 4-byte integer.

qRFC Function Module Name of the function module for the qRFC outbound queue. The valid format is an alphanumeric string, with a maximum of 30 characters.

qRFC User qRFC user logon name. The valid format is an alphanumeric string, with a maximum of 12 characters.

Queue aRFC Program In externally called procedures, this is the name of the calling program, otherwise it is the name of the current program. The valid format is an alphanumeric string, with a maximum of 40 characters.

Queue aRFC Reply Reply expected. The valid format is an alphanumeric string, with a maximum of 1 characters.

Queue aRFC State Status of an aRFC call, for example, RECORDED, CPICERR, or MAILED,READ. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue aRFC Tcode Reply expected. The valid format is an alphanumeric string, with a maximum of 20 characters.

Queue Destination Outbound queue logical destination used in a function call. The valid format is an alphanumeric string, with a maximum of 32 characters.

Queue Error Message Outbound queue error messages according to the status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue Mailed Value of the queue mailed. The valid format is an alphanumeric string, with a maximum of 1 characters.

Queue Name Name of the qRFC outbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Status Status of the qRFC outbound queue. The valid format is an alphanumeric string, with a maximum of 8 characters. Valid fixed values are:

READ = READ

READY = READY

RUNNING = RUNNING

EXECUTED = EXECUTED

SYSFAIL = SYSFAIL

CPICERR = CPICERR

STOP = STOP

WAITSTOP = WAITSTOP

WAITING = WAITING

NOSEND = NOSEND

NOSENDS = NOSENDS

WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM = WCONFIRM

SAPshcut_Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System ID of the SAP System running on the server. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

qRFC Saved Inbound Queues attributes

This attribute group provides information about the saved inbound queues, destination status, and error messages. This attribute group can be used in queries, reports, and workspace views.

CLIENT Client ID of the current user. The valid format is an alphanumeric string with a maximum of 3 characters.

First Timestamp First Execution timestamp. The valid format is timestamp.

Last Timestamp Last Execution timestamp The valid format is timestamp.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

Queue Count Number of queues grouped by queue status. The valid format is a 4-byte integer.

Queue Entries Number of the Logical Unit of Work (LUW) entries in the qRFC saved inbound queue. The valid format is a 4-byte integer.

Queue Error Messages Saved inbound queue error message according to the status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue LUW Counter Inbound queue Logical Unit of Work (LUW) counter within a transaction. The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Name Name of the qRFC Saved Inbound Queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Status Status of the QRFC saved inbound queue. The valid format is an alphanumeric string, with a maximum of 8 characters. The following values are possible:

READ = READ
READY = READY
RUNNING = RUNNING
EXECUTED = EXECUTED
SYSFAIL = SYSFAIL
CPICERR = CPICERR
STOP = STOP
WAITSTOP = WAITSTOP
WAITING = WAITING
NOSEND = NOSEND
NOSENDS = NOSENDS
WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM=WCONFIRM

Queue Supplement Current qRFC supplement number. The valid format is a 4-byte integer.

Queue Version Current QRFC version. The valid format is an alphanumeric string, with a maximum of 8 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System ID of the SAP System running on the server. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

tRFC First Count Counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

tRFC Last Count Counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

qRFC Saved Inbound Queues LUW attributes

This attribute group provides the detail Logical unit of work information for each queue. This attribute group can be used in queries, reports, and workspace views.

Application Server Timestamp Current timestamp of the Application Server. The valid format is timestamp.

Client Client ID of the current user. The valid format is an alphanumeric string, with a maximum of 3 characters.

Current Transaction Code Current transaction code. The valid format is an alphanumeric string, with a maximum of 20 characters.

LUW Host ID Host IP address. It is the part of the Logical Unit of Work unique transaction ID for the queue. The valid format is an alphanumeric string with a maximum of 64 characters.

LUW Host ID in HEX Host IP address in Hex format. It is the part of the unique transaction ID for the queue. The valid format is an alphanumeric string with a maximum of 8 characters.

LUW Process ID aRFC process ID. The valid format is an alphanumeric string with a maximum of 4 characters.

LUW Timestamp aRFC time stamp. The valid format is timestamp.

LUW Timestamp in HEX aRFC timeStamp in Hex format. The valid format is an alphanumeric string with a maximum of 8 characters.

LUW Transaction ID aRFC transaction ID. The valid format is an alphanumeric string with a maximum of 4 characters.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

No Send No Send. The valid format is an alphanumeric string with a maximum of 1 character.

Number of attempts Number of attempts allowed to establish a connection to the SAP system that is specified. The valid format is a 4-byte integer.

Original Transaction ID TID for the LUW queue. The valid format is an alphanumeric string with a maximum of 24 characters.

qRFC Function Module Name of the function module for the qRFC saved inbound queue. The valid format is an alphanumeric string with a maximum of 30 characters.

qRFC User qRFC user name. The valid format is an alphanumeric string with a maximum of 12 characters.

Queue aRFC Program Name of the calling program in externally called procedures, otherwise the name of the current program. The valid format is an alphanumeric string, with a maximum of 40 characters.

Queue aRFC State Status of an aRFC call, for example, RECORDED, CPICERR,MAILED, or READ.The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Destination Logical destination specified in the function call. The valid format is an alphanumeric string, with a maximum of 32 characters.

Queue Error Message Saved inbound queue error messages according to the status of the queue. The valid format is an alphanumeric string, with a maximum of 73 characters.

Queue Logical unit of work Counter Counter within a transaction (LUW). The valid format is an alphanumeric string, with a maximum of 8 characters.

Queue Mailed Value for the queue mailed. The valid format is an alphanumeric string, with a maximum of 1 character.

Queue Name Name of the qRFC saved inbound queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

Queue Status Status of the qRFC saved inbound queue. The valid format is an alphanumeric string, with a maximum of 8 characters. The following values are possible:

READ = READ
READY = READY
RUNNING = RUNNING
EXECUTED = EXECUTED
SYSFAIL = SYSFAIL
CPICERR = CPICERR
STOP = STOP
WAITSTOP = WAITSTOP
WAITING = WAITING
NOSEND = NOSEND
WAITUPDA = WAITUPDA
ARETRY = ARETRY
ANORETRY = ANORETRY
MODIFY = MODIFY
FINISHED = FINISHED
HOLD = HOLD
HOLDDEL = HOLDDEL
HOLDEXE = HOLDEXE
WCONFIRM = WCONFIRM

Reply Expected Reply expected. The valid format is an alphanumeric string, with a maximum of 1 character.

Retry Timestamp Retry timestamp of the application server. The valid format is timestamp.

SAPshcut_Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the database server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name System ID of the SAP System running on the server. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

tRFC Counter Counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

tRFC Lock Counter Counter for the serialized tRFC. The valid format is an alphanumeric string, with a maximum of 24 characters.

Unique Transaction ID Unique TID for the LUW of the queue. The valid format is an alphanumeric string, with a maximum of 24 characters.

SAP Office Inbox attributes

SAP Office Inbox is a system level attribute group that provides information about SAP office resources and mail in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Action Name The name of the mySAP action specified in the mail item, such as program name, function module, or transaction name. This attribute provides single-byte character support only. For example, Y_210_NOTIFY indicates the name of the action in progress.

Action Name (Unicode) The name of the mySAP action specified in the mail item, such as program name, function module, or transaction name. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Action Type The type of mySAP action specified in the mail item, such as program, function module name, or transaction. This attribute provides single-byte character support only. For example, FUNCTION MODULE indicates the type of SAP Office action associated with the mail item.

Action Type (Unicode) The type of mySAP action specified in the mail item, such as program, function module name, or transaction. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Attachment Type The type of mail item as specified by its file extension. For example, DOC, XLS, TXT, and so on. DOC indicates the type of mail item is a document type.

Attachments The number of attachments included with the mail item. For example, 3 indicates the three attachments are included with the mail item.

Author The name of the user who created the mail item. For example, WBROWN indicates the name of the user.

Changeable An indicator of whether a mail item is modifiable. The following values are possible:

- 0 = No
- 1 = Yes
- 2 = Author (by author only)

Client A text string identifier, or number, for the execution client. For example, 800 indicates the client.

Expiration Time The timestamp for the expiration date and time of the mail item.

Express Indicator of whether the mail item is an Express mail type or not. The following values are possible:

0 = No

1 = Yes

Inbox Pending Time (mins) The amount of time, in minutes, that the mail item spent in the inbox prior to being opened.

Inbox Pending Time (mins) (Superseded) The amount of time, in minutes, that the mail item spent in the inbox prior to being opened. For example, 1171 indicates that the mail item spent 1,171 minutes in the inbox before being opened. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Mail Name The name of the mail item. This attribute provides single-byte character support only. For example, NOTE indicates the name of the mail item.

Mail Name (Unicode) The name of the mail item. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Mail Title The title of the mail item. This attribute provides single-byte character support only.

Mail Title (Unicode) The title of the mail item. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Mail Type The type of mail item in the inbox. For example, Office, Workflow, or Deadline. This attribute provides single-byte character support only. Workflow indicates the mail item is of the Workflow type.

Mail Type (Unicode) The type of mail item in the inbox. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Open Time The timestamp for the date and time when the mail item was opened and viewed.

Owner The user name of the person who currently owns the mail item. For example, LGREEN indicates the name of the person who owns the mail item.

Priority The priority of the mail item (the higher the number, the higher the priority). For example, 9 indicates that the mail item is of a high priority.

Received Time The timestamp for the date and time when the mail item was received.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Sensitivity The sensitivity of the mail item. The following values are possible:

- P = Private
- F = Functional
- S = Standard
- C = Company confidential
- ? = Unknown

Sent Time The timestamp for the date and time the mail item was sent.

Size (bytes) (Superseded) The size, in bytes, of the mail item. For example, 1785 indicates the size of the mail item.

Size (bytes) (Superseded) The size, in bytes, of the mail item. For example, 1785 indicates the size of the mail item.

Status The status of the mail item. The following values are possible:

- 1 = Opened
- 2 = Unopened

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

User Name The name of the user who owns the SAP Office inbox. For example, LEROY BROWN is the name of the user who owns the SAP Office inbox.

Userid The identifier for the user who owns the SAP Office inbox. For example, LGREEN is the name of the user who owns the SAP Office inbox.

Saprouter Log attributes

Saprouter Log is a system level attribute group that provides information about the SAP router service in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Date Time The timestamp for the date and time that is recorded in the SAP Router log file.

File Name The name of the SAP Router log file that you are monitoring. For example, SAPROUTER.LOG is the name of the SAP Router log file name.

Log Data The text from the SAP Router log file that you are monitoring. For example, CONNECT FROM CO, Host 127.0.0.1 (local host) is data from the SAP Router log file.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Servers Details attributes

The Servers details attribute group provides information about all the SAP systems that are running on the sever machine (host). The server must be configured with Solution Manager. This attribute group can be used in queries, reports, and workspace views.

Instance Name of the instance that is running on the SAP server. The valid format is an alphanumeric string, with a maximum of 30 characters.

Instance Number Number of the instance that is running on the SAP server. The valid format is an alphanumeric string, with a maximum of 10 characters.

IP Address IP Address of the host computer on which SAP is running. The valid format is an alphanumeric string, with a maximum of 31 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

System Description Description of the SAP system that is running on the server. The valid format is an alphanumeric string, with a maximum of 80 characters.

System Id ID of the SAP system that is running on the server. The valid format is an alphanumeric string, with a maximum of 3 characters.

System Label Label of the SAP system that is running on the server. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name Name of the SAP system that is running on the server. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Number Number of the SAP system that is running on the server. The valid format is an alphanumeric string, with a maximum of 2 characters.

Version Status of the SAP system version if multiple versions are installed. The valid format is an alphanumeric string, with a maximum of 10 characters.

Servers Overview attributes

This attribute group shows information about SAP servers (hosts) that are configured with Solution Manager. This attribute group can be used in queries, reports, and workspace views.

Application Server Hardware Information Application Server Hardware information in relation to the server where SAP is running. The valid format is an alphanumeric string, with a maximum of 50 characters.

Central System Routing Information Host to Central System routing information. The valid format is an alphanumeric string, with a maximum of 100 characters.

Central System to Server Routing Information Central System to Server routing information. The valid format is an alphanumeric string, with a maximum of 100 characters.

CPU Details CPU details of the host computer on which SAP is running. The valid format is an alphanumeric string, with a maximum of 50 characters.

CPU Frequency(Mhz) CPU Frequency of the host computer on which SAP is running. The valid format is a 4-byte integer.

Hardware Manufacturer Name of the server's hardware manufacturer where the SAP system is running. The valid format is an alphanumeric string, with a maximum of 120 characters.

Hostname Hostname of the server on which SAP is running. The server must be configured with Solution Manager. The valid format is an alphanumeric string, with a maximum of 20 characters.

Host OS Operating System of the host server on which SAP is running. The valid format is an alphanumeric string, with a maximum of 50 characters.

IP Address IP Address of the server on which SAP is running. The valid format is an alphanumeric string, with a maximum of 31 characters.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Main Memory (RAM) Size (kb) Size of the main memory on the server on which SAP is running. The valid format is a 4-byte integer.

No Of CPUs Number of CPUs on the server on which SAP is running. The valid format is a 4-byte integer.

OS Version Operating System version of on the server on which SAP is running. The valid format is an alphanumeric string, with a maximum of 16 characters.

SAPS Measured The SAP Application Performance and Sustainability value that shows the performance of the SAP system running on the server. The valid format is an alphanumeric string, with a maximum of 20 characters.

SAPS Vendor Name of the SAP vendor. The valid format is an alphanumeric string, with a maximum of 20 characters.

System Id System Name. The valid format is an alphanumeric string, with a maximum of 3 characters.

System Label System Label. The valid format is an alphanumeric string, with a maximum of 37 characters.

Virtual Memory Virtual Memory size of the host computer on which SAP is running. The valid format is a 4-byte integer. Valid fixed values are:

N/A=-1

Service Response Time attributes

Service Response is an instance level attribute group that provides performance information about the services running in a mySAP instance. These services include batch, dialog, enqueue, gateway, message, spool, and update. This attribute group can be used in queries, situations, and workspace views.

Avg CPU Time (ms) The average amount of time, in milliseconds, the CPU processed instructions for this transaction.

Avg CPU Time (ms) (Superseded) The average amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 60 indicates that the amount of time the CPU processed instructions for this transaction averaged 60 milliseconds during the sampling period.

Avg Database Request Time (ms) The average amount of time, in milliseconds, the database processed this transaction.

Avg Database Request Time (ms) (Superseded) The average amount of time, in milliseconds, the database processed this transaction. For example, 12 indicates that the amount of time elapsed to complete database requests for this transaction averaged 12 milliseconds during the sampling period.

Avg Response Time (ms) The average amount of time, in milliseconds, elapsed to process a request for this mySAP service.

Avg Response Time (ms) (Superseded) The average amount of time, in milliseconds, elapsed to process a request for this mySAP service. For example, 121 indicates that the response time averaged 121 milliseconds during the sampling period.

Avg Wait Time (%) The average amount of time, expressed as a percentage, an unprocessed step waited in the queue for a free work process. For example, 10 indicates that the amount of time, expressed as a percentage, an unprocessed step waited in the queue for an available work process averaged ten percent during the sampling period.

Avg Wait Time (ms) The average amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process.

Avg Wait Time (ms) (Superseded) The average amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process. For example, 5 indicates that the amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process averaged 5 milliseconds during the sampling period.

Dialog Steps Number of dialog steps.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Max CPU Time (ms) The maximum amount of time, in milliseconds, the CPU processed instructions for this transaction.

Max CPU Time (ms) (Superseded) The maximum amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 180 indicates that the maximum amount of time, in milliseconds, the CPU processed instructions for this transaction was 180 milliseconds during the sampling period.

Max Database Request Time (ms) The maximum amount of time, in milliseconds, elapsed for the database to process this transaction.

Max Database Request Time (ms) (Superseded) The maximum amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 54 indicates that the maximum amount of time elapsed to complete database requests for this transaction was 54 milliseconds during the sampling period.

Max Response Time (ms) The maximum amount of time, in milliseconds, elapsed to process a request for this mySAP service.

Max Response Time (ms) (Superseded) The maximum amount of time, in milliseconds, elapsed to process a request for this mySAP service. For example, 203 indicates that the maximum amount of time elapsed to process a request for this mySAP service was 203 milliseconds during the sampling period.

Max Wait Time (ms) The maximum amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process.

Max Wait Time (ms) (Superseded) The maximum amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process. For example, 7 indicates that the maximum amount of time an unprocessed step waited in the queue for an available work process was 7 milliseconds during the sampling period.

Min CPU Time (ms) The minimum amount of time, in milliseconds, the CPU processed instructions for this transaction.

Min CPU Time (ms) (Superseded) The minimum amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 30 indicates that the minimum amount of time, in milliseconds, the CPU processed instructions for this transaction was 30 milliseconds during the sampling period.

Min Database Request Time (ms) The minimum amount of time, in milliseconds, elapsed for the database to process this transaction.

Min Database Request Time (ms) (Superseded) The minimum amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 6 indicates that the minimum amount of time elapsed to complete database requests for this transaction was 6 milliseconds during the sampling period.

Min Response Time (ms) The minimum amount of time, in milliseconds, elapsed to process a request for this mySAP service.

Min Response Time (ms) (Superseded) The minimum amount of time, in milliseconds, elapsed to process a request for this mySAP service. For example, 8 indicates that the minimum amount of time elapsed to process a request for this mySAP service was 8 milliseconds during the sampling period.

Min Wait Time (ms) The minimum amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process.

Min Wait Time (ms) (Superseded) The minimum amount of time, in milliseconds, an unprocessed step waited in the queue for a free work process. For example, 1 indicates that the minimum amount of time an unprocessed step waited in the queue for a free work process was 1 millisecond during the sampling period.

Private Mode Entered A text string that indicates whether the private address mode was entered. The following values are possible

0 = No

1 = Yes

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The starting time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Service Frequency (Superseded) The number of times per minute this service was requested during the sample period. For example, 3 indicates that this service was requested three times per minute during the sampling period.

Service Frequency The number of times per minute this service was requested during the sample period. For example, 3 indicates that this service was requested three times per minute during the sampling period.

Service Request The number of times per minute this service was requested during the sample period.

Service Type The mySAP service category including batch, dialog, enqueue, gateway, message, spool, and update. For example, Dialog indicates that you are monitoring the mySAP dialog service.

Service Type Encoded The encoded SAP service type. The following values are possible

A = AutoABAP

B = Background

C = CPI-C

D = Dialog

E = Enqueue

F = FTP
H = HTTP
L = ALE
N = NNTP
M = SMTP
P = Plugin
R = RFC
S = Spool
T = HTTPS
U = Update
Y = BufferSync
2 = V2_Update
. = Others

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+RF=RFC_Error_Check_Agent_Log
+++ = No_applicable_data

Set Default Sample Period attributes

Set Default Sample Period attributes are reserved for internal use only.

Solution Manager Business Process Alerts attributes

Solution Manager Business Process Alerts is an attribute group that provides information about the most important Business Processes in a SAP Solution Manager system.

Alert Message The message associated with the alert.

Alert Rating The rating of the alert. The following values are possible:

1 = Green
2 = Yellow
3 = Red
4 = Unknown
-1 = N/A

Alert Timestamp The date and time associated with the alert.

Alert Type The type of alert, for example, start, delay, or duration.

Client The number of the client.

Managed System The identifier for this SAP resource.

Monitoring ID Monitoring ID of the business process alert.

Monitoring Type Monitoring type of business process alert.

SAP System Name of the SAP system.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

Sample Interval Start The timestamp for the starting time of the data that is supplied by the SAP agent. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

Sample Time The timestamp for the date and time when the agent collected data from SAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Solution Id Solution Id of the solution defined in Solution Manager.

System ID The SAP System Identifier (SID) for the SAP system you are monitoring.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Solution Manager Early Watch Alerts attributes

This attribute group contains information about early watch alerts. This attribute group can be used in queries, reports, and workspace views.

Installation Number Installation Number of the Early Watch alert. The valid format is an alphanumeric string, with a maximum of 10 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Planned Date The timestamp for the planned date and time of the Early Watch Alert. The valid format is timestamp.

Rating Alert rating. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- G = Not Critical
- Y = Critical

R = Very Critical
N = Undefined
P = Planned
W = Waiting for Download
T = Download Transferred
D = Session Delayed
X = Session Deleted

Report URL The URL of the Early Watch Alert report. The valid format is an alphanumeric string, with a maximum of 255 characters.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the start time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Time The timestamp for the date and time that the agent collected the data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Session Number Number of the session. The valid format is an alphanumeric string, with a maximum of 13 characters.

Solution ID ID of the solution. The valid format is an alphanumeric string, with a maximum of 16 characters.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name This is the 3 character system name or sys ID. ie the one used during this products' development was 'can'. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +++ = No_applicable_data
- + NR = Instance_not_running
- + DD = Data_collection_disabled
- + NE = Instance_or_Group_does_not_exist
- + RF = RFC_Error_Check_Agent_Log
- + AB = ABAP_Version_Mismatch

Solution Manager Landscape Databases attributes

The Solution Manager landscape databases attributes provide information about the databases that are configured in Solution Manager. This attribute group can be used in queries, situations, and workspace views.

Database Name The name of the database that is configured in solution manager. The valid format is an alphanumeric string, with a maximum of 10 characters.

Database Hostname The host name of the server on which the database is running. The valid format is an alphanumeric string, with a maximum of 64 characters.

Database Patch Level The patch level of the database that is configured in Solution Manager. The valid format is an alphanumeric string, with a maximum of 32 characters.

Database Release Database release information. The valid format is an alphanumeric string, with a maximum of 16 characters.

Database Vendor The database Vendor that is configured in Solution Manager. The valid format is an alphanumeric string, with a maximum of 120 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

SAPshcut_Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the database server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Database Version The version of the database that is configured in Solution Manager. The valid format is an alphanumeric string, with a maximum of 10 characters.

Solution Manager Landscape Software Components attributes

This attribute group shows software component information in the solution manager landscape. This attribute group can be used in queries, reports, and workspace views.

Component Type Type of component installed on the SAP server. The valid format is an alphanumeric string, with a maximum of 10 characters.

Group Keys Group keys that are used by the software component. The valid format is an alphanumeric string, with a maximum of 10 characters.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

SAP Release SAP release. The valid format is an alphanumeric string, with a maximum of 10 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Software Component Name of the software component installed on the SAP server. The valid format is an alphanumeric string, with a maximum of 30 characters.

Support Package Level Support Package Level of a Software Component. The valid format is an alphanumeric string, with a maximum of 10 characters.

System Name of the SAP system that is monitored by the mySAP agent. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Version Version of the SAP product, which is ACTIVE. The valid format is an alphanumeric string, with a maximum of 10 characters.

Solution Manager System Instance attributes

This attribute group shows instance information in the solution manager landscape. This attribute group can be used in queries, reports, and workspace views.

Group Keys Group key that is used by the client to logically group users or customers in the SAP system. The valid format is an alphanumeric string, with a maximum of 10 characters.

Instance The instance of the SAP system that is running on the SAP server. The valid format is an alphanumeric string, with a maximum of 64 characters.

Logical System The logical name of the SAP system. The valid format is an alphanumeric string, with a maximum of 10 characters.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

PPMS Product PPMS product. The valid format is an alphanumeric string, with a maximum of 30 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Server Name Name of the server in the SAP system. The valid format is an alphanumeric string, with a maximum of 20 characters.

System Hostname on the system. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Version Version of the current SAP system and whether it is active or inactive. The valid format is an alphanumeric string, with a maximum of 10 characters.

Solution Overview attributes

This attribute group provides solution overview information in Solution Manager. This attribute group can be used in queries, situations, and workspace views.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Solution ID ID of the solution. The valid format is an alphanumeric string, with a maximum of 15 characters.

Solution Name Name of the solution. The valid format is an alphanumeric string, with a maximum of 128 characters.

Solution Status Status of the solution. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- A = Active
- I = Inactive

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- + DD = Data_collection_disabled
- + NE = Instance_or_Group_does_not_exist

+ NR = Instance_not_running
+ RF = RFC_Error_Check_Agent_Log
+++ = No_Applicable_data

Spool Requests attributes

Spool Requests is a system level attribute group that provides information about all spool requests in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Authorization An authority object indicating permission to view a spool request. For example, RSMITH in the profile indicates that the user has permission to view a spool request.

Client The identifier or number for the originating client. For example, 800 indicates the client.

Copies The number of copies requested. For example, 3 indicates the number of copies requested.

Cover Page An indicator showing whether a cover page was requested. The following values are possible:

N = NoCover
D = PrinterDefault
S = CoverPage
? = Unknown

Create Time The timestamp for the date and time the request was created.

Creator The user ID for the originator of the request. For example, RSMITH indicates the user ID for the originator of the request.

Delete After Print An indicator showing whether to delete or keep the spool file after printing. The following values are possible:

K = Keep
D = Delete
? = Unknown

Delete Time The timestamp for the date and time after which you can delete the spool file.

Department A text string identifier or name for the current department receiving the output of the request. This attribute provides single-byte character support only. For example, PAYROLL indicates the name of the department receiving the output.

Department (Unicode) A text string identifier or name for the current department receiving the output of the request. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Error Print Requests The total number of print requests with errors. For example, 1 indicates the number of print requests with errors.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Output Device A text string identifier or name for the output destination for the spool request. This attribute provides single-byte character support only. For example, LP01 indicates the output destination for the spool request.

Output Device (Unicode) A text string identifier or name for the output destination for the spool request. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Output Format A text string identifier for the current output format. This attribute provides single-byte character support only. For example, X_65_255 indicates the current output format.

Output Format (Unicode) A text string identifier for the current output format. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Processed Print Requests The total number of processed print requests. For example, 15 indicates the number of processed print requests.

Recipient A text string identifier or name for the current recipient of the request. For example, RSMITH indicates the name of the current recipient of the request.

Request Closed An indicator showing whether the spool file can be appended. The following values are possible:

C = Closed

O = Open

Sample Interval End The timestamp for the stopping time of the data supplied by the Monitoring Agent for mySAP. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the Monitoring Agent for mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Size The size in number of pages available for the spool request. For example, 14638 indicates the number of pages available for the request.

Spool Number A numeric identifier for the spool file. For example, 31808 indicates the numeric identifier for the spool file.

Spool Title A text identifier or name for the spool file. For example, LISTISLP01RSMITH indicates the textual identifier of the spool file.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF=RFC_Error_Check_Agent_Log

+++ = No_applicable_data

Total Print Requests The total number of print requests for this spool request. For example, 3 indicates the total number of print requests for this spool request.

Synchronous and Asynchronous communication alerts attributes

This attribute group monitors the communication between a sender capable of sending or receiving synchronous requests and a receiver capable of sending or receiving asynchronous responses.

Asynchronous Message ID The Message ID associated with the synchronous response.

BPE Status The business process engine status of the Synchronous and the Asynchronous bridge. The following values are possible:

W=WAIT

A=Timeout

E=Internal Error

X=OK

Communication Timeout The time of the communication timeout in the Integration Engine pipeline.

Communication Timeout Sec The time of the communication timeout in the Integration Engine pipeline in seconds.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Pipeline Status The status of the pipeline.

Sample Time The timestamp for the date and time that the agent collected the data. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Server The SAP application server.

Status Overall status of the Synchronous and the Asynchronous process. The following values are possible:

1=No_Error

2=Error_Possible

3=Error

Synchronous Message ID The Message ID associated with the synchronous request.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

+++ = No_applicable_data

Transfer Date The transfer date and time of the request to the Business Process Engine.

System Log attributes

System Log is an instance level attribute group that provides information about all messages written to the system log in a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier or number for the originating client. Use this attribute to specify an identifier for a client. For example, 800 indicates the identifier for the originating client.

Development Class The identifier for the development class. For example, STUW is the identifier for the development class.

Entry Time The timestamp for the date and time that the log entry was made.

Instance Name The name of the application instance that you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance that you are monitoring.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Class A text string identifier or name for the category of the message. The following values are possible:

- K = SAP_Web_AS_Problem
- S = Operation_Trace
- T = Transaction_Problem
- W = Warning
- X = Miscellaneous

Message Number A text string identifier or name for the system message. For example, S74 indicates the identifier for the system message.

Message Text Descriptive text associated with the system message. This attribute provides single-byte character support only. For example, CONVERSATION ID 53659 indicates the text of the system message.

Message Text (Unicode) Descriptive text associated with the system message. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Program Name A unique identifier or name for the ABAP program that was running. This attribute provides single-byte character support only. For example, SAPLY210 indicates the name of the ABAP program.

Program Name (Unicode) A unique identifier or name for the ABAP program that was running. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Record Count Count of system messages of a certain category. Reserved for use in queries to count messages by varying criteria.

Record Number The log record number. This attribute is not for use in situations.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

SeveritySeverity of the system log.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Task Type A text string identifier for the type of task associated with the entry. For example, RD indicates the type of task associated with the entry.

Terminal A text string identifier or name for the computer terminal where the user logged on to the mySAP system. For example, LBROWN indicates the computer terminal.

Transaction Code A unique identifier for the transaction whose processing resulted in the log entry. For example, A309 indicates the identifier for the transaction.

User A text string identifier or user ID for the user whose activities resulted in the log entry. For example, RSMITH indicates the user who generated the log entry.

System Log Details attributes

System Log Details is an instance level attribute group that provides detailed information about one message in the System Log attribute group. This attribute group can be used in queries and workspace views.

Entry Time The timestamp for the date and time that the log entry was made.

Instance Name The name of the application instance that you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance that you are monitoring.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Description Descriptive text providing information about the system activity that resulted in the message. This attribute provides single-byte character support only. For example, Problem Class indicates the text of the system message.

Message Description (Unicode) Descriptive text providing information about the system activity that resulted in the message. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Message Text Descriptive text associated with the system message. This attribute provides single-byte character support only. For example, CPIC return code 20 indicates a communication error.

Message Text (Unicode) Descriptive text associated with the system message. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Record Number The log record number.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Monitoring Alert View attributes

System Monitoring Alert view displays alerts that are generated in the satellite systems connected to SAP Solution Manager. The open alerts view shows alerts that have not yet been analyzed and alerts that are yet to complete. This view does not necessarily reflect the current status of the system. This attribute group can be used in queries, situations, and workspace views.

Alert Description An alert message from the System Monitoring that provides more details on the reason for the alert. The valid format is an alphanumeric string, with a maximum of 120 characters.

Alert Numeric Value The numeric value for the alert from System Monitoring. The valid format is a 4-byte integer.

Alert Object Number The object number associated with alerts. The valid format is an alphanumeric string, with a maximum of 10 characters.

Alert Rating An indicative number that represents the level of severity used to identify or exclude a category of alert. The valid format is a 4-byte integer. The following values are possible:

- Green = 1
- Unknown = 2
- Yellow = 3
- Red = 4

Alert Unit The unit of the alert. The valid format is an alphanumeric string, with a maximum of 10 characters.

Alert Value The severity value of the alert that comes from system monitoring. The valid format is an alphanumeric string, with a maximum of 250 characters.

Last But One Object Last but one object. The valid format is an alphanumeric string, with a maximum of 120 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Monitored By Solution Solution name under which the alert is generated. The valid format is an alphanumeric string, with a maximum of 128 characters.

Monitoring Type The type of alerts. The valid format is an alphanumeric string, with a maximum of 2 characters. The following values are possible:

System Monitoring Current State = SC

System Monitoring Open Alerts = SH

Monitor Object Represents a component of the IT environment that is monitored, such as the CPU of a server, the dialog system, or background processing. The valid format is an alphanumeric string, with a maximum of 120 characters.

MTE Name A text string for the monitoring tree element with which this alert is associated. The valid format is an alphanumeric string, with a maximum of 256 characters.

Number A unique identifier assigned by the SAP agent that represents the alert type and subtype. Use this numeric value or range of values to identify or exclude an alert. The valid format is a 4-byte integer.

Previous Object The previous object. The valid format is an alphanumeric string, with a maximum of 120 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Server IP Address IP address of the server. The valid format is an alphanumeric string, with a maximum of 31 characters.

Solution ID Solution ID under which the alert is generated. The valid format is an alphanumeric string, with a maximum of 15 characters.

Status The alert status that indicates whether an alert is Open or Acknowledged. The valid format is an alphanumeric string, with a maximum of 20 characters. Data for this attribute is not applicable at this time. The following value is possible:

-1 = N/A

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled=+DD

+ NE = Instance_or_Group_does_not_exist
+ NR = Instance_not_running
+RF = RFC_Error_Check_Agent_Log
+++ = No_applicable_data

System Overview attributes

This attribute group shows system overview information in the solution manager landscape. This attribute group can be used in queries, reports, and workspace views.

Database Hostname Database server hostname used by the SAP server. The valid format is an alphanumeric string, with a maximum of 20 characters.

Database IP Address IP address of the database server The valid format is an alphanumeric string, with a maximum of 31 characters.

Database OS Release Number The operating system release number for the database server. The valid format is an alphanumeric string, with a maximum of 16 characters.

Database OS Type Type of operating system used by the database server The valid format is an alphanumeric string, with a maximum of 50 characters.

Database Release Release associated with the database. The valid format is an alphanumeric string, with a maximum of 16 characters.

Database Type Type of database. The valid format is an alphanumeric string, with a maximum of 120 characters.

Hostname Hostname of the SAP system. The valid format is an alphanumeric string, with a maximum of 20 characters.

Install Number Install number for the SAP system. The valid format is an alphanumeric string, with a maximum of 10 characters.

Instance Instance defined by the SAP system. The valid format is an alphanumeric string, with a maximum of 30 characters.

IP Address IP Address of the SAP server. The valid format is an alphanumeric string, with a maximum of 31 characters.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces.

Message Server Hostname Hostname of the message server. The valid format is an alphanumeric string, with a maximum of 20 characters.

Message Server IP Address IP address of the message server. The valid format is an alphanumeric string, with a maximum of 31 characters.

Message Server OS Release OS release associated with the message server. The valid format is an alphanumeric string, with a maximum of 16 characters.

Message Server OS Type OS type associated with the message server. The valid format is an alphanumeric string, with a maximum of 50 characters.

Number Used to perform statistic calculations.

Product Type SAP server product type. The valid format is an alphanumeric string, with a maximum of 30 characters.

Product Version Version of the SAP product. The valid format is an alphanumeric string, with a maximum of 30 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Name of the system that is monitored by the SAP agent. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Number Number associated with the SAP system. The valid format is an alphanumeric string, with a maximum of 2 characters.

Transport Domain Transport domain for the Sap System. The valid format is an alphanumeric string, with a maximum of 10 characters.

System Topology attributes

This attribute group provides information on the system topology view in the solution manager landscape. This attribute group can be used in queries, reports, and workspace views.

Context The value of this attribute is selected as the topology node display name. The valid format is an alphanumeric string, with a maximum of 64 characters.

Node Index Node index that displays the topology view. The valid format is a 4-byte integer.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries and workspaces.

Node Type Node type in the topology view. The valid format is a 4-byte integer. The following values are possible:

- 1= System
- 2 = Client
- 3 = Instance
- 4 = Software_Component

Parent Index Parent index of topology node. The valid format is a 4-byte integer.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

System Name of the SAP system that is monitored by the mySAP agent. The valid format is an alphanumeric string, with a maximum of 8 characters.

System Label System label generated from <SID>_<DBhostname>, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values provide information about the system:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Topology Information attributes

Topology Information attributes are reserved for internal use only.

Transactional RFC Activity attributes

Transactional RFC is a system level attribute group that provides information about documents exchanged between external systems and this mySAP system. This attribute group can be used in queries, situations, and workspace views.

Client A text string identifier or name for the source client session where the RFC executed. For example, 017 identifies the name of the client for this session.

Data Size (kb) The size of the data, in KB, to be transferred by the RFC.

Data Size (kb) (Superseded) The size of the data, in KB, to be transferred by the RFC. For example, 43278 specifies the size of the data to be transferred.

Function Module The name of the function module that processed the RFC. This attribute provides single-byte character support only. For example, INBOUND_IDOC_PROCESS is the name of the function module that processed the RFC.

Function Module (Unicode) The name of the function module that processed the RFC. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Hostname A text string identifier, or name, for the system that processed the RFC. For example, agoural indicates the name of the host where the RFC was processed.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Program The name for the main program that processed the RFC. This attribute provides single-byte character support only. For example, RDBSEMAT is the name of the main program that processed the RFC.

Program (Unicode) The name for the main program that processed the RFC. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Queue Name The name of the queue that processed the RFC, from table TRFCQOUT/TRFCQIN, field QNAME.

Retries The number of retries allowed in attempting to connect to a specified system. For example, 3 specifies the number of retries attempted to connect to a system.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Send Receive A choice to either send RFC information or receive RFC information. The following values are possible

- 1 = Send
- 2 = Receive

Status The current status of the RFC. This attribute provides single-byte character support only. For example, PROCESSED BY EXTERNAL SYSTEM is the current status of the RFC.

Status Code Status of the RFC transfer, represented as a short status code.

Status (Unicode) The current status of the RFC. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Target Name The name of the logical target of the RFC. This attribute provides single-byte character support only. For example, SYS1 is the name of the logical target system for the RFC.

Target Name (Unicode) The name of the logical target of the RFC. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Time The timestamp for the date and time of the RFC processing.

Transaction Code The identifier for the transaction code that called the RFC. This attribute provides single-byte character support only. For example, BD10 is the name of the transaction code that called the RFC.

Transaction Code (Unicode) The identifier for the transaction code that called the RFC. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Transaction Id The unique transaction identifier for the RFC. For example, OA150D025778678DFA989 is the name of the transaction identifier for the RFC.

Userid The identifier for the person creating the RFC. For example, LBROWN is the name of the person creating the RFC.

Transactional RFC Logs attributes

Transactional RFC is an instance level attribute group that provides information about tRFC Logs occurring in a SAP system. This attribute group can be used in queries, reports, and workspace views.

Caller Logon name of the user. The valid format is an alphanumeric string, with a maximum of 12 characters.

Function Module The unique name of a function module in the Function Builder. The valid format is an alphanumeric string, with a maximum of 30 characters.

Host Host name. The valid format is an alphanumeric string, with a maximum of 8 characters.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Message The tRFC Log message. The valid format is an alphanumeric string, with a maximum of 50 characters.

Sample Interval End The timestamp for the stopping time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the start time of the data that is supplied by the SAP agent. This attribute is not for use in situations.

Sample Time The timestamp for the date and time that the agent collected data from SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Server Timestamp Current timestamp of the application server. The valid format is timestamp.

Status of RFC call Status or error text of an asynchronous RFC call, for example, RECORDED, CPICERR, MAILED, or READ.. The valid format is a 4-byte integer. The following values are possible:

- 01 = CPICERR (Communication error or invalid ABAP command in the LUW)
- 02 = MAILED (CMC call started)
- 03 = READ (CMC call was successfully executed in the SAP target system)
- 04 = SYSFAIL (Runtime error or E message when you execute the LUW)
- 05 = EXECUTED (The LUW was executed and the entry was deleted)
- 06 = OTHER

07 = RECORDED (The LUW was recorded and should be executed)

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name This is the 3 character system name or sys ID that is used during this products' development was 'can'. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data (No data available on SAP)

Target System Standard name of an RFC destination. The valid format is an alphanumeric string, with a maximum of 32 characters.

Transaction Counter Counter within a transaction (LUW). The valid format is a 4-byte integer.

Transaction Performance attributes

Transaction Performance is an instance level attribute group that provides information about transaction response time and performance characteristics within a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Aggregation The aggregation level specifies how the transaction performance data is aggregated. This attribute is passed as input to the Transaction Performance data provider. The supports the following values:

- ALL = Deliver transaction performance for all top level aggregations, including the following aggregation levels TCODE, APPL, SUB, USERID, and EXECIN
- APPL = Report by Application name
- DYNPRO = Report by Program and Dynpro number
- EXECIN = Report by Executed In value that is the transaction or job that invoked the program.
- HIST = Row was collected as a result of historical data collection. This value is for internal use only. Do not set aggregation for this value.
- PEXEIN = Report by Transaction code or Program and Executed In value
- SUB = Report by Sub-application name
- TCODE = Report by Transaction code or program.
- TCUSER = Report by Transaction code or Program and user ID

UEXEIN = Report by user Id and Executed In value

USERID = Report by user ID

All values except HIST are available for your use in workspace queries and situations. For workspace queries and situations, if no value is specified for the Aggregation attribute, the default value is ALL.

Application The name of the business application name or of the sub-application name. This attribute provides single-byte character support only. For example, FI01 is the name of the business application you are monitoring.

Application (Unicode) The name of the business application name or of the sub-application name. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Avg CPU Time (ms) The average amount of time, in milliseconds, the CPU processed instructions for this transaction.

Avg CPU Time (ms) (Superseded) The average amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 36 indicates that the amount of time the CPU processed instructions for this transaction averaged 36 milliseconds during the sampling period.

Avg Database Request Time (ms) The average amount of time, in milliseconds, elapsed for the database to process this transaction.

Avg Database Request Time (ms) (Superseded) The average amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 2 indicates that the amount of time elapsed to complete database requests for this transaction averaged 2 milliseconds during the sampling period.

Avg Extended Memory (kb) The average amount of extended memory, in KB.

Avg Extended Memory (kb) (Superseded) The average amount of extended memory, in KB. For example, 132 indicates that the amount of extended memory averaged 132 KB during the sampling period.

Avg Private Memory (kb) The average amount of private memory, in KB.

Avg Private Memory (kb) (Superseded) The average amount of private memory, in KB. For example, 2612 indicates that the average amount of private memory is 2612 KB during the sampling period.

Avg Response Time (ms) The average amount of time, in milliseconds, elapsed to process this transaction.

Avg Response Time (ms) (Superseded) The average amount of time, in milliseconds, elapsed to process this transaction. For example, 177 indicates that the amount of time elapsed to process this transaction averaged 177 milliseconds during the sampling period.

Avg Total Memory (kb) The average total amount of memory, in KB.

Avg Total Memory (kb) (Superseded) The average total amount of memory, in KB. For example, 5632 indicates that the total amount of memory is 5632 KB during the sampling period.

Avg Wait Time (ms) The average amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process.

Avg Wait Time (ms) (Superseded) The average amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 1 indicates that the amount of time an unprocessed transaction waited in the queue for a free work process averaged 1 millisecond during the sampling period.

Description The program name, transaction code, business application, or user ID description. This attribute provides single-byte character support only. Description is a language dependent description for the transaction code or program or how the unit of work was started. You control the type of reporting based on the value you set for the Aggregation attribute.

- Examples of transaction performance data aggregated using the EXECIN aggregation level
 - Running the FB01 transaction creates a value of Standalone transaction for Description. (FB01 was executed as a transaction.)
 - Running the RSPFPAR program through transaction SE38 creates a value of ABAP Editor for Description. (ABAP Editor is obtained from the SAP system and is the language dependent description of the SE38 transaction.)
 - Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of Job RUN_PROGRAM_RSPFPAR for Description. (This is the language dependent word for "Job" concatenated with the job name.)
- Examples of transaction performance data aggregated without using the EXECIN aggregation level
 - Running the FB01 transaction creates a value of Post document for Description. (Post document is obtained from the SAP system and is the language dependent description of the FB01 transaction.)
 - Running the RSPFPAR program through transaction SE38 creates a value of Display Profile Parameter for Description. (Display Profile Parameter is obtained from the SAP system and is the language dependent title for the RSPFPAR program.)
 - Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of Display Profile Parameter for Description. (Display Profile Parameter is obtained from the SAP system and is the language dependent title for the RSPFPAR program.)

Description (Unicode) The program name, transaction code, business application, or user ID description. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. Description is a language dependent description for the transaction code or program or how the unit of work was started. See the examples above for the Description attribute.

Dialog Step Response Threshold The response time threshold, in milliseconds, for dialog steps. A dialog step with a response time that exceeds this threshold is counted in the Dialog Steps Above Threshold attribute. This value is set by configuring the SAP agent ABAP code.

- 1 = Not_Set
- 2 = N/A

Dialog Steps The number of dialog steps completed for this transaction.

Dialog Steps (Superseded) The number of dialog steps completed for this transaction. For example, 5 indicates that five dialog steps completed for this transaction during the sampling period.

Dialog Steps Above Threshold Number of dialog steps with a response time that exceeded the threshold in the Dialog Step Response Threshold attribute.

Dialog Steps Above Threshold (Superseded) Number of dialog steps with a response time that exceeded the threshold in the Dialog Step Response Threshold attribute.

- 1 = N/A. Data for this attribute is not applicable at this time.
- 2 = NumberTooLarge

Dialog Steps Above Threshold Percent Percentage of dialog steps with a response time that exceeds the threshold in the Dialog Step Response Threshold attribute. This attribute is calculated as Dialog Steps Above Threshold divided by Dialog Steps attribute.

-1 = N/A. Data for this attribute is not applicable at this time.

Dynpro Number The Dynpro number referenced in the SAPGUI session. The following value is also possible:

None = NONE

Encoded Service Type The encoded sap service type.

Executed in How the unit of work was started. For example

- Running the FB01 transaction results in a — value for Executed in to indicate a standalone transaction.
- Running the RSPFPAR program through transaction SE38 creates a value of SE38 for Executed in.
- Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of RUN_PROGRAM_RSPFPAR for Executed in.

Front End Network Time The number of milliseconds used in network communication.

Front End Network Time (Superseded) The number of milliseconds used in network communication. This is the GUI Time minus the application server processing time.

GUI Count The number of roundtrip requests from a user workstation to the SAP instance and back to the user workstation.

GUI Count (Superseded) The number of roundtrip requests from a user workstation to the mySAP instance and back to the user workstation.

GUI Time (ms) The number of milliseconds required to respond to a user SAPGUI request.

GUI Time (ms) (superseded) The number of milliseconds required to respond to a user SAPGUI request. This time is measured from when the user presses a key to send a request until the response is received.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters This attribute is reserved for internal use only. This attribute is not for use in situations.

Managed System The identifier for this SAP resource. The valid format is a text string for a SAP system, instance, or group. This attribute is not for use in situations.

Max Extended Memory Per Session (kb) The maximum amount of extended memory, in KB, per session.

Max Extended Memory Per Session (kb) (Superseded) The maximum amount of extended memory, in KB, per session. For example, 132 indicates that the maximum amount of extended memory was 132 KB per session during the sampling period.

Max Extended Memory Per Transaction (kb) The maximum amount of extended memory, in KB, per transaction.

Max Extended Memory Per Transaction (kb) (Superseded) The maximum amount of extended memory, in KB, per transaction. For example, 2 indicates that the maximum amount of extended memory was 2 KB per transaction during the sampling period.

Program or Tran Code The unit of work that you started. It is determined by SAP code. For example

- Running the FB01 transaction creates a value of FB01 for Transaction Code or Program.
- Running the RSPFPAR program through transaction SE38 creates a value of RSPFPAR for Transaction code or Program.
- Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of RSPFPAR for Transaction code or program.

Program or Tran Code (Unicode) The unit of work that you started. It is determined by SAP code. For example

- Running the FB01 transaction creates a value of FB01 for Transaction Code or Program.
- Running the RSPFPAR program through transaction SE38 creates a value of RSPFPAR for Transaction code or Program.
- Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of RSPFPAR for Transaction code or program.

This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Row aggregation Identifies the aggregation level that was used to create the row of data. See the Aggregation attribute above for all possible values. This attribute is most useful when viewing historical data records in the warehouse.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

Service Type The sap service type including: Dialog, Update, Batch and Spool.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Total CPU Time (ms) The total amount of time, in milliseconds, that the CPU processed instructions for this transaction.

Total CPU Time (ms) (Superseded) The total amount of time, in milliseconds, that the CPU processed instructions for this transaction. For example, 180 indicates that the CPU processed instructions for this transaction for 180 milliseconds during the sampling period.

Total Database Calls The total number of database calls completed for this transaction.

Total Database Calls (Superseded) The total number of database calls completed for this transaction. For example, 15 indicates that the application instance made a total of 15 requests to the database for this transaction during the sampling period.

Total Database Request Time (ms) The total amount of time, in milliseconds, elapsed for the database to process this transaction.

Total Database Request Time (ms) (Superseded) The total amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 12 indicates that the amount of time elapsed to complete database requests for this transaction totaled 12 milliseconds during the sampling period.

Total DB Requested Bytes (kb) The total number of bytes, in KB, requested from the database for this transaction.

Total DB Requested Bytes (kb) (Superseded) The total number of bytes, in KB, requested from the database for this transaction. For example, 6144 indicates that a total of 6 MB were requested from the database for this transaction during the sampling period.

Total Response Time (ms) The total amount of time, in milliseconds, elapsed to process this transaction.

Total Response Time (ms) (Superseded) The total amount of time, in milliseconds, elapsed to process this transaction. For example, 333300 indicates that the amount of elapsed time, in milliseconds, to process this transaction totaled 333300 milliseconds during the sampling period.

Total Wait Time (ms) The total amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process.

Total Wait Time (ms) (Superseded) The total amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 2 indicates that the amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process totaled 2 milliseconds during the sampling period.

Userid The name of the user performing the transaction. For example, RBROWN is the name of the user performing the transaction.

Transaction Performance Task Type attributes

Transaction performance task type attributes is an instance level attribute group that provides information about transaction response time and performance characteristics within a SAP instance. This attribute group can be used in queries, reports, and workspace views.

Aggregation The aggregation level specifies how the transaction performance data is aggregated. This attribute is passed as input to the Transaction Performance data provider. The valid format is an alphanumeric string, with a maximum of 6 characters. The supports the following values:

ALL = Deliver transaction performance for all top level aggregations, including the following aggregation levels TCODE, APPL, SUB, USERID, and EXECIN.

APPL = Report by Application name.

DYNPRO = Report by Program and Dynpro number.

EXECIN = Report by Executed In value that is the transaction or job that invoked the program.

HIST = Row was collected as a result of historical data collection. This value is for internal use only. Do not set aggregation for this value.

PEXEIN = Report by Transaction code or Program and Executed In value.

SUB = Report by Sub-application name.

TCODE = Report by Transaction code or program.

TCUSER = Report by Transaction code or Program and user ID.

UEXEIN = Report by user ID and Executed In value.

USERID = Report by user ID.

All values except HIST are available for your use in workspace queries and situations. For workspace queries and situations, if no value is specified for the Aggregation attribute, the default value is ALL.

Application The name of the business application name or of the sub-application name. This attribute provides single-byte character support only. For example, FI01 is the name of the business application you are monitoring. The valid format is an alphanumeric string, with a maximum of 8 characters.

Application (Unicode) The name of the business application name or of the sub-application name. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. The valid format is an alphanumeric string, with a maximum of 24 characters.

Avg CPU Time (Superseded) The average amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 36 indicates that the amount of time the CPU processed instructions for this transaction averaged 36 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg CPU Time The average amount of time, in milliseconds, the CPU processed instructions for this transaction. For example, 36 indicates that the amount of time the CPU processed instructions for this transaction averaged 36 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg Database Request Time (Superseded) The average amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 2 indicates that the amount of time elapsed to complete database requests for this transaction averaged 2 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg Database Request Time The average amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 2 indicates that the amount of time elapsed to complete database requests for this transaction averaged 2 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg Extended Memory (Superseded) The average amount of extended memory, in KB. For example, 132 indicates that the amount of extended memory averaged 132 KB during the sampling period. The valid format is a 4-byte integer.

Avg Extended Memory The average amount of extended memory, in KB. For example, 132 indicates that the amount of extended memory averaged 132 KB during the sampling period. The valid format is a 4-byte integer.

Avg Private Memory The average amount of private memory, in KB. For example, 2612 indicates that the average amount of private memory is 2612 KB during the sampling period. The valid format is a 4-byte integer.

Avg Private Memory (Superseded) The average amount of private memory, in KB. For example, 2612 indicates that the average amount of private memory is 2612 KB during the sampling period. The valid format is a 4-byte integer.

Avg Response Time (Superseded) The average amount of time, in milliseconds, elapsed to process this transaction. For example, 177 indicates that the amount of time elapsed to process this transaction averaged 177 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg Response Time The average amount of time, in milliseconds, elapsed to process this transaction. For example, 177 indicates that the amount of time elapsed to process this transaction averaged 177 milliseconds during the sampling period. The valid format is a 4-byte integer.

Avg Total Memory (Superseded) The average total amount of memory, in KB. For example, 5632 indicates that the total amount of memory is 5632 KB during the sampling period. The valid format is a 4-byte integer.

Avg Total Memory The average total amount of memory, in KB. For example, 5632 indicates that the total amount of memory is 5632 KB during the sampling period. The valid format is a 4-byte integer.

Avg Wait Time The average amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 1 indicates that the amount of time an unprocessed transaction waited in the queue for a free work process averaged 1 millisecond during the sampling period. The valid format is a 4-byte integer.

Avg Wait Time (Superseded) The average amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 1 indicates that the amount of time an unprocessed transaction waited in the queue for a free work process averaged 1 millisecond during the sampling period. The valid format is a 4-byte integer.

Description The program name, transaction code, business application, or user ID description. This attribute provides single-byte character support only. Description is a language dependent description for the transaction code or program or how the unit of work was started. You control the type of reporting based on the value you set for the Aggregation attribute. The valid format is an alphanumeric string, with a maximum of 36 characters.

The following examples show transaction performance data aggregated using the EXECIN aggregation level:

Running the FB01 transaction creates a value of Standalone transaction for Description. (FB01 was executed as a transaction.)

Running the RSPFPAR program through transaction SE38 creates a value of ABAP Editor for Description. (ABAP Editor is obtained from the SAP system and is the language dependent description of the SE38 transaction.)

Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of Job RUN_PROGRAM_RSPFPAR for Description. (This is the language dependent word for "Job" concatenated with the job name.)

The following examples show transaction performance data aggregated without using the EXECIN aggregation level:

Running the FB01 transaction creates a value of Post document for Description. (Post document is obtained from the SAP system and is the language dependent description of the FB01 transaction.)

Running the RSPFPAR program through transaction SE38 creates a value of Display Profile Parameter for Description. (Display Profile Parameter is obtained from the SAP system and is the language dependent title for the RSPFPAR program)

Running the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR creates a value of Display Profile Parameter for Description. (Display Profile Parameter is obtained from the SAP system and is the language dependent title for the RSPFPAR program.)

Description (Unicode) The program name, transaction code, business application, or user ID description. This attribute provides multibyte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. Description is a language dependent

description for the transaction code or program or how the unit of work was started. See the examples for the Description attribute. The valid format is an alphanumeric string, with a maximum of 108 characters.

Dialog Step Response Threshold The response time threshold, in milliseconds, for dialog steps. A dialog step whose response time exceeds this threshold is counted in the Dialog Steps Above Threshold attribute. This value is set by configuring the mySAP agent ABAP code. The valid format is a 4-byte integer. The following values are possible:

- 1 = Not_Set
- 2 = N/A

Dialog Steps (Superseded) The number of dialog steps completed for this transaction. For example, 5 indicates that five dialog steps completed for this transaction during the sampling period. The valid format is a 4-byte integer.

Dialog Steps The number of dialog steps completed for this transaction. For example, 5 indicates that five dialog steps completed for this transaction during the sampling period. The valid format is a 4-byte integer.

Dialog Steps Above Threshold (Superseded) Number of dialog steps whose response time exceeded Dialog Step Response Threshold. The valid format is a 4-byte integer. The following values are possible:

- 1 = N/A
- 2 = NumberTooLarge

Dialog Steps Above Threshold Number of dialog steps whose response time exceeded Dialog Step Response Threshold. The valid format is a 4-byte integer. The following values are possible:

- 1 = N/A
- 2 = NumberTooLarge

Dialog Steps Above Threshold Percent Percentage of dialog steps whose response time exceeds the Dialog Step Response Threshold attribute. This attribute is calculated as Dialog Steps Above Threshold divided by the Dialog Steps attribute. The valid format is a 4-byte integer. The following value is possible:

- 1 = N/A Data for this attribute is not applicable at this time.

Dynpro Number Dynpro number referenced in the user's SAPGUI session. The valid format is an alphanumeric string, with a maximum of 4 characters. The following value is possible:

- None = NONE

Executed in The procedure to start the unit of work. The valid format is an alphanumeric string, with a maximum of 120 characters.

The following examples show how you start the unit of work:

- Run the FB01 transaction that results in a value for Executed in to indicate a standalone transaction.
- Run the RSPFPAR program through transaction SE38 to create a value of SE38 for Executed in.
- Run the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR to create a value of RUN_PROGRAM_RSPFPAR for Executed in.

Front End Network Time (ms) (Superseded) Number of milliseconds used in network communication. This is the GUI Time minus the application server processing time.

Front End Network Time (ms) Number of milliseconds used in network communication. This is the GUI Time minus the application server processing time.

GUI Count (superseded) Number of roundtrip requests from a user workstation to the mySAP system and back to the user workstation. The valid format is a 4-byte integer.

GUI Count Number of roundtrip requests from a user workstation to the mySAP system and back to the user workstation. The valid format is a 4-byte integer.

GUI Time (ms) Number of milliseconds required to respond to a user SAPGUI request. This time is measured from when the user presses a key to send a request until the response is received. This is total response time from the user perspective. The valid format is a 4-byte integer.

Instance Name The name of the application instance that you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance that you are monitoring. The valid format is an alphanumeric string, with a maximum of 20 characters.

Logon Parameters This attribute is reserved for internal use only. This attribute is not for use in situations.

Managed System The identifier for this SAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a SAP system, instance, or group.

Max Extended Memory Per Session (Superseded) The maximum amount of extended memory, in KB, per session. For example, 132 indicates that the maximum amount of extended memory was 132 KB per session during the sampling period. The valid format is a 4-byte integer.

Max Extended Memory Per Session The maximum amount of extended memory, in KB, per session. For example, 132 indicates that the maximum amount of extended memory was 132 KB per session during the sampling period. The valid format is a 4-byte integer

Max Extended Memory Per Transaction (Superseded) The maximum amount of extended memory, in KB, per transaction. For example, 2 indicates that the maximum amount of extended memory was 2 KB per transaction during the sampling period. The valid format is a 4-byte integer.

Max Extended Memory Per Transaction The maximum amount of extended memory, in KB, per transaction. For example, 2 indicates that the maximum amount of extended memory was 2 KB per transaction during the sampling period. The valid format is a 4-byte integer.

Program or Tran Code The unit of work that you started and it is determined by SAP code.

The following examples show how to determine the Program or Tran code:

- Run the FB01 transaction to create a value of FB01 for Transaction Code or Program.

- Run the RSPFPAR program through transaction SE38 to create a value of RSPFPAR for Transaction code or Program.

- Run the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR to create a value of RSPFPAR for Transaction code or program.

The valid format is an alphanumeric string, with a maximum of 8 characters.

Program or Tran Code (Unicode) The unit of work that you started and it is determined by SAP code.

The following examples show how to determine the Program or Tran code:

- Run the FB01 transaction to create a value of FB01 for Transaction Code or Program.

- Run the RSPFPAR program through transaction SE38 to create a value of RSPFPAR for Transaction code or Program.

Run the RSPFPAR program in a batch job named RUN_PROGRAM_RSPFPAR to create a value of RSPFPAR for Transaction code or program.

This attribute provides multibyte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment. The valid format is an alphanumeric string, with a maximum of 120 characters.

Row Aggregation Identifies the aggregation level that was used to create the row of data. See the Aggregation attribute for all possible values. This attribute is most useful when viewing historical data records in the warehouse. The valid format is an alphanumeric string, with a maximum of 6 characters.

Sample Interval End The timestamp for the stopping time of the data supplied by the Monitoring Agent for SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

Sample Interval Start The timestamp for the beginning time of the data supplied by the Monitoring Agent for SAP. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is timestamp.

SAPGUI Hostname Hostname of the SAPGUI logon terminal. The valid format is an alphanumeric string, with a maximum of 12 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Service Type The sap service type including: Dialog, Update, Batch and Spool. The valid format is an alphanumeric string, with a maximum of 12 characters.

Service Type Encoded The encoded sap service type. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- A = AutoABAP
- B = Background
- C = CPI-C
- D = Dialog
- E = Enqueue
- F = FTP
- G = DDLOG_Clean
- H = HTTP
- I = RFC_In_VMC
- J = AutoJava
- K = Delay_THC
- L = Virtual_ALE
- M = SMTP
- N = NNTP
- O = ATaskHandler
- P = Plugin
- R = Virtual_RFC
- S = Spool
- T = HTTPS

U = Update
W = Dial_NoGUI_T
X = RPC_TH
Y = BufferSync
) = ALL
1 = BatchInput
2 = Update2
3 = Raw_RFC
4 = LCOM_FastRFC
5 = HTTP/JSP
6 = HTTPS/JSP
7 = UnsignedByte

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the SAP system you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch
+DD = Data_collection_disabled
+NE = Instance_or_Group_does_not_exist
+NR = Instance_not_running
+++ = No_applicable_data

Total CPU Time (superseded) The total amount of time, in milliseconds, that the CPU processed instructions for this transaction. For example, 180 indicates that the CPU processed instructions for this transaction for 180 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total CPU Time The total amount of time, in milliseconds, that the CPU processed instructions for this transaction. For example, 180 indicates that the CPU processed instructions for this transaction for 180 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total Database Calls (superseded) The total number of database calls completed for this transaction. For example, 15 indicates that the application instance made a total of 15 requests to the database for this transaction during the sampling period. The valid format is a 4-byte integer.

Total Database Calls The total number of database calls completed for this transaction. For example, 15 indicates that the application instance made a total of 15 requests to the database for this transaction during the sampling period. The valid format is a 4-byte integer.

Total Database Request Time (superseded) The total amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 12 indicates that the amount of time elapsed to complete database requests for this transaction totaled 12 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total Database Request Time The total amount of time, in milliseconds, elapsed for the database to process this transaction. For example, 12 indicates that the amount of time elapsed to complete database requests for this transaction totaled 12 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total DB Requested Bytes (superseded) The total number of bytes, in KB, requested from the database for this transaction. For example, 6144 indicates that a total of 6 MB were requested from the database for this transaction during the sampling period. The valid format is a 4-byte integer.

Total DB Requested Bytes The total number of bytes, in KB, requested from the database for this transaction. For example, 6144 indicates that a total of 6 MB were requested from the database for this transaction during the sampling period. The valid format is a 4-byte integer.

Total Response Time (superseded) The total amount of time, in milliseconds, elapsed to process this transaction. For example, 333300 indicates that the amount of elapsed time, in milliseconds, to process this transaction totaled 333300 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total Response Time The total amount of time, in milliseconds, elapsed to process this transaction. For example, 333300 indicates that the amount of elapsed time, in milliseconds, to process this transaction totaled 333300 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total Wait Time (Superseded) The total amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 2 indicates that the amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process totaled 2 milliseconds during the sampling period. The valid format is a 4-byte integer.

Total Wait Time The total amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process. For example, 2 indicates that the amount of time, in milliseconds, an unprocessed transaction waited in the queue for a free work process totaled 2 milliseconds during the sampling period. The valid format is a 4-byte integer.

Userid The name of the user performing the transaction. For example, RBROWN is the name of the user completing the transaction. The valid format is an alphanumeric string, with a maximum of 12 characters.

Transport Logs attributes

Transport Logs is a system level attribute group that provides detailed log information about one step in a completed transport request in the mySAP system. This attribute group can be used in workspace views only.

Display Level The display level from the step log. This attribute is not for use in situations.

Error Level Error level from the step log. This attribute is not for use in situations. The following values are possible:

E = Error

W = Warning

? = Unknown

Logfile Name The name of the log file, which is created from the transport directory and step name.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Message Number Message number from step log.

Message Text Message text from the step log. This attribute provides single-byte character support only.

Message Text (Unicode) Message text from the step log. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Number The request number from E070-TRKORR.

Number (610) The request number from E070-TRKORR.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Transport Objects attributes

Transport Objects is a system level attribute group that provides information about the objects in a particular transport request in the mySAP system. This attribute group can be used in queries, reports, and workspace views.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number A numeric identifier for the transport request. For example, CANK9002 indicates an identifier for the transport request.

Number (610) A numeric identifier for the transport request.

Object Function An activity to occur on the transported object. The following values are possible:

- D = Delete
- M = Recreate
- K = TableKeys
- ? = Unknown

Object Name The name of the transported object. For example, SAPLY210 indicates an identifier for the name of the object.

Object Type The type of the transported object, as defined by the Transport System. For example, REPO indicates the type of transported object.

Program Id The transport process tool associated with this transported object. For example, R3TR indicates the transport process tool.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Transport Requests attributes

Transport Requests is a system level attribute group that provides information about all transport requests the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Category A text string identifier for the Workbench or Customizing category. The Workbench category of requests is associated with changes to planning and business rules. Customizing requests includes modifications to ABAP code or function modules. This attribute provides single-byte character support only. For example, Workbench indicates the workbench category of request.

Category (Unicode) A text string identifier for the Workbench or Customizing category. The Workbench category of requests is associated with changes to planning and business rules. Customizing requests includes modifications to ABAP code or function modules. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Description Descriptive text associated with the request. This attribute provides single-byte character support only. For example, Initial Test Transport describes the request.

Description (Unicode) Descriptive text associated with the request. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Highest Return Code The highest step return code. Possible values include the following

- 1 = *blank*
- 0 = Perfect
- 4 = Warning
- 8 = Error
- 12 = Severe error

Import Clients A text string identifier for the target client to which the request has been imported. For example, 012 indicates an identifier for the target client.

Import Count The count associated with the import.

Import Systems A text string identifier for the target systems, or the systems to which the request has been imported. For example, CN1 indicates an identifier for the target system.

Last Changed Time The timestamp for the date and time the request was most recently changed.

Logon Parameters This attribute is reserved for internal use only. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number A text string identifier for the transport request. For example, CANKSAV300 indicates an identifier for the transport request.

Number (610) A text string identifier for the transport request.

Owner A text string identifier or user ID for the owner of the request. For example, RSMITH indicates the user ID for the owner of the request.

Parent Number A text string identifier for the parent request. For example, CANKSAV300 indicates an identifier for the parent request.

Parent Number (610) A text string identifier for the parent request.

Sample Interval End The timestamp for the stopping time of the data supplied by the Monitoring Agent for mySAP. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the Monitoring Agent for mySAP. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Source Client A text string identifier for the source client where the request was created. For example, 800 indicates an identifier for the source client.

Source System A text string identifier for the source system, or the system where the request was created. For example, PRD indicates an identifier for the source system.

Status The status of the request. The following values are possible

- A = LockedAll
- D = Modifiable
- L = Modifiable_Protected
- N = Released_with_Import_Protection_for_Repaired_Objects
- O = Release_Started
- R = Released
- ? = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Type The category of the request. The following values are possible

- C = Relocation_of_Objects_Without_Package_Change
- D = Piece_List_for_Support_Package
- E = Relocation_of_Complete_Package
- F = Piece_List
- G = Piece_List_for_CTS_Project
- K = Workbench_Request
- M = Client_Transport_Request
- O = Relocation_of_Objects_with_Package_Change
- P = Piece_List_for_Upgrade
- Q = Customizing_Task
- R = Repair
- S = Development_Correction
- T = Transport_of_Copies
- W = Customizing_Request
- X = Unclassified_Task
- ? = Unknown

Transport Steps attributes

Transport Steps is a system level attribute group that provides details about completed transport steps for a particular transport request in the mySAP system. This attribute group can be used in queries, situations, and workspace views.

Execution Time The timestamp for the time the transport step executed.

Logfile Name The logfile name created from the transport number and from the step name. For example, CANE9000010.PRD indicates an identifier for the logfile.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number A numeric identifier for the transport request. For example, CANE9000010.PRD indicates an identifier for the transport request.

Number (610) A numeric identifier for the transport request.

Return Code The identifier for the return code. For example, 3672 indicates an identifier for the return code. A value of -1 indicates that there is no data at this time.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Step Name The name of the step. For example, EXPORT indicates an identifier for the step. The following values are possible:

- A = ABAP_Dictionary_Activation
- B = Inactive_Import
- C = C_Correction_Release
- D = Import_Application_Defined_Objects

E = Export
 e = Export_pre_processing
 F = C_Transport_Release
 f = Checks_at_Operating_System_Level
 G = Generation_of_Programs_and_Screens
 H = Import_ABAP_Dictionary_Objects
 I = Import
 K = R3trans_Shadow_Import
 L = Import_Request_Piece_List
 M = Matchcode_and_Enqueue_Activation
 m = Generate_Transport_Information_File
 O = Trace_SPAM
 P = Test_Import
 p = Request_waiting_for_QA_approval
 q = QA_approval_given
 R = Method_Execution
 r = Copy_File_Between_Transport_Groups
 T = Import_Table_Contents
 V = Check_Versions
 v = Create_Versions_After_Import
 W = Routing
 w = Create_Versions_Before_Import
 X = Export_application_defined_objects
 Y = Transport_Again_with_Merge_Request
 > = Deleted_from_buffer
 < = Selection_for_Import
 ! = Import_not_approved
) = Transferring_System
 (= Continue_Other_Transport_Group
 = Other_Domain
 # = Change_ADO_Code_Page
 ? = Unknown_Step

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

+AB = ABAP_Version_Mismatch
 +DD = Data_collection_disabled
 +NE = Instance_or_Group_does_not_exist
 +NR = Instance_not_running
 +RF=RFC_Error_Check_Agent_Log
 +++ = No_applicable_data

Target System The name of the mySAP system for which the transport is destined. For example, SY1 is the name of the mySAP system that the transport is destined for.

Updates Information attributes

Updates Information is a system level attribute group that provides information about updates to the database in the mySAP system. This attribute group can be used in reports, queries, and workspace views.

Client A text string identifier or name, for the source client session. For example, 017 identifies the name of the client for this session.

Error The type of error that occurred during an update. This attribute provides single-byte character support only. For example, 00671ABAP/4 processor POSTING_ILLEGAL_STATEMENT indicates that an error occurred during the execution of a particular mySAP process.

Error (Unicode) The type of error that occurred during an update. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Function Module The name of the function module associated with the update. For example, 03 indicates the name of the function module being used.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Program A text string identifier or name for the program that is performing the update. This attribute provides single-byte character support only. For example, SAPLY210 identifies the name of the program associated with this process.

Program (Unicode) A text string identifier or name for the program that is performing the update. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Sample Interval End The timestamp for the stopping time of the data supplied by the SAP agent. This attribute is not for use in situations.

Sample Interval Start The timestamp for the beginning time of the data supplied by the SAP agent. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

State Code The current state of the update. The following values are possible

- 0 = OK
- 1 = V1
- 2 = V2
- 3 = Run
- 4 = Del
- 5 = Auto
- 6 = Init
- 7 = Err

State Description The description of the current state of the update. For example, Update is active indicates that an update is occurring. This attribute provides single-byte character support only.

State Description (Unicode) The description of the current state of the update. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Status The current status of the update. The following values are possible

- 0 = OK
- 1 = Initial
- 3 = Error

Status Description Text describing the status of the update request. For example, Update is active indicates that the current update request is active. This attribute provides single-byte character support only.

Status Description (Unicode) Text describing the status of the update request. For example, Update is active indicates that the current update request is active. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Status Number The identifier for the status. For example, 9 indicates the number of the update status.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Time The timestamp for the time the update was attempted.

Transaction Code The identifier for the transaction code. For example, FB01 is the identifier for the transaction code you are using.

Update Key The identifier for the update key. For example, 19991102131415000ddrum2...002 is the identifier of the update key.

Update Server The name of the server being used for record updates. For example, ddum2_PRD_00 is the identifier for the server you are using.

Userid The name of the user performing the transaction. For example, RBROWN is the name of the user performing the transaction.

User Information attributes

User Information is an instance level attribute group that provides detailed information about a particular user in the mySAP system. This attribute group can be used in queries and workspace views.

Building The number of the building in which the user works. For example, 1634 is the number of the building in which the user is located. This attribute provides single-byte character support only.

Building (Unicode) The number of the building in which the user works. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Client The client identifier. For example, 800 is the name of the client.

Cost Center The identifier for the cost center. This attribute provides single-byte character support only. For example, 5154 is the name of the cost center.

Cost Center (Unicode) The identifier for the cost center. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Country The name of the country in which the user is located. This attribute provides single-byte character support only. For example, FRANCE

Country (Unicode) The name of the country in which the user is located. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Department The name of the department associated with the user. This attribute provides single-byte character support only. For example, Apps.Dev. is the name of the department associated with this user.

Department (Unicode) The name of the department associated with the user. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Fax Number The complete number (excluding the country code) of the Fax machine nearest to the user, including the extension of the number. For example, 8185551212 is the number of the Fax machine.

Full Name The full name of the user, in local format. This attribute provides single-byte character support only. For example, Mike Brown is the full name of the user.

Full Name (Unicode) The full name of the user, in local format. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Function The job function of the user. This attribute provides single-byte character support only. For example, SOFTWAREDEVELOPER is the job function of the user.

Function (Unicode) The job function of the user. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Room The identifier for the room in which the user is located. This attribute provides single-byte character support only. For example, 106A is the number of the room in which the user is located.

Room (Unicode) The identifier for the room in which the user is located. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Telephone Number The complete number of the telephone assigned to the user (excluding the country code), but including the extension of the number. For example, 8185853382 is the telephone number of the user.

Userid The name of the user performing the transaction. For example, RBROWN is the name of the user performing the transaction.

Workflow Trace Logs attributes

Workflow trace logs is application level attribute group that provides information about workflow trace logs that occur in a mySAP PI/XI system. The workflow trace logs the important internal process flow information. This attribute group can be used in queries, reports, and workspace views.

Activated Timestamp Date and time when the trace for the workflow was activated. The valid format is timestamp.

Activation End Timestamp Date and time when the trace for the workflow ends. The valid format is timestamp.

Creation Timestamp Date and time when the trace for the workflow was created. The valid format is timestamp.

Creator Name Name of the user who created the trace for the workflow. The valid format is an alphanumeric string, with a maximum of 15 characters.

Description Trace header descriptive text. The valid format is an alphanumeric string, with a maximum of 132 characters.

Expiry Timestamp Date and time when the trace for the workflow expires. The valid format is timestamp.

Index The sequence number of the trace. The valid format is a 4-byte integer.

Locally Visible This confirms if the instances of the workflow trace object have been created. The valid format is an alphanumeric string, with a maximum of 7 characters.

Managed System The identifier for this mySAP resource. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is a text string for a mySAP system, instance, or group.

Status Shows the status of the workflow trace. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

- 0 = Inactive
- 1 = Active

Trace Level Level of detail determining which trace entries are written. This show the numeric value for the trace. The valid format is an alphanumeric string, with a maximum of 1 character.

Trace Component Component to be traced. The valid format is an alphanumeric string, with a maximum of 30 characters.

Parent Trace ID Trace ID of the parent workflow trace. A workflow might have sub-work and as a result a workflow trace might have a sub-workflow trace. The valid format is an alphanumeric string, with a maximum of 32 characters.

System Trace created by the system. The valid format is an alphanumeric string, with a maximum of 10 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF = RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

Trace ID Unique ID of the trace. The valid format is an alphanumeric string, with a maximum of 32 characters.

Trace Level Description The description of the trace. The valid format is an alphanumeric string, with a maximum of 1 character. The following values ae possible:

- 1 = Restricted
- 2 = Standard
- 3 = All

Work Processes attributes

Work Processes is an instance level attribute group that provides information about all work processes running within a mySAP instance. This attribute group can be used in queries, situations, and workspace views.

Action The current activity of the mySAP work process. The following values are possible:

- 5 = RollIn
- 6 = RollOut
- 7 = TXXX-Access
- 8 = TableLoad

- 10 = DirectRead
- 11 = SequentialRead
- 12 = PhysicalRead
- 13 = Insert
- 14 = Update
- 15 = Delete
- 16 = Commit
- 17 = Generate
- 18 = ReportLoad
- 19 = CUALoad
- 20 = DynPro
- 28 = QueueAPI
- 29 = DictionaryRead
- 31 = MatchcodeRead
- 32 = MatchcodeUpdate
- 33 = MatchcodeInsert
- 34 = PhysicalRead
- 35 = PhysicalUpdate
- 36 = PhysicalDelete
- 39 = MatchcodeDelete

Client A text string identifier or name for the client in which the session is running. For example, 800 identifies the name of the client for this session.

CPU Time (secs) The amount of time, in seconds, the CPU spent processing instructions for this mySAP process.

CPU Time (secs) (Superseded) The amount of time, in seconds, the CPU spent processing instructions for this mySAP process. For example, 10 indicates that the amount of time the CPU processed instructions for this mySAP process was 10 seconds during the sampling period.

Database Changes The number of database changes, such as deletes, inserts, or updates, that occurred during the execution of a mySAP process.

Database Changes (Superseded) The number of database changes, such as deletes, inserts, or updates, that occurred during the execution of a mySAP process. For example, 126 indicates that 126 database changes occurred during the execution of a particular process.

Database Changes Time (ms) The amount of time it took, in milliseconds, to process database changes, such as deletes, inserts, or updates, during the execution of a mySAP process. For example, 374103 indicates that it took 374,103 milliseconds to process certain database changes during the execution of a particular mySAP process.

Database Reads The number of database reads that occurred during the execution of an mySAP process. For example, 479 indicates that 479 database reads occurred during the execution of a particular process.

Database Reads Time (ms) The amount of time it took, in milliseconds, to perform database reads during the execution of a mySAP process.

Database Reads Time (ms) (Superseded) The amount of time it took, in milliseconds, to perform database reads during the execution of a mySAP process. For example, 1087655 indicates that it took 1,087,655 milliseconds to perform database reads during the execution of a particular mySAP process.

Elapsed Time (secs) The amount of time, in seconds, that elapsed during the execution of the current request. For example, 59 indicates that 59 seconds elapsed during the execution of the current request. The following value is also possible:

-1 = **blank**. There is no relevant numeric data for this attribute at this time.

Errors The number of errors that occurred during the execution of a mySAP process. For example, 03 indicates that 3 errors occurred during the execution of a particular mySAP process.

Instance Name The name of the application instance you are monitoring. For example, ddrum2_PRD_00 is the name of the application instance you are monitoring.

Logon Parameters Parameters passed to ksar3 for any Take Action definition. This attribute is not for use in situations.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not for use in situations.

Number The identifier for the mySAP process. For example, 6 is the identifier for a particular mySAP work process.

OS Process Id The identifier for the operating system process. For example, 5032 is the number of the operating system process.

Process Page Size (kb) The page size, in KB, consumed by the process. For example, 3 is the page size, in KB, consumed by the mySAP process.

Process Private Memory (kb) The private memory, in KB, allocated to the process.

Process Private Memory (kb) (Superseded) The private memory, in KB, allocated to the process. For example, 42178 is the private memory, in KB, allocated to the mySAP process.

Process Roll Size (kb) The roll size, in KB, consumed by the process. For example, 114688 is the roll size, in KB, consumed by the mySAP work process.

Process Total Memory (kb) The total amount of private memory, in KB, allocated to the process.

Process Total Memory (kb) (Superseded) The total amount of private memory, in KB, allocated to the process. For example, 1011913 is the total amount of private memory, in KB, allocated to the mySAP work process.

Program A text string identifier or name for the program that is currently executing in a work process. This attribute provides single-byte character support only. For example, SAPETHFB identifies the name of the program associated with this process.

Program (Unicode) A text string identifier or name for the program that is currently executing in a work process. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Restart After Error A Yes/No switch that indicates whether a process must be restarted automatically after an abnormal termination during its execution. The following values are possible:

0 = No

1 = Yes

Roll In-Out Count The number of roll in actions (where memory is retrieved from roll space), and roll out actions (where memory is temporarily saved to roll space) associated with this current user ID.

Roll In-Out Count (Superseded) The number of roll in actions (where memory is retrieved from roll space), and roll out actions (where memory is temporarily saved to roll space) associated with this current user ID. For example, 127 is the number of roll ins and roll outs associated with this user.

Roll In-Out Time (ms) The amount of time, in milliseconds, spent processing roll ins and roll outs for this mySAP process. For example, 261636 is the amount of time in milliseconds it took to process roll ins and roll outs for this mySAP process.

Sample Time The timestamp for the date and time the agent collected the data. This attribute is not for use in situations.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition.

Status The current state of the work process. The following values are possible:

- 1 = Free
- 2 = Waiting - Waiting to execute a request
- 4 = Running - Executing a request
- 8 = Stopped - Waiting for an action to complete
- C = Complete
- ? = Unknown

Status Reason The reason the process stopped. The following values are possible:

- 1 = Debug
- 2 = CPIC
- 3 = ENQ
- 4 = UPD
- 5 = SPO
- 6 = ADM
- 7 = NUM
- 8 = PRIV
- ? = Unknown

System Label System label generated from SID_DBhostname, where SID is the target mySAP system ID and DBhostname is the hostname of the data base server associated with the target mySAP system.

System Name The SAP System Identifier (SID) for the mySAP system you are monitoring. For example, PRD. The following values provide information about the system

- +AB = ABAP_Version_Mismatch
- +DD = Data_collection_disabled
- +NE = Instance_or_Group_does_not_exist
- +NR = Instance_not_running
- +RF=RFC_Error_Check_Agent_Log
- +++ = No_applicable_data

Table Name The name of the table currently being used by the work process. For example, TADIR is the name of the table currently being used.

Transaction Code The identifier for the transaction code. This attribute provides single-byte character support only. For example, FB01 is a transaction code.

Transaction Code (Unicode) The identifier for the transaction code. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Type The type of work process, such as dialog or batch. For example, UPD specifies a work process that executes dialog steps. The following values are possible:

- 0 = NWP
- 1 = DIA
- 2 = UPD
- 3 = ENQ
- 4 = BTC
- 5 = SPO
- 6 = UP2
- 7 = Unknown

Userid The name of the person whose request is being processed. For example, LBROWN is the name of the person using this work process. The following value is also possible:

- 1 = N/A. Data for this attribute is not applicable at this time.

Wait Information Information supplied by the mySAP system that explains why a process had to wait before executing. This attribute provides single-byte character support only. For example, CMRCV/6066760 is an example of wait information.

Wait Information (Unicode) Information supplied by the mySAP system that explains why a process had to wait before executing. This attribute provides multi-byte character support. Use this attribute for new queries and situations to obtain worldwide language support in your environment.

Wait Start Time The timestamp for the date and time the process started waiting to execute.

XML Message Logs attributes

This attribute group shows details of the XML message. This attribute group can be used in queries, reports, and workspace views.

Execution From Timestamp that represent the execution date of XML message. The valid format is timestamp.

Inbound Interface Name The name of the receiver who accepts the XML Message. The valid format is an alphanumeric string, with a maximum of 120 characters.

Inbound Interface Namespace This contains the inbound interface. The valid format is an alphanumeric string, with a maximum of 255 characters.

Initial Time The initial time of the XML Message. The valid format is timestamp.

Managed System The identifier for this mySAP resource. The valid format is a text string for a mySAP system, instance, or group. This attribute is not available for use in situations. Otherwise, this attribute is available to use like any other attribute, for example it is available for reports, queries, and workspaces. The valid format is an alphanumeric string, with a maximum of 64 characters.

Message ID GUID for the Integration Engine objects. The valid format is an alphanumeric string, with a maximum of 32 characters.

Message Type Integration Engine Message type. The valid format is an alphanumeric string, with a maximum of 1 characters. The following values are possible:

A = Asynchronous

S = Synchronous

Outbound Interface Namespace Contains the Outbound Interface. The valid format is an alphanumeric string, with a maximum of 255 characters.

Outbound Interface Name The name of the sender who sends the XML message. The valid format is an alphanumeric string, with a maximum of 120 characters.

Period End Date and time that shows the end of the period. The valid format is timestamp.

Period Start Date and time that shows the start of the period. The valid format is timestamp.

Pipeline ID Integration Engine Pipeline ID. The valid format is an alphanumeric string, with a maximum of 40 characters.

Receiving System Defines how an adapter transforms a message so that it is processed by the receiver during outbound processing. The valid format is an alphanumeric string, with a maximum of 60 characters.

SAPshcut Parameters Parameters passed to sapshcut for any transaction launch definition. The valid format is an alphanumeric string, with a maximum of 120 characters.

Sending System Defines how an adapter transforms a message so that it is processed by the Integration Engine during inbound processing. The valid format is an alphanumeric string, with a maximum of 60 characters.

Send Timestamp Date and time that the XML message was sent. The valid format is timestamp.

System Label System label generated from SID_DBhostname, where SID is the target SAP system ID and DBhostname is the hostname of the data base server associated with the target SAP system. The valid format is an alphanumeric string, with a maximum of 37 characters.

System Name The SAP System Identifier (SID) for the mySAP system that you are monitoring. For example, PRD. The valid format is an alphanumeric string, with a maximum of 3 characters. The following values are possible:

+AB = ABAP_Version_Mismatch

+DD = Data_collection_disabled

+NE = Instance_or_Group_does_not_exist

+NR = Instance_not_running

+RF = RFC_Error_Check_Agent_Log

+++ = No_applicable_data

User Name User name of the SAP system. The valid format is an alphanumeric string, with a maximum of 12 characters.

Chapter 5. Situations reference

A situation is a logical expression involving one or more system conditions. Situations are used to monitor the condition of systems in your network. You can manage situations from the Tivoli Enterprise Portal by using the Situation Editor or from the command-line interface using the `tacmd` commands for situations. You can manage private situations in the private configuration XML file.

About situations

The monitoring agents that you use to monitor your system environment include a set of predefined situations that you can use as-is. You can also create new situations to meet your requirements.

Predefined situations contain attributes that check for system conditions common to many enterprises. Using predefined situations can improve the speed with which you can begin using the SAP agent. You can change the conditions or values being monitored by a predefined situation to the conditions or values best suited to your enterprise.

You can display predefined situations and create your own situations using the Situation editor. The left panel of the Situation editor initially lists the situations associated with the Navigator item that you selected. When you click a situation name or create a situation, the right panel opens with the following tabs:

Formula

Formula describing the condition being tested.

Distribution

List of managed systems (operating systems, subsystems, or applications) to which the situation can be distributed. All the SAP agent managed systems are assigned by default.

Expert advice

Comments and instructions to be read in the event workspace.

Action

Command to be sent to the system.

EIF Customize forwarding of the event to an Event Integration Facility receiver. (Available when the Tivoli Enterprise Monitoring Server has been configured to forward events.)

Until Options to close the event after a period of time, or when another situation becomes true.

Additional information about situations

The *Tivoli Enterprise Portal User's Guide* contains more information about predefined and custom situations and how to use them to respond to alerts.

For a list of the predefined situations and information about each individual situation for this monitoring agent, see "Predefined situations."

Predefined situations

The SAP agent contains predefined situations that monitor problems related to different functions, such as alerts, users, and batch jobs.

The following alerts do not include any situations but you can create situations for them. The situation formula must contain the solution id that you use to monitor the specific alerts.

- Early Watch
 - The solution ID is included in the Solution Overview workspace.
- System Monitoring
 - The situation formula must also contain the type of monitoring and the Monitored by Solution information. For example, use the System Monitoring Current State for the Current State alert and the System Monitoring Open Alerts for open alerts. The solution ID is included in the Solution Overview workspace.
- Business Process Monitoring
 - The solution ID is included in the Solution Overview workspace.

This monitoring agent contains the following predefined situations:

- ABAP Dump
 - R3_ABAP_Dump
 - R3_ABAP_Dump_Excessive
- Active Users
 - R3_USR_Echoed_Session
 - R3_USR_Priv_Mode
 - R3_USR_SAP_DDIC_online
 - R3_USR_Security_Leak
- Alert
 - R3_Alert_Abort_Update_Crit
 - R3_Alert_Crit
 - R3_Alert_DB_Warn
 - R3_Alert_No_Update_Crit
 - R3_Alert_Output_Pending
 - R3_Alert_Pend_Update_Crit
 - R/3_Alert_System_Down
 - R/3_Alert_Warn
 - SAP_Alert_Crit
 - SAP_Alert_Warn
 - R/3_Alert_System_Up
 - SAP_MTE_State_Crit
 - SAP_MTE_State_War
- Batch Data Create
 - R3_BDC_Problem
- Batch Jobs
 - R3_Batch_Job_Warn
 - R3_Batch_Too_Long
 - R3_Batch_Too_Long_Crit
 - R3_Batch_Too_Long_Warn
 - R3_Delete_RunLong_Jobs
- Buffer
 - R3_Buffer_Directory_Crit
 - R3_Buffer_Hitratio_Crit
 - R3_Buffer_Hitratio_Warn
 - R3_Buffer_Reset_Warn

- R3_Buffer_Swap_Crit
- SAP_Buffer_Hitratio_Crit
- SAP_Buffer_Hitratio_Warn
- SAP_Buffer_Reset_Warn
- SAP_Buffer_Swap_Crit
- SAP_Buffer_Sync_Warn
- SAP_Buffer_Quality_Crit
- SAP_Buffer_Quality_Warn
- SAP_Ext_Mem_Perc_Used_Crit
- SAP_Ext_Mem_Perc_Used_Warn
- SAP_Ext_Mem_Max_Perc_Used_Crit
- SAP_Ext_Mem_Max_Perc_Used_Warn
- SAP_Page_Max_Perc_Used_Crit
- SAP_Page_Max_Perc_Used_Warn
- SAP_Roll_Max_Perc_Used_Crit
- SAP_Roll_Max_Perc_Used_Warn
- Business Process Engine
 - SAP_BPE_Failed_Delivery_Attempt
 - SAP_BusinessProcessEng_Stopped
 - SAP_Error_In_BusinessProcessEng
- Database
 - R3_DB_Extents_Change_Warn
 - R3_DB_Freespace_Problem
 - R3_DB_Full_Crit
 - R3_DB_Full_Warn
 - R3_DB_Missing_Index_Problem
 - R3_DB_Object_Space
 - R3_DB_Objects_Freesize_Crit
 - R3_DB_Objects_Freesize_Warn
- DB2 Database
 - SAP_DB2_Backup_Pending
 - SAP_DB2_Restore
 - SAP_DB2_Rollforward
 - SAP_DB2_Status
 - SAP_DB2_History_Deadlock
 - SAP_DB2_History_Lock_Escalations
 - SAP_DB2_History_Lock_Waits
 - SAP_DB2_History_XLock_Escalations
- Delete
 - R3_Delete_Old_BDC_Sessions
 - R3_Delete_Old_Job_Logs
 - R3_Delete_Old_Spool_Files
- Dialog
 - R3_Dialog_Resp_Time_Crit
 - R3_Dialog_Resp_Time_Warn

- R3_Dialog_Wait_Time_Crit
- R3_Dialog_Wait_Time_Warn
- SAP_Dialog_Resp_Time_Crit
- SAP_Dialog_Resp_Time_Warn
- Excess Memory
 - R3_Excess_Memory_Warning
 - SAP_Excess_Memory_Warning
- File Systems
 - R3_Filesystem_Fill_Fast_Crit
 - R3_Filesystem_Fill_Fast_Warn
 - R3_Filesystem_Full_Crit
 - R3_Filesystem_Full_Warn
 - R3_Filesystem_Too_Full
- Gateway Connections
 - R3_GWY_Connection_with_error
- HTTP Service
 - SAP_HTTPSRV_Inactive
- ICM Service
 - SAP_ICM_Service_Status
- Instance Configuration
 - R3_Inst_Down_PrimeTime
 - R3_Instance_Down_Crit
 - R3_Instance_Down2_Crit
 - R3_Instance_Started
- Job Monitoring
 - SAP_Background_Job_Canceled
 - SAP_IntEngine_Job_Incorrect
- Locks
 - R3_Locks_Excessive
 - R3_Locks_Long_Period
- Login and Logoff
 - R3_LGN_Excessive_login_period
 - R3_LGN_Invalid
 - R3_LGRP_Inactive_Instance
- Message Server Monitor
 - SAP_Message_Monitor_Status
- Number Range
 - R3_NBUF_Performance_Crit
- OS and LAN
 - R3_OS_CPU_Crit
 - R3_OS_CPU_Warn
 - R3_OS_LAN_Crit
 - R3_OS_LAN_Warn
 - R3_OS_Memory_Crit
 - R3_OS_Memory_Warn

- R3_OS_Paging_Problem
- R3_OS_Swap_Space_Crit
- R3_OS_Swap_Space_Warn
- SAP_OS_LAN_Crit
- SAP_OS_LAN_Warn
- Output
 - R3_Output_Pending_Problem
 - R3_Printer_Locked
 - R3_Printer_Problem
 - R3_Printer_Unreachable_Warn
 - SAP_OUTPUT_Pending_Problem
- Private Memory
 - R3_Private_Memory_Critical
- Private Mode
 - R3_Private_Mode_Crit
- qRFC
 - SAP_Inbound_Queue_Waiting
 - SAP_Inbound_Queue_Failed
 - SAP_Outbound_Queue_Waiting
 - SAP_Outbound_Queue_Failed
- Response Time
 - R3_Average_Response_Time
 - SAP_Buffer_Directory_Crit
- SAPGUI
 - R3_Login_Slow
 - R3_Main_Menue_Slow
 - SAP_Login_Slow
 - SAP_Main_Menu_Slow
- SAP Office
 - R3_OFCE_Huge_msg
 - SAP_OFCE_Huhe_msg
- SAP Router
 - R3_ROUT_Problems
- Service Response
 - R3_Buffer_Sync_Warn
 - R3_Update_Resp_Time_Crit
 - R3_Update_Resp_Time_Warn
 - R3_Update_Wait_Time_Crit
 - R3_Update_Wait_Time_Warn
 - SAP_Batch_Resp_Time_Crit
 - SAP_Batch_Resp_Time_Warn
 - SAP_Spool_Resp_Time_Crit
 - SAP_Spool_Resp_Time_Warn
- Spool
 - R3_Spool_Aborted

- R3_Spool_Size_Crit
- R3_Spool_Size_Warn
- “System Log situations” on page 281
 - R3_SYS_Abap_Dump
 - R3_SYS_CPIC_Warn
 - R3_SYS_DB_Warn
 - R3_SYS_Trans_Rollback_Warn
 - R3_SYS_Transaction_Warn
 - SAP_Syslog_Crit
 - SAP_Syslog_Warn
- Transaction RFC
 - R3_TRFC_problems
- Transaction RFC Logs
 - SAP_tRFC_Sysfail
 - SAP_tRFC_Cpicerr
- Transport
 - R3_Transport_Crit
 - R3_Transport_Repair_to_Prod
 - R3_Transport_Repair_Warn
 - R3_Transport_Warn
- Updates
 - R3_update_failure
 - R3_update_failure_excessive
- “Workflow Trace Logs situations” on page 283
 - SAP_Workflow_Trace_Inactive
 - SAP_Workflow_Trace_Validity_End
 - SAP_Workflow_Trace_Activated
- Work Processes
 - R3_WP_CPU_High (deprecated)
 - R3_WP_Error
 - R3_WP_priv_mode
 - R3_WP_Problem_Critical
 - R3_WP_Restart
- XML Messages
 - SAP_Asynchronous_XML_Msg_Recd
 - SAP_Persist_Reorg_Req
 - SAP_Persist_Reorg_Warning
 - SAP_Syn_Asyn_Communication_Err
 - SAP_Syn_Asyn_Comm_Err_possible
 - SAP_WP_CPU_High

Situations activated at startup

At startup, situations are either automatically started for you or you must activate them manually.

The SAP agent includes two types of predefined situations:

- Autostart situations that are automatically installed, distributed to managed objects, and started for you
- Situations that are automatically installed; however, you must start them manually

Situation values

Some values that are assigned to the predefined situations are examples only.

Review the assigned values, and then edit the situations to reflect the conditions that you want to monitor on your mySAP managed systems.

ABAP Dump situations

ABAP Dump situations notify you of ABAP dumps and they also monitor for dumping problems.

R3_ABAP_Dump notifies whether an ABAP dump was generated. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_ABAP_Dumps.Dump_Title NE ''
```

R3_ABAP_Dump_Excessive monitors for general excessive dumping problems. This situation is not activated at startup. This situation has the following formula:

```
IF COUNT R/3_ABAP_Dumps.Dump_Title GT 100
```

Active Users situations

Active Users situations monitor user sessions in the mySAP system.

R3_USR_Echoed_Session monitors for echoed sessions. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Active_Users.Echoed_To_Session NE ''
```

R3_USR_Priv_Mode monitors user interactions that force work processes into private mode. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Active_Users.User_Private_Memory GT 0
```

R3_USR_SAP_DDIC_Online monitors to see if SAP* or DDIC super users are online in the system. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Active_Users.Userid EQ SAP*
OR
R/3_Active_Users.Userid EQ DDIC
```

R3_USR_Security_Leak monitors for potential security leaks. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Active_Users.Terminal EQ APPC-TM
AND
(VALUE R/3_Active_Users.Userid EQ SAP*
OR
VALUE R/3_Active_Users.Userid EQ DDIC)
```

Alert situations

Alert situations monitor database alerts, requests, and updates, and some alert situations are activated at startup.

R3_Alert_Abort_Update_Crit monitors terminated updates. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R3_Alerts.Number EQ 9902
```

R3_Alert_Crit monitors SAP critical alerts. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Severity EQ Critical
```

R3_Alert_DB_Warn monitors database alerts. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Class EQ Database
```

R3_Alert_No_Update_Crit monitors inactive updates. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Number EQ 9901
```

R3_Alert_Output_Pending monitors pending output requests. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Number EQ 9904
```

R3_Alert_Pend_Update_Crit monitors pending updates. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Number EQ 9903
```

R/3_Alert_System_Down monitors SAP system down. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Number EQ 9900
```

R/3_Alert_System_Up monitors SAP system up. This situation has the following formula:

```
IF VALUE R/3_Alerts.Number EQ 9915
```

R/3_Alert_Warn monitors SAP warning alerts. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.Severity EQ Warning
```

SAP_Alert_Crit monitors SAP critical alerts. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.MTE_Class EQ SAP_SI_StartProfile  
OR  
VALUE R/3_Alerts.MTE_Class EQ R3EnqueueQueueLength  
OR  
VALUE R/3_Alerts.MTE_Class EQ ALEClass  
OR  
VALUE R/3_Alerts.MTE_Class EQ SAP_SI_InstanceProfile
```

SAP_Alert_Warn monitors SAP warning alerts. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Alerts.MTE_Class EQ R3SystemTrace  
OR  
VALUE R/3_Alerts.MTE_Class EQ 'SAP CTS Configuration'  
OR  
VALUE R/3_Alerts.MTE_Class EQ R3TraceSwitches
```

SAP_MTE_State_Crit monitors the CCMS current state. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_CCMS_Current_State.Current_State EQ Red
```

SAP_MTE_State_Warn monitors the CCMS current state. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_CCMS_Current_State.Current_State EQ Yellow
```

Batch Data Create situations

Batch Data Create situations monitor batch data create sessions.

R3_BDC_Problem monitors Batch Data Create sessions that finished with errors. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Batch_Data_Create.Status EQ Errored
```

Batch Jobs situations

Batch Jobs situations monitor batch jobs that are cancelled or that run for too long.

R3_Batch_Job_Warn monitors cancelled batch jobs. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Batch_Jobs.Status EQ Cancelled
```

R3_Batch_Too_Long monitors batch jobs running too long and cancels them if an error exists. This situation is associated with policy **R3_Monitor_Batch_Jobs**, and is not activated at startup. This situation has the following formula:

```
IF SIT (R3_Batch_Too_Long_Warn) EQ TRUE  
OR  
SIT (R3_Batch_Too_Long_Crit) EQ TRUE
```

R3_Batch_Too_Long_Crit monitors batch jobs running more than 5 hours. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Batch_Jobs.Duration GT 300
```

R3_Batch_Too_Long_Warn monitors batch jobs running more than 3 hours and less than 5 hours. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Batch_Jobs.Duration GT 180  
AND  
VALUE R/3_Batch_Jobs.Duration LE 300
```

R3_Delete_RunLong_Jobs cancels long running jobs after 60 minutes. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Batch_Jobs.Status EQ Active  
AND  
VALUE R/3_Batch_Jobs.Duration GT 60
```

Buffer situations

Buffer situations monitors the buffer, for example, the buffer hit ratios and the amount of extended memory that is in use.

R3_Buffer_Directory_Crit monitors no more free directory entries available. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Directory_Allocated NE 0  
AND  
VALUE R/3_Buffer_Performance.Directory_Free EQ 0
```

R3_Buffer_Hitratio_Crit monitors buffer hit ratios below 90%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Hitratio LT 90
AND
IF VALUE R/3_Buffer_Performance.Hitratio GE 0
```

R3_Buffer_Hitratio_Warn monitors buffer hit ratios that are above 90% and below 95%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Hitratio LT 95
AND
VALUE R/3_Buffer_Performance.Hitratio GE 90
```

R3_Buffer_Reset_Warn monitors for reset buffers. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Total_Resets GT 0
```

R3_Buffer_Swap_Crit monitors buffer objects that are swapped because of space problems. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Objects_Swapped GT 0
```

SAP_Buffer_Quality_Crit The database access quality for one of the buffers has fallen below the critical threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.DB_Access_Quality LT 70.0
AND
VALUE R/3_Buffer_Performance.DB_Access_Quality GE 0.0
```

SAP_Buffer_Hitratio_Crit monitors buffer hit ratios below 90%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Hitratio LT 90
AND
IF VALUE R/3_Buffer_Performance.Hitratio GE 0
```

SAP_Buffer_Hitratio_Warn monitors buffer hit ratios that are above 90% and below 95%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Hitratio LT 95
AND
VALUE R/3_Buffer_Performance.Hitratio GE 90
```

SAP_Buffer_Reset_Warn monitors for reset buffers. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Total_Resets GT 0
```

SAP_Buffer_Quality_Warn The database access quality for one of the buffers has fallen below the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.DB_Access_Quality LT 90.0
AND
VALUE R/3_Buffer_Performance.DB_Access_Quality GE 70.0
```

SAP_Buffer_Swap_Crit monitors buffer objects that are swapped because of space problems. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Objects_Swapped GT 0
```

SAP_Buffer_Sync_Warn monitors Buffer synchronization. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Service_Type EQ BufferSync AND
Avg_Response_Time(ms) GT 200
```

SAP_Ext_Mem_Perc_Used_Crit The percentage of extended memory in use has risen above the critical threshold. This situation is not activated at startup. This situation has the following formula:


```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ ExtendedMemory
AND
VALUE R/3_Buffer_Performance.Size_Used_Percent GT 95
```

SAP_Ext_Mem_Perc_Used_Warn The percentage of extended memory in use has risen above the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ ExtendedMemory
AND
VALUE R/3_Buffer_Performance.Size_Used_Percent LE 95
AND
VALUE R/3_Buffer_Performance.Size_Used_Percent GT 75
```

SAP_Ext_Mem_Max_Perc_Used_Crit The maximum used percentage of extended memory has risen above the critical threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ ExtendedMemory
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 95
```

SAP_Ext_Mem_Max_Perc_Used_Warn The maximum used percentage of extended memory has risen above the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ ExtendedMemory
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent LE 95
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 75
```

SAP_Page_Max_Perc_Used_Crit The maximum percentage of page memory in use has exceeded the critical threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ PageArea
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 90
```

SAP_Page_Max_Perc_Used_Warn The maximum percentage of page memory in use has exceeded the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ PageArea
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent LE 90
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 70
```

SAP_Roll_Max_Perc_Used_Crit The maximum percentage of roll area memory in use has risen above the critical threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ RollArea
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 95
```

SAP_Roll_Max_Perc_Used_Warn The maximum percentage of roll area memory in use has risen above the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Buffer_Performance.Encoded_Name EQ RollArea
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent LE 95
AND
VALUE R/3_Buffer_Performance.Max_Used_Percent GT 90
```

Business Process Engine situations

Business Process Engine situations monitor the status of the business process engine and the persistence layer.

SAP_BPE_Failed_Delivery_Attempt monitors the number of failed attempts of the XML message. This situation is triggered if the retry count is greater than five. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE PI_BPE_Monitoring.Retry_Count GE 5
```

SAP_BusinessProcessEng_Stopped monitors the status of the Business Process Engine. This situation is triggered if the BPE status is equal to Stopped. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE PI_BP_ENGINE_STATUS.Engine_Status EQ Stopped
```

SAP_Error_In_BusinessProcessEng monitors the reorganization status of the persistence layer. This situation is triggered if the BPE status is equal to Error. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE PI_BP_ENGINE_STATUS.Engine_Status EQ Error
```

Database situations

Database situations monitor the space used by database objects and the free space that is available.

R3_DB_Extents_Change_Warn monitors for changes in the number of extents. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Detail.Extents_Change_Per_Day GT 0
```

R3_DB_Freespace_Problem monitors for free space database problems. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Summary.Freespace_Problems GT 0
```

R3_DB_Full_Crit monitors space usage of database objects. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Summary.Total_Used_Percent GT 90
```

R3_DB_Full_Warn monitors space usage of database objects. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Summary.Total_Used_Percent GT 80  
AND  
VALUE R/3_Data_Base_Summary.Total_Used_Percent LE 90
```

R3_DB_Missing_Index_Problem monitors for missing indexes. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Summary.Missing_In_Database GT 0  
OR  
VALUE R/3_Data_Base_Summary.Missing_In_DDIC GT 0
```

R3_DB_Object_Space monitors critical space usage of database objects. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Detail.Space_Critical EQ YES
```

R3_DB_Objects_Freesize_Crit monitors free space of database objects. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Detail.Size_Free_Percent GE 0
AND
VALUE R/3_Data_Base_Detail.Size_Free_Percent LT 8
```

R3_DB_Objects_Freesize_Warn monitors free space of database objects. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Data_Base_Detail.Size_Free_Percent GE 8
AND
VALUE R/3_Data_Base_Detail.Size_Free_Percent LT 15
```

DB2 Database situations

DB2 Database situations monitor the DB2 databases for backups, deadlocks, and lock waits.

SAP_DB2_Backup_Pending monitors the number of backups that are pending for the DB2 database. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_CON_INFO.Backup_pending NE 0
```

SAP_DB2_Restore monitors for restore pending. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_CON_INFO.Restore_Pending NE 0
```

SAP_DB2_Rollforward monitors for rollforward. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_CON_INFO.Rollforward NE 0
```

SAP_DB2_Status monitors the status of the DB2 database. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_CON_INFO.Status NE Active
```

SAP_DB2_History_Deadlock monitors the number of the deadlock. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_DB12_BACKUPHIST.Deadlock GE 10
```

SAP_DB2_History_Lock_Escalations monitors the number of the lock escalation. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_DB12_BACKUPHIST.Lock_Escalation GE 10
```

SAP_DB2_History_Lock_Waits monitors the number of the lock waits. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_DB12_BACKUPHIST.Lock_Wait GE 10
```

SAP_DB2_History_XLock_Escalations monitors the number of the XLock escalation. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE DB2_DB12_BACKUPHIST.XLock_Escalation GE 10
```

Delete Product-provided situations

Delete Product-provided situations delete obsolete job logs after specific times.

R3_Delete_Old_BDC_Sessions Run RSBDCREO to delete obsolete BDC sessions/logs after 23:00. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE Local_Time.Hours EQ 23
```

R3_Delete_Old_Job_Logs Run RSBTCDEL to delete obsolete job logs after 23:00. This situation is not activated at startup. This situation has the following formula:

IF VALUE Local_Time.Hours EQ 23

R3_Delete_Old_Spool_Files Run RSPO0041 to delete obsolete spool files after 23:00. This situation is not activated at startup. This situation has the following formula:

IF VALUE Local_Time.Hours EQ 23

Dialog situations

Dialog situations monitor dialog work processes, such as the response time and the dialog wait time for the CPU.

R3_Dialog_Resp_Time_Crit monitors response time of dialog work process. This situation is activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1500

R3_Dialog_Resp_Time_Warn monitors response time of dialog work process. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
and
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 1500

R3_Dialog_Wait_Time_Crit monitors dialog wait time for CPU. This situation is activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent GT 3

R3_Dialog_Wait_Time_Warn monitors dialog wait time for CPU. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent GT 1
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent LE 3

SAP_Dialog_Resp_Time_Crit monitors response time of dialog work process. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1500

SAP_Dialog_Resp_Time_Warn monitors response time of dialog work process. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Service_Response_Time.Service_Type EQ Dialog
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
and
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 1500

Excess Memory situations

The Excess Memory situation monitors the average total memory available.

R3_Excess_Memory_Warning monitors for average total memory of more than 10 MB. This situation is not activated at startup. This situation has the following formula:

IF VALUE R3_Transaction_Performance.Avg_Total_Memory GE 10000

SAP_Excess_Memory_Warning monitors for average total memory exceeds 10 MB. This situation is not activated at startup. This situation has the following formula:

IF VALUE R3_Transaction_Performance.Avg_Total_Memory GE 10000

File System situations

File System situations monitor the file systems that are close to reaching capacity.

R3_Filesystem_Fill_Fast_Crit monitors for file systems that are projected to reach capacity in less than one day. This situation is activated at startup. This situation has the following formula:

IF VALUE R/3_File_Systems.Full_Forecast GT 0
AND
VALUE R/3_File_Systems.Full_Forecast LE 1

R3_Filesystem_Fill_Fast_Warn monitors for file systems that are projected to reach capacity in one to three days. This situation is not activated at startup.

IF VALUE R/3_File_Systems.Full_Forecast GT 1
AND
VALUE R/3_File_Systems.Full_Forecast LE 3

R3_Filesystem_Full_Crit monitors for mySAP file system more than 90% full. This situation is activated at startup. This situation has the following formula:

IF VALUE R/3_File_Systems.Size_Used_Percent GT 90

R3_Filesystem_Full_Warn monitors for mySAP file system more than 80% full. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_File_Systems.Size_Used_Percent GT 80
AND
VALUE R/3_File_Systems.Size_Used_Percent LE 90

R3_Filesystem_Too_Full monitors filling file system and takes action. This situation is associated with policy R3_Monitor_File_Systems, and is not activated at startup. This situation has the following formula:

IF SIT (R/3_Filesystem_Full_Warn) EQ TRUE
OR
SIT (R/3_Filesystem_Full_Crit) EQ TRUE

Gateway Connection situation

The Gateway Connection situation monitors gateway connections with CPIC/SAP errors.

R3_GWY_Connection_with_error monitors for gateway connections that have CPIC/SAP errors. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Gateway_Connections.CPIC_Return_Code GT 0
OR
VALUE R/3_Gateway_Connections.SAP_Return_Code GT 0

HTTP Service situations

HTTP Service situations monitor HTTP services.

SAP_HTTPSRV_Inactive monitors the status of the HTTP services. This situation is triggered if the status is equal to Inactive. This situation is not activated at startup. This situation has the following formula:

IF VALUE SAP_HTTP_SRVS.Status EQ Inactive

ICM Service situations

ICM Service situations monitor the status of the ICM Services.

SAP_ICM_Service_Status is triggered if the service status is not equal to Active. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_ICM_SER_INFO.Service_Status NE Active
```

Instance Configuration situations

Instance Configuration situations monitor instances that are down or may not have started.

R3_Inst_Down_PrimeTime monitors for a mySAP instance down during prime time. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Instance_Configuration.Instance_Status NE Running
AND
VALUE Local_Time.Hours GE 08
AND
VALUE Local_Time.Hours LE 18
```

R3_Instance_Down_Crit monitors for one instance down in a distributed (multi-instance) system. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Instance_Configuration.Instances_Running GT 0
AND
VALUE R/3_Instance_Configuration.Instances_Down GT 0
```

R3_Instance_Down2_Crit monitors for one instance down in a multiple-instance system. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Instance_Configuration.Instance_Status EQ NotRunning
```

R3_Instance_Started monitors to see if an instance has started. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Instance_Configuration.Instance_Status EQ Running
```

Job Monitoring situations

Job Monitoring situations monitor the status of background jobs and integration engine jobs.

SAP_Background_Job_Canceled monitors the status of background jobs. This situation is triggered if the job status is equal to Canceled. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE PI_IntEng_Background_Job.Job_Status EQ Canceled
```

SAP_IntEngine_Job_Incorrect monitors the status of integration engine jobs. This situation is triggered if the job status is equal to Incorrect. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE PI_IntEng_Job_Overview.Job_Status EQ Incorrect
```

Locks situations

Locks situations monitor locks in the system.

R3_Locks_Excessive monitors for an excessive number of locks. This situation is not activated at startup. This situation has the following formula:

```
IF COUNT R/3_Lock_Entries.Lock_Object_Name GT 25
```

R3_Locks_Long_Period monitors for locks that have been on the system for a long time. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Lock_Entries.Lock_Age GT 60
```

Login and Logoff situations

Login and Logoff situations monitor users, invalid password entries, and inactive instances in the Logon group.

R3_LGN_Excessive_login_period monitors to see if users are logged on too long. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Logon_Information.Terminal NE APPC-TM
AND
VALUE R/3_Logon_Information.Session_Duration GT 720
```

R3_LGN_Invalid monitors for invalid password entries. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Logon_Information.Invalid_Password_Count GE 1
```

R3_LGRP_Inactive_Instance monitors for inactive instances in a Logon Group. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Logon_Groups.Type EQ Logon
AND
VALUE R/3_Logon_Groups.Status EQ NotActive
```

Message Server situations

Message Server situations monitor the message server.

SAP_Message_Monitor_Status monitors the status of the message server. This situation is triggered if the Field Name is equal to status and the Field Value is not equal to ACTIVE. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_Message_Server_Monitor.Field_Name EQ status AND VALUE
SAP_Message_Server_Monitor.Field_Value NE ACTIVE
```

Number Range situation

The Number Range situation monitors for buffer performance related problems.

R3_NBUF_Performance_Crit monitors for number range buffer performance problems. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Number_Range_Buffer_Summary.Buffer_Responses_1ms_or_Greater GT 0
```

OS and LAN situations

OS and LAN situations monitor the CPU usage in the operating system.

R3_OS_CPU_Crit monitors for CPU usage over 85%. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Idle_CPU_Percent GE 0
AND
VALUE R/3_Operating_System_Performance.Idle_CPU_Percent LT 15
```

R3_OS_CPU_Warn monitors for CPU usage over 70%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Idle_CPU_Percent GE 15
AND
VALUE R/3_Operating_System_Performance.Idle_CPU_Percent LT 30
```


R3_OS_LAN_Crit monitors for more than 5 LAN errors per second. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.LAN_Errors GT 5
```

R3_OS_LAN_Warn monitors for between 1 and 5 LAN errors per second. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.LAN_Errors GT 0  
AND  
VALUE R/3_Operating_System_Performance.LAN_Errors LE 5
```

R3_OS_Memory_Crit monitors for free physical memory below 5%. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Physical_Memory_Free_Percent GE 0  
AND  
VALUE R/3_Operating_System_Performance.Physical_Memory_Free_Percent LT 5
```

R3_OS_Memory_Warn monitors for free physical memory below 10%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Physical_Memory_Free_Percent LT 10  
AND  
VALUE R/3_Operating_System_Performance.Physical_Memory_Free_Percent GE 5
```

R3_OS_Paging_Problem monitors for more than 10 pages per second paged out/in. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Pages_Out GT 10  
OR  
VALUE R/3_Operating_System_Performance.Pages_In GT 10
```

R3_OS_Swap_Space_Crit monitors for free swap space below 5%. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Swap_Space_Free_Percent GE 0  
AND  
VALUE R/3_Operating_System_Performance.Swap_Space_Free_Percent LE 5
```

R3_OS_Swap_Space_Warn monitors for swap space below 15%. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.Swap_Space_Free_Percent LT 15  
AND  
VALUE R/3_Operating_System_Performance.Swap_Space_Free_Percent GT 5
```

SAP_OS_LAN_Crit monitors for more than 5 LAN errors per second. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.LAN_Errors GT 5
```

SAP_OS_LAN_Warn monitors for between 1 and 5 LAN errors per second. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Operating_System_Performance.LAN_Errors GT 0  
AND  
VALUE R/3_Operating_System_Performance.LAN_Errors LE 5
```

Output situations

Output situations monitor for problems in relation to printers and print output requests. For example, a printer may be unreachable or there may be an output request pending for a long time.

R3_Output_Pending_Problem monitors for an output request pending for more than 60 minutes. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Output_Requests.Print_Status NE Complete
AND
VALUE R/3_Output_Requests.Print_Pending_Time GT 60
```

R3_Printer_Locked monitors for locked or disabled printer. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Output_Requests.Print_Status EQ PrinterLocked
OR
VALUE R/3_Output_Requests.Print_Status EQ PrinterDisabled
```

R3_Printer_Problem monitors for general output device errors. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Output_Requests.Print_Status EQ OutputDeviceError
```

R3_Printer_Unreachable_Warn monitors for printer destinations that are not reachable. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Output_Requests.Print_Status EQ ProblemWithConnection
```

SAP_Output_Pending_Problem monitors for an output request pending for more than 60 minutes. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Output_Requests.Print_Status NE Complete
AND
VALUE R/3_Output_Requests.Print_Pending_Time GT 60
```

Private Memory situation

The Private Memory situation monitors the performance of the private memory.

R3_Private_Memory_Critical monitors for when the average private memory reaches a critical level. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Avg_Private_Memory GT 0
```

SAP_Private_Memory_Critical monitors response time of update work process. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ Update
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
```

SAP_Update_Resp_Time_Warn monitors response time of update work process. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Update'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 700
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 1000
```

Private Mode situation

The Private Mode situation monitors a work process that is in private mode.

R3_Private_Mode_Crit monitors for when the work process enters private mode. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Private_Mode_Entered EQ Yes
```

qRFC situations

qRFC situations monitor the status of the inbound and outbound queues.

SAP_Inbound_Queue_Waiting monitors the status of the Inbound queue. This situation is triggered if the Queue Status is equal to waiting. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_qRFC_Inbound_Queues_Overview.Queue_Status EQ WAITING
```

SAP_Inbound_Queue_Failed monitors the status of the Inbound queue. This situation is triggered if the Queue Status is equal to sysfail. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_qRFC_Inbound_Queues_Overview.Queue_Status EQ SYSFAIL
```

SAP_Outbound_Queue_Waiting monitors the status of the Outbound queue. This situation is triggered if the Queue Status is equal to waiting. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_qRFC_Outbound_Queue_overview.Queue_Status EQ WAITING
```

SAP_Outbound_Queue_Failed monitors the status of the Outbound queue. This situation is triggered if the Queue Status is equal to sysfail. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_qRFC_Outbound_Queue_overview.Queue_Status EQ SYSFAIL
```

Response Time situation

The Response Time situation monitors the average response time of a transaction.

R3_Average_Response_Time monitors for an average response time of greater than 15 milliseconds. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Avg_Response_Time GT 1000
```

SAP_Average_Response_Time monitors the average response time. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Avg_Response_Time (ms) GT 1000
```

SAP_Buffer_Directory_Crit monitors that no more free directory entries are available. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE  
R/3_Buffer_Performance.Directory_Allocated NQ 0 AND VALUE R/3_Buffer_Performance.  
Directory_Free EQ 0
```

SAPGUI situations

SAPGUI situations monitor the response time of the SAPGUI.

R3_Login_Slow monitors SAPGUI login screen response time. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Program_or_Tran_Code EQ Login_Pw  
AND  
VALUE R/3_Transaction_Performance.Avg_Response_Time GT 50
```

R3_Main_Menu_Slow monitors SAPGUI main menu response time. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Program_or_Tran_Code EQ MainMenu  
AND  
VALUE R/3_Transaction_Performance.Avg_Response_Time GT 100
```

SAP_Login_Slow monitors SAPGUI login screen response time. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Program_or-Tran_Code EQ Login_Pw
AND
VALUE R/3_Transaction_Performance.Avg_Response_Time GT 50
```

SAP_Main_Menu_Slow monitors SAPGUI main menu response time. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transaction_Performance.Program_or-Tran_Code EQ MainMenu
AND
VALUE R/3_Transaction_Performance.Avg_Response_Time GT 100
```

SAP Router situation

The SAP Router situation monitors for problems in relation to the SAP router.

R3_ROUT_Problems monitors for SAPROUTER problems. This situation is not activated at startup. This situation has the following formula:

```
IF SCAN R/3_Saprouter_Log.Log_Data EQ 'Connection denied'
```

SAP Office situation

The SAP Office situation monitors for large messages in the system.

R3_OFCE_Huge_Msg monitors for messages that are larger than 10 MB. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_SAP_Office_Inbox.Size GT 10000000
```

SAP_OFCE_Huge_msg monitors for messages that are larger than 10 MB. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_SAP_Office_Inbox.Size GT 10000000
```

Service Response situations

Service Response situations monitor the response time of service requests. These situations also monitor the response time of update work processes.

R3_Buffer_Sync_Warn monitors buffer synchronization. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ BufferSync
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 200
```

R3_Update_Resp_Time_Crit monitors response time of update work process. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ Update
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
```

R3_Update_Resp_Time_Warn monitors response time of update work process. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Update'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 700
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 1000
```

R3_Update_Wait_Time_Crit monitors update wait time for CPU. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ Update
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent GT 3
```

R3_Update_Wait_Time_Warn monitors update wait time for CPU. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ Update
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent GT 1
AND
VALUE R/3_Service_Response_Time.Avg_Wait_Percent LE 3
```

SAP_Batch_Resp_Time_Crit The average amount of time, in milliseconds, elapsed to process a request for this service has exceeded the critical threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Batch'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 3000
```

SAP_Batch_Resp_Time_Warn The average amount of time, in milliseconds, to process a request for this service has exceeded the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Batch'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 3000
```

SAP_Spool_Resp_Time_Crit The average amount of time elapsed to process a request for this service has exceeded the critical threshold, in milliseconds. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Spool'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 3000
```

SAP_Spool_Resp_Time_Warn The average amount of time, in milliseconds, elapsed to process a request for this service has exceeded the warning threshold. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Service_Response_Time.Service_Type EQ 'Spool'
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time GT 1000
AND
VALUE R/3_Service_Response_Time.Avg_Response_Time LE 3000
```

Spool situations

Spool situations monitor for spool requests and spool size.

R3_Spool_Aborted monitors for spool requests that finish with an error. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Spool_Requests.Error_Print_Requests GT 0
```

R3_Spool_Size_Crit monitors for spool size that exceeds 1000 pages. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Spool_Requests.Size GT 1000
```

R3_Spool_Size_Warn monitors for spool size that exceeds 500 pages. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Spool_Requests.Size GT 500
AND
VALUE R/3_Spool_Requests.Size LE 1000
```

System Log situations

System Log situations monitor the mySAP system log for errors, such as communication errors, runtime errors, critical messages, and database problems.

R3_SYS_Abap_Dump monitors the mySAP system log for messages that an ABAP dump has been created. This situation is associated with policy R3_Monitor_ABAP_Dumps, and is activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ AB1
```

R3_SYS_CPIC_Warn monitors for a CPIC communications errors (R49, SA5). This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ R49
OR
VALUE R/3_System_Log.Message_Number EQ SA5
```

R3_SYS_DB_Warn monitors for Syslog database problems (BY*). This situation is not activated at startup. This situation has the following formula:

```
IF STR R/3_System_Log.Message_Number EQ 1,BY
```

R3_SYS_Trans_Rollback_Warn monitors for transaction rollbacks. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ R68
```

R3_SYS_Transaction_Warn monitors for transaction runtime errors (AB0). This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ AB0
```

SAP_Syslog_Crit monitors the mySAP system log for critical messages. Critical messages are specified by including the ID for the message in the situation formula. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ A08
OR
VALUE R/3_System_Log.Message_Number EQ GEG
OR
VALUE R/3_System_Log.Message_Number EQ R45
```

SAP_Syslog_Warn monitors the mySAP system log for warning messages. Warning messages are specified by including the ID for the message in the situation formula. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_System_Log.Message_Number EQ BZ7
OR
VALUE R/3_System_Log.Message_Number EQ EAS
OR
VALUE R/3_System_Log.Message_Number EQ F7Y
OR
VALUE R/3_System_Log.Message_Number EQ GI0
OR
VALUE R/3_System_Log.Message_Number EQ R0R
OR
VALUE R/3_System_Log.Message_Number EQ R20
OR
VALUE R/3_System_Log.Message_Number EQ US4
```

Transport situations

Transport situations monitor for transports, such as repair transports that are in the production system.

R3_Transport_Crit monitors for transports with return codes greater than or equal to 12 (environmental problems). This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transport_Requests.Highest_Return_Code GE 12
```

R3_Transport_Repair_to_Prod monitors for repair transports imported into the production system. This situation is associated with policy R3_Production_Repairs and is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transport_Requests.Import_Systems EQ PRD
AND
VALUE R/3_Transport_Requests.Type EQ Repair
```

R3_Transport_Repair_Warn monitors for repair transports. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transport_Requests.Type EQ Repair
```

R3_Transport_Warn monitors for transports with return codes 5 to 11. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE R/3_Transport_Requests.Highest_Return_Code GT 4
AND
VALUE R/3_Transport_Requests.Highest_Return_Code LT 12
```

Transaction RFC situation

The Transaction RFC situation monitors specifically for Transactional RFC problems.

R3_TRFC_problems monitors for Transactional RFC problems. This situation is not activated at startup. This situation has the following formula:

```
IF SCAN R/3_Transactional_RFC.Status EQ Error
```

Transactional RFC Logs situations

Transactional RFC Logs situations monitor the tRFC Logs.

SAP_tRFC_Sysfail monitors the status of the tRFC Logs. This situation is triggered if the status of the RFC call is equal to sysfail. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_TRFC_Monitoring.Status_of_RFC_call EQ SYSFAIL
```

SAP_tRFC_Cpicerr monitors the status of the tRFC Logs. This situation is triggered if the status of the RFC call is equal to cpicerr. This situation is not activated at startup. This situation has the following formula:

```
IF VALUE SAP_TRFC_Monitoring.Status_of_RFC_call EQ CPICERR
```

Updates situations

Updates situations monitor for update failures and problems.

R3_update_failure monitors for general update failures. This situation is activated at startup. This situation has the following formula:

```
IF VALUE R/3_Updates_Information.Error NE ''
```

R3_update_failure_excessive monitors for excessive update problems. This situation is activated at startup. This situation has the following formula:

IF COUNT R/3_Updates_Information.Error GT 7

Workflow Trace Logs situations

Workflow Trace Logs situations monitor the workflow trace logs.

SAP_Workflow_Trace_Inactive monitors the status of the workflow trace logs. This situation is triggered if the status of the trace is equal to inactive. This situation is not activated at startup. This situation has the following formula:

IF VALUE PI/XI_WF_Trace.Status EQ Inactive

SAP_Workflow_Trace_Validity_End monitors the validity timestamp of the workflow trace logs. This situation is triggered if the current timestamp is equal to Activation end timestamp. This situation is not activated at startup. This situation has the following formula:

IF TIME PI/XI_WF_Trace.Activation_End_Timestamp EQ Local_Time.Timestamp + 1S

SAP_Workflow_Trace_Activated monitors the activation timestamp of the workflow trace logs. This situation is triggered if the current timestamp is equal to Activated timestamp. This situation is not activated at startup. This situation has the following formula:

IF TIME PI/XI_WF_Trace.Activated_Timestamp EQ Local_Time.Timestamp + 1S

Work Processes situations

Work Processes situations monitor work processes for errors. For example, these situations monitor work processes that do not restart or have high CPU usage.

R3_WP_CPU_High monitors for high CPU usage by work process. (Deprecated) This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Work_Processes.CPU_Time GT 10

R3_WP_Error monitors for work process errors. This situation is activated at startup. This situation has the following formula:

IF VALUE R/3_Work_Processes.Errors GT 0

R3_WP_priv_mode monitors for work processes that are in private mode for reasons other than performance problems. This situation is activated at startup.

IF VALUE R/3_Work_Processes.Process_Private_Memory GT 0

R3_WP_Problem_Critical monitors the status of single work processes. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Work_Processes.Status EQ waiting
OR
VALUE R/3_Work_Processes.Status EQ stopped

R3_WP_Restart monitors for work processes that do not restart. This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Work_Processes.Restart_After_Error EQ No

SAP_WP_CPU_High monitors for high CPU usage by work process. (Deprecated) This situation is not activated at startup. This situation has the following formula:

IF VALUE R/3_Work_Processes.CPU_Time GT 10

XML Message situations

XML Message situations monitor XML messages and the status of the persistence layer.

SAP_Asynchronous_XML_Msg_Recd monitors the XML message type. This situation is not activated at startup. This situation has the following formula:

IF VALUE PI_XI_XML_Log.Message_Type EQ Asynchronous

SAP_Persist_Reorg_Req monitors the Reorganization Status of the persistence layer. This situation is not activated at startup. This situation has the following formula:

IF VALUE PI_XI_Persist_layer.Reorganization_Status EQ Reorganization required

SAP_Persist_Reorg_Warning monitors the Reorganization Status of the persistence layer. This situation is not activated at startup. This situation has the following formula:

IF VALUE PI_XI_Persist_layer.Reorganization_Status EQ
Delete or archive processed XML messages

SAP_Syn_Asyn_Communication_Err monitors the state of the communication message. This situation triggers if any error state occurs in communication. This situation is not activated at startup. This situation has the following formula:

IF PI_XI_SYN_ASYNC_COMM.Status EQ Error

SAP_Syn_Asyn_Comm_Err_possible monitors the state of the communication message. This situation triggers if any error possible state occurs in communication. This situation is not activated at startup. This situation has the following formula:

IF PI_XI_SYN_ASYNC_COMM.Status EQ Error Possible

Chapter 6. Take Action commands reference

Take Action commands can be run from the portal client or included in a situation or a policy.

About Take Action commands

When included in a situation, the command runs when the situation becomes true. A Take Action command in a situation is also referred to as *reflex automation*. When you enable a Take Action command in a situation, you automate a response to system conditions. For example, you can use a Take Action command to send a command to restart a process on the managed system or to send a text message to a cell phone.

In advanced automation, policies are used to take actions, schedule work, and automate manual tasks. A policy comprises a series of automated steps called activities that are connected to create a workflow. After an activity is completed, the Tivoli Enterprise Portal receives return-code feedback, and advanced automation logic responds with subsequent activities that are prescribed by the feedback.

A basic Take Action command shows the return code of the operation in a message box that is displayed after the action is completed or in a log file. After you close this window, no further information is available for this action.

Additional information about Take Action commands

For more information about working with Take Action commands, see the *IBM Tivoli Enterprise Portal User's Guide*.

For a list of the Take Action commands for this monitoring agent and a description of each command, see "Predefined Take Action commands" and the information for each individual command.

Predefined Take Action commands

Predefined Take Action commands for the SAP agent consist of Alert, Batch Jobs, File Systems, and Output Request Take Action commands.

This monitoring agent contains the following Take Action commands:

- Alert Take Actions
 - Close Alert
- Batch Jobs Take Actions
 - Cancel Job
 - Delete Job
 - Start Job
- File Systems Take Actions
 - Execute brarchive
- Output Request Take Actions
 - Output Request

Alert Take Action command

The Alert Take Action command uses the Action argument to identify the alert to close in the mySAP system. This command uses the Logon Parameters argument to logon to the mySAP system.

While viewing the Alerts workspace, you can use the following action: Close Alert.

Close Alert Closes the CCMS alert within a mySAP system. This action requires arguments to identify the alert to be closed and to log on to the mySAP system. This take action command invokes ksar3 on the monitoring agent to perform the close. This Take Action requires the following arguments, which are attributes from the R3_Alerts attribute group, to identify the alert to be closed and to log on to the mySAP system:

- Action
- Logon Parameters

This action can take a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

Batch Jobs Take Action command

The Batch Jobs Take Action command enables you to use actions to, for example, cancel, delete, or start jobs.

While viewing the Batch Jobs workspace, you can use the following actions:

- Cancel Job
- Delete Job
- Start Job

Cancel Job cancels an active job in a mySAP system. This action requires arguments to identify the job to be cancelled and to log on to the mySAP system. This Take Action requires the following arguments, which are attributes from the R3_Batch_Jobs attribute group, to identify the job to be cancelled and to log on to the mySAP system:

- Job Name (Unicode)
- Job Number
- Logon Parameters

This action can take a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

Delete Job deletes a stopped job (Defined, Scheduled, Finished, Cancelled, and so on) within a mySAP system. This action requires arguments to identify the job to be deleted and to log on to the mySAP system. This Take Action command invokes ksar3 on the monitoring agent to perform the action. This Take Action requires the following arguments, which are attributes from the R3_Batch_Jobs attribute group, to identify the job to be cancelled and to log on to the mySAP system:

- Job Name (Unicode)
- Job Number

- Logon Parameters

This action can take a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

Start Job starts a scheduled job within a mySAP system. This action creates a copy of the job and immediately starts execution of the copy within mySAP. This action requires arguments to identify the job to be started and to log on to the mySAP system. This Take Action command invokes ksar3 on the monitoring agent to perform the action. This Take Action requires the following arguments, which are attributes from the R3_Batch_Jobs attribute group, to identify the job to be cancelled and to log on to the mySAP system:

- Job Name (Unicode)
- Job Number
- Logon Parameters

This action can take a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

File Systems Take Action command

The File Systems Take Action command enables you to archive the Database archive logs to tape.

You can run the following action while viewing any workspace: Execute brarchive.

Execute brarchive causes the brarchive utility in a mySAP system to offload the Database archive logs to tape. You select the managed system on which to archive the logs to tape. There are no arguments for this Take Action command. This action takes a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

Output Request Take Action command

While viewing the Spool Requests, Spool Output, or Output Requests workspaces, you can take the following action: Output Request.

While viewing the Spool Requests, Spool Output, or Output Requests workspaces, you can take the following action: Output Request.

Output Request causes an output request to be created for a specific spool within the mySAP system. This Take Action command invokes ksar3 on the monitoring agent to perform the action. This action requires the following arguments from the R/3_Spool_Requests attribute group to identify the spool request for which an output request is to be created and to log on to the mySAP system:

- Spool Number
- Logon Parameters

This action can take a couple of minutes to complete. You receive one of the following return codes when you run this Take Action command:

0 Successful

non-zero

Not successful. Check the task log for the given Take Action, or contact IBM Software Support.

Chapter 7. Policies reference

Policies are used as an advanced automation technique for implementing more complex workflow strategies than you can create through simple automation. All agents do not provide predefined policies, but you can create policies for any agent.

A *policy* is a set of automated system processes that can perform actions, schedule work for users, or automate manual tasks. You use the Workflow Editor to design policies. You control the order in which the policy runs a series of automated steps, which are also called *activities*. Policies are connected to create a workflow. After an activity is completed, the Tivoli Enterprise Portal receives return code feedback and advanced automation logic responds with subsequent activities prescribed by the feedback.

Note: For monitoring agents that provide predefined policies, predefined policies are not read-only. Do not edit these policies and save over them. Software updates write over any of the changes that you make to these policies. Instead, copy the policies that you want to change to suit your organization.

For additional information about working with policies, see "Automation with policies" in the *IBM Tivoli Enterprise Portal User's Guide*.

For information about using the Workflow Editor, see the *IBM Tivoli Monitoring Administrator's Guide* or the Tivoli Enterprise Portal online help.

Predefined policies

The SAP agent contains a selection of predefined policies.

This monitoring agent contains the following predefined policies:

- R3_Monitor_ABAP_Dumps
- R3_Monitor_Batch_Jobs
- R3_Monitor_File_Systems
- R3_Monitor_Production_Repairs
- R3_Start_Buffer_Monitoring

The remaining sections contain descriptions of each of these policies, which are listed alphabetically.

R3 Monitor ABAP dumps policy

The R3 monitor ABAP Dumps policy tracks messages in the mySAP system log to check if an ABAP dump occurred and gives you different options to reorganize the ABAP Short Dumps before you resume monitoring again.

This policy monitors the mySAP system log for messages that an ABAP dump has been created. If these messages are issued each hour for 3 hours, you are offered a choice to run the RSSNAPDL ABAP program to delete and reorganize the ABAP Short Dumps, or wait 5 seconds and start monitoring again.

Action: You must create a variant for the RSSNAPDL program and replace the *CUST_VAR* value in the policy action with this variant name.

R3 Monitor Batch Jobs policy

The R3 Monitor Batch Jobs policy monitors batch jobs so that you can cancel the job if, for example, it runs for too long.

This policy monitors executing batch jobs.

Action: When a job is running too long, you can either cancel the job, wait until the job run time is critically long, or wait 30 minutes and start monitoring again. If you choose to wait until the job run time is critically long, you can cancel the job at that time or wait 5 seconds and start monitoring again.

R3 Monitor File Systems policy

The R3 Monitor File Systems policy monitors the file system so you can run a cleanup script if the file system becomes too full.

This policy monitors file system utilization.

Action: When a file system becomes too full, you can do one of the following:

- Wait until the file system becomes critically full
- Wait 5 seconds and start monitoring again
- Run a cleanup script or .bat file
- Run brarchive

If you choose to wait until the file system is critically full, you are offered these same choices again.

If you choose to run a cleanup script, you must provide the cleanup script. On Windows, the policy invokes a .bat file called `customer_cleanup.bat`. On UNIX, the policy invokes a script file called `customer_cleanup.ksh`.

R3 Monitor Production Repairs policy

The R3 Monitor Production Repairs policy informs you of Repair Transports in the production system.

This policy notifies you when a Repair Transport is imported into or created on the production system during Prime Shift.

Action: You must update the R3 Transport Repair to Prod situation to replace the PRD value with the system identifier of your production system.

R3 Start Buffer Monitoring policy

The R3 Start Buffer Monitoring policy starts and stops the buffer monitoring situations to enable the buffer monitoring to perform steadily.

This policy stops all buffer monitoring situations immediately after the mySAP instance has started. It restarts them 30 minutes later. The 30 minute delay is provided to allow the mySAP buffers time to reach a steady state, at which time buffer monitoring becomes meaningful.

Chapter 8. Troubleshooting

You use the troubleshooting process to determine the cause and propose a solution for problems that you encounter in your system.

You can resolve some problems by ensuring that your system matches the system requirements listed in the Prerequisites topic for the agent in the information center.

This section explains how to troubleshoot the IBM Tivoli Composite Application Manager Agent for SAP Applications. Troubleshooting is the process of determining why a product is malfunctioning.

This section provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information. Also, see “Support information” on page 327 for other problem-solving options.

Product information gathering and IBM Software Support

You must collect as much information as possible about problems that you experience with a product before you contact IBM Software Support. For example, you can retrieve information from dump files or log files on a system that fails.

Before contacting IBM Software Support about a problem you are experiencing with this product, gather the information in Table 9 that relates to the problem.

Table 9. Information to gather before contacting IBM Software Support

Information type	Description
Log files	Collect trace log files from failing systems. Most logs are in a logs subdirectory on the host computer. See “Trace logging” on page 295 for lists of all trace log files and their locations. For general information about the IBM Tivoli Monitoring environment, see the <i>IBM Tivoli Monitoring User’s Guide</i> .

Table 9. Information to gather before contacting IBM Software Support (continued)

Information type	Description
Transport import log files	<p>These files are always in one of the transport log directories:</p> <ul style="list-style-type: none"> • /usr/sap/trans/log • \\server\sapmnt\trans\log • ?:\usr\sap\trans\log, where ? is a drive letter <p>The log file names have the following format: ITM?620_000nn.sss</p> <p>Where:</p> <p>sss Target system name</p> <p>nn Transport number</p> <p>? One of the following single characters:</p> <ul style="list-style-type: none"> • H - data dictionary import • A - data dictionary activation • I - main import • V - versioning • R - XPRA (execute program after import) • G - program/dynpro generation. <p>Always provide all 6 complete logs and, not excerpts of logs.</p>
mySAP information	Release number, SAP kernel, and patch level
Operating system	Operating system version number and patch level
Messages	Messages and other information shown on the screen
Version numbers for IBM Tivoli Monitoring	<p>Version number for the following members of the monitoring environment:</p> <ul style="list-style-type: none"> • IBM Tivoli Monitoring. Also provide the patch level, if available. • IBM Tivoli Composite Application Manager Agent for SAP Applications
Screen captures	Screen captures of incorrect output, if any.
mySAP ABAP dumps	Export relevant dumps to a text file by using transaction ST22.
(UNIX only) Core dump files	If the agent stops on UNIX systems, collect the core dump file from install_dir/bin directory, where install_dir is the directory path where you installed the monitoring agent.
Version of the mySAP agent transport installed on a mySAP system	<p>Use the /n/IBMMON/ITM_CONFIG transaction in the mySAP system to determine the installed and active transport number. After starting the transaction, click About > IBM Tivoli Composite Application Manager Agent for SAP Applications. See the long text in the message, which looks similar to the following code:</p> <pre>Version: 06 Release: 20 Fix pack: 00 Limited Availability fix: 00 Date exported at IBM: 28.03.2007 Time exported at IBM: 12:13:40 Date imported into GS7: 27.03.2006 Time imported into GS7: 15:23:13 Current transport request: ITMK620_00022</pre>

For information about working with IBM Software Support, see IBM Support Portal Service Requests and PMRs ([http://www.ibm.com/support/entry/portal/Open_service_request/Software/Software_support_\(general\)](http://www.ibm.com/support/entry/portal/Open_service_request/Software/Software_support_(general))).

Built-in troubleshooting features

Trace logging is one of the troubleshooting features to determine problems in your operating environment.

The primary troubleshooting feature in the IBM Tivoli Composite Application Manager Agent for SAP Applications is logging. **Logging** includes the text messages and trace data generated by the IBM Tivoli Composite Application Manager Agent for SAP Applications and it is always enabled. Messages and trace data are sent to the files that are listed in Table 10 on page 297.

Trace data captures transient information about the current operating environment when a component or application fails to operate as designed. IBM Software Support personnel use the captured trace information to determine the source of an error or unexpected condition. For more information, see “Trace logging” on page 295.

Problem classification

You might encounter different types of problems with your product that require workarounds.

The following types of problems might occur with the IBM Tivoli Composite Application Manager Agent for SAP Applications:

- Installation and Configuration
- Agent
- Tivoli Enterprise Portal
- Workspaces
- Situations
- Take Action commands

This appendix provides symptom descriptions and detailed workarounds for problems in these areas, and it describes the logging capabilities of the monitoring agent. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Upgrading the agent and Restarting by using non-root

You run the monitoring agent as non-root by using the **itmcmd agent start** command on UNIX and Linux systems.

About this task

The monitoring agent runs by using a non-root user ID on UNIX and Linux systems. You run the **itmcmd agent start** command while logged in as a non-root user. You complete this log in remotely by deploying the agent by using the **Run As** option on the GUI or by using the **_UNIX_STARTUP_Username** option on the **tacmd addSystem** command line. If the agent is running by using a non-root user ID, and then the agent is upgraded, restarted remotely, restarted as a result of a system reboot, or the **itmcmd agent start** is run by using the root user ID, then the monitoring agent runs as the root user. To confirm the user ID that the monitoring agent is using, run the following command: **install_dir/bin/cinfo -r**

Procedure

Complete the following steps to restart the agent:

- If the agent is using root, and that is not the required user ID, then use the following steps to restart the agent:
 1. Log in as root.

2. Run the **itmcmd agent stop** command.
 3. Log in (or 'su') to the user ID that you want the agent to run as.
 4. Run the **itmcmd agent start** command.
- If the agent was running as root because of a system reboot, then edit the startup file. You use the following steps so that the appropriate user ID is used the next time the system is rebooted:
 1. Look at *install_dir/registry/AutoStart*, and get NUM
 2. Edit the autostart for your operating system.
 The location of the startup file is platform-dependent as follows:
 - AIX: */etc/rc.itmNUM*
 - HP-UX: */sbin/init.d/ITMAgentsNUM*
 - Linux: */etc/init.d/ITMAgentsNUM*
 - Solaris: */etc/init.d/ITMAgentsNUM*
 3. Add or modify entries for your operating system by using the following command:


```
/usr/bin/su - user
-c "install_dir/bin/itmcmd agent
-h install_dir
-o instancename
start product_code"
```

Where:

user User ID that used to start the process

instancename
Name of the mySAP instance

install_dir
Name of the directory

product_code
2-character product code for the agent, for example, sa for the SAP agent

Examples:

- For AIX, add entries with the following format:


```
su - USER -c "/opt/IBM/ITM/bin/itmcmd agent
-o INSTANCE start sa"
```

Where:

USER Name of the user

INSTANCE
Name of the mySAP instance

- For Linux, HP-UX, and Solaris, add entries with the following format:


```
/bin/su - USER -c "/opt/IBM/ITM/bin/itmcmd agent
-o INSTANCE start sa >/dev/null 2>&1"
```

Where:

USER Name of the user

INSTANCE
Name of the mySAP instance

4. Repeat steps 1 - 3 for each instance of the monitoring agent that was stopped.
5. Save the file.

Trace logging

Use trace logging to trace a problem that occurred in your operating environment and to find a solution to fix this problem.

Trace logs capture information about the operating environment when component software fails to operate as intended. The principal log type is the RAS (Reliability, Availability, and Serviceability) trace log. These logs are in the English language only. The RAS trace log mechanism is available for all components of IBM Tivoli Monitoring. Most logs are in a logs subdirectory on the host computer. See the following sections to learn how to configure and use trace logging:

- “Principal trace log files” on page 296
- “Examples of trace logs” on page 298
- “Manually setting RAS trace parameters” on page 299
- “Enabling and disabling RFC tracing” on page 302

Note: The documentation describes the RAS facility in IBM Tivoli Monitoring as "RAS1".

IBM Software Support uses the information captured by trace logging to trace a problem to its source or to determine why an error occurred. The default configuration for trace logging, such as whether trace logging is enabled or disabled and trace level, depends on the source of the trace logging. Trace logging is always enabled.

Overview of log file management

RAS1 log files have a specific naming convention.

Table 10 on page 297 provides the names, locations, and descriptions of RAS1 log files. The log file names adhere to the following naming convention: `hostname_product_instance_program_timestamp-nn.log` where:

- *hostname* is the host name of the computer on which the monitoring component is running.
- *product* is the two-character product code. For SAP agent, the product code is `sa`.
- *instance* is the name of a 3-character identifier for the mySAP system that is being monitored.
- *program* is the name of the program that is run.
- *timestamp* is an 8-character hexadecimal timestamp that represents the time at which the program started.
- *nn* is a rolling log suffix. See “Log file naming and examples” for details of log rolling.

Log file naming and examples

The format of Log file names varies according to the system being monitored. For example, a system named PRD retains PRD in its name. Long-running programs retain an **nn** suffix to maintain a short history of log files for the startup of the program.

For example, if a mySAP system named PRD is being monitored from computer "server01", the RAS log file for the SAP agent might be named as follows:

```
server01_sa_PRD_ksaagent_437fc59-01.log
```

For long-running programs, the **nn** suffix is used to maintain a short history of log files for that startup of the program. For example, the ksa agent program might have a series of log files as follows:

```
server01_sa_PRD_ksaagent_437fc59-01.log
server01_sa_PRD_ksaagent_437fc59-02.log
server01_sa_PRD_ksaagent_437fc59-03.log
```

As the program runs, the first log (**nn=01**) is preserved because it contains program startup information. The remaining logs "roll." In other words, when the set of numbered logs reach a maximum size, the remaining logs are overwritten in sequence. Each time a program is started, a new timestamp is assigned to maintain a short program history. For example, if the SAP agent is started twice, it might have log files as follows:

```
server01_sa_PRD_ksaagent_437fc59-01.log  
server01_sa_PRD_ksaagent_437fc59-02.log  
server01_sa_PRD_ksaagent_437fc59-03.log
```

```
server01_sa_PRD_ksaagent_537fc59-01.log  
server01_sa_PRD_ksaagent_537fc59-02.log  
server01_sa_PRD_ksaagent_537fc59-03.log
```

Each program that is started has its own log file. For example, the SAP agent has agent logs in this format:

```
server01_sa_PRD_ksaagent_437fc59-01.log
```

Note: When you communicate with IBM Software Support, you must capture and send the RAS1 log that matches any problem occurrence that you report.

Principal trace log files

You use principal trace log files to troubleshoot agents.

Table 10 on page 297 contains locations, file names, and descriptions of trace logs that can help determine the source of problems with agents.

Table 10. Trace log files for troubleshooting agents

System where log is located	File name and path	Description
<p>On the computer that hosts the monitoring agent</p> <p>See Definitions of variables for descriptions of the variables in the file names in column two.</p>	<p>The RAS1 log files are named <i>hostname_sa_instance_program_timestamp-nn.log</i> and are in the following path:</p> <ul style="list-style-type: none"> • On Windows: <i>install_dir\tmaitm6\logs</i> • On UNIX: <i>install_dir/logs</i> <p>Note: File names for RAS1 logs include a hexadecimal timestamp.</p> <p>Also on UNIX, a log with a decimal timestamp is provided in the <i>install_dir/logs</i> path:</p> <ul style="list-style-type: none"> • <i>hostname_sa_timestamp.log</i> and • <i>hostname_sa_timestamp.pidnnnnn</i>, where <i>nnnnn</i> is the process ID number • <i>instance-TEMShostname:ksagent.log</i> 	Traces activity of the monitoring agent.
	<p>The *.LG0 log files are named <i>instance_hostname_mySAP.LG0</i>.</p> <p>These files are in the following path:</p> <ul style="list-style-type: none"> • On Windows: <i>install_dir\tmaitm6\logs</i> • On UNIX: <i>install_dir/logs</i> 	<p>A new version of this file is generated every time the agent is restarted. IBM Tivoli Monitoring generates one backup copy of the *.LG0 file with the tag .LG1. View .LG0 to learn about the following details of the current monitoring session:</p> <ul style="list-style-type: none"> • Status of connectivity with the monitoring server. • Situations that were running, including historical data collection situations • The success or failure status of Take Action commands.
<p>On the Tivoli Enterprise Monitoring Server</p> <p>See Definitions of variables for descriptions of the variables in the file names in column two.</p>	<p>On UNIX: The <i>candle_installation.log</i> file in the <i>install_dir/logs</i> path.</p> <p>On Windows: The IBM Tivoli Monitoring <i>timestamp.log</i> file in the <i>install_dir\InstallITM</i> path. Unlike RAS1 log files, the name of the file shows a <i>decimal</i> timestamp. *</p>	<p>Provides details about products that are installed.</p> <p>Note: Trace logging is enabled by default. A configuration step is not required to enable this tracing.</p>
	<p>The <i>Warehouse_Configuration.log</i> file is in the following path on Windows: <i>install_dir\InstallITM</i>.</p>	Provides details about the configuration of data warehousing for historical reporting.
	<p>The RAS1 log file is named <i>hostname_ms_timestamp-nn.log</i> and is in the following path:</p> <ul style="list-style-type: none"> • On Windows: <i>install_dir\logs</i> • On UNIX: <i>install_dir/logs</i> <p>Note: File names for RAS1 logs include a hexadecimal timestamp</p> <p>Also on UNIX, a log with a decimal timestamp is provided: <i>hostname_ms_timestamp.log</i> and <i>hostname_ms_timestamp.pidnnnnn</i> in the <i>install_dir/logs</i> path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the monitoring server.

Table 10. Trace log files for troubleshooting agents (continued)

System where log is located	File name and path	Description
On the Tivoli Enterprise Portal Server See Definitions of variables for descriptions of the variables in the file names in column two.	The RAS1 log file is named <i>hostname_cq_timestamp-nn.log</i> and is in the following path: <ul style="list-style-type: none"> • On Windows: <i>install_dir\logs</i> • On UNIX: <i>install_dir/logs</i> <p>Note: File names for RAS1 logs include a hexadecimal timestamp</p> <p>Also on UNIX, a log with a decimal timestamp is provided: <i>hostname_cq_timestamp.log</i> and <i>hostname_cq_timestamp.pidnnnnn</i> in the <i>install_dir/logs</i> path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the portal server.
	The TEPS_ODBC.log file is in the following path on Windows: <i>install_dir\Install\ITM</i> .	When you enable historical reporting, this log file traces the status of the Warehouse Proxy agent.
Definitions of variables for RAS1 logs: <ul style="list-style-type: none"> • <i>hostname</i> is the host name of the computer on which the agent is running. • <i>install_dir</i> represents the directory path where you installed the IBM Tivoli Monitoring component. <i>install_dir</i> can represent a path on the computer that hosts the monitoring server, the monitoring agent, or the portal server. • <i>product</i> is the 2-character product code. For SAP agent, the product code is sa. • <i>instance</i> is the 3-character identifier of the mySAP system that you are monitoring. • <i>program</i> is the name of the program that is run. • <i>timestamp</i> is an eight-character hexadecimal timestamp that represents the time at which the program started. • <i>nn</i> is a rolling log suffix. See "Log file naming and examples" on page 295 for details of log rolling. • <i>TEMShostname</i> is the host name that you specify during agent configuration for the Tivoli Enterprise Monitoring Server. 		

For more information about the complete set of trace logs that are maintained on the monitoring server, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

Examples of trace logs

You can analyze trace logs to determine a solution for your problems.

Typically IBM Software Support applies specialized knowledge to analyze trace logs to determine the source of problems. However, you can open trace logs in a text editor to learn some basic facts about your IBM Tivoli Monitoring environment.

Example one

This excerpt shows the typical.LG0 log for a failed connection between a monitoring agent and a monitoring server with the host name **server1a**:

```
(Thursday, August 11, 2005, 08:21:30-{94C}kdc10cl.c,105,"KDCL0_ClientLookup") status=1c020006,
"location server unavailable", ncs/KDC1_STC_SERVER_UNAVAILABLE
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1157,"LookupProxy") Unable to connect to
broker at ip.pipe:: status=0, "success", ncs/KDC1_STC_OK
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1402,"FindProxyUsingLocalLookup") Unable
to find running CMS on CT_CMSLIST <IP.PIPE:#server1a>
```

Example two

The following excerpts from the trace log *for the monitoring server* show the status of an agent, identified here as "Remote node." The name of the computer, which is where the agent is running is **SERVER5B**:

```
(42C039F9.0000-6A4:kpxreqhb.cpp,649,"HeartbeatInserter") Remote node SERVER5B:KSA is ON-LINE.
.
.
(42C3079B.0000-6A4:kpxreqhb.cpp,644,"HeartbeatInserter") Remote node SERVER5B:KSA is OFF-LINE.
```

Note the following key points about the preceding excerpt:

- The monitoring server appends the **KSA** product code to the server name to form a unique name (SERVER5B:KSA) for this instance of SAP agent. This unique name distinguishes multiple monitoring products that might be running on **SERVER5B**.
- The log shows when the agent started (ON-LINE) and later stopped (OFF-LINE) in the environment.
- For the sake of brevity, an ellipsis (...) represents the series of trace log entries that were generated while the agent was running.
- Between the ON-LINE and OFF-LINE log entries, the agent was communicating with the monitoring server.
- The ON-LINE and OFF-LINE log entries are always available in the trace log. All trace levels that are described in “Manually setting RAS trace parameters” provide these entries.

On Windows, you can use the following method to view trace logs:

1. In the Windows **Start** menu, choose **Program Files > IBM Tivoli Monitoring > manage Tivoli Monitoring Service**. The Manage Tivoli Enterprise Monitoring Services window is shown.
2. Right-click a component and select **Advanced > View Trace Log** in the menu. The program shows the Select log file window that lists the RAS1 logs for the monitoring agent.
3. Select a log file from the list and click **OK**. You can also use this viewer to access remote logs.

Note: The viewer converts timestamps in the logs to a readable format.

RAS trace parameters

Pinpoint a problem by setting detailed tracing of individual components of the monitoring agent and modules.

To ensure that you reference the correct log files when you manage log file generation, see “Examples of trace logs” on page 298.

Manually setting RAS trace parameters

You can manually edit the RAS1 trace logging parameters.

Before you begin

See “Overview of log file management” on page 295 to ensure that you understand log rolling and can reference the correct log files when you are managing log file generation.

About this task

The SAP agent uses RAS1 tracing and generates the logs described in “Principal trace log files” on page 296. The default RAS1 trace level is ERROR. The default RAS1 trace level is ERROR.

Procedure

1. Specify RAS1 trace options by changing trace parameters in a control file. See “Control files” on page 300.
2. Open the trace options file.
 - On Windows systems:
`install_dir\tmaitm6\KSAENV`
 - On UNIX systems:
`export KBB_RAS1='ERROR (UNIT:ksa ALL) (UNIT:kra ALL)'`

3. Edit the line that begins with **KBB_RAS1=** to set trace logging preferences. For example, if you want detailed trace logging, set the **Maximum Tracing** option:
 - On Windows systems:


```
KBB_RAS1=ERROR (UNIT:ksa ALL) (UNIT:kra ALL)
```
 - On UNIX systems:


```
export KBB_RAS1='ERROR (UNIT:ksa ALL) (UNIT:kra ALL)'
```
4. Edit the line that begins with **KBB_RAS1_LOG=** to manage the generation of log files:
 - Edit the following parameters to adjust the number of rolling log files and their size.
 - **MAXFILES**: the total number of files that are to be kept for all startups of a program. When this value is exceeded, the oldest log files are discarded. Default value is 9.
 - **LIMIT**: the maximum size, in megabytes (MB) of an RAS1 log file. Default value is 5.

IBM Software Support might guide you to modify the following parameters:

 - **COUNT**: the number of log files to keep in the rolling cycle of one program startup. Default value is 3.
 - **PRESERVE**: the number of files that are not to be reused in the rolling cycle of one program startup. Default value is 1.

The **KBB_RAS1_LOG** parameter also provides for the specification of the log file directory, log file name, and the inventory control file directory and name. Do not modify these values or log information can be lost.
5. Restart the monitoring agent so that your changes take effect.

What to do next

Monitor the size of the **logs** directory. Default behavior can generate a total of 45 to 60 MB for each agent that is running on a computer. For example, each mySAP system that you monitor could generate 45 - 60 MB of log data. See the "Procedure" section to learn how to adjust file size and numbers of log files to prevent logging activity from occupying too much disk space.

Regularly prune log files other than the RAS1 log files in the **logs** directory. Unlike the RAS1 log files, which are pruned automatically, other log types can grow indefinitely. For example, the logs in "Principal trace log files" on page 296 that include a process ID number (PID).

Note: The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use them only temporarily, while you are troubleshooting problems. Otherwise, the logs can occupy excessive amounts of hard disk space.

Control files

You use the RAS1 trace options to change the trace parameters in a control file.

There are two types of control files:

- Default control files

These control files contain parameters that are used when a new instance of the agent is configured.
- Instance control files

These control files contain parameters that are used for the instance of the agent that have been configured already.

The control file names and locations are as follows:

- On Windows systems:
 - Default file: KSAENV
 - Instance specific file: KSAENV_3-character-id

- On UNIX systems:
 - Location *install_dir/config*
 - Default file: *sa.ini*
 - Instance specific file: *sa_3-character-id.config*

Note: When you change trace parameters to collect more detailed diagnostic information, change the instance specific control file.

Setting trace options by using the GUI

On Windows systems, you can use the graphical user interface (GUI) to set trace options.

About this task

You can set multiple RAS tracing options by using the GUI.

Procedure

1. Open the Manage Tivoli Enterprise Monitoring Services window.
2. Select **Advanced > Edit Trace Params**. The Tivoli Enterprise Monitoring Server Trace Parameters window is shown. On UNIX systems only, you use the Configure window to set the trace parameters.
3. Select a new trace setting in the menu in the **Enter RAS1 Filters** field or type a valid string.
 - General error tracing. `KBB_RAS1=ERROR`
 - Intensive error tracing. `KBB_RAS1=ERROR (UNIT:kqz ALL)`
 - Maximum error tracing. `KBB_RAS1=ERROR (UNIT:kqz ALL) (UNIT:kra ALL)`

Note: As this example shows, you can set multiple RAS tracing options in a single statement.

4. Modify the value for "Maximum Log Size Per File (MB)" to change the log file size (changes LIMIT value).
5. Modify the value for "Maximum Number of Log Files Per Session" to change the number of logs files per startup of a program (changes COUNT value).
6. Modify the value for "Maximum Number of Log Files Total" to change the number of logs files for all startups of a program (changes MAXFILES value).
7. Optional: Click Y (Yes) in the **KDC_DEBUGd Setting** menu to log information that can help you diagnose communications and connectivity problems between the monitoring agent and the monitoring server. The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use them only temporarily, while you are troubleshooting problems. Otherwise, the logs occupy excessive amounts of hard disk space.
8. Click **OK**. You see a message that reports a restart of the monitoring agent so that your changes take effect.

What to do next

Monitor the size of the logs directory. Default behavior can generate a total of 45 - 60 MB for each agent that is running on a computer. For example, each database instance that you monitor can generate 45 - 60 MB of log data. See the "Procedure" section to learn how to adjust file size and numbers of log files to prevent logging activity from occupying too much disk space.

Regularly prune log files other than the RAS1 log files in the logs directory. Unlike the RAS1 log files that are pruned automatically, other log types can grow indefinitely. For example, the logs in "Overview of log file management" on page 295 that include a process ID number (PID).

Use collector trace logs as an additional source of troubleshooting information.

Note: The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use these settings only temporarily while you are troubleshooting problems. Otherwise, the logs can occupy excessive amounts of hard disk space.

RFC tracing

RFC tracing is used to create trace logs that are analyzed by IBM Software Support to solve problems with your system.

The SAP agent uses RFC tracing and generates logs described below. New RFC trace logs are created each time an instance of the agent starts.

By default, the RFC trace logs are on the computer that hosts the agent. These trace logs are also in the directory in which the agent start command is issued:

- Windows: The trace log is created in \WINDOWS\System32 where the agent runs as a service.
- UNIX: The trace log is created in *install_dir/bin* if you use the **./itmcmd** command.

To specify the directory where RFC trace logs are located, set the **RFC_TRACE_DIR** environment variable.

Use this procedure to set RFC trace parameters.

The RFC trace logs are named as follows:

`rfcpid_threadid.trc`

Where:

pid Process ID of the mySAP agent executable (ksaagent)

threadid
 Thread id

For example:

`rfc02536_00420.trc`

IBM Software Support applies specialized knowledge to analyze trace logs to determine the source of problems.

Enabling and disabling RFC tracing

You can enable and disable RFC tracing on UNIX and Windows systems.

Before you begin

RFC tracing is turned off by default. Turn RFC tracing on temporarily while you are troubleshooting an RFC problem.

About this task

Pinpoint a mySAP RFC problem by setting detailed tracing of all RFC calls from the SAP agent (RFC client) to the mySAP system (RFC server).

To enable or disable RFC tracing for the SAP agent on UNIX systems, you either complete the procedure to reconfigure the agent or to manually edit the configuration file. On Windows systems, you reconfigure the agent only.

Procedure

1. To reconfigure the agent, complete one of the following procedures:
 - On Windows systems:
 - a. In the **Start** menu, choose **Program Files > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services**. The Manage Tivoli Enterprise Monitoring Services window is shown.
 - b. Right-click the row that contains the name of the monitoring agent for which you want to enable RFC tracing.
 - c. Select **Reconfigure**.
 - d. In the first and second configuration windows, without changing any settings, click **OK**.
 - e. To enable tracing, select the **RFC Trace** check box.
 - f. Alternatively, to disable tracing, clear the **RFC Trace** check box.
 - g. Click **OK**. The agent is re configured and stopped.
 - h. Restart the agent from the Manage Tivoli Enterprise Monitoring Services window. A restart is necessary for the setting to take effect.
 - On UNIX systems:
 - a. Go to the `install_dir/bin` directory.
 - b. Run the following command: `./itmcmd config -A -o Identifier sa` where Identifier is the Unique system identifier for the agent.
 - c. For all of the configuration prompts, press Enter, without changing the settings that you already configured.
 - d. At the **RFC Trace Flag**: prompt, enter one of the following options:
 - 1 to enable tracing
 - 0 to disable tracing
2. On UNIX systems only, you set the **SAPTRACE** environment variable in the Configure window.
 - a. Open the following configuration file: `install_dir/config/sa_3-character-ID.config`
 - b. Edit the line that begins with `SAPTRACE=` to set RFC trace preferences as follows:
 - Set `SAPTRACE` to 0 to disable RFC Trace. (default)
 - Set `SAPTRACE` to 1 to enable RFC Trace.
3. Restart the monitoring agent so that your changes take effect.

What to do next

- Because trace logs use a large amount of hard disk space, turn off detailed logging when you complete an analysis of RFC trace logs.
- Monitor the size of the RFC trace log directory to prevent RFC trace activity from occupying too much hard disk space. Regularly prune the trace log files because they might grow indefinitely.

RFC trace log problems

RFC trace log problems contains a description of trace log problems and solutions also.

Table 11 contains problems and solutions for RFC trace log problems that might occur with the SAP agent.

Table 11. Trace log problems

Problem	Solution
RFC trace logs are filling up %SystemRoot%\system32	Trace logs use a large amount of hard disk space. Turn on RFC tracing only when you are trying to debug a problem. When you complete an analysis, turn off detailed logging and store the trace logs in another file system.

Table 11. Trace log problems (continued)

Problem	Solution
Clicking View RFC Trace in the configuration window displays the wrong RFC trace log.	<p>The View RFC Trace option shows the RFC trace log with the most recent timestamp. If you are running more than one instance of the SAP agent on the same host, a more recent trace log associated with the other agent instance might be shown. To avoid showing the wrong file, turn on the RFC trace option for one SAP agent. Turn on this trace option at a time when agents are running on the same computer.</p> <p>Use a text editor to view the trace logs manually.</p>
The procedure for starting the SAP agent: Trace Parameters window in “Manually setting RAS trace parameters” on page 299 fails.	<p>This problem occurs when the trace options are missing from the configuration file. You can correct the problem as follows:</p> <ol style="list-style-type: none"> 1. Edit a configuration file with the following path name: <ul style="list-style-type: none"> • On Windows systems: <i>install_dir\tmaitm6\KSAENV_3-character-id</i> • On UNIX and Linux systems: <i>install_dir/config/sa_3-character-id.config</i> 2. Copy the following configuration setting into the file: <ul style="list-style-type: none"> • On Windows systems: <pre>KBB_RAS1=ERROR KBB_VARPREFIX=% KBB_RAS1_LOG=install_dir\tmaitm6\logs \ \%(computername)_sa_%(SAPSYSTEMNAME)_ksaagent_%(sysutcstart) / -.log INVENTORY=install_dir\tmaitm6\logs\ / %(computername)_sa_%(SAPSYSTEMNAME)_ksaagent.inv / COUNT=03 LIMIT=5 PRESERVE=1 MAXFILES=9</pre> • On UNIX and Linux systems: <pre>KBB_RAS1='ERROR' KBB_VARPREFIX='% ' KBB_RAS1_LOG='%(CTIRA_LOG_PATH)/hostname_sa_%(SAPSYSTEMNAME) \ _%(syspgm)_%(sysutcstart)-.log INVENTORY=%(CTIRA_LOG_PATH)/ \ <hostname>_sa_%(SAPSYSTEMNAME)_%(syspgm).inv COUNT=03 LIMIT=5 \ PRESERVE=1 MAXFILES=9'</pre> 3. Save your changes. 4. Repeat the “Manually setting RAS trace parameters” on page 299 procedure. The Tivoli Enterprise Monitoring Server: Trace Parameters window is shown.

Problems and workarounds

There are many workarounds for problems that you encounter with your system.

The following sections provide symptoms and workarounds for problems that might occur with the SAP agent:

- “Installation and configuration troubleshooting” on page 305
- “Agent troubleshooting” on page 311
- “Tivoli Enterprise Portal troubleshooting” on page 318
- “Workspace troubleshooting” on page 319
- “Situation troubleshooting Overview” on page 322
- “Take Action command troubleshooting” on page 326

Note: You can resolve some problems by ensuring that your system matches the system requirements listed in Chapter 2, “Agent installation and configuration,” on page 9.

This appendix provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Installation and configuration troubleshooting

To troubleshoot installation, configuration, and uninstallation problems, you might apply a fix pack, change parameters, or uninstall monitoring agents. You must determine an appropriate solution for the specific problem with your system.

This section provides tables that show solutions for problems related to the installation, configuration, and uninstallation of agents. Some of these problems are related to the operating system on which the agent is running. Other problems are specific to installation and configuration of the SAP agent.

Table 12. Problems and solutions for installation and configuration for agents that run on UNIX and Windows systems

Problem	Solution
After upgrading to IBM Tivoli Monitoring, you do not have all of the functionality that IBM Tivoli Monitoring offers.	<p>You might need to apply fix packs to Candle, Version 350, agents. Fix packs for Candle, Version 350, are delivered as each monitoring agent is upgraded to IBM Tivoli Monitoring.</p> <p>If you do not upgrade the monitoring agent to IBM Tivoli Monitoring, the agent continues to work. However, you must upgrade to have all the functionality that IBM Tivoli Monitoring offers.</p> <p>Note: The IBM Tivoli Monitoring download image or CD provides application fix packs for the monitoring agents that are installed from that CD. For example, the agents for operating systems, such as Windows, Linux, UNIX, and i5/OS™. The upgrade software for other agents is on the download image or CDs for that specific monitoring agent, such as the agents for database applications.</p>
Non-ASCII characters entered into the configuration window for the monitoring agent do not show up or are not the correct characters.	Enter only ASCII characters into these fields.
You installed IBM Tivoli Monitoring V6.2.2 Fix Pack 5 and after you deploy the SAP agent you get the following error: "An error occurred during password encryption. Return code: 44."	This problem occurs only when you install IBM Tivoli Monitoring V6.2.2 Fix Pack 5. The problem is addressed in the latest IBM Tivoli Monitoring fix pack. Update to one of the following versions; IBM Tivoli Monitoring V6.2.2 Fix Pack 8, 623, 623FP1.
<p>During the command-line installation on UNIX, you choose to install a component that is already installed, and you see the following warning:</p> <pre>WARNING - you are about to install the SAME version of "component"</pre> <p>where <i>component</i> is the name of the component that you are attempting to install.</p>	You must exit and restart the installation process. You cannot return to the list where you selected components to install. When you run the installer again, do not attempt to install any component that is already installed.
<p>On UNIX, while installing the agent from a CD, the following message is shown and you cannot continue the installation:</p> <pre>install.sh warning: unarchive of "/cdrom/unix/cienv1.tar" may have failed</pre>	This error is caused by low disk space. Although the install.sh script indicates that it is ready to install the agent software, the script considers the size of all tar files. The script does not consider the size of all the files that are contained within the tar file. Run the df -k command to check whether the file systems have enough space to install agents.

Table 12. Problems and solutions for installation and configuration for agents that run on UNIX and Windows systems (continued)

Problem	Solution
Cannot locate the KDCB0_HOSTNAME setting.	Go to <code>install_dir/config</code> and edit the <code>sa_3-character-id.config</code> file. Set the KDCB0_HOSTNAME parameter to the IP address of a network card on this computer. If you use multiple network interface cards (NICs), use the Primary IP address of the network interface.
The SAP agent repeatedly restarts.	You can collect data to analyze this problem as follows: <ol style="list-style-type: none"> 1. Access the <code>install_dir/config/sa_3-character-id.config</code> file, which is described in "Manually setting RAS trace parameters" on page 299. 2. Add the following line: <code>KBB_SIG1=trace -dumpoff</code>
Agents in the monitoring environment use different communication protocols. For example, some agents have security enabled and others do not.	Configure both the monitoring server and the Warehouse Proxy server to accept multiple protocols, as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .
The agent is not able to connect to the Tivoli Enterprise Monitoring Server through a firewall.	Creating a firewall partition file: The partition file enables an agent to connect to the monitoring server through a firewall. How it works: When the agents start, they search <code>KDCPARTITION.TXT</code> for the following matches: <ul style="list-style-type: none"> • An entry that matches the partition name OUTSIDE • An entry that also includes a valid external address For more information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .
You successfully upgraded from an OMEGAMON® monitoring agent to IBM Tivoli Monitoring, Version 6.2.0. However, when you configure historical data collection, you receive an error message that includes the following message: Attribute name may be invalid, or attribute file not installed for warehouse agent.	Copy the attribute files (<code>ksa.atr</code>) for the upgraded monitoring agent to <code>install_dir\tmaitm6\attrlib</code> on the computer where you installed the Warehouse Proxy agent. The Warehouse Proxy agent must be able to access the short attribute names for tables and columns. Therefore, if the longer versions of these names exceed the limits of the Warehouse database, the shorter names can be substituted.
The monitoring agent does not start in a non-ASCII environment.	Check the agent configuration to ensure that all of the values are correctly represented. To view these parameters, go to the Manage Tivoli Enterprise Monitoring Services window, select the agent instance, and click Reconfigure . In the subsequent windows, review and modify configuration parameters as needed.
Browse settings problems: how to diagnose	When you have problems with browse settings, complete the following steps: <ol style="list-style-type: none"> 1. Click Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services. The Manage Tivoli enterprise Monitoring Services window is shown. 2. Right-click the Windows agent and select Browse Settings. A text window is shown. 3. Click Save As and save the information in the text file. If requested, you can forward this file to IBM Software Support for analysis.

Table 12. Problems and solutions for installation and configuration for agents that run on UNIX and Windows systems (continued)

Problem	Solution
A message similar to "Unable to find running CMS on CT_CMSLIST" in the log file is shown.	<p>If a message similar to "Unable to find running CMS on CT_CMSLIST" is shown in the Log file, the agent cannot connect to the monitoring server. Confirm the following points:</p> <ul style="list-style-type: none"> • Do multiple network interface cards (NICs) exist on the system? • If multiple NICs exist on the system, find out which one is configured for the monitoring server. Ensure that you specify the correct host name and port settings for communication in the IBM Tivoli Monitoring environment.
Error counts are shown in the situation summary report in the Tivoli Enterprise Portal, however, error messages are not shown in the situation detail report.	Check the timestamp for the reports. If you set up historical data collection for the situation summary report, also set up historical data collection for the situation detail report.
While you are using the remote deployment feature to install the SAP agent, an empty command window is shown on the target computer. This problem occurs when the target of remote deployment is a Windows computer. (See the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> for more information about the remote deployment feature.)	Do not close or modify this window. It is part of the installation process and is dismissed automatically.
The removal of a monitoring agent fails when you use the remote removal process in the Tivoli Enterprise Portal/Tivoli Enterprise Portal desktop or browser.	This problem might occur when you attempt the remote removal process immediately after you restart the Tivoli Enterprise Monitoring Server. You must allow time for the monitoring agent to refresh its connection with the Tivoli Enterprise Monitoring Server before you begin the remote removal process.
You cannot connect to the SAP system by using the Logon Group mode.	<p>Use the following new environment variables:</p> <ul style="list-style-type: none"> • SAPLOGONGROUP: Name of the SAP logon group. • SAPMSGSERVER: Host name of the SAP message server. Alternatively, use an IP address. • SAPMSGSERVICE: Message service name, for example, sapmsTV1 or a full message service port number, for example, example: 3601. • SAPROUTESTRING: Route string to the SAP system. <p>Note: You must include the service names in the following operating system services files:</p> <ul style="list-style-type: none"> • UNIX systems: <code>/etc/services</code> • Windows systems: <code>\windows\system32\drivers\etc\services</code>
When you edit the configuration for an existing monitoring agent, the values shown are not correct.	The original configuration settings might include non-ASCII characters. These values were stored incorrectly and result in the incorrect display. Enter new values by using only ASCII characters.
Runtime errors in relation to transport on the SAP system.	<p>When you import the transport on the SAP system, you must not start the SAP agent instance that is configured to monitor that SAP system.</p> <p>Before you delete the transport from the SAP system, you must stop the SAP agent instance that is configured to monitor that SAP system.</p>

Table 12. Problems and solutions for installation and configuration for agents that run on UNIX and Windows systems (continued)

Problem	Solution
<p>Text for configuration functions is shown in English instead of native languages when installing and configuring the monitoring agent. For example, when using the following interfaces:</p> <ul style="list-style-type: none"> • Manage Tivoli Enterprise Monitoring Services GUI on a Windows system • Manage Tivoli Enterprise Monitoring Services GUI (CandleManage command) on UNIX and Linux • itmcmd config command on a UNIX or Linux system 	<p>None. You must complete configuration of the monitoring agent by using English.</p>

Table 13. Problems and solutions for installation and configuration of the SAP agent

Problem	Solution
<p>You cannot add the SAP agent transport request to the buffer through STMS. Cannot enter the full mySAP transport name in the transport system window.</p>	<p>Upgrade the SAP transport tool to the latest version.</p> <p>Although 20-character transport request names are fully supported by SAP from Basis release 4 and later releases, some release 4.6 transport system windows still have fields that are only 10 characters wide. Import transport by running the addtobuffer command from the command line. See “Importing the Advanced Business Application Programming (ABAP) transport on the SAP system” on page 15.</p>
<p>You cannot upgrade the SAP agent on the UNIX platform.</p>	<p>On the UNIX platform, if the host name is greater than 8 digits you cannot upgrade the SAP agent from version 6.2 to 7.1 Fix Pack 1. Also, you cannot start and stop the agent.</p> <p>To solve this problem, complete the following steps:</p> <ol style="list-style-type: none"> 1. For the UNIX platform, add or edit the <i>CTIRA_SYSTEM_NAME</i> variable in the <i>sa_<Instance ID>.config</i> file and the <i>sa.ini</i> file to your host name. For example, <i>CTIRA_SYSTEM_NAME=sh2hp11v3i4</i> 2. Complete the steps to upgrade and to start and stop the agent again.
<p>You cannot upgrade the SAP agent on the Solaris 9 32 bit SPARC platform.</p>	<p>On the Solaris 9 32 bit SPARC platform, you cannot upgrade the SAP agent from version 6.2 to 7.1 Fix Pack 1.</p> <p>To solve this problem, complete the following steps:</p> <ol style="list-style-type: none"> 1. For the Solaris 9 32 bit SPARC platform, add or edit the <i>CTIRA_SYSTEM_NAME</i> variable in the <i>sa_<Instance ID>.config</i> file and the <i>sa.ini</i> file to your host name. For example, <i>CTIRA_SYSTEM_NAME=sh5so19</i> 2. Complete the steps to upgrade and to start and stop the agent again.

Table 13. Problems and solutions for installation and configuration of the SAP agent (continued)

Problem	Solution
No data is shown in the Tivoli Enterprise Portal, though the monitoring agent is started and running.	<p>Check the following issues:</p> <ol style="list-style-type: none"> 1. Click the agent level node of the Navigator tree that opens the System Summary workspace by default. Right-click, and open the Agent Log workspace and check for messages. See “Agent Log workspace” on page 56. 2. Check the SAP agent log files to see whether there are problems when you try to connect to the Tivoli Enterprise Monitoring Server like those problems mentioned in Agent unable to connect. 3. Check the agent RAS1 log for RFC or connection errors to the mySAP system. 4. Check the mySAP system syslog to see whether the SAP agent issued a diagnostic message. This message alerts you to a problem during data collection. 5. If there are no connection problems, check whether the agent terminated. (Search for the word "terminated" in the log.) 6. If the agent is not terminated, confirm that you added application support for the SAP agent in the Tivoli Enterprise Monitoring Server as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>. 7. Make sure that the agent transport is installed to the SAP system, and that the corresponding version of the SAP agent is installed.
<p>Value lists such as report names, monitors, and monitor sets are shown in English in the following mySAP configuration panels:</p> <ul style="list-style-type: none"> • Maintain Default Sample Periods • Maintain Log File Names • Maintain ITM Managed Groups Definitions • Select CCMS Monitor Sets and Monitors 	This outcome is expected. These value lists are presented in English only regardless of the SAP logon language.
Text strings, such as syslog messages and alert messages do not show correctly in non-English languages. This problem is more likely to occur with double-byte languages.	Set the <code>SAP_CODEPAGE</code> environment variable. See “Manually setting RAS trace parameters” on page 299.
Text in the SAP agent configuration panels on a mySAP system does not show in the multi-byte language with which you logged on to mySAP.	<p>Ensure that you logged on to the mySAP system or SAPGUI by using a supported language. See the Language section in “Configuring the SAP agent locally” on page 21 for a list of the languages that the SAP agent supports.</p> <p>Ensure that you installed NLS support for the mySAP transport text elements. See “Non-Unicode double-byte language support” on page 44.</p>

Table 13. Problems and solutions for installation and configuration of the SAP agent (continued)

Problem	Solution
Agent transport errors	<ul style="list-style-type: none"> Update the following SAP kernel executables to the latest level: <ul style="list-style-type: none"> R3trans tp Verify that the cofile and data transport files have correct authorizations and owners: <i>sapsid:sapsys</i> Check the syntax of the following commands: <ul style="list-style-type: none"> tp addtobuffer tp import <p>For more information about these commands, see Step 5 in “Using SAP transport and defining the user” on page 16</p> Ensure that the default user /IBMMON/ITM_AUTH roles were created during transport import. See “Using Central User Administration (CUA)” on page 33 for requirements.
<p>Incorrect parameters:</p> <ul style="list-style-type: none"> Incorrect SAP host name, Gateway host name, Gateway port, user ID, password, or client SAP user specified does not exist SAP user password is incorrect SAP user is locked (disabled) 	Change the parameter that is in error and confirm with your SAP Administrator that your parameters are correct. These problems are based on the RFC connection parameters.
On the Red Hat Enterprise Linux 64 platform, you cannot upgrade the SAP agent V 6.2 LA0009 to SAP agent version 7.1 Fix Pack 1	Replace the old 32-bit RFC library with the new 64-bit RFC library.
<p>If you do not copy the RFC library to the correct path, the agent does not start and the following error is reported in the agent log:</p> <p>Error in agent log: opt/IBM/ITM/1x8266/sa/bin/ ksaagent: error while loading shared libraries: librfccm.so: cannot open shared object file: No such file or directory</p>	For information about copying the RFC library to the correct path, see “Deploying the monitoring agent remotely in a Windows environment” on page 18 and “Deploying the monitoring agent remotely in a non-Windows environment” on page 19.
The IDML book certification fails with multiple instances.	<p>Complete the following steps:</p> <ol style="list-style-type: none"> Run the /n/ibmmon/itm_config transaction on the SAP server side. Select the SAP Instance Monitoring option. Clear all the instances except for the central instance. Generate the IDML book. Select the cleared instances in step 3.

Table 13. Problems and solutions for installation and configuration of the SAP agent (continued)

Problem	Solution
When you upgrade the SAP agent to version 7.1 Fix Pack 1, you might receive the following error: An error occurred during password decryption. Return code:44	<p>In the InstallShield wizard, complete the following steps:</p> <ol style="list-style-type: none"> 1. After you receive the error message, click OK. 2. On the AFUtil64.exe has stopped working page, click Close the program. 3. After you receive the following message: An instance of the service is already running., click OK. 4. Click Finish. 5. After you install the SAP agent successfully, start the SAP agent instance manually.

Table 14. General problems and solutions for uninstallation

Problem	Solution
On Windows, uninstallation of IBM Tivoli Monitoring fails to uninstall the entire environment.	<p>Confirm that the following problems do not exist:</p> <ul style="list-style-type: none"> • Ensure that you are the only user who is logging in to the computer where you are uninstalling IBM Tivoli Monitoring. If another user is completing operations during an uninstall process, the uninstall process fails. • Be sure that you follow the general uninstallation process described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>: <ol style="list-style-type: none"> 1. Uninstall monitoring agents first, as in the following examples: <ul style="list-style-type: none"> – Uninstall a single monitoring agent for a specific database. OR – Uninstall all instances of a monitoring product, such as IBM Tivoli Monitoring for Databases. 2. Uninstall IBM Tivoli Monitoring.
The procedure to remove inactive managed systems (systems whose status is OFFLINE) from the Navigator tree in the portal is not obvious.	<p>Use the following steps to remove, but not uninstall, an offline managed system from the Navigator tree:</p> <ol style="list-style-type: none"> 1. In the Navigator tree, click the Enterprise icon. 2. Right-click, then click Workspace > Managed System Status. 3. Right-click the offline managed system, and select Clear offline entry. <p>If you also want to uninstall the monitoring agent, use the procedure described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>
There is no configuration command or menu option to remove an instance of the SAP agent that was created and configured on a UNIX or Linux system.	<p>Use the following steps to delete an instance of the SAP agent:</p> <ol style="list-style-type: none"> 1. Stop the monitoring agent. 2. Open the <code>install_dir</code> directory. 3. Open the <code>config</code> directory. 4. Remove <code>sa_SAPSID.config</code> where SAPSID is the instance configuration parameter that was defined when the instance was configured with the following command: <pre>itmcmd config -A -h /install_dir -o SAPSID sa</pre> 5. Open the <code>.ConfigData</code> directory. 6. Edit the <code>ksaenv</code> file, removing all lines that begin with SAPSID. 7. Save the file, and exit.

Agent troubleshooting

You can use the appendix as a source to troubleshoot agent-specific problems.

Table 15 on page 312 contains problems that might occur with the SAP agent.

This appendix provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 15. Agent problems and solutions

Problem	Solution
<p>A problem can arise when you run multiple agents on one computer and want them to communicate with multiple monitoring servers, as described in this example:</p> <ul style="list-style-type: none">• Agents are running on computer and communicating with a Tivoli Enterprise Monitoring Server, called TEMS1.• You install a new agent on the same computer and you want this agent to communicate with a different monitoring server, called TEMS2.• When you configure the new agent to communicate with TEMS2, all the existing agents are reconfigured to communicate with TEMS2.	<p>You must reconfigure the previously existing agents to restore their communication connection with TEMS1. For example, you can right-click the row for a specific agent in the Manage Tivoli Monitoring Services, and select Reconfigure. See the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> for more information about reconfiguration.</p>

Table 15. Agent problems and solutions (continued)

Problem	Solution
<p>Agent unable to connect: The agent is started, but no data is reported to the Tivoli Enterprise Monitoring Server. The log file includes the following error:</p> <p>Unable to find running CMS on CMSLIST or Endpoint unavailable</p>	<p>This error message means that the agent cannot connect to the computer where the Tivoli Enterprise Monitoring Server is running. The reason might be any one of the following reasons:</p> <p>Computer where the Tivoli Enterprise Monitoring Server is running is down Ping the computer where the Tivoli Enterprise Monitoring Server is running and make sure that it is up and running.</p> <p>Tivoli Enterprise Monitoring Server is not running If the Tivoli Enterprise Monitoring Server is not running, recycle the Tivoli Enterprise Monitoring Server and verify whether the agent is connecting.</p> <p>Multiple NIC Cards on the computer where the Tivoli Enterprise Monitoring Server is running. If multiple NICs are installed on the computer where the Tivoli Enterprise Monitoring Server is running, identify the Primary NIC and use the <i>host name</i> or IP address.</p> <p>Verify that the Tivoli Enterprise Monitoring Server is configured with the Primary NIC IP address or <i>host name</i>.</p> <p>If you are using <i>host name</i>, make sure that <i>/etc/hosts</i> has a valid entry for the Primary NICs host name and its IP address.</p> <p>On the Tivoli Enterprise Monitoring Server, set the <i>KDCB0_HOSTNAME</i> variable to the primary IP address of the computer. Use the same address to configure the agent.</p> <p>To connect to the Tivoli Enterprise Monitoring Server, configure the agent with Primary NIC IP address or host name of the computer where the Tivoli Enterprise Monitoring Server is running.</p> <p>While configuring the agent, make sure that the port number that you are connecting to is correct. If you are not using the default port number, make sure that you are using the same port number used in Tivoli Enterprise Monitoring Server. For more information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p> <p>Agent is behind the Firewall If you use a firewall, identify whether you have any one of the following scenarios:</p> <ul style="list-style-type: none"> • Hub monitoring server INSIDE, and agents OUTSIDE • Hub and remote monitoring servers INSIDE, agents OUTSIDE • Hub monitoring server INSIDE, remote monitoring server, and agents OUTSIDE <p>See Creating a firewall partition file for information about the KDC_PARTITION file that enables communication across a firewall. For additional information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p> <p>Connecting to the monitoring server through a Virtual Private Network (VPN) In some cases, the agent or a remote monitoring server needs to connect to the hub monitoring server through a VPN. You must configure the communication channel (pipe) to be ephemeral, as in the following example:</p> <pre>KDC_FAMILIES=ip.pipe port:port_number ephemeral:y ip use:n sna use:n</pre>

Table 15. Agent problems and solutions (continued)

Problem	Solution
On UNIX, you want to have multiple instances of SAP agent running on the same computer, but communicating with different Tivoli Enterprise Monitoring Servers.	<p>Enable multiple instances as follows:</p> <ol style="list-style-type: none"> 1. Open each instance configuration file (<i>sa_3-character-id.config</i>) in <i>install_dir/config</i>. 2. <p>Insert the following definition for CT_CMSLIST:</p> <pre>export CT_CMSLIST='ip.pipe: hostname_or_IP_address_of_TEMS'</pre> 3. <p>Insert the following definition for KDC_FAMILIES:</p> <pre>export KDC_FAMILIES='ip.pipe port: port_number ip use:n ip.spipe use:n sna use:n'</pre>
Data collection stops or runs sluggishly on your SAP systems with Oracle databases.	See "Oracle data collection" on page 10.
When running the /IBMMON/ITM_* transactions, you get an error that indicates that the transaction is not valid.	Preface all /IBMMON/ITM_* transactions with /n or /o.
The SAP agent cannot connect to the mySAP system. The agent is started but no :Ins or :Sys managed system names are shown in the Tivoli Enterprise Portal Navigator tree. The log file includes the following lines: Unable to find the Central Instance.	<p>See the "Agent Log workspace" on page 56.</p> <p>Ensure that you configured the agent with the correct mySAP logon information (user ID, password, client). Reconfigure, and restart.</p> <p>Check the RAS1 log for connection errors. An RAS1 error such as the following indicates that the agent could not log on on with the connection parameters specified during agent configuration: Failure on call to /IBMMON/ITM_VERIFY_LOGON. Verify that all the values are correct. See "Configuring the SAP agent locally" on page 21.</p> <p>Ensure that the mySAP system, application server the agent connects to, or both are running and can accept new connections. Use transactions SMGW and SM04 to determine whether there are free connections on the application server for the monitoring agent to use.</p> <p>Use the fully qualified host name or IP addresses if configuring the agent by using simple host names.</p> <p>Ensure that no firewalls are blocking access to mySAP.</p>
The SAP agent shows up in the Tivoli Enterprise Portal Navigator tree with the wrong host name in the agent name: SID-hostname. The host name is the name of the agent host name rather than the SAP database host name.	<p>This problem occurs when the SAP agent cannot connect to a remote mySAP system. Ensure that you configured the agent with the correct mySAP logon information (user ID, password, client). Reconfigure, and restart.</p> <p>To remove the agent from the Navigator tree, stop the agent if it is still running, and remove the offline Entry from the Tivoli Enterprise Portal Server.</p>
Custom launch definitions that you create report an error that a SAP agent attribute name cannot be evaluated.	Slashes in attribute names must be escaped with an additional slash for the Tivoli Enterprise Portal to recognize them. For example, R/3_Alerts.MTE_Class must be represented as R//3_Alerts.MTE_Class in the launch definition. When you create a launch definition, use the GUI to select an attribute from the list. Or, type in the attribute names manually and escape the /.
A mySAP application server is not discovered by the SAP agent.	Check to make sure that there is at least one (preferably two) dialog process on that instance. The SAP agent requires a dialog work process in which to run the agent supplied ABAP that monitors the instance.

Table 15. Agent problems and solutions (continued)

Problem	Solution
You receive Tivoli Monitoring alert 9912: CCMS alerts collection did not complete, SAP syslog message <code>??ccms_rfc_error????</code> , or both of these alerts. You might also receive ABAP dumps from the <code>/IBMMON/ITM_ALERTS</code> and <code>/IBMMON/ITM_CCMS_ALERTS</code> function modules provided by the SAP agent.	Tivoli Monitoring Alert 99112 typically indicates a problem with the mySAP CCMS rather than with the SAP agent. Review the syslog message to help troubleshoot the problem in the SAP CCMS environment. Verify that CCMS performs properly. Contact IBM Software Support to get instructions on how to reduce or prevent the monitoring agent ABAP dumps while CCMS problems are investigated.
You cannot create Japanese Managed Group names from the <code>/IBMMON/ITM_GROUP</code> transaction.	Group Names cannot contain double byte characters because Group Names become Managed System names in IBM Tivoli Monitoring, and double byte characters are not supported. If you would like to create Managed Groups, log on in English or another Latin language to define the Managed Groups.
The mySAP server does not start when using port 3661.	Change the current setting of <code>KDC_FAMILIES=\$NETWORKPROTOCOL\$</code> to <code>KDC_FAMILIES=HTTPS:0</code> in both of the SAP agent configuration files (<code>*.config</code> and <code>*.ini</code>).

Table 15. Agent problems and solutions (continued)

Problem	Solution
<p>A configured and running instance of the monitoring agent is not shown in the Tivoli Enterprise Portal. However, other instances of the monitoring agent on the same system do show in the portal.</p>	<p>Tivoli Monitoring products use Remote Procedure Call (RPC) to define and control product behavior. RPC is the mechanism that allows a client process to make a subroutine call (such as GetTimeOfDay or ShutdownServer) to a server process somewhere in the network. Tivoli processes can be configured to use TCP/UDP, TCP/IP, SNA, and SSL as the appropriate protocol (or delivery mechanism) for RPCs.</p> <p>"IP.PIPE" is the name given to Tivoli TCP/IP protocol for RPCs. The RPCs are socket-based operations that use TCP/IP ports to form socket addresses. IP.PIPE implements virtual sockets and multiplexes all virtual socket traffic across a single physical TCP/IP port (visible from the netstat command).</p> <p>A Tivoli process derives the physical port for IP.PIPE communications based on the configured, well-known port for the HUB Tivoli Enterprise Monitoring Server. (This well-known port or BASE_PORT is configured using the 'PORT:' keyword on the KDC_FAMILIES / KDE_TRANSPORT environment variable and defaults to '1918'.)</p> <p>The physical port allocation method is defined as $(BASE_PORT + 4096 * N)$ where $N=0$ for a Tivoli Enterprise Monitoring Server process and $N=\{1, 2, \dots, 15\}$ for a non-Tivoli Enterprise Monitoring Server. Two architectural limits result as a consequence of the physical port allocation method:</p> <ul style="list-style-type: none"> • No more than one Tivoli Enterprise Monitoring Server reporting to a specific Tivoli Enterprise Monitoring Server HUB can be active on a system image. • No more that 15 IP.PIPE processes can be active on a single system image. <p>A single system image supports any number of Tivoli Enterprise Monitoring Server processes (address spaces) if each Tivoli Enterprise Monitoring Server on that image reports to a different HUB. There is one Tivoli Enterprise Monitoring Server HUB per monitoring Enterprise, so this architecture limit is simplified to one Tivoli Enterprise Monitoring Server per system image.</p> <p>No more that 15 IP.PIPE processes or address spaces can be active on a single system image. With the first limit expressed above, this second limitation refers specifically to Tivoli Enterprise Monitoring Agent processes: no more that 15 agents per system image.</p> <p>This limitation is circumvented (at current maintenance levels, IBM Tivoli Monitoring V6.1 Fix Pack 4 and later) if the Tivoli Enterprise Monitoring Agent process is configured to use EPHEMERAL IP.PIPE. (This is IP.PIPE configured with the 'EPHEMERAL:Y' keyword in the KDC_FAMILIES / KDE_TRANSPORT environment variable). There is no limitation to the number of ephemeral IP.PIPE connections per system image. If ephemeral endpoints are used, the Warehouse Proxy Agent is accessible from the Tivoli Enterprise Monitoring Server associated with the agents by using ephemeral connections. This is done either by running the Warehouse Proxy Agent on the same computer or by using the Firewall Gateway feature. (The Firewall Gateway feature relays the Warehouse Proxy Agent connection from the Tivoli Enterprise Monitoring Server computer to the Warehouse Proxy Agent if the Warehouse Proxy Agent cannot coexist on the same computer.)</p>
<p>Attributes do not allow non-ASCII input in the Situation Editor.</p>	<p>None. Any attribute that does not include "(Unicode)" might support only ASCII characters. For example "Attribute (Unicode)" supports unicode but "Attribute" without "(Unicode)" might support ASCII characters only.</p>

Table 15. Agent problems and solutions (continued)

Problem	Solution
<p>The managed system names that show up under mySAP Agent in the Tivoli Enterprise Portal are incorrect.</p> <p>Your MSN is not in this form: <i>SID-SAP-Host:mySAP</i></p> <p>Your MSN is some other string, and all instances of the monitoring agent show up under this one managed system name, for example:</p> <pre>agent host SAP agent managed system name SAP TV2-amsaix25_TV2_00:Ins TV2-amsaix25:Sys TV2-amshp8_TV2_22:Ins TV3-amsaix26_TV3_01:Ins TV3-amsaix26:Sys TV3-amssol19_TV3h_10:Ins</pre>	<p>Check to see whether CTIRA_HOSTNAME is set, either globally or in the agent configuration file, and if the MSN you see in the Tivoli Enterprise Portal under the SAP agent is the value of CTIRA_HOSTNAME. If so, do not set the environment variable CTIRA_HOSTNAME for the SAP agent. The monitoring agent cannot properly create the managed system names when this environment variable is set. If you need to set CTIRA_HOSTNAME for other monitoring agents, set the variable in the agent configuration file instead of setting it globally.</p>
<p>When upgrading support files for the monitoring agent from V6.1 to V6.2, the Tivoli Enterprise Portal Server upgrade reports the following message: ksa_upg.sql completed partially. See <i>install_dir\CNPS\logs\ksa_upg.sql.log</i> file.</p> <p>The ksa_upg.sql.log file shows:</p> <pre>SQL1_OpenRequest status=80</pre> <p>for each INSERT statement</p>	<p>None. This error is expected and does not indicate a problem. The agent support upgrade process handles both upgrades from V350 agents and V6.1 agents. The INSERT error indicates that a duplicate entry exists in IBM Tivoli Monitoring 6.1, which is expected. The insert statements are meant for upgrade from 350 agents.</p>
<p>On Windows systems, some instances of the monitoring agent do not start after upgrading. You receive one of the following messages when trying to start an instance:</p> <ul style="list-style-type: none"> • The service did not respond to the start or control request in a timely fashion • KCICF5100E Unable to start service, see Event.log for information • (From the event viewer) the SAP agent - foo service failed to start due to the following error: The service did not respond to the start or control request in a timely fashion. • Dependent Assembly Microsoft.VC80.CRT could not be found and Last Error was The referenced assembly is not installed on your system. 	<p>Install MS 8.0 C/C++ run time. (Microsoft Visual C++ 2005 Redistributable Version 8.0). The SAP libraries used by the monitoring agent require this run time as a prerequisite. See SAP Note 684106.</p>
<p>On SuSE 9 and RedHat 4 Linux, instances of the monitoring agent do not start after upgrading.</p>	<p>Install Linux compatibility libraries that provide the libstdc++.so.6 library. The SAP libraries used by the monitoring agent require this compatibility library to be installed for the agent to run. See SAP note 1021236.</p>
<p>Tivoli Enterprise Console events from IBM Tivoli Monitoring V6.2 for IBM Tivoli Monitoring v5.x migrated situations have parsing errors in the Tivoli Enterprise Console server.</p>	<ol style="list-style-type: none"> 1. Ensure that you have IBM Tivoli Monitoring V6.2 Event Synchronization installed on your Tivoli Enterprise Console server. 2. Obtain updated baroc files from the SAP agent events. Updated baroc files are in Tivoli Enterprise Monitoring Server in <i>CandleHome/CMS/TECLIB/itm5migr</i>. There are updated files <i>forsap_resource_model.baroc</i>, <i>tecad_wr3moni.baroc</i>, and <i>tecad_wr3slog.baroc</i>.

Table 15. Agent problems and solutions (continued)

Problem	Solution
You are receiving Tivoli Business Service Manager events that cannot be associated because application_oid and application_class are not set.	This problem is caused by IBM Tivoli Monitoring V6.2 sending Tivoli Enterprise Console events for IBM Tivoli Monitoring 5.x migrated situations. These events are not able to set the cited slot values. Replace the sap_forward_tbsm_event_cb.sh script on the Tivoli Enterprise Console server with the version of this file from the Tivoli Enterprise Monitoring Server in CandleHome/CMS/TECLIB/itm5migr.
The monitoring agent is installed and running normally. After you reboot the computer where the Tivoli Enterprise Monitoring Server was running, or restarting the system that hosts the Tivoli Enterprise Monitoring Server, the agent is not online. However, when you use CandleAgent start, the agent starts and continues running.	<p>This problem can occur when the agent is installed locally by using a non-root user, or when the agent is installed remotely by using the Run As option on the GUI or by using the _UNIX_STARTUP_Username option on the tacmd addSystem command line.</p> <p>Verify whether you used a non-root user to install the monitoring agent.</p> <p>Manually start the monitoring agent by using the correct user ID.</p> <p>For more information, see “Upgrading the agent and Restarting by using non-root” on page 293.</p>
Return code 8 or return code 12 occurs on the main import step.	<p>This return code is related to DYNPRO format incompatibility or export/import (specifically table EUDB) incompatibility. These errors occur if the R3trans program is old or the Basis support package maintenance is low.</p> <p>See the Creating a firewall partition file section in “Installation and configuration troubleshooting” on page 305 for information about the required version of R3trans. Upgrade R3trans program or Basis support level SAP Notes that describe the minimum R3trans and Basis support packages are documented in the following OSS Notes: 330267, 454321, 743155.</p>
Many of the following messages are in the SAP syslog: ITM raised alert 9911 - Excessive data collected for R/3 Database Detail.	<p>This alert message is generated by the monitoring agent and indicates that the number of database detail rows generated by the ABAP data provider exceeded the configured maximum number of rows to return.</p> <p>The R/3_Data_Base_Detail attribute group returns a row for every object with more than 20 extents or for every row that is in a space critical condition. Reduce the number of rows reported by removing all space critical conditions in the database and reorganizing to less than 20 extents. This reduction improves the database performance, and reduces the number of database detail rows returned.</p>

Tivoli Enterprise Portal troubleshooting

When you encounter problems with Tivoli Enterprise Portal, such as data not showing, you can consult this appendix to help you to fix the problem.

The table contains problems that might occur with the Tivoli Enterprise Portal. This appendix provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 16. Tivoli Enterprise Portal problems and solutions

Problem	Solution
Historical data collection is unavailable because of incorrect queries in the Tivoli Enterprise PortalTivoli Enterprise Portal.	<p>The column, Sort By, Group By, and First/Last functions are not compatible with the historical data collection feature. Use of these advanced functions make a query ineligible for historical data collection.</p> <p>Even if data collection is started, you cannot use the time span feature if the query for the chart or table includes any column functions or advanced query options (Sort By, Group By, First/Last).</p> <p>To ensure support of historical data collection, do not use the Sort By, Group By, or First/Last functions in your queries.</p> <p>See the <i>IBM Tivoli Monitoring Administrator's Guide</i> or the Tivoli Enterprise Portal online Help for information about the Historical Data Collection function.</p>
No data is shown in the Tivoli Enterprise Portal.	<p>There are several solutions:</p> <ul style="list-style-type: none"> • See “Agent Log workspace” on page 56. • Check for alerts generated by IBM Tivoli Monitoring. The SAP agent creates these alerts to indicate problems with the agent. • Check the SAP Syslog. The SAP agent writes diagnostic messages to this log file when a problem occurs. <p>If the agent transport is not installed on the target mySAP system, install the agent to the mySAP system. See “Importing the Advanced Business Application Programming (ABAP) transport on the SAP system” on page 15.</p> <p>If the agent can not connect to the mySAP system, you might need to change the RFC connection parameters. See “SAP RFC connections” on page 32.</p>
When you right-click on a workspace table view and click Launch , the screen that is shown is missing the (E) mnemonic on the Evaluate option for double-byte languages.	There is no solution for this problem.
When viewing the Information Center, the Welcome to the IBM Tivoli Monitoring Information Center panel is not translated into non-English languages.	There is no solution for this problem. The remaining text is shown in the translated language.

Workspace troubleshooting

There are many solutions for problems that occur in relation to workspaces.

Table 17 on page 320 contains problems that might occur with workspaces. This appendix provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 17. Workspace problems and solutions

Problem	Solution
The name of the attribute does not show in a bar chart or graph view.	When a chart or graph view that includes the attribute is scaled to a small size, a blank space is shown instead of a truncated name. To see the name of the attribute, expand the view of the chart until there is enough space to show all characters of the attribute name.
Historical data is not shown though you started collection of historical data.	<p>Managing options for historical data collection:</p> <ul style="list-style-type: none"> • Basic historical data collection populates the Warehouse with raw data. This type of data collection is turned off by default. See the <i>IBM Tivoli Monitoring Administrator's Guide</i> for information about managing this feature including how to set the interval at which data is collected. By setting a more frequent interval for data collection you reduce the load on the system incurred every time data is uploaded. • You use the Summarization and Pruning monitoring agent to collect specific amounts and types of historical data. Historical data is not shown until the Summarization and Pruning monitoring agent begins collecting the data. By default, this agent begins collection at 2 a.m. daily. At that point, data is visible in the workspace view. See the <i>IBM Tivoli Monitoring Administrator's Guide</i> to learn how to modify the default collection settings.
In the historical database, values for some attributes in the R/3_Instance_Configuration attribute group do not exist.	A size restriction limits the attributes that are collected and stored for historical data collection on the Tivoli Enterprise Monitoring Server. Therefore, few attributes from the R/3_Instance_Configuration attribute group are not collected when you configure historical data collection to collect data on the Tivoli Enterprise Monitoring Server. Configure historical data collection to collect data on the monitoring agent.
No CCMS alerts show in the Alerts workspace (If CCMS alert collection takes too long you might not get any alerts.)	<p>If errors occur in the mySAP system, the SAP agent experiences the same errors. Do the following procedures:</p> <ul style="list-style-type: none"> • Correct the errors in the mySAP system. Look at the mySAP system to determine whether CCMS is responding. Log on to the mySAP system and run RZ20 to see whether CCMS is responding. If CCMS is not responding contact SAP support or access SAP online support tools at service.sap.com. • Agent CCMS collection timeout values might need to be increased. The agent times out if it cannot collect the data in 2 minutes. Contact IBM Software Support for instructions on how to temporarily increase the CCMS data collection timeout setting for diagnostic purposes. Setting this value higher affects the responsiveness of the SAP agent. • Ensure that SAPCCMSR agents are working correctly. • Ensure that the CCMS Monitors and Monitor tree elements are selected with agent config /IBMMON/ITM_ALERTS.

Table 17. Workspace problems and solutions (continued)

Problem	Solution
All of the rows of data you expected to see in a workspace are not shown.	<ul style="list-style-type: none"> • If it is a time span workspace, check that the time span is set to the correct value. • Check for alert 9911, "Excessive data collected for workspace", generated by IBM Tivoli Monitoring. This alert means that the number of data rows collected exceeds the maximum number of rows that the agent is configured to send to the Tivoli Enterprise Portal Server. It informs you how many rows of data were not returned. To modify the maximum row setting, see "IBM Tivoli Monitoring generated alerts maintenance" on page 41. Increasing the maximum number of data rows can have a negative impact on agent and Tivoli Enterprise Portal Server performance. • For more information, see "Verifying the prerequisites for data collection" on page 9.
Timestamps that are shown in the workspaces do not match the timestamps you are expecting.	See "Alert timestamps" on page 57.
No log data is shown in the workspaces that contains log data, for example, the Database Logs workspace.	Ensure that the log files and their locations are properly configured for the agent to monitor. See "Log file name maintenance" on page 41.
No data shows in the Gateway Statistics workspace.	<p>Enable Gateway Statistics by selecting the Enable Gateway Statistics link or Reset Gateway Statistics link from within the Gateway Statistics workspace.</p> <p>Note: Gateway statistics are intended to be enabled for a short time period during specific analysis. Enabling gateway statistics for a long time period results in the gateway statistics values becoming too large to report.</p>
"No applicable data" is shown in a workspace table.	<p>The SAP agent was unable to find any data that met the query parameters. This problem occurs in the following cases:</p> <ul style="list-style-type: none"> • There was no activity for a function within the real-time interval in which the agent is looking. If the view supports time spans, try a longer time span interval. • The :Grp managed system is not configured to report the type of data requested. This limitation is a configuration limitation based on how you defined the group in the mySAP system.
No data is shown in a top-level workspace for managed system names that end in:Sys.	This limitation is a current limitation of the Tivoli Enterprise Portal Server. Only one workspace can be assigned to a top level managed system, so all managed system names (:Ins, :Sys or :Grp) share the same workspace. This workspace contains instance-specific views that are not populated when shown for :Sys managed system names.
No data is displayed in the Service Response or Transaction Performance workspaces	The SAP agent depends on SAP statistics collection that works correctly on the mySAP systems that it monitors. On SAP 7.0 systems, you must set the mySAP system time zone to match the time zone for the operating system so that SAP statistics are collected with the correct time stamps. You must make this change for the SAP agent to successfully collect data. For more information about this issue, see SAP Note 926290

SAP function module

When the data volume is high on the SAP server, you might experience problems with certain workspaces causing a slow response time from the server. If the workspaces are not critical, you can disable the associated SAP function module.

By default, the SAP agent function modules are enabled. When you disable the SAP function module, if you select a workspace, data is not displayed on the Tivoli Enterprise Portal. Therefore, you avoid any performance-related problems.

The following function modules are disabled by default and you can enable them:

- HTTP services under the SYS subnode (/IBMMON/ITM_HTTP_SRVS)
- XML messages under the PI/XI subnode (/IBMMON/ITM_SXMB_MONI_NEW)
- Sync/Async communication under the PI/XI subnode (/IBMMON/ITM_SYN_ASYNC_COMM)
- qRFC inbound queue details under the Sys subnode (/IBMMON/ITM_QIN_QDETAILS)

Related tasks:

“Enabling the SAP agent function module” on page 30

By default, the SAP agent function module is enabled. However, you may need to enable it again if you have disabled it previously to resolve performance problems.

“Disabling the SAP function module” on page 31

Some workspaces may cause a slow response from the SAP server and you can disable the SAP function module to improve the server performance.

Enabling the SAP agent function module

By default, the SAP agent function module is enabled. However, you may need to enable it again if you have disabled it previously to resolve performance problems.

Procedure

1. By using the SAP GUI, logon to the SAP system.
2. Run the SE16 transaction code.
3. Enter /IBMMON/ITM_CNFG as the table name.
4. Select the row to delete and press **shift + F2** to delete the entry.
5. Click **Save**.

Disabling the SAP function module

Some workspaces may cause a slow response from the SAP server and you can disable the SAP function module to improve the server performance.

Procedure

1. By using the SAP GUI, logon to the SAP system.
2. Run the SE16 transaction code.
3. Enter /IBMMON/ITM_CNFG as the table name.
4. To create a new entry, press **F5**.
5. In the **PARM NAME** field, enter the name of the SAP function module.
6. In the **VALUE CHAR** field, enter No.
7. Click **Save**.

Situation troubleshooting Overview

There are many solutions for problems that occur in relation to situations.

This section provides information about both general situation problems and problems with the configuration of situations. See the *IBM Tivoli Monitoring Troubleshooting Guide* for more information about troubleshooting for situations.

General situation problems

There are many solutions to situation problems that you encounter.

Table 18 contains problems that might occur with specific situations.

Table 18. Specific situation problems and solutions

Problem	Solution
You want to change the appearance of situations when they are shown in a workspace view.	<ol style="list-style-type: none"> 1. Right-click an item in the Navigation tree. 2. Select Situations in the menu. The Situation Editor window is shown. 3. Select the situation that you want to modify. 4. Use the Status menu in the lower right of the window to set the status and appearance of the Situation when it triggers. Note: This status setting is not related to severity settings in IBM Tivoli Enterprise Console.
Monitoring activity requires too much disk space.	Check the RAS trace logging settings that are described in "RAS trace parameters" on page 299. For example, trace logs grow rapidly when you apply the ALL logging option.
A formula that uses mathematical operators seems to be incorrect. For example, if you are monitoring Linux, a formula that calculates when Free Memory falls under 10 percent of Total Memory does not work: <code>LT #'Linux_VM_Stats.Total_Memory' / 10</code>	<p>This formula is incorrect because situation predicates support only logical operators. Your formulas cannot have mathematical operators. Note: The Situation Editor provides alternatives to math operators. Regarding the example, you can select % Memory Free attribute and avoid the need for math operators.</p>
If you are running a version of the SAP agent that is earlier than V6.2 and you choose to alter the views to include a new attribute, be aware that data for this attribute is not shown and you see a blank column in this view.	To enable Unicode and other features, upgrade the monitoring agent to IBM Tivoli Monitoring, Version 6.2.0.
Situations that you create show the severity UNKNOWN in the IBM Tivoli Enterprise Console.	<p>For a situation that is not mapped to have the correct severity in the Tivoli Enterprise Console, ensure that one of the following is true:</p> <ol style="list-style-type: none"> 1. If an entry is found in the <code>tecserver.txt</code> file for the situation and SEVERITY is specified, the value specified is used. <p>OR</p> <ol style="list-style-type: none"> 2. Add a severity suffix to the name of the situation. If the situation name ends with a standard severity code, IBM Tivoli Enterprise Console derives the severity from the name. For example, a situation name with the suffix <code>_Warn</code> or <code>_Warning</code> has the WARNING severity in IBM Tivoli Enterprise Console. The suffix <code>_Cri</code> or <code>_Critical</code> is shown as CRITICAL severity.
You see the 'Unable to get attribute name' error in the Tivoli Enterprise Monitoring Server log after creating a situation.	<p>Ensure that the agent attribute files are installed on the Tivoli Enterprise Monitoring Server.</p> <p>The following example shows a typical log entry when you have this problem:</p> <pre>(4320916A.0049-F60:kfaottev.c,1572,"Translate_ResultBuffer") \ Unable to get attribute name for tablename/column \ <UAG524400.UA4>. Ignored.</pre>
When you use a long process name in the situation, the process name is truncated.	Truncation of process names in the portal display is the expected behavior. 64 bytes is the maximum name length.

Table 18. Specific situation problems and solutions (continued)

Problem	Solution
Situations are triggered in the Tivoli Enterprise Monitoring Server, but events for the situation are not sent to the Tivoli Enterprise Console server. The Tivoli Enterprise Monitoring Server is properly configured for event forwarding, and events for many other situations are sent to the event server.	<p>None. This limitation is a limitation of the Tivoli Enterprise Monitoring Server event forwarding function. Situations that monitor only other situations do not send events to the event server.</p> <p>This condition can occur when a situation is monitoring only the status of other situations. The event forwarding function requires an attribute group reference in the situation in order to determine the correct event class to use in the event. When the situation monitors only other situations, no attribute groups are defined and the event class cannot be determined. Because the event class cannot be determined, no event is sent.</p>

Problems with situation configuration

You can use the Situation editor to help you fix any problems that you encounter when you try to configure situations.

Table 19 through Table 21 on page 325 contain problems that might occur with situations.

This section provides information for troubleshooting agents. Be sure to consult the *IBM Tivoli Monitoring Troubleshooting Guide* for more general troubleshooting information.

Table 19. Problems with configuring situations that you solve in the Situation Editor

Problem	Solution
<p>Note: To get started with the solutions in this section, complete these steps:</p> <ol style="list-style-type: none"> 1. Open the Tivoli Enterprise Portal. 2. Click Edit > Situation Editor. 3. In the tree view, choose the agent that has the situation you want to modify. 4. Select the situation in the list. The Situation Editor view is shown. 	
The situation for a specific agent is not visible in the Tivoli Enterprise Portal.	Open the Situation Editor. Access the All managed servers view. If the situation is absent, confirm that application support for SAP agent is added to the monitoring server. If not, add application support to the server, as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .
The monitoring interval is too long.	Access the Situation Editor view for the situation that you want to modify. Check the Sampling interval area in the Formula tab. Adjust the time interval as needed.
The situation did not activate at startup.	<p>Manually recycle the situation as follows:</p> <ol style="list-style-type: none"> 1. Right-click the situation and select Stop Situation. 2. Right-click the situation and select Start Situation. <p>Note: You can permanently avoid this problem by placing a check mark in the Run at Startup option of the Situation Editor view for a specific situation.</p>
The situation is not shown.	Click the Action tab and check whether the situation has an automated corrective action. This action can occur directly or through a policy. The situation might be resolving so quickly that you do not see the event or the update in the graphical user interface.
A situation event did not occur even though the predicate was properly specified.	Check the logs, reports, and workspaces.
A situation fires on an unexpected managed object.	Confirm that you distributed and started the situation on the correct managed system.
The product did not distribute the situation to a managed system.	Click the Distribution tab and check the distribution settings for the situation.

Table 19. Problems with configuring situations that you solve in the Situation Editor (continued)

Problem	Solution
<p>The situation does not fire.</p> <p>Incorrect predicates are present in the formula that defines the situation. For example, the managed object shows a state that normally triggers a monitoring event. However, the situation is not true because the wrong attribute is specified in the formula.</p>	<p>In the Formula tab, analyze predicates as follows:</p> <ol style="list-style-type: none"> Click the fx icon in the upper-right corner of the Formula area. The Show formula window is shown. <ol style="list-style-type: none"> Confirm the following details in the Formula area at the top of the window: <ul style="list-style-type: none"> The attributes that you intend to monitor are specified in the formula. The situations that you intend to monitor are specified in the formula. The logical operators in the formula match your monitoring goal. The numerical values in the formula match your monitoring goal. (Optional) Click the Show detailed formula check box in the lower left of the window to see the original names of attributes in the application or operating system that you are monitoring. Click OK to dismiss the Show formula window. (Optional) In the Formula area of the Formula tab, temporarily assign numerical values that immediately trigger a monitoring event. The triggering of the event confirms that other predicates in the formula are valid. <p>Note: After you complete this test, you must restore the numerical values to valid levels. Then you do not generate excessive monitoring data based on your temporary settings.</p>

Table 20. Problems with configuration of situations that you solve in the workspace area

Problem	Solution
<p>Situation events are not shown in the Events Console view of the workspace.</p>	<p>Associate the situation with a workspace.</p> <p>Note: The situation does not need to be shown in the workspace. It is sufficient that the situation is associated with any workspace.</p>
<p>You do not have access to a situation.</p>	<p>Note: You must have administrator privileges to complete these steps.</p> <ol style="list-style-type: none"> Select Edit > Administer Users to access the Administer Users window. In the Users area, select the user that has the privileges you want to modify. In the Permissions tab, Applications tab, and Navigator Views tab, select the permissions or privileges that correspond to the user's role. Click OK.
<p>A managed system seems to be offline.</p>	<ol style="list-style-type: none"> Select Physical View and highlight the Enterprise Level of the Navigator tree. Select View > Workspace > Managed System Status to see a list of managed systems and their status. If a system is offline, check network connectivity and status of the specific system or application.

Table 21. Problems with configuration of situations that you solve in the Manage Tivoli Enterprise Monitoring Services window

Problem	Solution
<p>After an attempt to restart the agents in the Tivoli Enterprise Portal, the agents are still not running.</p>	<p>Check the system status and check the appropriate IBM Tivoli Monitoring logs.</p>
<p>The Tivoli Enterprise Monitoring Server is not running.</p>	<p>Check the system status and check the appropriate IBM Tivoli Monitoring logs.</p>

Table 21. Problems with configuration of situations that you solve in the Manage Tivoli Enterprise Monitoring Services window (continued)

Problem	Solution
The managed objects you created are firing on incorrect managed systems.	Check the managed system distribution on both the situation and the managed object settings sheets.

Take Action command troubleshooting

You can use the log files that are generated from the Take Action commands to solve any problems that you might encounter with these commands.

Table 22 contains general problems that might occur with Take Action commands. When each Take Action command runs it generates the log files listed in Table 10 on page 297. This appendix provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 22. Take Action commands problems and solutions

Problem	Solution
Take Action commands might require several minutes to complete.	Allow several minutes. If you do not see a message that advises you of completion, try to run the command manually. If you are unable to complete the Take Action command manually, see the <i>IBM Tivoli Monitoring Troubleshooting Guide</i> for general information about troubleshooting the Take Action command.
The Take Action command completes with return Code 0 but the action was not completed.	Check the Take Action log files for errors. The log files for Take Action commands on Windows systems are usually in the Windows\system32 directory; and on UNIX, the commands are in the directory where the ksar* utilities are: <i>install_dir/arch/bin</i> . Ensure that the user who is running the Take Action command has the correct authorizations to run the command in the SAP systems. For more information, see “SAP user IDs” on page 32.
When running the Execute brarchive Take Action command, the command completes with a return code of 4 or 127. A return code of 4 is shown when the IBM Tivoli Monitoring servers are running on Windows. A return code of 127 is shown when the IBM Tivoli Monitoring servers are running on UNIX. The SAP agent might be running on either Windows or UNIX.	These return codes mean that the brarchive command cannot be found. This problem can occur when using the remote management capability of the SAP agent when that agent is not on an SAP server. When you run Take Action commands, the command to be run must be on the computer where the agent is installed and must be in the PATH of the agent. Run the SAP agent in local management mode. There is no workaround when running the agent in remote management mode.

Table 22. Take Action commands problems and solutions (continued)

Problem	Solution
<p>There are upgrade problems after you run the Take Action and SAPOffice Mail utilities from custom shell scripts. If the password that you enter is plain text, then this password is not recognized.</p> <p>Note: Custom shell scripts are those shell scripts that are created by copying system shell scripts, for example, ksar3 and ksar3nfy scripts.</p> <p>The following problems occur:</p> <p>Take Action</p> <ul style="list-style-type: none"> From the Tivoli Enterprise Portal: The returned code is 4. From the command line interface: A core dump occurs. <p>SAPOffice Mail</p> <ul style="list-style-type: none"> From the command line interface: A segmentation fault and core dump occur. 	<p>To upgrade the Take Action shells script, complete the following steps:</p> <ol style="list-style-type: none"> Depending on your platform, complete one of the following steps: <ul style="list-style-type: none"> On the RHEL-64 platform only, copy the custom shell scripts from /1x8263/bin to /1x8266/bin. Alternatively, rename or backup all existing custom Take Action shell scripts to another directory in the following path: /binarch/bin. For each custom shell script, create a shell script by copying the ksar3 script and renaming it to match the shell script. Open the newly created custom shell script, that contains the following information: <pre>#### CUSTOM SETTINGS ##### #### THE FOLLOWING SETTINGS ARE COMMON FOR LOGONGROUP CONNECTION MODE OR APPLICATION SERVER CONNECTION MODE #### If CFG_FILES=YES then SAPSYSTEMNAME should be set ##### export CFG_FILE=NO # export SAPSYSTEMNAME=nnn # export SAPCLIENT=ccc # export SAPUSER=uuuuuuuu # export SAPPASSWORD=pppppppp #### THE FOLLOWING SETTINGS ARE FOR APPLICATION SERVER CONNECTION MODE # export SAPHOST=hhhhhh # export SAPGATEWAY=gggg # export SAPGATEWAYSERVICE=sss # export SAPSYSTEMNUMBER=nn</pre> Complete the following updates: <ul style="list-style-type: none"> Remove the # symbol that precedes the SAP* parameter. Set the value for each SAP* parameter from the existing backup or renamed ksar3 shell script. Save and close the file. Repeat step 2 to rename additional files. <p>Now, you can run the Take Action from the Tivoli Enterprise Portal and the command line interface using your custom shell scripts.</p> <p>To upgrade the SAPOffice Mail shell script, complete the following steps:</p> <ul style="list-style-type: none"> Backup all existing custom SAPOffice Mail shell scripts to another directory or rename these scripts. Complete steps 2 to 4 for the Take Action shells script. <p>Note: Now, you can send SAPOffice Mail from the command line interface by using your custom shell scripts.</p>

Support information

If you have a problem with your IBM software, you want to resolve it quickly.

IBM provides the following ways for you to obtain the support you need:

Online

The following websites contain troubleshooting information:

- Go to the IBM Software Support website (<http://www.ibm.com/support/entry/portal/software>) and follow the instructions.
- Go to the IBM Tivoli Distributed Monitoring and Application Management Wiki (<http://www.lotus.com/ldd/tivmonitorwiki.nsf>). Feel free to contribute to this wiki.

IBM Support Assistant

The IBM Support Assistant (ISA) is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The ISA provides quick access to support-related information and serviceability tools for problem determination. To install the ISA software, go to the IBM Support Assistant website (<http://www.ibm.com/software/support/isa>).

Chapter 9. Tivoli Common Reporting for the SAP monitoring agent

Use the agent-specific information with the Tivoli Common Reporting information in the *IBM Tivoli Monitoring Administrator's Guide* for complete information about prerequisites, importing reports, and running reports.

IBM Tivoli Monitoring V6.2.2 Fix Pack 2 introduced the Cognos data model and reports to be used in Tivoli Common Reporting.

The reports in this package are historical reports, reporting against summarized data collected in Tivoli Data Warehouse V6.2.2. These reports are built to run against only the IBM Tivoli Monitoring VIOS Premium, CEC Base, and AIX Premium agents.

The DB2, Oracle, and SQL Server databases are supported for running all reports.

The Cognos reports can be administered, run, and edited by Tivoli Common Reporting V2.1 software included with IBM Tivoli Monitoring V6.2.2 Fix Pack 2 or later. For more information about Tivoli Common Reporting, see the Tivoli Common Reporting Community (www.ibm.com/developerworks/spaces/tcr).

This version of Tivoli Common Reporting includes Cognos Business Intelligence and Reporting V8.4.

More information about Tivoli Common Reporting

You can find information about Tivoli Common Reporting at the Tivoli Common Reporting documentation Information Center and the Tivoli Common Reporting website.

For complete documentation for the Tivoli Common Reporting tool, see the Tivoli Common Reporting documentation Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.tcr.doc/tcr_welcome.html).

The Tivoli Common Reporting website contains information and how-to videos about subjects such as how to create IBM Tivoli Monitoring reports by dragging, import Tivoli Common Reporting and Cognos reports, and set up Cognos and Tivoli Common Reporting data connections. You can find a report catalog and information about reporting across Tivoli products at the Tivoli Common Reporting Community (www.ibm.com/developerworks/spaces/tcr).

Prerequisites

The Cognos reports require the completion of prerequisite steps for the reports to run.

All of the following prerequisite steps must be completed or the reports cannot run:

1. Install Tivoli Common Reporting V2.1.
2. Obtain the reports from the product media.
3. Configure historical collection for the SAP agent and the Summarization and Pruning agent.
4. Connect to Tivoli Data Warehouse by using the database client over ODBC.

Install Tivoli Common Reporting V2.1

Tivoli Common Reporting V2.1 must be installed and running.

Procedure

1. To install and configure Tivoli Common Reporting, see the documentation in the IBM Tivoli Common Reporting Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/index.jsp?topic=/com.ibm.tivoli.tcr_cog.doc/tcr_welcome.html).
2. To ensure that Tivoli Common Reporting is running, go to https://machine_name:16311/ibm/console/.

Obtain the reports from the product media

The reports must be on the same computer as the Tivoli Common Reporting server.

Procedure

1. Locate the Cognos reports in the following directory: *Product Media root/REPORTS*.
2. Copy these files to any location on the same computer where the Tivoli Common Reporting server is installed.

Configure historical collection

Historical collection must be configured for the SAP agent and the Summarization and Pruning agent.

Before you begin

Install and configure IBM Tivoli Monitoring V6.2.2 Fix Pack 2 and install and configure the SAP agent, then configure historical collection.

Also, configure the Warehouse Summarization and Pruning agent with or without shifts enabled.

For more information about how to enable historical collection and configure the Warehouse Summarization and Pruning agent in IBM Tivoli Monitoring, see "Managing historical data" in the *IBM Tivoli Monitoring Administrator's Guide*.

Procedure

1. Enable daily summarization for the following tables:

Table 23. Daily summarization

SAP agent predefined Tivoli Common Reporting reports	Attribute Group Name entered into Historical Data Collection (HDC)	Tables	Views in Database
Server Performance report	Solution Manager Servers	SolMan_Servers_Overview_D	SolMan_Servers_Overview_DV
ICM Monitoring Performance	SAP ICM Monitor	SAP_ICM_MON_INFO_D	SAP_ICM_MON_INFO_DV
Instance Performance	Instance Configuration	R/3_Instance_Configuration_D	R/3_Instance_Configuration_DV
qRFC Inbound Queue Performance	SAP qRFC Inbound Queues	SAP_qRFC_Inbound_Queues_Overview_D	SAP_qRFC_Inbound_Queues_Overview_DV
DB2 Database Performance	DB2 Configuration Information	DB2_CON_INFO_D	DB2_CON_INFO_DV

For more information about Historical data collection attributes, see "Historical data collection attributes" on page 97.

2. To ensure that the required views are present, run the following query against Tivoli Data Warehouse:

Database	Query
DB2	select distinct "VIEWNAME" from SYSCAT.VIEWS where "VIEWNAME" like '%V'
Oracle	select distinct "VIEW_NAME" from USER_VIEWS where "VIEW_NAME" like '%V'
MS SQL Server	select distinct "NAME" from SYS.VIEWS where "NAME" like '%V'

Connect to the Tivoli Data Warehouse

Connect to Tivoli Data Warehouse by using the database client over ODBC.

About this task

Cognos uses ODBC to connect to the database. Therefore, it is important to first install a database client on the Tivoli Common Reporting server and connect the database client to Tivoli Data Warehouse.

Procedure

1. Make sure that you deployed a DB2, Oracle, or MS SQL Server database client on the computer where the Cognos-based Tivoli Common Reporting engine is installed. For DB2, the client must be the same version as the database that Tivoli Data Warehouse is using.
2. Connect the DB2, Oracle, or MS SQL Server database client to the database server:

Database	How to connect
DB2	Connect by running the Configuration Assistant, configuring the local net service name configuration, and restarting your system.
Oracle	Connect by running the Oracle Net Configuration Assistant, configuring the local net service name configuration, and restarting your system.
MS SQL Server	Connect by running the MS SQL Management Studio Express, configuring the local net service name configuration, and restarting your system.

Important: Note the name of the connection you created, because it is used in Tivoli Common Reporting by the report installer as described in "Importing and running Cognos reports."

See "Connecting to the Tivoli Data Warehouse using the database client over ODBC" in the *IBM Tivoli Monitoring Administrator's Guide V6.2.2 Fix Pack 2*.

Importing and running Cognos reports

You must import the IBM Tivoli Monitoring for SAP Application Cognos reports to run any report from the SAP Reports package.

Before you begin

All prerequisites must be met before importing and running the reports, or the reports cannot run. See "Prerequisites" on page 329 for the steps.

About this task

The IBM Tivoli Monitoring for SAP Reports package contains an installer that performs the following tasks:

- Importing the reports and data model into Tivoli Common Reporting
- Configuring a data source to connect to Tivoli Data Warehouse
- Running scripts to create and populate the common dimensions in Tivoli Data Warehouse

After completing the steps for importing and running Cognos reports, you can run any report from the IBM Tivoli Monitoring for SAP Reports package.

Procedure

1. On operating systems other than Windows, you might need to point to Java 1.6+ through your system PATH. Make sure that your system PATH contains a valid path to a Java virtual machine, for example: # PATH=\$PATH:/ibmjre60/ibm-java-i386-60/jre/bin

- From the directory where you extracted the reports package, run the following file depending on your operating system:

Operating system	File
AIX	setup_aix.bin
Linux	setup_linux.bin
Solaris	setup_solaris.bin
Windows	setup_windows.exe

- Select the language that you want.
- Accept the license agreement.
- Select the location where the Tivoli Common Reporting server is installed (*not* the location where the reports are to be installed). The path must end with /tcr folder. By default, the path is C:\IBM\tivoli\tipv2Components\TCRComponent or /IBM/tivoli/tipv2Components/TCRComponent.

Note: If Tivoli Common Reporting installation is distributed, reports must be installed on the dispatcher site only.

- Select the report sets for installation by selecting the **IBM Tivoli Monitoring for SAP Cognos Reports** check box.
- Provide Tivoli Common Reporting credentials: user name and password.
- Configure Cognos data sources to connect to Tivoli Data Warehouse.

Note: If you have a Tivoli Data Warehouse connection already defined in Tivoli Common Reporting (from a previous installation of reports), skip this step. To test whether you have Tivoli Data Warehouse defined, go to **TCR > Launch Administration > Configuration > Data Source Connections** and see whether there is an entry called TDW. If yes, then skip this step in the installation. You must manually configure the data source in Tivoli Common Reporting through this administration panel as described in Configuring database connection (http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.tcr.doc_21/tcr_config_db.html). If you did not define a data source in Tivoli Common Reporting, do not skip this option. You must enter the database alias name or the ODBC name for the database name input field.

- In the next panel, enter the JDBC credentials. The JDBC connection is used to run the Common Dimensions scripts against Tivoli Data Warehouse. Provide the database admin (db2admin, system, and so on) user name and password in the Configure data script window for JDBC User Credentials. Admin privileges are required in this step to create the IBM_TRAM schema and required tables. If you are using an Oracle database and you do not have the USERS and TEMP tablespaces in your database, you must create them in your Tivoli Data Warehouse before you can run these scripts.

Note: If you already have these common dimensions (Time Dimension, Weekday Lookup, Month Lookup, and Computer System under IBM_TRAM schema) in your Tivoli Data Warehouse from a previous installation and you want to modify those dimensions to define time granularity that is different from what is in the Tivoli Data Warehouse, you can skip this step and run the scripts manually as described in "Creating shared dimension tables and populating the time dimensions table" in the IBM Tivoli Monitoring Administrator's Guide V6.2.2 Fix Pack 2.

- Select the **JDBC Database Credentials** tab, and select **database type**. Edit the JDBC URL, JDBC driver file names, and JDBC driver class for the selected database type.

Database	Required driver file name
DB2	db2jcc.jar and db2jcc_license_cu.jar Note: JDBC credentials must have db2admin privileges.
Oracle	oraclethin.jar

Database	Required driver file name
SQL Server	sqljdbc.jar

11. On the pre-installation summary panel, all reports selected for installation are displayed.
12. Click **Install**, and wait for the installer to finish. The Installation results panel shows the status of all installation actions for every item or report.

One log file and one trace file are included. Both files are in the user home directory, with the following names:

- Report_Installer_for_Tivoli_Common_Reporting_InstallLog.log (Log)
- Report_Installer_For_TCR_Output.txt (Trace)

On Windows systems in the Run window, type %USERPROFILE% to open the file explorer to the directory where the log and trace files are created. If you skipped running the database scripts or a script failed, you can run the script manually by using the instructions in "Creating shared dimension tables and populating the time dimensions table" in the IBM Tivoli Monitoring Administrator's Guide V6.2.2 Fix Pack 2.

Results

At the end of the installation, you see 3 messages. One for the status of importing reports, one for the status of defining the data source, and one for the status of running database scripts. If any of these messages indicate a failure, look at the Report_Installer_For_TCR_Output.txt and Report_Installer_InstallLog.log file. On Windows systems, this file is located in C:\Documents and Settings\Administrator.

What to do next

Use the following steps to make sure that your installation was successful:

1. Go to Tivoli Common Reporting and see whether **IBM Tivoli Monitoring for System P Reports v6.2.2 IF2** is displayed in the Public Folders.
2. Go to **TCR > Launch Administration > Configuration > Data Source Connections** and see whether Tivoli Data Warehouse was defined. Click **Tivoli Data Warehouse**.
3. On the next page, Tivoli Data Warehouse has a **Test Connection** icon next to it. Click the **Test connection** icon to make sure that you are connected to the database.
4. Go to **TCR > Launch Query Studio**. Select **IBM Tivoli Monitoring for System P Reports v6.2.2 IF2**. In the left navigation, all the data is displayed.
5. Browse to **IBM Tivoli Monitoring for System P Reports v6.2.2 IF2 > ITM for System P Agents (Query) > TCR Shared Dimensions (Query) > Time**.
6. Drag **Date** into the space on the left. If no data is displayed, Time Dimension was not defined correctly.

Predefined Cognos reports

You can verify whether the reporting functionality is installed and configured correctly by running the Predefined Cognos® report for the SAP agent.

The SAP agent reporting package that you imported into Tivoli Common Reporting includes predefined Cognos reports. By using these reports, you can monitor the reporting activity and see what a typical Cognos report includes.

The following reports are available in the Common Reporting windows in Tivoli Common Reporting:

- SAP Agent DB2 Database Performance Report
- SAP Agent Server Performance Report

- SAP Agent ICM Monitoring Performance Report
- SAP Agent Instance Performance Report
- SAP Agent qRFC Inbound Queue Performance Report

Performance trends reports

You can forecast performance trends and resources for the SAP agents using predefined reports.

The following reports are available for performance trends and resource forecasts:

- SAP Agent DB2 Database Performance
- SAP Agent Server Performance Report
- SAP Agent ICM Monitoring Performance Report
- SAP Agent Instance Performance Report
- SAP Agent qRFC Inbound Queue Performance Report

SAP Agent Server Performance report

This report describes the server performance for a specific time duration, for example, a predefined date range, such as the Last 30 days.

Name	SAP agent server performance report
Description	This report describes the server performance for a specific time duration.
Purpose	This report is useful for providing host-wide and historical information on memory size, CPU frequency, and CPU utilization.
Parameters	<p>Report period</p> <p>Date Range Select the report period from a predefined date range, such as Last Week, Current Month, or Last 30 Days. You can also enter a start date, an end date, and the time for the reporting period.</p> <p>Start Date Select a start date from the calendar and a start time from the time widget. You must select both date and time.</p> <p>End Date Select an end date from the calendar and an end time from the time widget. You must select both date and time.</p> <p>Summarization Type Select the summarization types, such as Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, or Default from the list. If you select the Default option, the summarization type is computed based on the number of days for the date range.</p>
Tables used	<p>SolMan_Servers_Overview</p> <p>Time Dimension</p>
Views in warehouse DB	SolMan_Servers_Overview
Output	This report shows the host-wide IP address, number of processors that are used, processor frequency, and memory size. Data is shown in ascending order of the host name.

SAP Agent ICM Monitoring Performance report

This report describes the ICM monitoring performance for a specific time duration, for example, a predefined date range, such as Last Week.

Name	SAP agent ICM monitoring performance report
-------------	---------------------------------------------

Description	This report describes the ICM monitoring performance for a specific time duration.
Purpose	The report is useful for providing system specific thread performance and queue performance information.
Parameters	<p>Report Period</p> <p>Date Range Select the report period from a predefined date range, such as Last Week, Current Month, or Last 30 Days. You can also enter a start date, an end date, and the time for the reporting period.</p> <p>Start Date Select a start date from the calendar and the start time from the time widget. You must select both date and time.</p> <p>End Date Select an end date from the calendar and the end time from the time widget. You must select both date and time.</p> <p>Summarization Type Select the summarization types, such as Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, or Default from the list. If you select the Default option, the summarization type is computed based on the number of days for the date range.</p>
Tables used	SAP_ICM_MON_INFO
Views in Warehouse DB	SAP_ICM_MON_INFO
Output	Depending on the filter data provided, this report shows the Thread ID, Maximum Thread, Peak Thread, Current Thread, Maximum Queue, Peak Queue, and Current Queue.

SAP Agent Instance Performance report

This report shows the performance of the SAP agent instance over a specific time duration. It provides useful process information about the host, for example, the Instance Name that is associated with the host.

Name	SAP Agent Instance Performance report
Description	This report describes the instance performance for a specific time duration.
Purpose	This report is useful for providing process information about the host.
Parameters	<p>Report Period</p> <p>Date Range Select the report period from a predefined date range such as Last Week, Current Month, or Last 30 Days; or, you can enter a start and end date and time for the reporting period.</p> <p>Start Date Select a start date from a calendar and the start time from the time widget. You must select both date and time.</p> <p>End Date Select an end date from the calendar and an end time from the time widget. You must select both date and time.</p> <p>Summarization Type Select the summarization types, such as Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, or Default from the list. If you select the Default option, the summarization type is computed based on the number of days for the date range.</p>
Tables used	R/3_Instance_Configuration

Views in Warehouse DB	R/3_Instance_Configuration
Output	Depending on the filter data that is provided, this report shows the Instance Name, Dialog Processes(Sum), Update Processes(Sum), Batch Processes(Sum), Spool Processes(Sum) of the host.

SAP Agent qRFC Inbound Queue performance report

This report shows qRFC Inbound Queue performance over a specific time duration, for example, a predefined date range, such as Current Month.

Name	SAP agent qRFC Inbound Queue performance report
Description	This report describes the qRFC Inbound Queue Performance for a specific time duration.
Purpose	This report provides information about the Queue entries for each queue.
Parameters	<p>Report period</p> <p>Date Range Select the report period from a predefined date range, such as Last Week, Current Month, or Last 30 Days. You can also enter a start date, an end date, and the time for the reporting period.</p> <p>Start Date Select a start date from the calendar and the start time from the time widget. You must select both date and time.</p> <p>End Date Select an end date from the calendar and an end time from the time widget. You must select both date and time.</p> <p>Summarization Type Select the summarization types, such as Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, or Default from the list. If you select the Default option, the summarization type is computed based on the number of days for the date range.</p>
Tables used	SAP_qRFC_Inbound_Queues_Overview
Views in Warehouse DB	KSAQRFCIN
Output	Depending on the filter data that is provided, this report shows the Managed System, System name, Queue Name, and Queue Entries.

SAP Agent DB2 Database Performance report

This report shows DB2 Database Performance over a specific time duration, for example, a predefined date range, such as Last 30 Days.

Name	SAP Agent DB2 Database Performance report
Description	This report describes the DB2 Database Performance for a specific time duration.
Purpose	This report provides information about the system name, application control heap size, application heap size and log buffer size.

Parameters	<p>Report period</p> <p>Date Range Select the report period from a predefined date range, such as Last Week, Current Month, or Last 30 Days. You can also enter a start date, an end date, and the time for the reporting period.</p> <p>Start Date Select a start date from the calendar and the start time from the time widget. You must select both date and time.</p> <p>End Date Select an end date from the calendar and an end time from the time widget. You must select both date and time.</p> <p>Summarization Type Select the summarization types, such as Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, or Default from the list. If you select the Default option, the summarization type is computed based on the number of days for the date range.</p>
Tables used	DB2_CON_INFO
Views in Warehouse DB	DB2_CON_INFO
Output	Depending on the filter data that is provided, this report shows the system name, application control heap size, application heap size and log buffer size.

Appendix A. Upgrading for warehouse summarization

The SAP agent changed the warehouse collection and summarization characteristics for some agent attribute groups. These changes correct and improve the way warehouse data is summarized, producing more meaningful historical reports. This appendix explains those changes and the implications to your warehouse collection and reporting.

Warehouse summarization is controlled on a per-table basis. How the rows in each table are summarized is determined by a set of attributes in each table that are designated as primary keys. One primary key represents the monitored resource. Data is minimally summarized based on this value. For all agents, this primary key is represented internally by the column name, `ORIGINNODE`; however, the external attribute name varies with each monitoring agent.

One or more additional primary keys are provided for each attribute group to further refine the level of summarization for that attribute group. For example, in an OS agent disk attribute group, a primary key might be specified for the logical disk name. Use the key to report historical information for each logical disk in a computer.

Tables in the warehouse

For a monitoring agent, you have the following two main types of warehouse tables:

- Raw tables:

These tables contain the raw information reported by a monitoring agent and written to the warehouse by the Warehouse Proxy agent. Raw tables are named for the attribute group that they represent, for example, `R/3_ABAP_Dumps`.

- Summary tables:

These tables contain summarized information based on the raw tables and written to the warehouse by the Summarization and Pruning agent. Summarization provides aggregation results over various reporting intervals, for example, hours and days. Summary table names are based on the raw table name with an appended suffix, for example, `R/3_ABAP_Dumps_H`, `R/3_ABAP_Dumps_D`.

Effects on summarized attributes

When tables are summarized in the warehouse, the summary tables and summary views are created to include additional columns to report summarization information. Table 24 contains a list of the time periods and the suffixes for the summary tables and views.

Table 24. Time periods and suffixes for summary tables and views

Data collection time period	Summary table suffixes	Summary view suffixes
Hourly	_H	_HV
Daily	_D	_DV
Weekly	_W	_WV
Monthly	_M	_MV
Quarterly	_Q	_QV
Yearly	_Y	_YV

Table 25 on page 340 shows the expansion to summary columns of some of the most commonly used attribute types.

Table 25. Additional columns to report summarization information

Attribute name	Aggregation type	Additional summarization columns
MyGauge	GAUGE	MIN_MyGauge MAX_MyGauge SUM_MyGauge AVG_MyGauge
MyCounter	COUNTER	TOT_MyCounter HI_MyCounter LO_MyCounter LAT_MyCounter
MyProperty	PROPERTY	LAT_Property

These additional columns are provided only for attributes that are not primary keys. When an existing attribute is changed to be a primary key, the Summarization and Pruning agent no longer creates summarization values for the attributes. The previously created column names remain in the table with any values already provided for those columns. These columns cannot be deleted from the warehouse database, but as new data is collected, these columns contain no values. Similarly, when the primary key designation is removed for an existing attribute, new summarization columns are automatically added. As new data is collected, it is used to populate these new column values. Any existing summarization records contain no values for these new columns.

The overall effect of these primary key changes is that summarization information is changing. If these changes result in the old summarization records no longer making sense, you can delete them. As a part of warehouse upgrade, summary views are dropped. The views are recreated by the Summarization and Pruning agent the next time it runs. Dropping and recreating the views ensure that they reflect the current table structure.

Upgrading your warehouse with limited user permissions

The IBM Tivoli Monitoring warehouse agents (Warehouse Proxy and Summarization and Pruning agents) can dynamically adjust warehouse table definitions. These definitions are based on attribute group and attribute information that is loaded into the warehouse. These types of table changes must be done for this monitoring agent for one or both of the following conditions:

- The monitoring agent added new attributes to an existing attribute group and that attribute group is included in the warehouse.
- The monitoring agent added a new attribute group and that attribute group is included in the warehouse.

For the warehouse agents to automatically modify the warehouse table definitions, they must have permission to alter warehouse tables. You might not grant permissions to these agents. You might choose instead to manually define the raw tables and summary tables needed for the monitoring agents. Or, you might grant these permissions initially, and then revoke them after the tables are created.

You have two options to effect the required warehouse table changes during the upgrade process:

- Grant the warehouse agents temporary permission to alter tables
If using this option, grant the permissions, start historical collection for all the required tables, allow the Warehouse Proxy agent to add the new data to the raw tables, and allow the Summarization and Pruning agent to summarize data for all affected tables. Then, remove the permission to alter tables.
- Make the warehouse table updates manually

If you want to use this option, you must determine the table structures for the raw and summary tables. If you manually created the tables in the earlier warehouse definition, you already have a methodology and tools to assist you in this effort. You can use a similar technique to update and add new tables for this warehouse migration.

For a method of obtaining raw table schema, see the IBM Redbooks, *Tivoli Management Services Warehouse and Reporting*, January 2007, SG24-7290. The chapter that explains warehouse tuning includes a section on creating data tables manually.

Types of table changes

The following types of table changes affect warehouse summarization:

- Case 1: New attribute added to an attribute group and defined as a primary key.
- Case 2: Existing attribute defined as a primary key or had primary key designation removed.
- Case 3: Moving some tables from 4K table spaces to 8K table spaces when using DB2 as the warehouse database. Case 3 does not apply to the SAP agent.

Case 1 and Case 2 are primary key changes. In both cases, new summarization records do not match existing summarized data:

- A new attribute is added to an attribute group and that attribute is defined as a primary key:
New summarization records provide more accurate summarization or greater granularity than previous records. Existing summarization records are still available but contain less granular detail if default values are not assigned for the new primary keys.
- An existing attribute is defined as a primary key or the primary key designation is removed:
If a new key was added, then the new summarization records provide more accurate summarization or greater granularity than previous records. If a key was removed, then the new summarization records provide less granularity than previous records, but with the intent of providing more meaningful summarization. Existing summarization records are still available.

Case 3 requires that you move some tables from 4K table spaces to 8K table spaces when using DB2 as the warehouse database. In this way, you avoid errors during summarization and pruning processing. Case 3 does not apply to the SAP agent.

Table summary

Table 23 provides information to help you determine the effects of primary key and warehouse changes for this monitoring agent. The table shows each attribute group, the current primary keys (in addition to ORIGINNODE) for the attribute group. The table also shows the primary keys that were removed, and whether this table is being included in warehouse reporting.

Table 26. Primary key and warehouse changes for the SAP agent

Attribute group	Current primary keys	Removed primary keys	Warehoused
R/3_ABAP_Dumps	Mode_Number user ID Create_Time	None	Yes
R/3_Active_Users	User ID	Time	Yes
R/3_Alerts	Number Occurrence_Time	None	Yes
R/3_Archive_Monitor	None	None	Yes
R/3_Batch_Data_Create_Log	Session_Name_U Created	None	No
R/3_Batch_Data_Create	Session_Name_U Creator	Created	Yes
R/3_Batch_Job_Logs	Job_ID Job_Name_U Job_Number	None	No
R/3_Batch_Jobs	Job_Name_U Status	Job_Number	Yes
R/3_Buffer_Performance	Name	None	Yes

Table 26. Primary key and warehouse changes for the SAP agent (continued)

Attribute group	Current primary keys	Removed primary keys	Warehoused
R/3_Data_Base_Detail	Object_Type	None	No
R/3_Data_Base_Summary	Object_Type	None	Yes
R/3_Database_Logs	Log_Data File_Name	None	No
R/3_Developer_Traces	Log_Data File_Name	None	No
R/3_EDI_Files	File_Name_U	File_Name	Yes
R/3_File_Systems	Name_U	None	Yes
R/3_Gateway_Connections	Local_Logical_Unit_Name	Connection_Number	Yes
R/3_Gateway_Statistics	Instance_Name	None	No
R/3_Instance_Configuration	Instance_Name	None	Yes
R/3_Intermediate_Documents	Status_Description_U Number	Create_Time	Yes
R/3_Lock_Entries	Lock_Object_Name	Create_Time	Yes
R/3_Logon_Groups	Name_U	None	Yes
R/3_Logon_Information	User ID	Time	Yes
R/3_Number_Range_Buffer_Details	Object_Name Instance_Name	None	Yes
R/3_Number_Range_Buffer_Summary	Instance_Name	None	Yes
R/3_Operating_System_Performance	Instance_Name	None	Yes
R/3_Output_Requests	Output_Device_U	Print_Request_Time	Yes
R/3_Perform_Requested_Action	None	None	No
R/3_SAP_Office_Inbox	User ID	Received_Time	Yes
R/3_Saprouter_Log	Date_Time File_Name	None	No
R/3_Service_Response_Time	Service_Type	None	Yes
R/3_Set_Default_Sample_Period	RFC_Function Message	None	No
R/3_Spool_Requests	Output_Device_U	Spool_Number	Yes
R/3_System_Log_details	Message_Text_U Entry_Time Instance_Name	Message_Text	No
R/3_System_Log	Entry_Time	None	No
R/3_Topology_Information	Instance_Name	None	No
R/3_Transaction_Performance	Executed_in Dynpro_Number Application_U Program_or_Trans_Code_U user ID	None	Yes
R/3_Transactional_RFC	Target_Name_U	Transaction_Id	Yes
R/3_Transport_Logs	Number_L Logfile_Name	Number	No
R/3_Transport_Objects	Number_L Object_Name	Number	No
R/3_Transport_Requests	Number_L	Number	Yes
R/3_Transport_Steps	Number_L Step_Name Target_System	Number	No
R/3_Updates_Information	Update_Key Time	None	Yes

Table 26. Primary key and warehouse changes for the SAP agent (continued)

Attribute group	Current primary keys	Removed primary keys	Warehoused
R/3_User_Information	User ID	None	No
R/3_Work_Processes	Type	Number	Yes

Warehouse upgrade

You can upgrade your warehouse for primary key and table space changes.

Upgrading your warehouse includes making the following types of changes:

- Case 1: New attribute is added and is designated as a primary key
 - New attribute and a default value must be added to the raw table and the summarization tables.
If the attribute group name is not too long for the underlying database, the table name corresponds to the attribute group name. If the attribute group name is too long, a short name is used. The mapping of attribute group names to table names is stored in the WAREHOUSEID table.
 - Case-1 scripts that complete the following actions are provided to assist in this change:
 - Alter existing raw tables
 - Alter existing summary tables
 - Drop existing summary views
 - These changes must be done before the monitoring agent is started and begins exporting data to the Warehouse Proxy agent.
- Case 2: Existing attributes are changed to either add or remove primary key designation.
 - Existing data is of limited value and must be deleted.
 - Case-2_Truncate scripts that complete the following actions are provided to assist in this change:
 - Remove all records from existing summary tables, preserving existing table definitions
 - Delete the raw data marker that allows raw data to be resummarized
 - Case 2_Drop scripts that complete the following actions are provided to assist in this change:
 - Drop existing summary views
 - Drop existing summary tables
 - Delete the raw data marker that allows raw data to be resummarized
 - These changes are optional, but result in more accurate summarized information.
- Case 3 - Move tables from 4K table space to 8K table space for selected agents
 - Special processing for selected agents to move tables from a 4K table space to an 8K table space.
 - Individual scripts are provided for each summary table that is changed.

Affected attribute groups and supporting scripts

Specific attribute groups and summary tables are affected when you upgrade the warehouse database.

Table 26 shows the attribute groups and summary tables affected for this monitoring agent. The table shows the names of the SQL scripts provided to assist in the upgrade process. The table also shows the types of warehouse databases for which the scripts must be run, and the types of changes (cases) to which the scripts apply.

Table 27. Scripts and summary tables for affected attribute groups for the SAP agent

Attribute group or summary table	File	DB2	Oracle	MS SQL Server	Case 1	Case 2	Case 3
R/3_ABAP_Dumps	emptyfile.sql	X				X	

Table 27. Scripts and summary tables for affected attribute groups for the SAP agent (continued)

Attribute group or summary table	File	DB2	Oracle	MS SQL Server	Case 1	Case 2	Case 3
R/3_ABAP_Dumps	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_ABAP_Dumps	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Active_Users	emptyfile.sql	X				X	
R/3_Active_Users	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Active_Users	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Batch_Data_Create	emptyfile.sql	X				X	
R/3_Batch_Data_Create	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Batch_Data_Create	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Batch_Jobs	emptyfile.sql	X				X	
R/3_Batch_Jobs	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Batch_Jobs	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_EDI_Files	emptyfile.sql	X				X	
R/3_EDI_Files	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_EDI_Files	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Gateway_Connections	emptyfile.sql	X				X	
R/3_Gateway_Connections	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Gateway_Connections	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Instance_Configuration	emptyfile.sql	X				X	
R/3_Instance_Configuration	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Instance_Configuration	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Intermediate_Documents	emptyfile.sql	X				X	
R/3_Intermediate_Documents	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Intermediate_Documents	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Lock_Entries	emptyfile.sql	X				X	

Table 27. Scripts and summary tables for affected attribute groups for the SAP agent (continued)

Attribute group or summary table	File	DB2	Oracle	MS SQL Server	Case 1	Case 2	Case 3
R/3_Lock_Entries	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Lock_Entries	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Logon_Information	emptyfile.sql	X				X	
R/3_Logon_Information	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Logon_Information	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Number_Range_Buffer_Details	emptyfile.sql	X	X	X		X	
R/3_Number_Range_Buffer_Details	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Number_Range_Buffer_Details	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Number_Range_Buffer_Summary	emptyfile.sql	X	X	X		X	
R/3_Number_Range_Buffer_Summary	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Number_Range_Buffer_Summary	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Operating_System_Performance	emptyfile.sql	X				X	
R/3_Operating_System_Performance	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Operating_System_Performance	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Output_Requests	emptyfile.sql	X				X	
R/3_Output_Requests	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Output_Requests	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_SAP_Office_Inbox	emptyfile.sql	X				X	
R/3_SAP_Office_Inbox	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_SAP_Office_Inbox	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Spool_Requests	emptyfile.sql	X				X	
R/3_Spool_Requests	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Spool_Requests	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Transaction_Performance	emptyfile.sql	X				X	

Table 27. Scripts and summary tables for affected attribute groups for the SAP agent (continued)

Attribute group or summary table	File	DB2	Oracle	MS SQL Server	Case 1	Case 2	Case 3
R/3_Transaction_Performance	ksa_61migr_mySAP_Agent_Case-1.sql	X	X	X	X		
R/3_Transaction_Performance	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Transaction_Performance	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X			
R/3_Transactional_RFC	emptyfile.sql	X				X	
R/3_Transactional_RFC	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Transactional_RFC	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Transport_Requests	emptyfile.sql	X				X	
R/3_Transport_Requests	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Transport_Requests	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
R/3_Work_Processes	emptyfile.sql	X				X	
R/3_Work_Processes	ksa_61migr_mySAP_Agent_Case-2_Drop.sql	X	X	X		X	
R/3_Work_Processes	ksa_61migr_mySAP_Agent_Case-2_Truncate.sql	X	X	X		X	
¹ Summary table							

The following types of warehouse objects are affected by these scripts. Review the scripts before running them:

- Case-1.sql
These scripts affect raw tables, summary tables, and summary views.
- Case-2_Drop.sql
These scripts affect the summary tables, summary views, and the Summarization and Pruning agent WAREHOUSEMARKER table.
- Case-2_Truncate.sql
These scripts affect the summary tables and the Summarization and Pruning agent WAREHOUSEMARKER table.

Database script files

The warehouse can be hosted on any of three databases: DB2, Oracle, or Microsoft SQL Server. Different sets of script files are included for each type of database. These scripts are provided as part of the monitoring agent Tivoli Enterprise Portal Server support file installation. After you install the Tivoli Enterprise Portal Server support files for the monitoring agent, the files are stored on the Tivoli Enterprise Portal Server computer in the install_dir/CNPS/SQLLIB/WAREHOUSE directory. There is a subdirectory for each type of database: DB2 for DB2, Oracle for Oracle, and SQLServer for Microsoft SQL Server.

The scripts provide commands for all affected tables and views. If no summarization is enabled for some periods, for example, quarterly or yearly, you have no corresponding summary tables (`_Q`, `_Y`) and summary views (`_QV`, `_YV`) in your warehouse database. If you run the scripts that are provided, the database reports errors for these missing objects. The scripts continue to run the remaining commands. Similarly, if you rerun the scripts, all commands are attempted. If the objects do not exist, or the command cannot be run (especially for the ALTER commands), the scripts continue processing the remaining commands.

Upgrading the warehouse database by using the DB2 database

You can upgrade the warehouse database by using the DB2 database.

Procedure

1. Stop **all** running Warehouse Proxy agent instances and the Summarization and Pruning agent.
2. Back up your warehouse database.
3. Copy the scripts from the Tivoli Enterprise Portal Server in one of the following directories to a temporary directory on the system where the warehouse database is located:
 - Windows:
`install_dir\CNPS\SQLLIB\WAREHOUSE\DB2`
 - UNIX and Linux:
`install_dir/arch/cq/sqllib/WAREHOUSE/DB2`
4. On the system where the warehouse database is located, change to the directory where you placed the script files in Step 3 and connect to the warehouse database through the DB2 command line. You must supply a user ID that has the authorization to alter and load tables and drop views. Run commands based on the following example to connect, set the schema, and save the script to an output file:

```
db2 connect to WAREHOUS user ITMUSER using ITMPASS
db2 set current schema="ITMUSER"
db2 -tv -z log/script.sql.log -f script.sql
```

where:

- WAREHOUS is the database name.
- ITMUSER is the user name used by the Warehouse Proxy agent.
- ITMPASS is the password used by the Warehouse Proxy agent.
- `script.sql` is the name of the script file. See Table 27 on page 343 for the script file names.
- `script.sql.log` is the name of the output file.

Notes: You might receive error messages, such as the following DB2 error messages:

- SQL0204N "**schema name.table name**" is an undefined name. SQLSTATE=42704
This message indicates that **table name** table does not exist and cannot be altered or dropped. This error happens if you do not have warehousing or summarization enabled for the specific table. For example, if you have only hourly and daily summarization enabled, you see this message for the weekly, monthly, quarterly, and yearly summarization tables because these tables do not exist.
- SQL3304N The table does not exist.
This message indicates that the table does not exist and cannot be loaded. This error happens if you do not have warehousing or summarization enabled for the specific table. For example if you have hourly and daily summarization enabled only, you see this message for the weekly, monthly, quarterly, and yearly summarization tables because these tables do not exist.

Upgrade the warehouse database by using the Oracle database

You can upgrade the warehouse database by using the Oracle database.

Procedure

1. Stop **all** running Warehouse Proxy agent instances and the Summarization and Pruning agent.
2. Back up your warehouse database.
3. Copy the scripts from the Tivoli Enterprise Portal Server in one of the following directories to a temporary directory on the system where the warehouse database is located:
 - Windows
`install_dir\CNPS\SQLLIB\WAREHOUSE\Oracle`
 - UNIX and Linux
`install_dir/arch/cq/sqllib/WAREHOUSE/Oracle`
4. On the system where the warehouse database is located, change to the directory where you placed the script files in Step 3 and connect to the warehouse database through the Oracle command line. You connect with the same user that the Warehouse Proxy agent uses to connect to the warehouse, and run the script. To run the script, the user ID must have authorization to alter tables and drop views. Also, the user ID must be able to drop tables when using Case 2 Drop, or truncate tables when using Case 2 Truncate. The output is saved to script name.log file. Run the following command: **sqlplus ITMUSER/ITMPASS@WAREHOUS @ script.sql** These parameters are used in the example:
 - **WAREHOUS** is the connect identifier.
 - **ITMUSER** is the user name used by the Warehouse Proxy agent.
 - **ITMPASS** is the password used by the Warehouse Proxy agent.
 - **script.sql** is the name of this script file. See Table 27 on page 343 for the script file names.

Note: You might receive error messages, such as the following Oracle error messages: ORA-00942: table or view does not exist

This message indicates that the table does not exist and cannot be altered, dropped, or truncated. This error happens if you do not have warehousing or summarization enabled for the specific table. For example if you have only hourly and daily summarization enabled, you see this message for the weekly, monthly, quarterly, and yearly summarization tables. This message shows because these tables do not exist.

Upgrade the database by using the MS SQL database

You can upgrade the database by using the MS SQL database.

Procedure

1. Stop **all** running Warehouse Proxy agent instances and the Summarization and Pruning agent.
2. Back up your warehouse database.
3. Copy the scripts from the Tivoli Enterprise Portal Server in the one of the following directories to a temporary directory on the system where the warehouse database is located:
 - Windows:
`install_dir\CNPS\SQLLIB\WAREHOUSE\SQLServer`
 - UNIX and Linux:
`install_dir/arch/cq/sqllib/WAREHOUSE/SQLServer`
4. On the system where the warehouse database is located, change to the directory where you placed the script files in Step 3 and connect to the warehouse database through the SQL Server command line. Use the same user that the Warehouse Proxy agent uses to connect to the warehouse, and run the script. To run the script, the user ID must have authorization to alter tables and drop views. The user ID must also drop tables when using Case 2 Drop, or truncate tables when using Case 2 Truncate. The output is saved to a file named **script name.log**. Run the following command: **osql -I -S SQLHOST[\\SQLINST] -U ITMUSER -P ITMPASS -d WAREHOUS -m-1 -n -o log/script.sql.log -i script.sql** These parameters are used in the example:

- **WAREHOUS** is the database name.
- **ITMUSER** is the user name used by the Warehouse Proxy agent.
- **ITMPASS** is the password used by the Warehouse Proxy agent.
- **script.sql** is the name of this script file.
- **SQLHOST** is the SQL server name.
- **SQLINST** is the optional SQL instance name.

Note: You might receive the following error messages from the SQL Server: Msg 4902, Level 16, State 1, Server ENTERPRISE, Line 1 Cannot find the object "table name" because it does not exist or you do not have permissions.

This message indicates that the table named **table name** does not exist and cannot be dropped or truncated. This error happens if you do not have warehousing or summarization enabled for the specific table. For example if you have hourly and daily summarization enabled only, you see this message for the weekly, monthly, quarterly, and yearly summarization tables. You see this message for these tables only because these tables do not exist.

Appendix B. IBM Tivoli Enterprise Console event mapping

Tivoli Enterprise Console event mapping enables the IBM Tivoli Monitoring Event Integration Facility to generate a Tivoli Enterprise Console event. The event is triggered for a situation that matches the Tivoli Enterprise Console event that was generated in IBM Tivoli Monitoring V5.1.

The following three types of event mapping are included for IBM Tivoli Monitoring V6.2:

- Generic event mapping provides event class and attribute information for situations that do not have specific event mapping defined
- Resource model event mapping provides Tivoli Enterprise Console events that look like the Tivoli Enterprise Console events both in name and slot content. You receive these events from IBM Tivoli Monitoring V5.1 resource models, See *IBM Tivoli Monitoring: Upgrading to V5.1.2* for more information.
- Event mapping that provides Tivoli Enterprise Console events that look like the Tivoli Enterprise Console events both in name and slot content. You receive these events from IBM Tivoli Monitoring V5.1 mySAP CCMS and Syslog Tivoli Enterprise Console adapters.

Event mapping

The Tivoli Event Integration Facility (EIF) interface is used to forward situation events to IBM Tivoli Netcool/OMNIbus or Tivoli Enterprise Console.

EIF events specify an event class and the event data is specified as name value pairs that identify the name of an event slot and the value for the slot. An event class can have subclasses. IBM Tivoli Monitoring provides the base event class definitions and a set of base slots that are included in all monitoring events. Agents extend the base event classes to define subclasses that include agent-specific slots. For SAP agent events, the event classes correspond to the agent attribute groups, and the agent-specific slots correspond to the attributes in the attribute group.

A description of the event slots for each event class is provided in this topic. The situation editor in the Tivoli Enterprise Portal can be used to perform custom mapping of data to EIF slots instead of using the default mapping described in this topic. For more information about EIF slot customization, see the *Tivoli Enterprise Portal User's Guide*.

Tivoli Enterprise Console requires that event classes and their slots are defined in BAROC (Basic Recorder of Objects in C) files. Each agent provides a BAROC file that contains event class definitions for the agent and is installed on the Tivoli Enterprise Monitoring Server in the TECLIB directory (`install_dir/cms/TECLIB` for Windows systems and `install_dir/tables/TEMS_hostname/TECLIB` for UNIX systems) when application support for the agent is installed. The BAROC file for the agent and the base BAROC files provided with Tivoli Monitoring must also be installed onto the Tivoli Enterprise Console. For details, see "Setting up event forwarding to Tivoli Enterprise Console" in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Each of the event classes is a child of KSA_Base or Omegamon_Base event classes. The KSA_Base event class can be used for generic rules processing for any event from the SAP agent.

Table 28. Overview of attribute groups to event classes and slots

Event slots	IBM Tivoli Enterprise Console event class
R/3_Instance_Configuration attribute group <ul style="list-style-type: none"> • managed_system: STRING; • instance_host_name: STRING; • system_release: STRING; • central_instance_name: STRING; • central_instance: STRING; • central_instance_enum: STRING; • database_name: STRING; • database_host_name: STRING; • message_service_configured: STRING; • message_service_configured_enum: STRING; • update_service_configured: STRING; • update_service_configured_enum: STRING; • dialog_service_configured: STRING; • dialog_service_configured_enum: STRING; • batch_service_configured: STRING; • batch_service_configured_enum: STRING; • enqueue_service_configured: STRING; • enqueue_service_configured_enum: STRING; • gateway_service_configured: STRING; • gateway_service_configured_enum: STRING; • spool_service_configured: STRING; • spool_service_configured_enum: STRING; • system_number: STRING; • instance_status: STRING; • instance_status_enum: STRING; • sample_time: STRING; • configuration_string: STRING; • instance_start_time: STRING; • system_start_time: STRING; • instance_stop_time: STRING; • active_users: INTEGER; • assigned_update_instance: STRING; • system_description: STRING; • database_host_ip_address: STRING; • instance_op_mode_state: STRING; • instance_op_mode_state_enum: STRING; • operation_mode: STRING; • dialog_processes: INTEGER; • update_processes: INTEGER; • batch_processes: INTEGER; • spool_processes: INTEGER; (Continued on the next page)	ITM_R3_Instance_Configuration

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • instance_host_ip_address: STRING; • instances_running: INTEGER; • instances_down: INTEGER; • description: STRING; • ksa_value: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • system_up_duration: INTEGER; • system_up_duration_enum: STRING; • instance_up_duration: INTEGER; • instance_up_duration_enum: STRING; • instance_down_duration: INTEGER; • instance_down_duration_enum: STRING; • total_external_sessions: INTEGER; • total_external_sessions_enum: STRING; • total_gui_sessions: INTEGER; • total_gui_sessions_enum: STRING; • total_rfc_sessions: INTEGER; • total_rfc_sessions_enum: STRING; • nowp_queue: INTEGER; • nowp_queue_enum: STRING; • dialog_queue: INTEGER; • dialog_queue_enum: STRING; • update_queue: INTEGER; • update_queue_enum: STRING; • enqueue_queue: INTEGER; • enqueue_queue_enum: STRING; • batch_queue: INTEGER; • batch_queue_enum: STRING; • spool_queue: INTEGER; • spool_queue_enum: STRING; • update2_queue: INTEGER; • update2_queue_enum: STRING; • system_description_u: STRING; • operation_mode_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • batch_stopped_percent: INTEGER; • batch_stopped_percent_enum: STRING; • batch_running_percent: INTEGER; • batch_running_percent_enum: STRING; • batch_waiting_percent: INTEGER; • batch_waiting_percent_enum: STRING; • batch_complete_percent: INTEGER; • batch_complete_percent_enum: STRING; • dialog_stopped_percent: INTEGER; • dialog_stopped_percent_enum: STRING; • dialog_running_percent: INTEGER; • dialog_running_percent_enum: STRING; • dialog_waiting_percent: INTEGER; • dialog_waiting_percent_enum: STRING; • dialog_complete_percent: INTEGER; • dialog_complete_percent_enum: STRING; <p>(Continued on the next page)</p>	ITM_R3_Instance_Configuration (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • enqueue_stopped_percent: INTEGER; • enqueue_stopped_percent_enum: STRING; • enqueue_running_percent: INTEGER; • enqueue_running_percent_enum: STRING; • enqueue_waiting_percent: INTEGER; • enqueue_waiting_percent_enum: STRING; • enqueue_complete_percent: INTEGER; • enqueue_complete_percent_enum: STRING; • enqueue_processes: INTEGER; • spool_stopped_percent: INTEGER; • spool_stopped_percent_enum: STRING; • spool_running_percent: INTEGER; • spool_running_percent_enum: STRING; • spool_waiting_percent: INTEGER; • spool_waiting_percent_enum: STRING; • spool_complete_percent: INTEGER; • spool_complete_percent_enum: STRING; • update_stopped_percent: INTEGER; • update_stopped_percent_enum: STRING; • update_running_percent: INTEGER; • update_running_percent_enum: STRING; • update_waiting_percent: INTEGER; • update_waiting_percent_enum: STRING; • update_complete_percent: INTEGER; • update_complete_percent_enum: STRING; • update2_stopped_percent: INTEGER; • update2_stopped_percent_enum: STRING; • update2_running_percent: INTEGER; • update2_running_percent_enum: STRING; • update2_waiting_percent: INTEGER; • update2_waiting_percent_enum: STRING; • update2_complete_percent: INTEGER; • update2_complete_percent_enum: STRING; • update2_processes: INTEGER; • update2_service_configured: STRING; • update2_service_configured_enum: STRING; • dialog_queue_percent: INTEGER; • dialog_queue_percent_enum: STRING; • enqueue_queue_percent: INTEGER; • enqueue_queue_percent_enum: STRING; • spool_queue_percent: INTEGER; • spool_queue_percent_enum: STRING; • update_queue_percent: INTEGER; • update_queue_percent_enum: STRING; • update2_queue_percent: INTEGER; • update2_queue_percent_enum: STRING; • database_host_ip_address_v6: STRING; • instance_host_ip_address_v6: STRING; • total_active_users: INTEGER; • rfc_users: INTEGER; • interactive_users: INTEGER; • registered_users: INTEGER; 	ITM_R3_Instance_Configuration (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Service_Response_Time attribute group <ul style="list-style-type: none"> • managed_system: STRING; • service_type: STRING; • service_frequency: REAL; • private_mode_entered: STRING; • private_mode_entered_enum: STRING; • avg_wait_time: INTEGER; • avg_wait_time_enum: STRING; • avg_wait_percent: INTEGER; • avg_response_time: INTEGER; • avg_response_time_enum: STRING; • max_response_time: INTEGER; • max_response_time_enum: STRING; • max_wait_time: INTEGER; • max_wait_time_enum: STRING; • min_response_time: INTEGER; • min_response_time_enum: STRING; • min_wait_time: INTEGER; • min_wait_time_enum: STRING; • avg_cpu_time: INTEGER; • avg_cpu_time_enum: STRING; • max_cpu_time: INTEGER; • max_cpu_time_enum: STRING; • min_cpu_time: INTEGER; • min_cpu_time_enum: STRING; • avg_database_request_time: INTEGER; • avg_database_request_time_enum: STRING; • max_database_request_time: INTEGER; • max_database_request_time_enum: STRING; • min_database_request_time: INTEGER; • min_database_request_time_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • service_type_encoded: STRING; • service_type_encoded_enum: STRING; • dialog_steps: REAL; • dialog_steps_enum: STRING; • service_frequency_64: REAL; • service_frequency_64_enum: STRING; • avg_wait_time_64: REAL; • avg_wait_time_64_enum: STRING; • avg_response_time_64: REAL; • avg_response_time_64_enum: STRING; • max_response_time_64: REAL; (Continued on the next page)	ITM_R3_Service_Response_Time

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • max_response_time_64_enum: STRING; • max_wait_time_64: REAL; • max_wait_time_64_enum: STRING; • min_response_time_64: REAL; • min_response_time_64_enum: STRING; • min_wait_time_64: REAL; • min_wait_time_64_enum: STRING; • avg_cpu_time_64: REAL; • avg_cpu_time_64_enum: STRING; • max_cpu_time_64: REAL; • max_cpu_time_64_enum: STRING; • min_cpu_time_64: REAL; • min_cpu_time_64_enum: STRING; • avg_database_request_time_64: REAL; • avg_database_request_time_64_enum: STRING; • max_database_request_time_64: REAL; • max_database_request_time_64_enum: STRING; • min_database_request_time_64: REAL; • min_database_request_time_64_enum: STRING; 	ITM_R3_Service_Response_Time (continued)
<p>R/3_Alerts attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • ksa_class: STRING; • ksa_severity: INTEGER; • ksa_severity_enum: STRING; • occurrence_time: STRING; • message: STRING; • raised_by: STRING; • raised_by_enum: STRING; • sample_time: STRING; • number: INTEGER; • default_period: INTEGER; • logon_parameters: STRING; • logon_parameters_1: STRING; • logon_parameters_2: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • action: STRING; • mte_class: STRING; • alert_msg: STRING; • alert_object_name: STRING; • alert_field_name: STRING; • alert_value: INTEGER; • alert_value_enum: STRING; • alert_status: INTEGER; • alert_status_enum: STRING; • alert_unique_identifier: INTEGER; • alert_unique_identifier_enum: STRING; • monitor_set: STRING; • ksa_monitor: STRING; • occurrence_time_gmt: STRING; • action_l: STRING; • message_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • tid_internal_handle: STRING; • monitoring_segment_name: STRING; • alert_index: STRING; • alert_severity: INTEGER; 	ITM_R3_Alerts

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Operating_System_Performance attribute group <ul style="list-style-type: none"> • managed_system: STRING; • idle_cpu_percent: INTEGER; • idle_cpu_percent_enum: STRING; • physical_memory_free: INTEGER; • physical_memory_free_enum: STRING; • physical_memory_free_percent: INTEGER; • physical_memory_free_percent_enum: STRING; • swap_space_free: INTEGER; • swap_space_free_enum: STRING; • swap_space_free_percent: INTEGER; • swap_space_free_percent_enum: STRING; • load_average_last_minute: REAL; • load_average_last_minute_enum: STRING; • load_average_last_5_minutes: REAL; • load_average_last_5_minutes_enum: STRING; • physical_memory: INTEGER; • physical_memory_enum: STRING; • swap_space: INTEGER; • swap_space_enum: STRING; • pages_in: INTEGER; • pages_in_enum: STRING; • pages_out: INTEGER; • pages_out_enum: STRING; • lan_packets_in: INTEGER; • lan_packets_in_enum: STRING; • lan_packets_out: INTEGER; • lan_packets_out_enum: STRING; • lan_collisions: INTEGER; • lan_collisions_enum: STRING; • lan_errors: INTEGER; • lan_errors_enum: STRING; • sample_time: STRING; • description: STRING; • ksa_value: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • load_average_last_15_minutes: REAL; • load_average_last_15_minutes_enum: STRING; • kb_paged_in: INTEGER; • kb_paged_in_enum: STRING; • kb_paged_out: INTEGER; • kb_paged_out_enum: STRING; • user_cpu_percent: INTEGER; • user_cpu_percent_enum: STRING; • system_cpu_percent: INTEGER; • system_cpu_percent_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • lan_packets_in_64: REAL; • lan_packets_in_64_enum: STRING; • lan_packets_out_64: REAL; (Continued on the next page)	ITM_R3_Operating_System_Performance
<ul style="list-style-type: none"> • lan_packets_out_64_enum: STRING; • lan_collisions_64: REAL; • lan_collisions_64_enum: STRING; • lan_errors_64: REAL; • lan_errors_64_enum: STRING; 	ITM_R3_Operating_System_Performance (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Transaction_Performance attribute group <ul style="list-style-type: none"> • managed_system: STRING; • program_or_tran_code: STRING; • application: STRING; • userid: STRING; • description: STRING; • dialog_steps: INTEGER; • dialog_steps_enum: STRING; • total_response_time: INTEGER; • total_response_time_enum: STRING; • avg_response_time: INTEGER; • avg_response_time_enum: STRING; • total_cpu_time: INTEGER; • total_cpu_time_enum: STRING; • avg_cpu_time: INTEGER; • avg_cpu_time_enum: STRING; • total_wait_time: INTEGER; • total_wait_time_enum: STRING; • avg_wait_time: INTEGER; • avg_wait_time_enum: STRING; • total_database_request_time: INTEGER; • total_database_request_time_enum: STRING; • avg_database_request_time: INTEGER; • avg_database_request_time_enum: STRING; • total_db_requested_bytes: INTEGER; • total_db_requested_bytes_enum: STRING; • total_database_calls: INTEGER; • total_database_calls_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • aggregation: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • sapgui_hostname: STRING; • avg_total_memory: INTEGER; • avg_total_memory_enum: STRING; • avg_extended_memory: INTEGER; • avg_extended_memory_enum: STRING; • max_extended_memory_per_session: INTEGER; • max_extended_memory_per_session_enum: STRING; • max_extended_memory_per_transaction: INTEGER; • max_extended_memory_per_transaction_enum: STRING; • avg_private_memory: INTEGER; (Continued on the next page)	ITM_R3_Transaction_Performance

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • gui_count: INTEGER; • gui_count_enum: STRING; • gui_time: INTEGER; • gui_time_enum: STRING; • front_end_network_time: INTEGER; • front_end_network_time_enum: STRING; • executed_in: STRING; • row_aggregation: STRING; • dialog_step_response_threshold: INTEGER; • dialog_step_response_threshold_enum: STRING; • dialog_steps_above_threshold: INTEGER; • dialog_steps_above_threshold_enum: STRING; • dialog_steps_above_threshold_percent: INTEGER; • dialog_steps_above_threshold_percent_enum: STRING; • system_label: STRING; • service_type: STRING; • service_type_encoded: STRING; • service_type: STRING; • service_type_encoded: STRING; • service_type_encoded_enum: STRING; • dialog_steps_64: REAL; • dialog_steps_64_enum: STRING; • total_response_time_64: REAL; • total_response_time_64_enum: STRING; • avg_response_time_64: REAL; • avg_response_time_64_enum: STRING; • total_cpu_time_64: REAL; • total_cpu_time_64_enum: STRING; • avg_cpu_time_64: REAL; • avg_cpu_time_64_enum: STRING; • total_wait_time_64: REAL; • total_wait_time_64_enum: STRING; • avg_wait_time_64: REAL; • avg_wait_time_64_enum: STRING; • total_database_request_time_64: REAL; • total_database_request_time_64_enum: STRING; • avg_database_request_time_64: REAL; • avg_database_request_time_64_enum: STRING; • total_db_requested_bytes_64: REAL; <p>(Continued on the next page)</p>	ITM_R3_Transaction_Performance (continued)
<ul style="list-style-type: none"> • total_db_requested_bytes_64_enum: STRING; • total_database_calls_64: REAL; • total_database_calls_64_enum: STRING; • avg_total_memory_64: REAL; • avg_total_memory_64_enum: STRING; • avg_extended_memory_64: REAL; • avg_extended_memory_64_enum: STRING; • max_extended_memory_per_session_64: REAL; • max_extended_memory_per_session_64_enum: STRING; • max_extended_memory_per_transaction_64: REAL; • max_extended_memory_per_transaction_64_enum: STRING; • avg_private_memory_64: REAL; • avg_private_memory_64_enum: STRING; • gui_count_64: REAL; • gui_count_64_enum: STRING; • gui_time_64: REAL; • gui_time_64_enum: STRING; • front_end_network_time_64: REAL; • front_end_network_time_64_enum: STRING; • dialog_steps_above_threshold_64: REAL; • dialog_steps_above_threshold_64_enum: STRING; 	ITM_R3_Transaction_Performance (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Topology_Information attribute group <ul style="list-style-type: none"> • managed_system: STRING; • child_node: STRING; • parent_node: STRING; • instance_host_name: STRING • configuration_string: STRING; • active_users: INTEGER; • server_type: STRING; • server_type_enum: STRING; • icon_label: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • icon_label_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Topology_Information
R/3_Batch_Jobs attribute group <ul style="list-style-type: none"> • managed_system: STRING; • job_name: STRING; • job_number: INTEGER; • job_class: STRING; • job_class_enum: STRING; • client: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • target_host: STRING; • number_of_steps: INTEGER; • start_time: STRING; • end_time: STRING; • ksa_duration: INTEGER; • ksa_duration_enum: STRING; • definition_time: STRING; • defined_by: STRING; • last_changed_time: STRING; • last_changed_by: STRING; • scheduled_start_time: STRING; • scheduled_latest_time: STRING; • periodic: STRING; • other_scheduling_type: STRING; • other_scheduling_type_enum: STRING; • other_scheduling_value: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • execution_host: STRING; • job_name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • execution_instance: STRING; • target_instance: STRING; • job_id: STRING; • delayed_seconds: REAL; • delayed_seconds_enum: STRING; 	ITM_R3_Batch_Jobs

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Batch_Job_Logs attribute group <ul style="list-style-type: none"> • managed_system: STRING; • job_name: STRING; • job_number: INTEGER; • job_number_enum: STRING; • message_time: STRING; • message_number: STRING; • message_text: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • message_text_u: STRING; • job_name_u: STRING; • sapshcut_parameters: STRING; • message_number_l: STRING; • system_label: STRING; • job_id: STRING; 	ITM_R3_Batch_Job_Logs
R/3_Transport_Requests attribute group <ul style="list-style-type: none"> • managed_system: STRING; • number: STRING; • type: STRING; • type_enum: STRING; • description: STRING; • owner: STRING; • last_changed_time: STRING; • category: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • parent_number: STRING; • source_system: STRING; • source_client: STRING; • import_systems: STRING; • import_clients: STRING; • highest_return_code: INTEGER; • highest_return_code_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • number_l: STRING; • parent_number_l: STRING; • description_u: STRING; • category_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • import_count: INTEGER; • import_count_enum: STRING; 	ITM_R3_Transport_Requests
R/3_Transport_Objects attribute group <ul style="list-style-type: none"> • managed_system: STRING; • number: STRING; • program_id: STRING; • object_type: STRING; • object_name: STRING; • object_function: STRING; • object_function_enum: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • number_l: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Transport_Objects

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Transport_Steps attribute group <ul style="list-style-type: none"> • managed_system: STRING; • number: STRING; • target_system: STRING; • step_name: STRING; • step_name_enum: STRING; • return_code: INTEGER; • logfile_name: STRING; • execution_time: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • number_l: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Transport_Steps
R/3_Transport_Logs attribute group <ul style="list-style-type: none"> • managed_system: STRING; • number: STRING; • display_level: STRING; • error_level: STRING; • error_level_enum: STRING; • message_number: STRING; • message_text: STRING; • logfile_name: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • number_l: STRING; • message_text_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Transport_Logs
R/3_System_Log attribute group <ul style="list-style-type: none"> • managed_system: STRING; • entry_time: STRING; • instance_name: STRING; • task_type: STRING; • client: STRING; • user: STRING; • transaction_code: STRING; • program_name: STRING; • development_class: STRING; • terminal: STRING; • message_number: STRING; • message_class: STRING; • message_class_enum: STRING; • message_text: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • record_number: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • message_text_u: STRING; • program_name_u: STRING; • sapshcut_parameters: STRING; • record_count: INTEGER; • system_label: STRING; • ksa_severity: INTEGER; • ksa_severity_enum: STRING; 	ITM_R3_System_Log

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_System_Log_details attribute group <ul style="list-style-type: none"> • managed_system: STRING; • message_number: STRING; • message_class: STRING; • message_class_enum: STRING; • message_description: STRING; • message_text: STRING; • logon_parameters: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • record_number: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • entry_time: STRING; • message_description_u: STRING; • message_text_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_System_Log_details
R/3_Spool_Requests attribute group <ul style="list-style-type: none"> • managed_system: STRING; • spool_number: INTEGER; • spool_title: STRING; • client: STRING; • creator: STRING; • create_time: STRING; • output_device: STRING; • output_format: STRING; • recipient: STRING; • department: STRING; • copies: INTEGER; • size: INTEGER; • authorization: STRING; • delete_time: STRING; • cover_page: STRING; • cover_page_enum: STRING; • delete_after_print: STRING; • delete_after_print_enum: STRING; • request_closed: STRING; • request_closed_enum: STRING; • total_print_requests: INTEGER; • processed_print_requests: INTEGER; • error_print_requests: INTEGER; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • output_device_u: STRING; • output_format_u: STRING; • department_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Spool_Requests

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Output_Requests attribute group <ul style="list-style-type: none"> • managed_system: STRING; • spool_number: INTEGER; • spool_title: STRING; • client: STRING; • creator: STRING; • print_request_time: STRING; • print_pending_time: INTEGER; • print_pending_time_enum: STRING; • output_device: STRING; • output_format: STRING; • recipient: STRING; • department: STRING; • copies: INTEGER; • size: INTEGER; • processed_print_requests: INTEGER; • error_print_requests: INTEGER; • failed_print_requests: INTEGER; • print_status: STRING; • print_status_enum: STRING; • print_reason: STRING; • print_reason_enum: STRING; • host_spool_id: STRING; • spooler_host_name: STRING; • spooler_system_name: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • spool_title_u: STRING; • output_device_u: STRING; • output_format_u: STRING; • department_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • print_pending_time_64: REAL; • print_pending_time_64_enum: STRING; 	ITM_R3_Output_Requests

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_File_Systems attribute group <ul style="list-style-type: none"> • managed_system: STRING; • name: STRING; • capacity: INTEGER; • size_free: INTEGER; • size_used: INTEGER; • size_used_percent: INTEGER; • message: STRING; • full_forecast: INTEGER; • full_forecast_enum: STRING; • relative_hour: STRING; • sample_time: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • name_u: STRING; • message_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • inodes: INTEGER; • inodes_enum: STRING; • inodes_used: INTEGER; • inodes_used_enum: STRING; • inodes_used_percent: INTEGER; • inodes_used_percent_enum: STRING; • operating_system: STRING; • capacity_64: REAL; • capacity_64_enum: STRING; • size_free_64: REAL; • size_free_64_enum: STRING; • size_used_64: REAL; • size_used_64_enum: STRING; • inodes_64: REAL; • inodes_64_enum: STRING; • inodes_used_64: REAL; • inodes_used_64_enum: STRING; 	ITM_R3_File_Systems

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Buffer_Performance attribute group <ul style="list-style-type: none"> • managed_system: STRING; • name: STRING; • hitratio: REAL; • requests: INTEGER; • requests_enum: STRING; • hits: INTEGER; • hits_enum: STRING; • misses: INTEGER; • misses_enum: STRING; • db_access_quality: REAL; • db_accesses: INTEGER; • db_accesses_enum: STRING; • db_accesses_saved: INTEGER; • db_accesses_saved_enum: STRING; • size_allocated: INTEGER; • size_allocated_enum: STRING; • size_used: INTEGER; • size_used_enum: STRING; • size_free: INTEGER; • size_free_enum: STRING; • directory_allocated: INTEGER; • directory_allocated_enum: STRING; • directory_used: INTEGER; • directory_used_enum: STRING; • directory_free: INTEGER; • directory_free_enum: STRING; • objects_swapped: INTEGER; • objects_swapped_enum: STRING; • frames_swapped: INTEGER; • frames_swapped_enum: STRING; • total_resets: INTEGER; • total_resets_enum: STRING; • last_reset: STRING; • objects_in_buffer: INTEGER; • objects_in_buffer_enum: STRING; • inserts: INTEGER; • inserts_enum: STRING; • changes: INTEGER; • changes_enum: STRING; • deletes: INTEGER; • deletes_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; (Continued on the next page)	ITM_R3_Buffer_Performance

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Buffer_Performance attribute group <ul style="list-style-type: none"> • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • size_free_percent: INTEGER; • size_free_percent_enum: STRING; • size_used_percent: INTEGER; • size_used_percent_enum: STRING; • size_in_memory: INTEGER; • size_in_memory_enum: STRING; • size_on_disk: INTEGER; • size_on_disk_enum: STRING; • max_used: INTEGER; • max_used_enum: STRING; • max_used_percent: INTEGER; • max_used_percent_enum: STRING; • directory_used_percent: INTEGER; • directory_used_percent_enum: STRING; • directory_free_percent: INTEGER; • directory_free_percent_enum: STRING; • sapshcut_parameters: STRING; • size_reserved: INTEGER; • size_reserved_enum: STRING; • size_reserved_percent: INTEGER; • size_reserved_percent_enum: STRING; • encoded_name: STRING; • encoded_name_enum: STRING; • system_label: STRING; 	ITM_R3_Buffer_Performance (continued)
R/3_Batch_Data_Create attribute group <ul style="list-style-type: none"> • managed_system: STRING; • session_name: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • created: STRING; • locked_until: STRING; • creator: STRING; • authorization: STRING; • client: STRING; • last_changed: STRING; • start_mode: STRING; • start_mode_enum: STRING; • total_transactions: INTEGER; • total_screens: INTEGER; • error_transactions: INTEGER; • error_screens: INTEGER; • pending_transactions: INTEGER; • pending_screens: INTEGER; • completed_transactions: INTEGER; • completed_screens: INTEGER; • deleted_transactions: INTEGER; • deleted_screens: INTEGER; • queue_id: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • session_name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Batch_Data_Create

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Batch_Data_Create_Log attribute group <ul style="list-style-type: none"> • managed_system: STRING; • session_name: STRING; • created: STRING; • message_time: STRING; • transaction: STRING; • screen_number: STRING; • message_number: STRING; • message_text: STRING; • queue_id: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • execution_host: STRING; • session_name_u: STRING; • transaction_u: STRING; • message_text_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Batch_Data_Create_Log

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Data_Base_Summary attribute group <ul style="list-style-type: none"> • managed_system: STRING; • name: STRING; • database: STRING; • object_type: STRING; • total_number: INTEGER; • total_size: INTEGER; • total_size_enum: STRING; • total_used: INTEGER; • total_used_enum: STRING; • total_used_percent: INTEGER; • total_used_percent_enum: STRING; • total_free: INTEGER; • total_free_enum: STRING; • total_free_percent: INTEGER; • total_free_percent_enum: STRING; • minimum_free: INTEGER; • minimum_free_enum: STRING; • freespace_problems: INTEGER; • freespace_problems_enum: STRING; • missing_in_database: INTEGER; • missing_in_database_enum: STRING; • missing_in_ddic: INTEGER; • missing_in_ddic_enum: STRING; • analysis_time: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • total_size_mb: INTEGER; • total_size_mb_enum: STRING; • total_used_mb: INTEGER; • total_used_mb_enum: STRING; • total_free_mb: INTEGER; • total_free_mb_enum: STRING; • minimum_free_mb: INTEGER; • minimum_free_mb_enum: STRING; • total_size_64: REAL; • total_size_64_enum: STRING; • total_used_64: REAL; • total_used_64_enum: STRING; • total_free_64: REAL; • total_free_64_enum: STRING; • minimum_free_64: REAL; • minimum_free_64_enum: STRING; • total_size_mb_64: REAL; • total_size_mb_64_enum: STRING; • total_used_mb_64: REAL; • total_used_mb_64_enum: STRING; • total_free_mb_64: REAL; • total_free_mb_64_enum: STRING; • minimum_free_mb_64: REAL; • minimum_free_mb_64_enum: STRING; 	ITM_R3_Data_Base_Summary

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<p>R/3_Data_Base_Detail attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • object_name: STRING; • object_type: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • space_critical: STRING; • space_critical_enum: STRING; • size: INTEGER; • size_enum: STRING; • size_change_per_day: INTEGER; • size_change_per_day_enum: STRING; • size_used: INTEGER; • size_used_enum: STRING; • size_used_percent: INTEGER; • size_used_percent_enum: STRING; • used_change_per_day: INTEGER; • used_change_per_day_enum: STRING; • size_free: INTEGER; • size_free_enum: STRING; • size_free_percent: INTEGER; • size_free_percent_enum: STRING; • minimum_free: INTEGER; • minimum_free_enum: STRING; • maximum_free: INTEGER; • maximum_free_enum: STRING; • extents: INTEGER; • extents_enum: STRING; • extents_change_per_day: INTEGER; • extents_change_per_day_enum: STRING; • max__next_extent: INTEGER; • max__next_extent_enum: STRING; • tables__and__indices: INTEGER; • tables__and__indices_enum: STRING; • tables__and__indices_change_per_day: INTEGER; • tables__and__indices_change_per_day_enum: STRING; • files: INTEGER; • files_enum: STRING; • analysis_time: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • size_64: REAL; • size_64_enum: STRING; • size_change_per_day_64: REAL; • size_change_per_day_64_enum: STRING; • size_used_64: REAL; • size_used_64_enum: STRING; • used_change_per_day_64: REAL; <p>(Continued on the next page)</p>	ITM_R3_Data_Base_Detail

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • used_change_per_day_64_enum: STRING; • size_free_64: REAL; • size_free_64_enum: STRING; • minimum_free_64: REAL; • minimum_free_64_enum: STRING; • maximum_free_64: REAL; • maximum_free_64_enum: STRING; • extents_64: REAL; • extents_64_enum: STRING; • extents_change_per_day_64: REAL; • extents_change_per_day_64_enum: STRING; • max__next_extent_64: REAL; • max__next_extent_64_enum: STRING; • tables__and__indices_64: REAL; • tables__and__indices_64_enum: STRING; • tables__and__indices_change_per_day_64: REAL; • tables__and__indices_change_per_day_64_enum: STRING; • files_64: REAL; • files_64_enum: STRING; 	ITM_R3_Data_Base_Detail (continued)
R/3_Set_Default_Sample_Period attribute group <ul style="list-style-type: none"> • managed_system: STRING; • message: STRING; • rfc_function: STRING; • default_period: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Set_Default_Sample_Period
R/3_Perform_Requested_Action attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • action: STRING; • message: STRING; • message_u: STRING; • sapshcut_parameters: STRING; • return_code: INTEGER; • return_value: STRING; • system_label: STRING; 	ITM_R3_Perform_Requested_Action

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Active_Users attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • client: STRING; • userid: STRING; • terminal: STRING; • ip_address: STRING; • transaction_code: STRING; • time: STRING; • external_sessions: INTEGER; • external_sessions_enum: INTEGER; • internal_sessions: INTEGER; • internal_sessions_enum: INTEGER; • echoed_to_session: STRING; • session_number: INTEGER; • session_title: STRING; • session_time: STRING; • user_key: INTEGER; • user_roll_size: INTEGER; • user_roll_size_enum: INTEGER; • user_page_size: INTEGER; • user_page_size_enum: INTEGER; • user_total_memory: INTEGER; • user_total_memory_enum: INTEGER; • user_private_memory: INTEGER; • user_private_memory_enum: INTEGER; • sample_time: STRING; • logon_parameters: STRING; • session_title_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • ip_address_v6: STRING; 	ITM_R3_Active_Users
R/3_User_Information attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name_enum: STRING; • userid: STRING; • client: STRING; • full_name: STRING; • telephone_number: STRING; • fax_number: STRING; • function: STRING; • department: STRING; • cost_center: STRING; • country: STRING; • building: STRING; • room: STRING; • logon_parameters: STRING; • description: STRING; • ksa_value: STRING; • full_name_u: STRING; • function_u: STRING; • department_u: STRING; • cost_center_u: STRING; • country_u: STRING; • building_u: STRING; • room_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_User_Information

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Work_Processes attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • number: INTEGER; • number_enum: STRING; • type: STRING; • type_enum: STRING; • os_process_id: INTEGER; • os_process_id_enum: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • status_reason: STRING; • status_reason_enum: STRING; • restart_after_error: STRING; • restart_after_error_enum: STRING; • errors: INTEGER; • errors_enum: STRING; • cpu_time: INTEGER; • cpu_time_enum: STRING; • elapsed_time: INTEGER; • elapsed_time_enum: STRING; • client: STRING; • userid: STRING; • userid_enum: STRING; • transaction_code: STRING; • program: STRING; • filler: STRING; • action: STRING; • action_enum: STRING; • table_name: STRING; • wait_information: STRING; • wait_start_time: STRING; • database_reads: INTEGER; • database_reads_time: INTEGER; • database_reads_time_enum: STRING; • database_changes: INTEGER; • database_changes_enum: STRING; • database_changes_time: INTEGER; • database_changes_time_enum: STRING; • roll_in-out_count: INTEGER; • roll_in-out_count_enum: STRING; • roll_in-out_time: INTEGER; • roll_in-out_time_enum: STRING; • process_roll_size: INTEGER; • process_roll_size_enum: STRING; • process_page_size: INTEGER; • process_page_size_enum: STRING; • process_total_memory: INTEGER; • process_total_memory_enum: STRING; • process_private_memory: INTEGER; • process_private_memory_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; (Continued on the next page)	ITM_R3_Work_Processes

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • transaction_code_u: STRING; • program_u: STRING; • wait_information_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • cpu_time_64: REAL; • cpu_time_64_enum: STRING; • database_reads_time_64: REAL; • database_reads_time_64_enum: STRING; • database_changes_64: REAL; • database_changes_64_enum: STRING; • roll_in-out_count_64: REAL; • roll_in-out_count_64_enum: STRING; • process_total_memory_64: REAL; • process_total_memory_64_enum: STRING; • process_private_memory_64: REAL; • process_private_memory_64_enum: STRING; 	ITM_R3_Work_Processes (continued)
<p>R/3_ABAP_Dumps attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • dump_title: STRING; • program_name: STRING; • include_name: STRING; • line_number: INTEGER; • line_number_enum: STRING; • create_time: STRING; • userid: STRING; • client: STRING; • host: STRING; • hold_status: STRING; • hold_status_enum: STRING; • mode_number: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • program_name_u: STRING; • include_name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • line_number_64: REAL; • line_number_64_enum: STRING; 	ITM_R3_ABAP_Dumps

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Lock_Entries attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • userid: STRING; • host: STRING; • system_number: STRING; • work_process: INTEGER; • create_time: STRING; • lock_age: INTEGER; • lock_age_enum: STRING; • transaction_code: STRING; • lock_object_name: STRING; • group: STRING; • argument: STRING; • owner: STRING; • update_owner: STRING; • hold_count: INTEGER; • update_hold_count: INTEGER; • backup_flag: STRING; • sample_time: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • lock_age_64: REAL; • lock_age_64_enum: STRING; 	ITM_R3_Lock_Entries
R/3_Updates_Information attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • userid: STRING; • time: STRING; • transaction_code: STRING; • program: STRING; • function_module: STRING; • state_code: STRING; • state_code_enum: STRING; • state_description: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • status_number: INTEGER; • status_description: STRING; • error: STRING; • update_key: STRING; • update_server: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • state_description_u: STRING; • status_description_u: STRING; • error_u: STRING; • program_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Updates_Information

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Gateway_Connections attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • connection_number: INTEGER; • connection_number_enum: STRING; • in_use: STRING; • in_use_enum: STRING; • local_logical_unit_name: STRING; • local_transaction_program_name: STRING; • local_appc_version: INTEGER; • local_appc_version_enum: STRING; • remote_logical_unit_name: STRING; • remote_transaction_program_name: STRING; • remote_appc_version: INTEGER; • remote_appc_version_enum: STRING; • userid: STRING; • ksa_status: STRING; • symbolic_destination_name: STRING; • conversation_identifier: STRING; • trace_level: INTEGER; • trace_level_enum: STRING; • cpic_return_code: INTEGER; • cpic_return_code_enum: STRING; • sap_return_code: INTEGER; • sap_return_code_enum: STRING; • request_time: STRING; • local_host: STRING; • local_ip_address: STRING; • remote_host: STRING; • remote_ip_address: STRING; • system_type: STRING; • registration_status: STRING; • connection_speed: STRING; • number_of_connections: INTEGER; • number_of_connections_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • local_ip_address_v6: STRING; • remote_ip_address_v6: STRING; 	ITM_R3_Gateway_Connections

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Gateway_Statistics attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • statistics_active: STRING; • statistics_active_enum: STRING; • connect_accepts: INTEGER; • connect_accepts_enum: STRING; • cminits: INTEGER; • cminits_enum: STRING; • timeouts: INTEGER; • timeouts_enum: STRING; • overflows: INTEGER; • overflows_enum: STRING; • current_overflow_usage: REAL; • current_overflow_usage_enum: STRING; • max_overflow_usage: REAL; • max_overflow_usage_enum: STRING; • current_data_stack: INTEGER; • current_data_stack_enum: STRING; • max_data_stack: INTEGER; • max_data_stack_enum: STRING; • data_stack_limit: INTEGER; • data_stack_limit_enum: STRING; • connection_with_maximum_stack: INTEGER; • connection_with_maximum_stack_enum: STRING; • reader_requests: INTEGER; • reader_requests_enum: STRING; • total_reader_time: REAL; • total_reader_time_enum: STRING; • min_reader_time: REAL; • min_reader_time_enum: STRING; • max_reader_time: REAL; • max_reader_time_enum: STRING; • avg_reader_time: REAL; • avg_reader_time_enum: STRING; • longest_reader_request: STRING; • work_process_requests: INTEGER; • work_process_requests_enum: STRING; 	ITM_R3_Gateway_Statistics

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • total_work_process_time: REAL; • total_work_process_time_enum: STRING; • min_work_process_time: REAL; • min_work_process_time_enum: STRING; • max_work_process_time: REAL; • max_work_process_time_enum: STRING; • avg_work_process_time: REAL; • avg_work_process_time_enum: STRING; • tcp_reads: INTEGER; • tcp_reads_enum: STRING; • fragmented_tcp_reads: INTEGER; • fragmented_tcp_reads_enum: STRING; • tcp_read_size: INTEGER; • tcp_read_size_enum: STRING; • total_tcp_read_time: REAL; • total_tcp_read_time_enum: STRING; • min_tcp_read_time: REAL; • min_tcp_read_time_enum: STRING; • max_tcp_read_time: REAL; • max_tcp_read_time_enum: STRING; • avg_tcp_read_time: REAL; • avg_tcp_read_time_enum: STRING; • tcp_writes: INTEGER; • tcp_writes_enum: STRING; • fragmented_tcp_writes: INTEGER; • fragmented_tcp_writes_enum: STRING; • tcp_write_size: INTEGER; • tcp_write_size_enum: STRING; • total_tcp_write_time: REAL; • total_tcp_write_time_enum: STRING; • min_tcp_write_time: REAL; • min_tcp_write_time_enum: STRING; • max_tcp_write_time: REAL; • max_tcp_write_time_enum: STRING; • avg_tcp_write_time: REAL; • avg_tcp_write_time_enum: STRING; • tcp_read_rate: INTEGER; • tcp_read_rate_enum: STRING; • tcp_write_rate: INTEGER; • tcp_write_rate_enum: STRING; • tcp_errors: INTEGER; • tcp_errors_enum: STRING; 	ITM_R3_Gateway_Statistics (continued)
(Continued on the next page)	

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • cpic_reads: INTEGER; • cpic_reads_enum: STRING; • cpic_read_size: INTEGER; • cpic_read_size_enum: STRING; • total_cpic_read_time: REAL; • total_cpic_read_time_enum: STRING; • min_cpic_read_time: REAL; • min_cpic_read_time_enum: STRING; • max_cpic_read_time: REAL; • max_cpic_read_time_enum: STRING; • avg_cpic_read_time: REAL; • avg_cpic_read_time_enum: STRING; • cpic_writes: INTEGER; • cpic_writes_enum: STRING; • cpic_write_size: INTEGER; • cpic_write_size_enum: STRING; • total_cpic_write_time: REAL; • total_cpic_write_time_enum: STRING; • min_cpic_write_time: REAL; • min_cpic_write_time_enum: STRING; • max_cpic_write_time: REAL; • max_cpic_write_time_enum: STRING; • avg_cpic_write_time: REAL; • avg_cpic_write_time_enum: STRING; • cpic_read_rate: INTEGER; • cpic_read_rate_enum: STRING; • cpic_write_rate: INTEGER; • cpic_write_rate_enum: STRING; • cpic_errors: INTEGER; • cpic_errors_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • description: STRING; • ksa_value: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Gateway_Statistics (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Number_Range_Buffer_Summary attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • maximum_entries: INTEGER; • current_entries: INTEGER; • maximum_indexes: INTEGER; • current_indexes: INTEGER; • buffer_size: INTEGER; • buffer_calls: INTEGER; • get_calls: INTEGER; • server_calls: INTEGER; • database_calls: INTEGER; • conflicts: INTEGER; • timeouts: INTEGER; • buffer_responses_less_than_50us: INTEGER; • buffer_responses_less_than_1ms: INTEGER; • buffer_responses_1ms_or_greater: INTEGER; • server_responses_less_than_1ms: INTEGER; • server_responses_less_than_50ms: INTEGER; • server_responses_50ms_or_greater: INTEGER; • sample_time: STRING; • logon_parameters: STRING; • description: STRING; • ksa_value: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Number_Range_Buffer_Summary
R/3_Number_Range_Buffer_Details attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • client: STRING; • object_name: STRING; • sub-object_name: STRING; • range_number: STRING; • year: INTEGER; • year_enum: STRING; • from_number: STRING; • to_number: STRING; • last_number: STRING; • external_range: STRING; • external_range_enum: STRING; • interval_to_number: STRING; • sample_time: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Number_Range_Buffer_Details
R/3_Developer_Traces attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • file_name: STRING; • system_component: STRING; • log_data: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Developer_Traces

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Saprouter_Log attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • file_name: STRING; • date_time: STRING; • log_data: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Saprouter_Log
R/3_Database_Logs attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • file_name: STRING; • log_data: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Database_Logs
R/3_Transactional_RFC attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • send_receive: STRING; • send_receive_enum: STRING; • userid: STRING; • function_module: STRING; • target_name: STRING; • time: STRING; • ksa_status: STRING; • transaction_id: STRING; • ksa_hostname: STRING; • transaction_code: STRING; • client: STRING; • program: STRING; • data_size: REAL; • data_size_enum: STRING; • retries: INTEGER; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • function_module_u: STRING; • target_name_u: STRING; • status_u: STRING; • transaction_code_u: STRING; • program_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • queue_name: STRING; • status_code: STRING; • data_size_64: REAL; • data_size_64_enum: STRING; 	ITM_R3_Transactional_RFC

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Logon_Groups attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • name: STRING; • type: STRING; • type_enum: STRING; • instance_name: STRING; • maximum_response_time: INTEGER; • maximum_response_time_enum: STRING; • current_response_time: INTEGER; • current_response_time_enum: STRING; • event_frequency: INTEGER; • event_frequency_enum: STRING; • maximum_users: INTEGER; • maximum_users_enum: STRING; • current_users: INTEGER; • current_users_enum: STRING; • alternate_ip_address: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • statistics_sample_time: STRING; • current_favorite: STRING; • current_favorite_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • alternate_ip_address_v6: STRING; 	ITM_R3_Logon_Groups

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Intermediate_Documents attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • number: INTEGER; • number_enum: STRING; • type: STRING; • create_time: STRING; • update_time: STRING; • direction: STRING; • direction_enum: STRING; • message_type: STRING; • message_code: STRING; • message_function: STRING; • test_production: STRING; • test_production_enum: STRING; • partner_port: STRING; • partner_type: STRING; • partner_function: STRING; • partner_name: STRING; • status_number: STRING; • status_description: STRING; • status_information: STRING; • status_for_statistics: STRING; • status_for_statistics_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • type_u: STRING; • status_description_u: STRING; • status_information_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • number_64: REAL; • number_64_enum: STRING; 	ITM_R3_Intermediate_Documents
R/3_EDF_Files attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • file_name: STRING; • last_record: INTEGER; • last_record_enum: STRING; • last_idoc: INTEGER; • last_idoc_enum: STRING; • delete_file: STRING; • delete_file_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • file_name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • last_idoc_64: REAL; • last_idoc_64_enum: STRING; 	ITM_R3_EDF_Files

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Logon_Information attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • client: STRING; • userid: STRING; • userid_enum: STRING; • userid_type: STRING; • userid_type_enum: STRING; • userid_state: STRING; • userid_state_enum: STRING; • terminal: STRING; • ip_address: STRING; • logon_logoff: STRING; • logon_logoff_enum: STRING; • time: STRING; • session_duration: INTEGER; • session_duration_enum: STRING; • invalid_password_count: INTEGER; • invalid_password_count_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • sapshcut_parameters: STRING; • changing_userid: STRING; • changing_time: STRING; • system_label: STRING; • ip_address_v6: STRING; 	ITM_R3_Logon_Information

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Archive_Monitor attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • open_spool_requests: INTEGER; • open_spool_requests_enum: STRING; • open_spool_errors: INTEGER; • open_spool_errors_enum: STRING; • transactional_rfc_requests: INTEGER; • transactional_rfc_requests_enum: STRING; • open_asynchronous_requests: INTEGER; • open_asynchronous_errors: INTEGER; • archiving_queues: INTEGER; • archiving_queues_enum: STRING; • archiving_errors: INTEGER; • archiving_errors_enum: STRING; • confirmation_queues: INTEGER; • confirmation_queues_enum: STRING; • confirmation_errors: INTEGER; • confirmation_errors_enum: STRING; • retrieval_queues: INTEGER; • retrieval_queues_enum: STRING; • retrieval_errors: INTEGER; • retrieval_errors_enum: STRING; • background_scheduled: INTEGER; • background_archiving: INTEGER; • background_confirmation: INTEGER; • background_retrieval: INTEGER; • background_file_processing: INTEGER; • background_file_processing_enum: STRING; • open_bar_codes: INTEGER; • bar_code_archive_files: INTEGER; • logging_entries: INTEGER; • archive_device_status: STRING; • archive_device_status_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • description: STRING; • ksa_value: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R3_Archive_Monitor

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_SAP_Office_Inbox attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • userid: STRING; • client: STRING; • user_name: STRING; • mail_type: STRING; • mail_name: STRING; • mail_title: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • sent_time: STRING; • received_time: STRING; • open_time: STRING; • expiration_time: STRING; • inbox_pending_time: INTEGER; • inbox_pending_time_enum: STRING; • author: STRING; • owner: STRING; • attachments: INTEGER; • action_type: STRING; • action_name: STRING; • size: INTEGER; • size_enum: STRING; • priority: INTEGER; • sensitivity: STRING; • sensitivity_enum: STRING; • express: STRING; • express_enum: STRING; • changeable: STRING; • changeable_enum: STRING; • attachment_type: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • mail_type_u: STRING; • mail_name_u: STRING; • mail_title_u: STRING; • action_type_u: STRING; • action_name_u: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • inbox_pending_time_64: REAL; • inbox_pending_time_64_enum: STRING; • size_64: REAL; • size_64_enum: STRING; 	ITM_R3_SAP_Office_Inbox

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_CCMS_Current_State attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system_label: STRING; • instance_name: STRING; • monitor_set: STRING; • ksa_monitor: STRING; • monitoring_context_name: STRING; • monitoring_types_number: STRING; • monitoring_types_id: STRING; • monitoring_types_class: STRING; • monitoring_types_full_name: STRING; • monitoring_types_short_name: STRING; • monitor_object_name: STRING; • current_state: INTEGER; • current_state_enum: STRING; • customization_group_name: STRING; • monitoring_segment_name: STRING; • occurrence_time: STRING; • last_value_change_time: STRING; • mt_index: INTEGER; • parent_mt_index: INTEGER; • tid_internal_handle: STRING; • number: INTEGER; • logon_parameters: STRING; • sapshcut_parameters: STRING; 	ITM_R3_CCMS_Current_State

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Gateway_Statistics_64 attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • statistics_active: STRING; • statistics_active_enum: STRING; • connect_accepts: REAL; • connect_accepts_enum: STRING; • cminits: REAL; • cminits_enum: STRING; • timeouts: REAL; • timeouts_enum: STRING; • overflows: REAL; • overflows_enum: STRING; • current_overflow_usage: REAL; • current_overflow_usage_enum: STRING; • max_overflow_usage: REAL; • max_overflow_usage_enum: STRING; • current_data_stack: REAL; • current_data_stack_enum: STRING; • max_data_stack: REAL; • max_data_stack_enum: STRING; • data_stack_limit: REAL; • data_stack_limit_enum: STRING; • connection_with_maximum_stack: REAL; • connection_with_maximum_stack_enum: STRING; • reader_requests: REAL; • reader_requests_enum: STRING; • total_reader_time: REAL; • total_reader_time_enum: STRING; • min_reader_time: REAL; • min_reader_time_enum: STRING; • max_reader_time: REAL; • max_reader_time_enum: STRING; • avg_reader_time: REAL; • avg_reader_time_enum: STRING; • longest_reader_request: STRING; • work_process_requests: REAL; • work_process_requests_enum: STRING; • total_work_process_time: REAL; • total_work_process_time_enum: STRING; • min__work_process_time: REAL; • min__work_process_time_enum: STRING; • max__work_process_time: REAL; • max__work_process_time_enum: STRING; • avg__work_process_time: REAL; • avg__work_process_time_enum: STRING; 	ITM_R3_Gateway_Statistics_64
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Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • tcp_reads: REAL; • tcp_reads_enum: STRING; • fragmented_tcp_reads: REAL; • fragmented_tcp_reads_enum: STRING; • tcp_read_size: REAL; • tcp_read_size_enum: STRING; • total_tcp_read_time: REAL; • total_tcp_read_time_enum: STRING; • min_tcp_read_time: REAL; • min_tcp_read_time_enum: STRING; • max_tcp_read_time: REAL; • max_tcp_read_time_enum: STRING; • avg_tcp_read_time: REAL; • avg_tcp_read_time_enum: STRING; • tcp_writes: REAL; • tcp_writes_enum: STRING; • fragmented_tcp_writes: REAL; • fragmented_tcp_writes_enum: STRING; • tcp_write_size: REAL; • tcp_write_size_enum: STRING; • total_tcp_write_time: REAL; • total_tcp_write_time_enum: STRING; • min_tcp_write_time: REAL; • min_tcp_write_time_enum: STRING; • max_tcp_write_time: REAL; • max_tcp_write_time_enum: STRING; • avg_tcp_write_time: REAL; • avg_tcp_write_time_enum: STRING; • tcp_read_rate: REAL; • tcp_read_rate_enum: STRING; • tcp_write_rate: REAL; • tcp_write_rate_enum: STRING; • tcp_errors: REAL; • tcp_errors_enum: STRING; • cpic_reads: REAL; • cpic_reads_enum: STRING; • cpic_read_size: REAL; • cpic_read_size_enum: STRING; • total_cpic_read_time: REAL; • total_cpic_read_time_enum: STRING; • min_cpic_read_time: REAL; • min_cpic_read_time_enum: STRING; • max_cpic_read_time: REAL; • max_cpic_read_time_enum: STRING; 	ITM_R/3_Gateway_Statistics_64 (continued)
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Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • avg_cplic_read_time: REAL; • avg_cplic_read_time_enum: STRING; • cplic_writes: REAL; • cplic_writes_enum: STRING; • cplic_write_size: REAL; • cplic_write_size_enum: STRING; • total_cplic_write_time: REAL; • total_cplic_write_time_enum: STRING; • min_cplic_write_time: REAL; • min_cplic_write_time_enum: STRING; • max_cplic_write_time: REAL; • max_cplic_write_time_enum: STRING; • avg_cplic_write_time: REAL; • avg_cplic_write_time_enum: STRING; • cplic_read_rate: REAL; • cplic_read_rate_enum: STRING; • cplic_write_rate: REAL; • cplic_write_rate_enum: STRING; • cplic_errors: REAL; • cplic_errors_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • description: STRING; • ksa_value: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_R/3_Gateway_Statistics_64 (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
R/3_Buffer_Performance_64 attribute group <ul style="list-style-type: none"> • managed_system: STRING; • name: STRING; • hitratio: REAL; • requests: REAL; • requests_enum: STRING; • hits: REAL; • hits_enum: STRING; • misses: REAL; • misses_enum: STRING; • db_access_quality: REAL; • db_accesses: REAL; • db_accesses_enum: STRING; • db_accesses_saved: REAL; • db_accesses_saved_enum: STRING; • size_allocated: REAL; • size_allocated_enum: STRING; • size_used: REAL; • size_used_enum: STRING; • size_free: REAL; • size_free_enum: STRING; • directory_allocated: REAL; • directory_allocated_enum: STRING; • directory_used: REAL; • directory_used_enum: STRING; • directory_free: REAL; • directory_free_enum: STRING; • objects_swapped: REAL; • objects_swapped_enum: STRING; • frames_swapped: REAL; • frames_swapped_enum: STRING; • total_resets: REAL; • total_resets_enum: STRING; • last_reset: STRING; • objects_in_buffer: REAL; • objects_in_buffer_enum: STRING; • inserts: REAL; • inserts_enum: STRING; • changes: REAL; • changes_enum: STRING; • deletes: REAL; • deletes_enum: STRING; • sample_time: STRING; • logon_parameters: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • size_free_percent: INTEGER; • size_free_percent_enum: STRING; • size_used_percent: INTEGER; • size_used_percent_enum: STRING; • size_in_memory: REAL; (Continued on the next page)	ITM_R3_Buffer_Performance_64

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • size_in_memory_enum: STRING; • size_on_disk: REAL; • size_on_disk_enum: STRING; • max_used: REAL; • max_used_enum: STRING; • max_used_percent: INTEGER; • max_used_percent_enum: STRING; • directory_used_percent: INTEGER; • directory_used_percent_enum: STRING; • directory_free_percent: INTEGER; • directory_free_percent_enum: STRING; • sapshcut_parameters: STRING; • size_reserved: REAL; • size_reserved_enum: STRING; • size_reserved_percent: INTEGER; • size_reserved_percent_enum: STRING; • encoded_name: STRING; • encoded_name_enum: STRING; • system_label: STRING; 	ITM_R/3_Buffer_Performance_64 (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<p>R/3_Trans_Perf_Task_Type attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • program_or_tran_code: STRING; • application: STRING; • userid: STRING; • description: STRING; • dialog_steps: INTEGER; • total_response_time: INTEGER; • total_response_time_enum: STRING; • avg_response_time: INTEGER; • avg_response_time_enum: STRING; • total_cpu_time: INTEGER; • total_cpu_time_enum: STRING; • avg_cpu_time: INTEGER; • avg_cpu_time_enum: STRING; • total_wait_time: INTEGER; • total_wait_time_enum: STRING; • avg_wait_time: INTEGER; • avg_wait_time_enum: STRING; • total_database_request_time: INTEGER; • total_database_request_time_enum: STRING; • avg_database_request_time: INTEGER; • avg_database_request_time_enum: STRING; • total_db_requested_bytes: INTEGER; • total_db_requested_bytes_enum: STRING; • total_database_calls: INTEGER; • total_database_calls_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; • logon_parameters: STRING; • aggregation: STRING; • system_name: STRING; • system_name_enum: STRING; • instance_name: STRING; • sapgui_hostname: STRING; • avg_total_memory: INTEGER; • avg_total_memory_enum: STRING; • avg_extended_memory: INTEGER; • avg_extended_memory_enum: STRING; • max_extended_memory_per_session: INTEGER; • max_extended_memory_per_session_enum: STRING; • max_extended_memory_per_transaction: INTEGER; • max_extended_memory_per_transaction_enum: STRING; • avg_private_memory: INTEGER; • avg_private_memory_enum: STRING; • program_or_tran_code_u: STRING; • application_u: STRING; • description_u: STRING; • sapshcut_parameters: STRING; • dynpro_number: STRING; • dynpro_number_enum: STRING; • gui_count: INTEGER; • gui_count_enum: STRING; • gui_time: INTEGER; <p>(Continued on the next page)</p>	ITM_R3_Trans_Perf_Task_Type

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • gui_time_enum: STRING; • front_end_network_time: INTEGER; • front_end_network_time_enum: STRING; • executed_in: STRING; • row_aggregation: STRING; • dialog_step_response_threshold: INTEGER; • dialog_step_response_threshold_enum: STRING; • dialog_steps_above_threshold: INTEGER; • dialog_steps_above_threshold_enum: STRING; • dialog_steps_above_threshold_percent: INTEGER; • dialog_steps_above_threshold_percent_enum: STRING; • system_label: STRING; • service_type: STRING; • service_type_encoded: STRING; • service_type_encoded_enum: STRING; • dialog_steps_64: REAL; • dialog_steps_64_enum: STRING; • total_response_time_64: REAL; • total_response_time_64_enum: STRING; • avg_response_time_64: REAL; • avg_response_time_64_enum: STRING; • total_cpu_time_64: REAL; • total_cpu_time_64_enum: STRING; • avg_cpu_time_64: REAL; • avg_cpu_time_64_enum: STRING; • total_wait_time_64: REAL; • total_wait_time_64_enum: STRING; • avg_wait_time_64: REAL; • avg_wait_time_64_enum: STRING; • total_database_request_time_64: REAL; • total_database_request_time_64_enum: STRING; • avg_database_request_time_64: REAL; • avg_database_request_time_64_enum: STRING; • total_db_requested_bytes_64: REAL; • total_db_requested_bytes_64_enum: STRING; • total_database_calls_64: REAL; • total_database_calls_64_enum: STRING; • avg_total_memory_64: REAL; • avg_total_memory_64_enum: STRING; • avg_extended_memory_64: REAL; • avg_extended_memory_64_enum: STRING; • max_extended_memory_per_session_64: REAL; • max_extended_memory_per_session_64_enum: STRING; • max_extended_memory_per_transaction_64: REAL; • max_extended_memory_per_transaction_64_enum: STRING; • avg_private_memory_64: REAL; • avg_private_memory_64_enum: STRING; • gui_count_64: REAL; • gui_count_64_enum: STRING; • gui_time_64: REAL; • gui_time_64_enum: STRING; • front_end_network_time_64: REAL; • front_end_network_time_64_enum: STRING; • dialog_steps_above_threshold_64: REAL; • dialog_steps_above_threshold_64_enum: STRING; 	ITM_R/3_Trans_Perf_Task_Type (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SolMan_Servers_Details attribute group <ul style="list-style-type: none"> • managed_system: STRING; • ip_address: STRING; • system_id: STRING; • system_number: STRING; • system_name: STRING; • sytem_description: STRING; • instance: STRING; • instance_number: STRING; • version: STRING; • system_label: STRING; 	ITM_SolMan_Servers_Details
SolMan_LDS_SYS_Overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system_number: STRING; • system: STRING; • ksa_hostname: STRING; • ip_address: STRING; • product_type: STRING; • product_version: STRING; • instance: STRING; • install_number: STRING; • transport_domain: STRING; • database_type: STRING; • database_release: STRING; • database_hostname: STRING; • database_os_type: STRING; • database_os_release: STRING; • database_ip_address: STRING; • message_server_hostname: STRING; • message_server_os_type: STRING; • message_server_os_release: STRING; • message_server_ip_address: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • number: INTEGER; • number_enum: STRING; 	ITM_SolMan_LDS_SYS_Overview
SolMan_Landscape_Client attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system: STRING; • client: STRING; • client_name: STRING; • ksa_hostname: STRING; • ip_address: STRING; • group_keys: STRING; • version: STRING; • last_change_by: STRING; • last_change_date: STRING; • logical_system: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_Landscape_Client

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SolMan_Landscape_Instance attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system: STRING; • instance: STRING; • group_keys: STRING; • version: STRING; • ppms_product: STRING; • logical_system: STRING; • server_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_Landscape_Instance
SolMan_LDS_Soft_Comp attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system: STRING; • group_keys: STRING; • version: STRING; • software_component: STRING; • sap_release: STRING; • support_package_level: STRING; • component_type: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_LDS_Soft_Comp
SolMan_LDS_SYS_Topology attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system: STRING; • context: STRING; • node_type: INTEGER; • node_type_enum: STRING; • index: INTEGER; • index_enum: STRING; • parent_index: INTEGER; • parent_index_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_LDS_SYS_Topology
PI/XI_WF_Trace attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_id: STRING; • system_id_enum: STRING; • index: INTEGER; • ksa_status: STRING; • ksa_status_enum: STRING; • locally_visible: STRING; • trace_level_description: STRING; • trace_level_description_enum: STRING; • trace_level: STRING; • system: STRING; • description: STRING; • trace_component: STRING; • activated_timestamp: STRING; • activation_end_timestamp: STRING; • expiry_timestamp: STRING; • creation_timestamp: STRING; • creator_name: STRING; • trace_id: STRING; • parent_trace_id: STRING; • system_label: STRING; 	ITM_PI_per_XI_WF_Trace

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SolMan_Servers_Overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_id: STRING; • ksa_hostname: STRING; • ip_address: STRING; • host_os: STRING; • os_version: STRING; • no_of_cpus: INTEGER; • no_of_cpus_enum: STRING; • cpu_details: STRING; • cpu_frequency: INTEGER; • cpu_frequency_enum: STRING; • memory_size: INTEGER; • memory_size_enum: STRING; • virtual_memory: INTEGER; • virtual_memory_enum: STRING; • system_label: STRING; • application_server_hardware: STRING; • hardware_manufacturer: STRING; • saps_measured: STRING; • saps_vendor: STRING; • central_system_routing_information: STRING; • central_system_to_server_routing_information: STRING; 	ITM_SolMan_Servers_Overview
SAP_qRFC_Outbound_Queue_overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • client: STRING; • system_name: STRING; • system_name_enum: STRING; • queue_name: STRING; • queue_destination: STRING; • queue_entries: INTEGER; • queue_entries_enum: STRING; • queue_status: STRING; • queue_status_enum: STRING; • queue_count: INTEGER; • wait_for_queue: STRING; • first_application_server_timestamp: STRING; • last_application_server_timestamp: STRING; • trfc_first_counter: STRING; • trfc_last_counter: STRING; • queue_error_message: STRING; • queue_counter_in_luw: STRING; • first_tid: STRING; • queue_version: STRING; • queue_suppliment: INTEGER; • queue_suppliment_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Outbound_Queue_overview

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<p>SAP_qRFC_Outbound_Queue_details attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • client: STRING; • luw_hostid_hex: STRING; • luw_host_id: STRING; • luw_process_id: STRING; • luw_timestamp_hex: STRING; • luw_timestamp: STRING; • luw_transaction_id: STRING; • system_name: STRING; • system_name_enum: STRING; • queue_name: STRING; • queue_destination: STRING; • hpqueue_name: STRING; • no_send: STRING; • queue_status: STRING; • queue_status_enum: STRING; • qrfc_user: STRING; • qrfc_function_module: STRING; • appserver_timestamp: STRING; • queue_mailed: STRING; • queue_error_message: STRING; • queue_arfc_state: STRING; • queue_arfc_reply: STRING; • queue_arfc_tcode: STRING; • number_of_attempts: INTEGER; • queue_arfc_program: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Outbound_Queue_details
<p>SolMan_Landscape_Databases attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • database_name: STRING; • version: STRING; • database_vendor: STRING; • database_release: STRING; • database_patch_level: STRING; • database_hostname: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_Landscape_Databases
<p>PI_XI_XML_Log attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • message_id: STRING; • pipeline_id: STRING; • sending_system: STRING; • outbound_interface_namespace: STRING; • outbound_interface_name: STRING; • receiving_system: STRING; • inbound_interface_namespace: STRING; • inbound_interface_name: STRING; • message_type: STRING; • message_type_enum: STRING; • execution_from: STRING; • initial_timestamp: STRING; • send_timestamp: STRING; • user_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • period_start: STRING; • period_end: STRING; • system_name: STRING; • system_name_enum: STRING; 	ITM_PI_XI_XML_Log

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SolMan_Solution_Overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • solution_id: STRING; • solution_name: STRING; • solution_status: STRING; • solution_status_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_Solution_Overview
SolMan_SYS_MON_Alerts attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • monitor_object: STRING; • previous_object: STRING; • last_but_one_object: STRING; • alert_description: STRING; • alert_value: STRING; • alert_rating: INTEGER; • alert_rating_enum: STRING; • alert_object_number: STRING; • monitored_by_solution: STRING; • solution_id: STRING; • ksa_status: STRING; • mte_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • number: INTEGER; • number_enum: STRING; • monitoring_type: STRING; • monitoring_type_enum: STRING; • server_ip_address: STRING; • alert_numeric_value: REAL; • alert_numeric_value_enum: STRING; • alert_unit: STRING; 	ITM_SolMan_SYS_MON_Alerts
SolMan_Solution_Alerts_History attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • ksa_severity: INTEGER; • ksa_severity_enum: STRING; • alert_message: STRING; • occurrence_time: STRING; • client: STRING; • userid: STRING; • alert_unique_identifier: INTEGER; • alert_unique_identifier_enum: STRING; • mte_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SolMan_Solution_Alerts_History

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<p>SolMan_Early_Watch_Alert attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • solution_id: STRING; • session_number: STRING; • planned_date: STRING; • report_url: STRING; • rating: STRING; • rating_enum: STRING; • installation_number: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • sample_time: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_SolMan_Early_Watch_Alert
<p>PI_BP_ENGINE_STATUS attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • component: STRING; • class_name: STRING; • engine_status: STRING; • engine_status_enum: STRING; • sapshcut_parameters: STRING; • process_type: STRING; • system_label: STRING; • user_name: STRING; • sap_server_current_time: STRING; 	ITM_PI_BP_ENGINE_STATUS
<p>SAP_qRFC_Inbound_Queues_Overview attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • queue_name: STRING; • queue_destination: STRING; • queue_entries: INTEGER; • queue_entries_enum: STRING; • queue_status: STRING; • queue_status_enum: STRING; • queue_count: INTEGER; • first_timestamp: STRING; • last_timestamp: STRING; • trfc_first_count: STRING; • trfc_last_count: STRING; • queue_error_messages: STRING; • queue_luw_counter: STRING; • first_tid: STRING; • queue_version: STRING; • queue_suppliment: INTEGER; • queue_suppliment_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Inbound_Queues_Overview

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SAP_qRFC_Inbound_Queue_Details attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • luw_host_id_hex: STRING; • luw_host_id: STRING; • luw_process_id: STRING; • luw_timestamp_hex: STRING; • luw_timestamp: STRING; • luw_transaction_id: STRING; • queue_name: STRING; • queue_destination: STRING; • trfc_counter: STRING; • no_send: STRING; • queue_status: STRING; • queue_status_enum: STRING; • trfc_lock_counter: STRING; • qrfc_user: STRING; • qrfc_function_module: STRING; • application_server_timestamp: STRING; • qrfc_tid: STRING; • queue_luw_counter: STRING; • retry_timestamp: STRING; • number_of_attempts: INTEGER; • queue_mailed: STRING; • queue_error_message: STRING; • queue_arfc_state: STRING; • queue_arfc_reply: STRING; • queue_arfc_tcode: STRING; • queue_arfc_program: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Inbound_Queue_Details
PI_Component_Monitoring attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • url: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • user_name: STRING; 	ITM_PI_Component_Monitoring
PI_PROSS_STATISTICS attribute group <ul style="list-style-type: none"> • managed_system: STRING; • category: STRING; • value_64: REAL; • value_64_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • system_name: STRING; • system_name_enum: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_PI_PROSS_STATISTICS

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SAP_qRFC_Saved_Inbound_Queues_Overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • queue_name: STRING; • queue_entries: INTEGER; • queue_entries_enum: STRING; • queue_status: STRING; • queue_status_enum: STRING; • queue_count: INTEGER; • first_timestamp: STRING; • last_timestamp: STRING; • trfc_first_count: STRING; • trfc_last_count: STRING; • queue_error_messages: STRING; • queue_luw_counter: STRING; • queue_version: STRING; • queue_suppliment: INTEGER; • queue_suppliment_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Saved_Inbound_Queues_Overview
SAP_qRFC_Saved_Inbound_Queue_Details attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • client: STRING; • luw_hostid_hex: STRING; • luw_host_id: STRING; • luw_process_id: STRING; • luw_timestamp_hex: STRING; • luw_timestamp: STRING; • luw_transaction_id: STRING; • luw_tid: STRING; • queue_name: STRING; • queue_destination: STRING; • trfc_counter: STRING; • no_send: STRING; • queue_status: STRING; • queue_status_enum: STRING; • trfc_lock_counter: STRING; • qrfc_user: STRING; • qrfc_function_module: STRING; • application_server_timestamp: STRING; • original_tid: STRING; • queue_luw_counter: STRING; • retry_timestamp: STRING; • number_of_attempts: INTEGER; • queue_mailed: STRING; • queue_error_message: STRING; • queue_arfc_state: STRING; • queue_arfc_reply: STRING; • queue_arfc_tcode: STRING; • queue_arfc_program: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_qRFC_Saved_Inbound_Queue_Details

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
PI_IntEng_Job_Overview attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • job_status: STRING; • job_status_enum: STRING; • job_name: STRING; • type: STRING; • type_enum: STRING; • timestamp: STRING; • sample_time: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_PI_IntEng_Job_Overview
PI_IntEng_Background_Job attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • job_status: STRING; • job_status_enum: STRING; • job_name: STRING; • job_id: STRING; • job_created_by: STRING; • timestamp: STRING; • message_text: STRING; • message_number: INTEGER; • message_type: STRING; • message_class: STRING; • sample_time: STRING; 	ITM_PI_IntEng_Background_Job
SAP_HTTP_SRVS attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • service_name: STRING; • parent_guid: STRING; • service_node_guid: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • host_name: STRING; • host_number: INTEGER; • host_number_enum: STRING; • sap_authority: STRING; • client: STRING; • user: STRING; • path: STRING; • session_timeout: STRING; • session_timeout_sec: INTEGER; • session_timeout_sec_enum: STRING; • created_by: STRING; • created_for_client: STRING; • created_on: STRING; • created_on_timestamp: STRING; • last_changed_by: STRING; • changed_for_client: STRING; • changed_on: STRING; • changed_on_timestamp: STRING; • description: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_HTTP_SRVS

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SAP_Message_Server_Monitor attribute group <ul style="list-style-type: none"> • managed_system: STRING; • field_name: STRING; • field_value: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • system_name: STRING; • system_name_enum: STRING; 	ITM_SAP_Message_Server_Monitor
PI_XI_Persist_layer attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_id: STRING; • system_id_enum: STRING; • instance_name: STRING; • switch_mode: STRING; • switch_mode_enum: STRING; • current_container: STRING; • current_mast_tab: STRING; • number_of_entries: INTEGER; • number_of_entries_enum: STRING; • maximum_entries: INTEGER; • maximum_entries_enum: STRING; • current_fill_level: STRING; • reorganization_status: STRING; • reorganization_status_enum: STRING; • messages_in_database: INTEGER; • messages_in_database_enum: STRING; • messages_in_client: INTEGER; • messages_in_client_enum: STRING; • messages_for_reorganization: INTEGER; • messages_for_reorganization_enum: STRING; • messages_to_be_archived: INTEGER; • messages_to_be_archived_enum: STRING; • logically_deleted_messages: INTEGER; • logically_deleted_messages_enum: STRING; • archived_and_logically_deleted_messages: INTEGER; • archived_and_logically_deleted_messages_enum: STRING; • messages_in_clur: INTEGER; • messages_in_clur_enum: STRING; • messages_in_clup: INTEGER; • messages_in_clup_enum: STRING; • messages_in_vers: INTEGER; • messages_in_vers_enum: STRING; • messages_in_error: INTEGER; • messages_in_error_enum: STRING; • messages_in_emast: INTEGER; • messages_in_emast_enum: STRING; • messages_in_mast: INTEGER; • messages_in_mast_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_PI_XI_Persist_layer

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<p>SAP_ICM_SER_INFO attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_id: STRING; • system_id_enum: STRING; • service_status: STRING; • service_status_enum: STRING; • internet_protocol_id: INTEGER; • internet_protocol_id_enum: STRING; • time_period_for_keep_alive: INTEGER; • time_period_for_keep_alive_enum: STRING; • maximum_processing_time_in_back_end: INTEGER; • maximum_processing_time_in_back_end_enum: STRING; • ssl_client_verification: INTEGER; • ssl_client_verification_enum: STRING; • virtual_host_index: INTEGER; • virtual_host_index_enum: STRING; • icm_service_name_or_port_number: STRING; • host_name: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_ICM_SER_INFO
<p>SAP_ICM_MON_INFO attribute group</p> <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • system_specific_thread_id: STRING; • status_of_icmn: INTEGER; • status_of_icmn_enum: STRING; • trace_level: INTEGER; • trace_level_enum: STRING; • maximum_thread: INTEGER; • maximum_thread_enum: STRING; • peak_thread: INTEGER; • peak_thread_enum: STRING; • current_thread: INTEGER; • current_thread_enum: STRING; • maximum_count: INTEGER; • maximum_count_enum: STRING; • peak_count: INTEGER; • peak_count_enum: STRING; • current_count: INTEGER; • current_count_enum: STRING; • maximum_queue: INTEGER; • maximum_queue_enum: STRING; • peak_queue: INTEGER; • peak_queue_enum: STRING; • current_queue: INTEGER; • current_queue_enum: STRING; • status_of_thread: STRING; • status_of_thread_enum: STRING; • request_type: STRING; • number_of_requests: INTEGER; • number_of_requests_enum: STRING; • connection_identifier: INTEGER; • connection_identifier_enum: STRING; • guid_connection_identifier: INTEGER; • guid_connection_identifier_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; 	ITM_SAP_ICM_MON_INFO

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
DB2_CON_INFO attribute group <ul style="list-style-type: none"> • Managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • application_control_heap_size: INTEGER; • application_control_heap_size_enum: STRING; • application_heap_size: INTEGER; • application_heap_size_enum: STRING; • auto_restart: STRING; • average_number_of_active_applications: INTEGER; • average_number_of_active_applications_enum: STRING; • catalog_cache_size_64: REAL; • catalog_cache_size_64_enum: STRING; • database_heap_size_64: REAL; • database_heap_size_64_enum: STRING; • maximum_storage_for_lock_list: INTEGER; • maximum_storage_for_lock_list_enum: STRING; • lock_timeout: INTEGER; • lock_timeout_enum: STRING; • log_buffer_size: INTEGER; • log_buffer_size_enum: STRING; • log_file_size_64: REAL; • log_file_size_64_enum: STRING; • number_of_primary_log_files: INTEGER; • number_of_primary_log_files_enum: STRING; • number_of_secondary_log_files: INTEGER; • number_of_secondary_log_files_enum: STRING; • maximum_number_of_active_applications: INTEGER; • maximum_number_of_active_applications_enum: STRING; • maximum_number_of_database_files_open_per_application_64: REAL; • maximum_number_of_database_files_open_per_application_64_enum: STRING; • maximum_percentage_of_lock_list_before_escalation: INTEGER; • maximum_percentage_of_lock_list_before_escalation_enum: STRING; • number_of_asynchronous_page_cleaners: INTEGER; • number_of_asynchronous_page_cleaners_enum: STRING; • number_of_io_servers: INTEGER; • number_of_io_servers_enum: STRING; • package_cache_size_64: REAL; • package_cache_size_64_enum: STRING; • sort_heap_size_64: REAL; • sort_heap_size_64_enum: STRING; (Continued on the next page)	ITM_DB2_CON_INFO

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
<ul style="list-style-type: none"> • statistics_heap_size_64: REAL; • statistics_heap_size_64_enum: STRING; • statement_heap_size: INTEGER; • statement_heap_size_enum: STRING; • utility_heap_size_64: REAL; • utility_heap_size_64_enum: STRING; • backup_pending_indicator: STRING; • database_release_level: INTEGER; • database_release_level_enum: STRING; • restore_pending: STRING; • rollforward_pending_indicator: STRING; • territory_of_the_database: STRING; • dynamic_query_management: STRING; • number_of_database_backups_to_retain: INTEGER; • number_of_database_backups_to_retain_enum: STRING; • locks_currently_held_64: REAL; • locks_currently_held_64_enum: STRING; • lock_waits_since_first_connect_64: REAL; • lock_waits_since_first_connect_64_enum: STRING; • total_time_database_waited_for_locks_64: REAL; • total_time_database_waited_for_locks_64_enum: STRING; • deadlocks_since_first_db_connect_64: REAL; • deadlocks_since_first_db_connect_64_enum: STRING; • total_sort_heap_allocated_64: REAL; • total_sort_heap_allocated_64_enum: STRING; • number_of_sorts_since_first_connect_64: REAL; • number_of_sorts_since_first_connect_64_enum: STRING; • elapsed_time_spent_in_sorts_64: REAL; • elapsed_time_spent_in_sorts_64_enum: STRING; • number_of_sort_overflows_64: REAL; • number_of_sort_overflows_64_enum: STRING; • sorts_currently_active_64: REAL; • sorts_currently_active_64_enum: STRING; • status_of_the_database: STRING; • number_of_lock_timeouts_since_first_connect_64: REAL; • number_of_lock_timeouts_since_first_connect_64_enum: STRING; • operating_system: STRING; • log_space_available_in_database_64: REAL; • log_space_available_in_database_64_enum: STRING; • log_space_used_by_database_64: REAL; • log_space_used_by_database_64_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • sample_time: STRING; 	ITM_DB2_CON_INFO (continued)

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
DB2_DB12_BACKUPHIST attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_id: STRING; • system_id_enum: STRING; • system_label: STRING; • sapshcut_parameters: STRING; • workload: STRING; • workload_enum: STRING; • row_insert_timestamp: STRING; • data_logical_reads_64: REAL; • data_logical_reads_64_enum: STRING; • data_physical_reads_64: REAL; • data_physical_reads_64_enum: STRING; • data_physical_writes_64: REAL; • data_physical_writes_64_enum: STRING; • index_logical_reads_64: REAL; • index_logical_reads_64_enum: STRING; • index_physical_reads_64: REAL; • index_physical_reads_64_enum: STRING; • index_physical_writes_64: REAL; • index_physical_writes_64_enum: STRING; • commit_statements_64: REAL; • commit_statements_64_enum: STRING; • rollback_statements_64: REAL; • rollback_statements_64_enum: STRING; • lock_waits_64: REAL; • lock_waits_64_enum: STRING; • lock_wait_time_64: REAL; • lock_wait_time_64_enum: STRING; • deadlocks_64: REAL; • deadlocks_64_enum: STRING; • lock_escalations_64: REAL; • lock_escalations_64_enum: STRING; • x_lock_escalations_64: REAL; • x_lock_escalations_64_enum: STRING; • average_physical_read_time_64: REAL; • average_physical_read_time_64_enum: STRING; • average_physical_write_time_64: REAL; • average_physical_write_time_64_enum: STRING; • sample_time: STRING; 	ITM_DB2_DB12_BACKUPHIST
SAP_TRFC_Monitoring attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • caller: STRING; • function_module: STRING; • message: STRING; • server_timestamp: STRING; • status_of_rfc_call: INTEGER; • status_of_rfc_call_enum: STRING; • target_system: STRING; • host: STRING; • transaction_counter: INTEGER; • transaction_counter_enum: STRING; • sample_time: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_SAP_TRFC_Monitoring

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
PI_XI_SYN_ASYNC_COMM attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • synchronous_message_id: STRING; • asynchronous_message_id: STRING; • transfer_date: STRING; • communication_timeout: STRING; • communication_timeout_sec: INTEGER; • pipeline_status: STRING; • pipeline_status_enum: STRING; • bpe_status: STRING; • bpe_status_enum: STRING; • ksa_status: INTEGER; • ksa_status_enum: STRING; • server: STRING; • system_label: STRING; • sapshcut_parameters: STRING; • sample_time: STRING; 	ITM_PI_XI_SYN_ASYNC_COMM
PI_BPE_Monitoring attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • ksa_status: STRING; • ksa_status_enum: STRING; • message_id: STRING; • quality_of_service: STRING; • quality_of_service_enum: STRING; • retry_count: INTEGER; • retry_count_enum: STRING; • queue_name: STRING; • relation_between_message_and_process_instance: STRING; • relation_between_message_and_process_instance_enum: STRING; • configuration_version: INTEGER; • configuration_version_enum: STRING; • received_timestamp: STRING; • queue_assignment: STRING; • queue_assignment_enum: STRING; • message_packaging_mode: STRING; • message_packaging_mode_enum: STRING; • maximum_number_of_messages: INTEGER; • maximum_number_of_messages_enum: STRING; • maximum_memory_per_message_package: INTEGER; • maximum_memory_per_message_package_enum: STRING; • maximum_wait_time: INTEGER; • maximum_wait_time_enum: STRING; • number_of_queues: INTEGER; • number_of_queues_enum: STRING; • sample_time: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_PI_BPE_Monitoring

Table 28. Overview of attribute groups to event classes and slots (continued)

Event slots	IBM Tivoli Enterprise Console event class
SAP_BPM_ALERTS attribute group <ul style="list-style-type: none"> • managed_system: STRING; • system_name: STRING; • system_name_enum: STRING; • sapshcut_parameters: STRING; • system_label: STRING; • solution_id: STRING; • monitoring_id: STRING; • alert_type: STRING; • monitoring_type: STRING; • alert_timestamp: STRING; • system_id: STRING; • client: STRING; • alert_rating: INTEGER; • alert_rating_enum: STRING; • alert_message: STRING; • sap_system: STRING; • sample_time: STRING; • sample_interval_start: STRING; • sample_interval_end: STRING; 	ITM_SAP_BPM_ALERTS

Event mapping for IBM Tivoli Monitoring V5.1 events

You can receive Tivoli Enterprise Console events from IBM Tivoli Monitoring V6.2 that look like the Tivoli Enterprise Console events you received from IBM Tivoli Monitoring V5.1 Tivoli Enterprise Console adapters, both in name and slot content.

The adapter BAROC files are found on the Tivoli Enterprise Monitoring Server in the installation directory in TECLIB/itm5migr. You must install the following files on the Tivoli Enterprise Console servers where you want to forward mapped CCMS and Syslog adapter events:

- tecad_wr3moni.baroc
- tecad_wr3slog.baroc

These files ensure that you have the required slots such as cms_hostname.

IBM Tivoli Monitoring V5.1 Centralized Computing Center Management System (CCMS) event adapter events

The CCMS Tivoli Enterprise Console adapter that is delivered in IBM Tivoli Monitoring for Applications: mySAP.com, Version 5.1 is a tool that reads alerts from CCMS and reports them as Tivoli Enterprise Console events.

The SAP agent V6.2 also reads alerts from CCMS and can report them as Tivoli Enterprise Console events. However, the name and slots of the default CCMS Tivoli Enterprise Console events that come from version 6.2, ITM_R3_Alerts, differ from those events that come from the version 5.1 Tivoli Enterprise Console adapter.

This section helps when you want to use version 6.2 of the monitoring agent to generate Tivoli Enterprise Console events that look like the Tivoli Enterprise Console events generated by the version 5.1 CCMS adapter.

Generating IBM Tivoli Monitoring V5.1 Centralized Computing Center Management System (CCMS) Event Adapter events

You can generate CCMS Adapter events.

About this task

If you want version 5.1 CCMS Adapter-like events, complete the following steps:

1. Configure IBM Tivoli Monitoring Tivoli Enterprise Console event forwarding. See the *IBM Tivoli Monitoring Installation and Setup Guide*.
2. Import the `tecad_wr3moni.baroc` file into your Tivoli Enterprise Console server rule base to ensure that you have defined the required slots, such as `cms_hostname`. This version of the `tecad_wr3moni.baroc` file that contains an updated set of Tivoli Enterprise Console classes based on more recent MTE classes is new in version 6.2 of the SAP agent.
The `tecad_wr3moni.baroc` file is located in the following directory: `$Candle_Home/cms/TECLIB/itm5migr`
3. Create one or more new situations using the `R/3_Alerts` table that contains the prefix, `SA5_CCMS`. This prefix is a sign to the IBM Tivoli Monitoring event forwarding capability to generate version 5.1 CCMS Adapter-like events.
4. You can use a predefined Alert situation such as `SAP_Alert_Crit` or `SAP_Alert_Warn` as a model, and modify the situation formula as needed.

The Tivoli Enterprise Console event mapping for the IBM Tivoli Monitoring 6.2 predefined alert situations such as `R3_Alert_Crit`, `R3_Alert_Warn`, `SAP_Alert_Crit`, and `SAP_Alert_Warn` remain unchanged. Turn on only one type of Alert monitoring situations (`SA5_CCMS` or regular) to avoid getting duplicate events for the same alert mapped differently in Tivoli Enterprise Console.

Event classes for Centralized Computing Center Management System (CCMS) events

The set of event classes that the SAP agent provides are uniquely named for each MTE class.

Event classes are generated by prepending the name of the MTE class with `SAP_CCMS` and replacing blank characters in the MTE class name with underscore (`_`) characters. The version 6.2 monitoring agent provides an .xml mapping file, `ksa_MTE_620.map`, that contains a list of CCMS MTE class names used to generate the CCMS Adapter Tivoli Enterprise Console events. MTE classes that are not recognized by the mapping file create default `SAP_CCMS_Default_Alert` events.

The `ksa_MTE_620.map` file is located in the following directory: `$CANDLE_HOME/cms/TECLIB`. The `ksa_MTE_620.map` file contains a list of CCMS MTE class names as follows:

```
valueList name="ksa_MTEClassList"
valueItem value="MTE_class_name1"/
valueItem value="MTE_class_name2"/
....
valueItem value="MTE_class_namen"/
/valueList
```

The following example contains several event class mappings in the `ksa_MTE_620.map` file:

```
valueList name="ksa_MTEClassList"
valueItem value="5minLoadAverage"/
valueItem value="ALEChpMTAttribClass"/
...
valueItem value="XML_SelfMonitoring"/
/valueList
```

Adding Centralized Computing Center Management System (CCMS) event classes

You can add CCMS event classes to the event server.

About this task

Perform the following steps to add event classes:

Procedure

1. Save a copy of the original ksa_MTE_620.map file.
2. Edit the ksa_MTEClassList valueList in the ksa_MTE_620.map file. Add a valueItem to the valueList for your new MTE class.
3. Add the new event classes to your event server by using the tecad_wr3moni.baroc file as a model. MTE classes not recognized by the mapping file create default SAP_CCMS_Default_Alert events. You may edit the ksa_MTE_620.map file; but may not edit the ksa.map file.

Example for Centralized Computing Center Management System (CCMS) events

The event slots for the CCMS events and the event slot mappings are shown.

The following table shows the set of event slots in the version 5.1 CCMS event class in the left column. The column on the right indicates whether each slot is mapped in version 6.2 CCMS adapter events. When a slot is mapped, the attribute from which it gets its value is listed.

Table 29. IBM Tivoli Monitoring V5.1 CCMS event slots mapped to IBM Tivoli Monitoring V6.2 CCMS adapter event slots

Version 5.1 slot	Version 6.2 slot value
msg	R3_Alerts.Alert_Msg
mte_class	R3_Alerts.MTE_Class
alert_value	R3_Alerts.Alert_Value
alert_severity	Not mapped.
alert_status	R3_Alerts.Alert_Status
alert_objectname	R3_Alerts.Alert_Object_Name
alert_fieldname	R3_Alerts.Alert_Field_Name
alert_message	R3_Alerts.Alert_Msg
tid_mtsysid	R3_Alerts.System_Name
tid_mtmcname	R3_Alerts.Instance_Name
tid_mtnumrange	Not mapped
tid_mtuid	R3_Alerts.Number
tid_mtclass	Not mapped
tid_mtindex	Not mapped
tid_extindex	Not mapped
aid_alsysid	R3_Alerts.System_Name
aid_msegname	Not mapped.
aid_aluniqnum	R3_Alerts.Alert_Unique_Identifier
aid_alindex	Not mapped
aid_alertgmttime	R3_Alerts.Occurrence_gmt Format is different from Version 5.1. Date and time together. Mapped time contains 20:09:56
aid_alertgmtdate	R3_Alerts.Occurrence_gmt Format is different from Version 5.1. Date and time together. Mapped date contains 2005/06/28
aid_alertdate	R3_Alerts.Occurrence_Time Format is different from Version 5.1. Date and time together. Mapped date contains 2005/06/28

Table 29. IBM Tivoli Monitoring V5.1 CCMS event slots mapped to IBM Tivoli Monitoring V6.2 CCMS adapter event slots (continued)

Version 5.1 slot	Version 6.2 slot value
aid_alerttime	R3_Alerts.Occurrence_Time Format is different from Version 5.1. Date and time together. Mapped time contains 20:09:56
conf_filename	Not mapped
r3alert_host	Not mapped

IBM Tivoli Monitoring V5.1 Syslog Event Adapter events

The Syslog event adapter that is delivered in IBM Tivoli Monitoring for Applications: mySAP.com, Version 5.1 processes the SAP syslog and reports a number of specific syslog entries as Tivoli Enterprise Console events.

Version 6.2 of the SAP agent also reads messages from the SAP Syslog, and can report them as TEC events. However, the name and slots of the default Syslog Tivoli Enterprise Console events that come from version 6.2 (ITM_R3_SYSTEM_LOG) differ from those that come from the version 5.1 Syslog event adapter.

Generating IBM Tivoli Monitoring V5.1 Syslog event adapter events

You can generate IBM Tivoli Monitoring V5.1 Syslog event adapter events

About this task

If you want version 5.1 CCMS Adapter-like events, complete the following steps:

Procedure

1. Configure Tivoli Enterprise Console event forwarding.
2. Import the `tecad_wr3slog.baroc` file into your Tivoli Enterprise Console server to ensure that you defined the required slots such as `cms_hostname`. The `tecad_wr3slog.baroc` is in the following directory: `$Candle_Home/cms/TECLIB/itm5migr`
3. Create one or more new situations by using the R/3 System Log attribute group that contains the prefix, `SA5_SLOG`. This prefix is a sign to OTEA to generate version 5.1 Syslog Adapter-like events.
4. You use a predefined syslog situation such as `SAP_Syslog_Crit` or `SAP_Syslog_Warn` as a model, and modify the situation formula as needed to specify the syslog entries that are sent to the event console. The Tivoli Enterprise Console event mapping for the version 6.2 predefined Syslog situations remains unchanged. Turn on only one type of Syslog monitoring situation (`SA5_SLOG` or predefined) to avoid getting duplicate events for the same Syslog message mapped differently in the Tivoli Enterprise Console.

Event classes for Syslog events

The Syslog event adapter events that the version 6.2 monitoring agent produces are uniquely named for each Syslog message ID.

The events are generated by prepending the Syslog message ID with `SAP_SYSLOG`. The version 6.2 monitoring agent provides an xml mapping file, `ksa_SLOG_620.map`, that contains a list of SAP Syslog message IDs used to generate Syslog Tivoli Enterprise Console events. Syslog message IDs that are not recognized by the mapping file create default `SAP_SYSLOG_MSG` events.

The ksa_SLOG_620.map file is located in the following directory: \$CANDLE_HOME/cms/TECLIB.

Adding Syslog event classes

You can add Syslog event classes to the event server.

About this task

Perform the following steps to define additional syslog event classes:

Procedure

1. Save a copy of the original ksa_SLOG_620.map file.
2. Edit the ksa_SyslogMsgNumList valueList in the ksa_SLOG_620.map file. Add a valueItem for your new message ID.
3. Add the new event classes to your event server using the tecad_wr3slog.baroc file as a model. MTE classes not recognized by the mapping file create default SAP_SYSLOG_MSG events. You may edit the ksa_SLOG_620.map file; but may not edit the ksa.map file.

Example for Syslog events

The following table shows the set of event slots in the version 5.1 syslog event class in the left column. Version 6.2 slot value column indicates whether each slot is mapped in version 6.2 Syslog Adapter events.

When a slot is mapped, the attribute from which it gets its value is listed.

Table 30. IBM Tivoli Monitoring V5.1 Syslog event slots mapped to IBM Tivoli Monitoring V6.2 Syslog Adapter event slots

Version 5.1 slot	Version 6.2 slot value
msg	R3_System_Log.Message_Text
r3syslogMsgNumber	R3_System_Log.Message_Number
r3syslogDate	R3_System_Log.Entry_Time
r3syslogTime	R3_System_Log.Entry_Time
r3syslogInstanceName	R3_System_Log.Instance_Name
r3syslogTask	R3_System_Log.Task_Type
r3syslogClient	R3_System_Log.Client
r3syslogUser	R3_System_Log.User
r3syslogTxCode	R3_System_Log.Transaction_Code
r3syslogMsgText	R3_System_Log.Message_Text

Appendix C. Commands for utilities

IBM Tivoli Monitoring commands are run from the command line. This appendix describes the commands for the SAP agent utilities.

Input strings to these utilities are provided by the Tivoli Enterprise Portal in UTF-8.

For installation, configuration, and administrative commands, see the *IBM Tivoli Monitoring Command Reference*. For situation commands, see the *IBM Tivoli Monitoring User's Guide*.

Note: If you are observing the same reporting in the portal user interface as you are at the command line, you might encounter some minor variance in the values.

The following information is provided for each command:

Description

Purpose of the command.

CLI syntax

Syntax for the command that you enter on the command line. A list of the parameters for the command and a definition of each parameter follow the command name.

CLI example

The example for the command contains a brief description of the example and an example of the syntax.

Return values

Information that the command returns.

Related commands

Name and cross-reference to any other related commands.

ksanfy

Description

Use the **ksanfy** command to run the **ksar3nfy** program. By using **ksanfy**, you can set or override environment variables needed by the **ksar3nfy** program.

Note: The command is called **ksanfy.exe** on Windows systems and **ksanfy** on UNIX systems.

CLI syntax

```
ksanfy " [{A | ACTION}({D | DIALOG} | {F | FUNCTION} |  
{P | PROGRAM} | {R | REPORT} | {T | TRANSACTION})]  
[{C | CHANGEABLE}({Y | YES} | {N | NO})]  
[{E | EXPRESS}({Y | YES} | {N | NO})]  
[{M | MESSAGE}(message)]  
[{N | NAME}(mail_name)]  
[{O | OBJECT}(object_name)]  
[{P | PRIORITY}(priority)]  
[{R | RECIPIENT}(recipient_id)]  
[{S | SENSITIVITY}({F | FUNCTIONAL} | {P | PRIVATE} |  
{S | STANDARD})]
```

```

[{{T | TITLE}}(mail_title)]
[{{U | USERTYPE}}({O | OFFICE} | {P | PRIVATE} | {S | SHARED} |
    {U | USERID})] "

```

Note: The command parameter syntax for **ksanfy** is the same as for **ksar3nfy**. See the command syntax for **ksar3nfy** for a full description of the parameters.

CLI example

To send a mail item to a standard mySAP user PERFADMIN with the message "Transaction Performance Poor", attach the transaction ST03 to the mail as follows:

```
ksanfy "Recipient(PERFADMIN) Message(Transaction Performance Poor) Object(ST03)"
```

Return values

The ksanfy program returns the RFC return code from the ksar3nfy program.

Related commands

See "ksar3nfy."

ksar3nfy

Description

Use the **ksar3nfy** command to send SAP Office email to mySAP users.

Note: The command is called **ksar3nfy.exe** on Windows systems and **ksar3nfy** on UNIX systems.

CLI syntax

```

ksar3nfy "[{{A | ACTION}}({D | DIALOG} | {{F | FUNCTION}} |
{{P | PROGRAM}} | {{R | REPORT}} | {{T | TRANSACTION}})]
[{{C | CHANGEABLE}}({Y | YES} | {{N | NO}})]
[{{E | EXPRESS}}({Y | YES} | {{N | NO}})]
[{{M | MESSAGE}}(message)]
[{{N | NAME}}(mail_name)]
[{{O | OBJECT}}(object_name)]
[{{P | PRIORITY}}(priority)]
[{{R | RECIPIENT}}(recipient_id)]
[{{S | SENSITIVITY}}({F | FUNCTIONAL} | {{P | PRIVATE}} |
    {{S | STANDARD}})]
[{{T | TITLE}}(mail_title)]
[{{U | USERTYPE}}({O | OFFICE} | {{P | PRIVATE}} | {{S | SHARED}} |
    {{U | USERID}})] "

```

Note:

1. All keywords are case insensitive. All keywords can be abbreviated to any number of characters.
2. The parameter string must be enclosed in double quotation marks.
3. Parameters can be separated with spaces or commas, or have no separation at all.
4. All recognized keywords and values are validated within mySAP. All unrecognized and irrelevant keywords are ignored.

where:

A | ACTION

Attaches an executable action of one of the following types to the mail item:

- DIALOG: Dialog module
- FUNCTION: Function module
- PROGRAM: Program
- REPORT: Report
- TRANSACTION: Transaction

If ACTION is specified, OBJECT must also be specified. If OBJECT is specified, the default ACTION is TRANSACTION. If OBJECT is not specified, the default ACTION is no action.

C | CHANGEABLE

Specifies YES to allow the recipients to change the mail before forwarding it. Specify NO to prevent the recipient from changing the mail. The default is YES.

E | EXPRESS

Specifies YES to use SAPOffice express mail. Specify NO to use standard SAPOffice mail. The default is NO.

M | MESSAGE

Sends the message **message** in the body of the mail item. The **message** can be a simple string up to

255 characters in length or the name of a file containing the mail message. Each line of the file can contain up to 255 characters. The default is "Mail from IBMMON".

N | NAME

Uses the name, **mail_name**, for the mail item. The **mail_name** can be 12 characters in length. The default is "IBMMON MAIL".

O | OBJECT

Name of the executable object is **object_name**. The **object_name** is the name of a dialog module, the name of a function module,

the name of a report (program), or the name of a transaction. The default is no action name.

P | PRIORITY

Sends the mail with a priority of **priority**. The **priority** can be any number from 0 through 9. The default is 9.

R | RECIPIENT

Sends the mail to recipients **recipient_id**. The **recipient_id** can specify one of the following:

- Standard SAP user ID
- SAPOffice user
- SAPOffice shared distribution list
- SAPOffice private distribution list
- Name of a file containing a list of any of the previous four recipients

If a file is specified, each line of the file is a separate recipient definition. The first word of each line can define a standard SAP user ID, SAPOffice user, or SAPOffice private distribution list.

The second optional word defines the type of recipient. The third optional word specifies whether to use SAPOffice Express mail. (See the descriptions for USERTYPE and EXPRESS

for possible values for the second and third words). The default recipient is the standard SAP user ID that the **ksar3nfy** uses to log on to the mySAP system.

S | SENSITIVITY

Specifies the sensitivity of the mail. Sensitivity can be FUNCTIONAL, PRIVATE, or STANDARD. The default is STANDARD

T | TITLE

Uses the title **mail_title** for the mail item. **mail_title** can be up to 50 characters in length. The default is the first line of the mail message

if message is specified, or "Mail from IBMMON" if no message is specified.

U | USERTYPE

Specifies the USERTYPE as one of the following options:

- OFFICE: SAPOffice user
- PRIVATE: SAPOffice private distribution list
- SHARED: SAPOffice shared distribution list
- USERID: Standard mySAP user ID

The default is USERID.

CLI example

To send a mail item to a standard mySAP user PERFADMIN with the message "Transaction Performance Poor", attach the transaction ST03 to the mail as follows:

```
ksar3nfy "Recipient(PERFADMIN) Message(Transaction Performance Poor) Object(ST03)"
```

—or—

```
ksar3nfy "R(DISTLIST) M(mail.txt) E(Y) C(Y)"
```

To send an express mail item to an SAPOffice shared distribution list of DISTLIST, the mail message is in file MAIL.TXT, and the mail is changeable by the recipients:

```
ksar3nfy "Recipient(DISTLIST) Message(mail.txt) Express(Yes) Changeable(Yes)"
```

—or—

```
ksar3nfy "R(DISTLIST) M(mail.txt) E(Y) C(Y)"
```

Return values

The ksar3nfy program returns the RFC return code.

Related commands

See “ksanfy” on page 415.

ksar3

Description

Use the **ksar3** command to run the ksar3exe program. By using **ksar3**, you can set or override environment variables required by the ksar3exe program.

Note: The command is called **ksar3.bat** on Windows systems and **ksar3** on UNIX systems.

CLI syntax

```
ksar3 " [{A | ABAP}(abap_name)]  
[{C | CHANGE}(name=value,...)]  
[{D | DESTINATION}(destination_name)]  
[{E | EXPORT}(name=value,...)]  
[{F | FUNCTION}(function_module_name)]  
[{I | IMPORT}(name=value,...)]
```

```

[{J | JOB}(job_name, job_number)]
[{R | REPORT}(file_name)]
[{S | SAPGUI}({Y | YES} | {N | NO})]
[{T | TRANSACTION}(transaction_name)]
[{V | VARIANT}(variant_name | name-op-value,...)]
[{W | WAIT}({Y | YES} | {N | NO})]
[{Z | ZTABLES}(name=value,...)] "

```

Note: The command parameter syntax for **ksar3** is the same as for **ksar3exe**. See the command syntax for **ksar3exe** for a full description of the parameters.

CLI example

The following command runs an ABAP named MYABAP:

```
ksar3 "ABAP(MYABAP)"
```

More examples:

```

ksar3 "FUNCTION(RFC_PING_AND_WAIT) EXPORT(SECONDS=60) WAIT(Yes)"
ksar3 "F(BAPI_TRANSACTION_COMMIT),Z(RETURN=x),WAIT(Yes),REPORT(bapi_call_results.txt)"
ksar3 "F(BAPI_CASE_READLOG),E(GUID=entertheasenumherhere,START_DATE=20060601,
      END_DATE=20060824,MAX_ENTRIES=50),Z(RETURN=x),WAIT(Yes),REPORT(bapi_call_results.txt)"
ksar3 "F(BAPI_USER_LOCK),E(USERNAME=userid),Z(RETURN=x),WAIT(Yes),REPORT(bapi_call_results.txt)"
ksar3 "F(BAPI_USER_UNLOCK),E(USERNAME=userid),Z(RETURN=x),WAIT(Yes),REPORT(bapi_call_results.txt)"
ksar3 "F(BAPI_USER_DELETE),E(USERNAME=userid),Z(RETURN=x),WAIT(Yes),REPORT(bapi_call_results.txt)"

```

Return values

The ksar3 program returns the RFC return code from the program

Related commands

See "ksar3exe."

ksar3exe

Description

Use the **ksar3exe** command to run a function inside a mySAP system.

Note: The command is called **ksar3exe.exe** on Windows systems and **ksar3exe** on UNIX systems.

CLI syntax

```

ksar3exe " [{A | ABAP}(abap_name)]
[{C | CHANGE}(name=value,...)]
[{D | DESTINATION}(destination_name)]
[{E | EXPORT}(name=value,...)]
[{F | FUNCTION}(function_module_name)]
[{I | IMPORT}(name=value,...)]
[{J | JOB}(job_name, job_number)]
[{R | REPORT}(file_name)]
[{S | SAPGUI}({Y | YES} | {N | NO})]
[{T | TRANSACTION}(transaction_name)]
[{V | VARIANT}(variant_name | name-op-value,...)]
[{W | WAIT}({Y | YES} | {N | NO})]
[{Z | ZTABLES}(name=value,...)] "

```

Note:

1. All keywords are case insensitive. All keywords can be abbreviated to any number of characters.

2. The parameter string must be enclosed in double quotes.
3. Parameters can be separated with spaces or commas, or have no separation at all.
4. All recognized keywords and values are validated within mySAP. All unrecognized and irrelevant keywords are ignored.

where:

A | ABAP

Runs ABAP named *abap_name*. The default is not available.

C | CHANGE

Same as EXPORT, except these parameters are used by the function module and modified values are returned by the function module. As with EXPORT, the type of variable is automatically set by **ksar3exe**. If WAIT(YES) and REPORT(*file_name*) are specified, the original and modified values returned by the function module are printed in *file_name*.

D | DESTINATION

Runs it on instance *destination_name* if the requested Job or Function must run on a specific instance *destination_name*. The default is not available.

E | EXPORT

Exports the parameters by specifying them here, if the requested action is a function module that requires import parameters.

name Parameter name expected by the function module

value Value for the parameter

Separates multiple name and value combinations with a comma.

The type of the parameter (character, integer, hex, and so on) is automatically handled by **ksar3exe**. For example, function module MYTEST expects to import a character parameter named CHARS and an integer parameter named NUMBER. Specify EXPORT(CHARS=charvalue,NUMBER=numvalue). charvalue is automatically typed to character. numvalue is automatically typed to integer.

F | FUNCTION

Runs function module *function_module_name*. The default is not available.

I | IMPORT

Same as EXPORT, except these parameters are returned by the function module. As with EXPORT, the type of variable is automatically set by **ksar3exe**. If WAIT(YES) and REPORT(*file_name*) are specified, the values returned by the function module are printed in *file_name*.

J | JOB

Runs a job named *job_name*. Optionally, the *job_number* job number can be specified if multiple different jobs with the same name exist. The specified job must be in SCHEDULED or RELEASED status in mySAP. **ksar3exe** makes a copy of the job and runs it immediately. The original job is left unchanged and can be used again. The default is not available.

R | REPORT

Specifies the *file_name* if the report output from the requested action is required in a file. Use STDOUT if the report must be sent to standard out. If the requested action was a job, the job log and all spooled output is written to *file_name*. Defaults to STDOUT unless a transaction is requested, in which case the default is not available.

S | SAPGUI

Specifies YES (or Y) if the requested action displays an SAPGUI. If no screen is to be displayed, specify NO (or N). Defaults is NO unless a transaction is requested, in which case the default is YES.

T | TRANSACTION

Runs *transaction_name* transaction. The Tivoli Enterprise Portal passes this parameter to **ksar3exe** when you request a particular mySAP transaction from the Tivoli Enterprise Portal. The default is not available. The use of this option is limited to those transactions that do not display a DYNPRO GUI.

V | VARIANT

Uses *variant_name* if the requested ABAP requires a variant and an appropriate variant is already defined in the mySAP system. The default is not available.

If the requested ABAP requires a variant and an appropriate variant is not defined in the mySAP system, the parameters required by the ABAP can be specified individually as follows:

name PARAMETER or SELECT-OPTIONS name expected by the ABAP

value Value for the PARAMETER or SELECT-OPTIONS

op Operator connecting the name and the value. Any of the following operators are accepted:

- ^= Not equal
- <> Not equal
- <= Less than or equal
- =< Less than or equal
- ^> Less than or equal, not greater than
- < Less than
- >= Greater than or equal
- => Greater than or equal
- ^< Greater than or equal, not less than
- > Greater than
- ~ Contains pattern
- ^~ Does not contain pattern

Separate multiple combinations of *name-op-value* with a comma.

The type of the PARAMETER or SELECT-OPTIONS (character, integer, hex, and so on) is automatically handled by **ksar3exe**.

To specify ranges for SELECT-OPTIONS, specify the lower limit, followed by the upper limit. For example, to specify a range of 1 through 9 to an ABAP that contains a SELECT-OPTIONS named NUMBERS, specify the variant as follows:

```
variant(numbers>=1,numbers<=9)
```

W | WAIT

Specifies YES (or Y) if **ksar3exe** must wait for the requested action to complete, specify NO (or N) if **ksar3exe** must not wait. Defaults to YES unless a transaction is requested, in which case, the default is NO.

Z | ZTABLES

Same as EXPORT, except these tables are returned by the function module. If WAIT(YES) and REPORT(*file_name*) are specified, the table row values returned by the function module are printed in *file_name*.

CLI example

The following command runs an ABAP named MYABAP: **ksar3exe "ABAP(MYABAP)"**

The following command runs an ABAP named MYABAP with a variant name PRODRUN that is already saved in the mySAP system: **ksar3exe "A(MYABAP) VARIANT(PRODRUN)"**

The following command runs the ST02 transaction: **ksar3exe "Transaction(ST02)"**

More examples:

```
ksar3exe"ABAP(RSTRFCQ3) VARIANT(QNAME=%QNAME%,DEST=%QDEST%) Wait(Yes)"
ksar3exe"ABAP(RSTRFCQ3) VARIANT(QNAME=$QNAME,DEST=$QDEST,FORCE=,NO_ACT=) Wait(Yes)"
ksar3exe"FUNCTION(GWY_READ_CONNECTIONS) EXPORT(GWHOST=,GWSERV=,DISCONNECT=0) WAIT(Yes)
REPORT(test.txt)"
ksar3exe "FUNCTION(RFC_PING_AND_WAIT) EXPORT(SECONDS=60) WAIT(Yes)"
```

Return values

The ksar3exe program returns the RFC return code.

Related commands

See “ksar3” on page 418.

ksapwd

Description

Uses the **ksapwd** command to run the **ksar3pwd** program. By using **ksapwd**, you can set or override environment variables needed by the **ksar3pwd** program.

Note: The command is called **ksapwd.bat** on Windows systems and **ksapwd** on UNIX systems.

CLI syntax

```
ksapwd" [{O | OUTPUT}{filename | STDOUT}]
{P | PASSWORD}{password}"
```

Note: The command parameter syntax for **ksapwd** is the same as for **ksar3pwd**. See the command syntax for **ksar3pwd** for a full description of the parameters.

CLI example

To cause the password "tivoli" to be encrypted and written to the default file named ksa.pwd in the current directory, enter the following command:

```
ksapwd "PASSWORD(tivoli)"
```

Return values

The ksapwd program returns the following values:

- 0 – success
- 16 – error

Related commands

See “ksar3pwd” on page 423.

ksar3pwd

Description

Use the **ksar3pwd** command to encrypt a password for use with a mySAP user ID.

Note: The command is called **ksar3pwd.exe** on Windows systems and **ksar3pwd** on UNIX systems.

CLI syntax

```
ksar3pwd " [{O | OUTPUT} {filename | STDOUT}]  
{P | PASSWORD} {password} "
```

Note:

1. All keywords except STDOUT are case insensitive. All keywords except STDOUT can be abbreviated to any number of characters.
2. The parameter string must be enclosed in double quotes.
3. Parameters can be separated with spaces, commas, or have no separation at all.

where:

O | OUTPUT

Entered as *filename* the name of the file into which the encrypted password is written. Enter a simple file name to have the file created in the current directory. Enter a full path and file name to have the file created in a directory other than the current directory.

Enter STDOUT to have the encrypted password written to standard output instead of being written to a file.

The default value is a file name of `ksa.pwd` in the current directory.

P | PASSWORD

Entered as password, the password string to be encrypted.

CLI example

To cause the password "tivoli" to be encrypted and written to the default file named `ksa.pwd` in the current directory, enter:

```
ksar3pwd "PASSWORD(tivoli)"
```

To cause the password "other" to be encrypted and written to a file named `pwd.txt` in the `/home` directory, enter:

```
ksar3pwd "P(other) O (/home/pwd.txt)"
```

To cause the password "newpw" to be encrypted and displayed on your computer screen, enter:

```
ksar3pwd "PASSWORD(newpw) OUTPUT(STDOUT)"
```

Return values

The `ksar3pwd` program returns the following values:

- 0: success
- 16: error

Related commands

See "ksapwd" on page 422.

Appendix D. Discovery Library Adapter for the SAP agent

The Tivoli Management Services Discovery Library Adapter (DLA) discovers resources and relationships, and creates a Discovery Library Book file for the agent.

About the DLA

The Book file follows the Discovery Library IdML schema and is used to populate the Configuration Management Database (CMDB) and Tivoli Business Service Manager products. The Tivoli Management Services DLA discovers SAP resources. For all SAP agent instances that are active and online at the Tivoli Enterprise Portal Server, information is included in the discovery book for those resources. The Tivoli Management Services DLA discovers active resources. It is run on demand and can be run periodically to discover resources that were not active during previous discoveries.

The DLA discovers SAP components, for example, MySAPABAPApplicationServer, MySAPDb2Instance, SAPSystem, FunctionalGroup, and MySAPCluster.

More information about DLAs

The following sources contain additional information about using the DLA program with all monitoring agents:

- The *IBM Tivoli Monitoring Administrator's Guide* contains information about using the Tivoli Management Services Discovery Library Adapter.
- For information about using a DLA with Tivoli Application Dependency Discovery Manager (TADDM), see the TADDM Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.taddm.doc_7.2/welcome_page/welcome.html).

DLA data model class types represented in CDM

The source application data objects map to classes in the Common Data Model (CDM) for the SAP agent.

The following information is provided for each class:

CDM class name

Class name for which the agent is providing information

Superior CDM class

CDM class (model object)

Relationships

CDM relationships (hierarchical) between currently identified model objects

CDM attributes, agent attributes, descriptions, and examples

CDM and agent attributes that are required to create an instance of a resource, descriptions of the attributes, and examples of the attributes

DLA data model classes for the SAP agent

CDM class name

`sys.ComputerSystem`

Class description

This class represents any resource instance that contain both hardware and software to manipulate data. This class represents the physical devices logically within the physical

element section of the Common Data Model. Examples of ComputerSystem instances include: servers, workstations, and networking hardware.

CDM naming policy

(Y) Name

(Y) Signature

(N) Type

(Y) Fqdn

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: NAME
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv
- CDM attribute: Signature
Agent attribute: KSA.KSASYS.HOSTIP
Example: 10.77.65.68
- CDM attribute: Type
Agent attribute: ComputerSystem
Example: ComputerSystem
- CDM attribute: Fqdn
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv

CDM class name

sys.OperatingSystem

Class description

This class represents the IP V4 address. It includes software that interacts with hardware devices. This software acts as a platform to run applications.

CDM naming policy

(Y) Fqdn

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Fqdn
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv

CDM class name

net.IPv4Address

Class description

The net / IPv4Address class represents the IP V4 address.

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Label
Agent attribute: KSA.KSASYS.HOSTIP
Example: 10.77.65.68
- CDM attribute: DotNotation
Agent attribute: KSA.KSASYS.HOSTIP
Description: IPv4 address in string form
Example: 10.77.65.68

CDM class name

net.Interface

Class description

The net/ IpInterface class represents a Layer 3 IP endpoint. Layer 3 is the Organization of Standardization (OSI) Network Layer.

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Label

Agent attribute:

Fqdn class**CDM class name**

net.Fqdn class

Class description

The Fqdn class represents the fully qualified domain name (FQDN) attribute of an IP address.

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Fqdn

Agent attribute: KSA.KSASYS.HOSTNAME

Example: wfdmdibmsrv

CDM class name

app.packagedapp.mysap.basis.MySAPABAPApplicationServer class

Class Description

This class represents the detailed information about the SAP server.

CDM naming policy

(Y) Name

(Y) ProductName

(N) KeyName

(Y) Label

(Y) SAPSystemSID

(Y) SystemHome

Y) BasisAppSystemNumber

(Y) MySAPKernelRelease

(N) Description

(N) ProductVersion

Relationships

uses(app/packagedapp/mysap/basis/MySAPABAPApplicationServer,
app/packagedapp/mysap/SAPSystem)

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Name

Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.HOSTNAME: KSA.KSASYS.SYSNR

Example: SMR:wfdmdibmsrv:00

- CDM attribute: ProductName

Agent attribute: KSA.KSASYS.SID. KSA.KSASYS.SYSNR.KSA.KSASYS.HOSTNAME

Example: SMR.00.wfdmdibmsrv

- CDM attribute: KeyName

Agent attribute: KSA.KSASYS.SID. KSA.KSASYS.SYSNR.KSA.KSASYS.HOSTNAME

Example: SMR.00.wfdmdibmsrv

- CDM attribute: Label

Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.HOSTNAME: KSA.KSASYS.SYSNR
Example: SMR:wfdmdibmsrv:00

- SAPSystemSID
Agent attribute: KSA.KSASYS.SID
Example: SMR
- SystemHome
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv
- BasisAppSystemNumber
Agent attribute: KSA.KSASYS.SYSNR
Example: 00
- BasisAppSystemNumber
Agent attribute: KSA.KSASYS.SYSNR
Example: 00
- MySAPKernelRelease
Agent attribute: KSA.KSASYS. SAP_KERNEL_RELEASE
Example: 700
- Description
Agent attribute: KSA.KSASYS.DEScript
Example: Domain SMR
- ProductVersion
Agent attribute: KSA.KSASYS. SAP_KERNEL_RELEASE
Example: 700

CDM class name

app.packagedapp.mysap.db.MySAPDb2Instance

Class description

This class represents the detailed information about the MySAP db2 instance.

CDM naming policy

(Y) Name

(N) SAPSystemSID

(Y) SystemHome

Relationships

uses(app/packagedapp/mysap/SAPSystem, app.packageapp/mysap/MySAPDb2instance)

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Name:
Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.DBHOST
Example: SMR:WFDMDIBMSRV
- CDM attribute: SAPSystemSID
Agent attribute: KSA.KSASYS.SID
Example: SMR
- CDM attribute: SystemHome
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv
- CDM attribute: SID
Agent attribute: KSA.KSASYS. SAP_KERNEL_RELEASE
Example: 700

CDM class name

app/packagedapp/mysap/SAPSystem

Class description

This class represents the SAP systems details.

CDM naming policy

(Y) Name

(Y) Label

(Y) SAPSystemSID

(Y) AppVersion

(Y) BasisVersion

(Y) SystemHome

Relationships

uses(app/packagedapp/mysap/basis/MySAPABAPApplicationServer,
app/packagedapp/mysap/SAPSystem)

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Name
Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.HOSTNAME
Example: SMR:wfdmdibmsrv
- CDM attribute: Label
Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.HOSTNAME
Example: SMR:wfdmdibmsrv
- CDM attribute: SAPSystemSID
Agent attribute:KSA.KSASYS.SID
Example: SMR
- CDM attribute: AppVersion
Agent attribute: KSA.KSASYS. SAP_KERNEL_RELEASE
Example: 700
- CDM attribute: BasisVersion
Agent attribute: KSA.KSASYS. SAP_KERNEL_RELEASE
Example: SMR
- CDM attribute: SystemHome
Agent attribute: KSA.KSASYS.SID
Example: wfdmdibmsrv
- CDM attribute: Description
Agent attribute: KSA.DESRIPT
Example: Domain SMR

CDM class name

app/FunctionalGroup

Relationships

memberOf(app/packagedapp/mysap/basis/MySAPABAPApplicationServer,
app.FunctionalGroup)

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: GroupName
Agent attribute: ABAP Tier
Example: ABAP Tier
- CDM attribute: Description
Agent attribute: ABAP Tier
Example: ABAP Tier

CDM class name

app.packagedapp.mysap.basis.MySAPCluster

Relationships

deployedTo(app/packagedapp/mysap/basis/MySAPJ2EEEngineInstance,
app/packagedapp/mysap/basis/MySAPCluster)

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Label
Agent attribute: KSA.KSASYS.SID:KSA.KSASYS.HOSTNAME
Example: SMR:wfdmdibmsrv
- CDM attribute: SAPSystemSID
Agent attribute: KSA.KSASYS.SID
Example: SMR
- CDM attribute: SystemHome
Agent attribute: KSA.KSASYS.HOSTNAME
Example: wfdmdibmsrv

Appendix E. Integration with Tivoli Business Service Manager

The SAP agent provides data to create, update the status of, and view IBM Tivoli Business Service Manager services.

The Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit provides data for the Tivoli Business Service Manager service models. The Tivoli Integration Facility (EIF) probe updates the status of these services, and you use the Tivoli Enterprise Portal to view the data for the services. To implement the integration of the agent with Tivoli Business Service Manager, perform the integration tasks.

Components for integrating with Tivoli Business Service Manager

The data for integrating with Tivoli Business Service Manager is supplied through the following components: Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit, Tivoli Integration Facility (EIF) probe, and Tivoli Enterprise Portal.

Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit

By using data from the Tivoli Management Services Discovery Library Adapter, you can build Tivoli Business Service Manager service models that include resources monitored by the SAP agent.

The DLA files can be imported directly into Tivoli Business Service Manager by using the Discovery Library Toolkit or they can be loaded into IBM Tivoli Application Dependency Discovery Manager and then fed into Tivoli Business Service Manager using the Discovery Library Toolkit.

See the following sources for more information about the DLA and Discovery Library Toolkit:

- Resources and relationships that are discovered by the SAP agent and included in Tivoli Management Services DLA files: Appendix D, “Discovery Library Adapter for the SAP agent,” on page 425
- Using the Tivoli Management Services DLA: *IBM Tivoli Monitoring Administrator's Guide*
- Using the Discovery Library Toolkit: *Tivoli Business Service Manager Customization Guide*

Tivoli Integration Facility (EIF) probe

Situation events detected by the SAP agent can update the status of services in Tivoli Business Service Manager.

The situation events are forwarded from IBM Tivoli Monitoring to the Netcool/OMNIBus Probe for the Tivoli Event Integration Facility. The EIF probe then forwards the events to the Netcool/OMNIBus ObjectServer. Tivoli Business Service Manager monitors the Netcool/OMNIBus ObjectServer for new events and updates the status of affected services.

See the following sources for more information about event integration:

- Installation (using an existing EIF probe and Netcool/OMNIBus ObjectServer installation or using Tivoli Business Service Manager to install these components): Netcool/OMNIBus Information Center or the *Tivoli Business Service Manager Installation Guide*.
- Setting up event integration between IBM Tivoli Monitoring, the EIF probe, and the Netcool/OMNIBus ObjectServer: *IBM Tivoli Monitoring Installation and Setup Guide*.

Tivoli Enterprise Portal

You can use the integration of the Tivoli Enterprise Portal with Tivoli Business Service Manager to view the services in the Tivoli Business Service Manager console.

For more detailed examination and analysis, you can easily link from the Tivoli Business Service Manager console to the Tivoli Enterprise Portal to view the data within the SAP agent.

Tasks to integrate the agent with Tivoli Business Service Manager

To integrate the SAP agent with Tivoli Business Service Manager, you must install and configure the required components. Then, you can view the data in the Tivoli Enterprise Portal.

To integrate the SAP agent with Tivoli Business Service Manager and view the data, complete the following tasks:

- Install the Discovery Library Toolkit on the Tivoli Business Service Manager server.
- Configure the Tivoli Event Integration Facility (EIF) probe to enrich SAP agent events.
- Create a service in the Tivoli Business Service Manager console that you want to monitor.
- Create a data source mapping for each data source that you want to access within the Tivoli Business Service Manager.
- Configure an additional IBM Tivoli Monitoring web service for each Tivoli Enterprise Portal Server.
- View data in the Tivoli Enterprise Portal for the services that you have created to monitor through Tivoli Business Service Manager.

Installing the Discovery Library Toolkit on the Tivoli Business Service Manager server

You must install the Discovery Library Toolkit on the Tivoli Business Service Manager server.

The Discovery Library Toolkit imports data from the DLA files and the TADDM software, which includes information about the hardware and the applications that are discovered by the source.

See "Installing the Discovery Library Toolkit" in the *Tivoli Business Service Manager Installation Guide*.

Configuring the Tivoli Event Integration Facility (EIF) probe to enrich events

The Netcool/OMNIBus Probe for Tivoli Event Integration Facility (EIF) forwards the SAP agent events that are received from IBM Tivoli Monitoring to the Netcool/OMNIBus ObjectServer. Tivoli Business Service Manager monitors the Netcool/OMNIBus ObjectServer for new events, and updates the status of affected services.

Install and configure the Netcool/OMNIBus ObjectServer and EIF probe and set up event integration between IBM Tivoli Monitoring and Netcool/OMNIBus. The probe rules files provided with IBM Tivoli Monitoring enrich SAP agent events to identify the affected service.

Creating a service in Tivoli Business Service Manager

You must create a service in the Tivoli Business Service Manager console for each service that you want to monitor.

To create the services that you want to monitor in the Tivoli Business Service Manager console, see "Configuring services" in the *IBM Tivoli Business Service Manager Service Configuration Guide*.

Creating a data source mapping for each data source

You can create a data source mapping for each data source that you want to access within Tivoli Business Service Manager.

Also, you can create the data fetchers and use the data to create incoming status rules that are populated in your service templates.

For more information, see "Data sources" and "Data fetchers" in the *IBM Tivoli Business Service Manager Service Configuration Guide*.

Configuring additional IBM Tivoli Monitoring web services

You can configure additional IBM Tivoli Monitoring web services for each Tivoli Enterprise Portal Server.

To configure an additional IBM Tivoli Monitoring web service for each Tivoli Enterprise Portal server, see "Configure TBSM charts" in the *IBM Tivoli Business Service Manager Scenarios Guide*.

Viewing data in the Tivoli Enterprise Portal

From Tivoli Business Service Manager, you can open the Tivoli Enterprise Portal and view the SAP agent.

You can also launch Tivoli Business Service Manager from the Tivoli Enterprise Portal.

For more information about launching applications, see "Launching to and from applications" in the *Tivoli Business Service Manager Customization Guide*.

Appendix F. Documentation library

A variety of publications are relevant to the use of the IBM Tivoli Composite Application Manager Agent for SAP Applications.

The *IBM Tivoli Monitoring, OMEGAMON XE, and Composite Application Manager products: Documentation Guide* contains information about accessing and using publications. You can find the Documentation Guide in the following information centers:

- IBM Tivoli Monitoring and OMEGAMON XE (<http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/index.jsp>)
- IBM Tivoli Composite Application Manager (<http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/index.jsp>)

To open the Documentation Guide in the information center, select **Using the publications** in the **Contents** pane.

To find a list of new and changed publications, click **What's new in the information center** on the Welcome page of the IBM Tivoli Monitoring and OMEGAMON XE Information Center.

To find publications from the previous version of a product, click **Previous versions** under the name of the product in the **Contents** window.

IBM Tivoli Composite Application Manager Agent for SAP Applications library

The documentation for this agent and other product components is located in the ITCAM for Application Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcam.doc_7.2/welcome_itcamfapps72.html).

One document is specific to the IBM Tivoli Composite Application Manager Agent for SAP Applications: *IBM Tivoli Composite Application Manager Agent for SAP Applications User's Guide*. This publication provides agent-specific information for configuring, using, and troubleshooting the SAP agent.

The *Offering Guide* also provides information about installing and configuring the component products in the offering.

The **Prerequisites** topic in the information center contains information about the prerequisites for each component.

Use the information in the user's guide for the agent with the *Tivoli Enterprise Portal User's Guide* to monitor SAP resources.

Prerequisite publications

To use the information in this publication effectively, you must have some prerequisite knowledge.

See the following publications to gain the required prerequisite knowledge:

- *IBM Tivoli Monitoring Readme First*
- *Exploring IBM Tivoli Monitoring*
- *IBM Tivoli Monitoring Administrator's Guide*
- *IBMTivoli Monitoring Agent Builder User's Guide*

- *IBM Tivoli Monitoring Command Reference*
- *Configuring IBM Tivoli Enterprise Monitoring Server on z/OS*
- *IBM Tivoli Monitoring Installation and Setup Guide*
- *IBM Tivoli Monitoring: Messages*
- *IBM Tivoli Monitoring, OMEGAMON XE, and Composite Application Manager products: Documentation Guide*
- *IBM Tivoli Monitoring Troubleshooting Guide*
- *IBM Tivoli Universal Agent User's Guide*
- *IBM Tivoli Universal Agent API and Command Programming Reference Guide*
- *IBM Tivoli Monitoring: Upgrading from Tivoli Distributed Monitoring*
- *IBM Tivoli Monitoring: Upgrading from V5.1.2*
- *IBM Tivoli Monitoring: i5/OS Agent User's Guide*
- *IBM Tivoli Monitoring: Linux OS Agent User's Guide*
- *IBM Tivoli Monitoring: UNIX OS Agent User's Guide*
- *IBM Tivoli Monitoring: UNIX Logs OS Agent User's*
- *IBM Tivoli Monitoring: Windows OS Agent User's Guide*
- *Tivoli Enterprise Portal User's Guide*

Related publications

The publications in related information centers provide useful information.

See the following information centers, which you can find by accessing Tivoli Documentation Central (<http://www.ibm.com/developerworks/wikis/display/tivolidoccentral/Home>):

- IBM Tivoli Monitoring
- IBM Tivoli Netcool/OMNIbus
- IBM Tivoli Application Dependency Discovery Manager
- IBM Tivoli Enterprise Console

Other sources of documentation

You can obtain additional technical documentation about monitoring products from other sources.

See the following sources of technical documentation about monitoring products: IBM Tivoli Monitoring

- IBM Integrated Service Management Library (<http://www.ibm.com/software/brandcatalog/ismlibrary/>) is an online catalog that contains integration documentation as well as other downloadable product extensions.
- IBM Redbook publications (<http://www.redbooks.ibm.com/>) include Redbooks® publications, Redpapers, and Redbooks technotes that provide information about products from platform and solution perspectives.
- Technotes (<http://www.ibm.com/support/entry/portal/software>), which are found through the IBM Software Support website, provide the latest information about known product limitations and workarounds.
- Tivoli wikis

Tivoli Wiki Central (<http://www.ibm.com/developerworks/wikis/display/tivoli/Home>) is the home for interactive wikis that offer best practices and scenarios for using Tivoli products. The wikis contain white papers contributed by IBM employees, and content created by customers and business partners.

Two of these wikis are of particular relevance to :

- Tivoli Distributed Monitoring and Application Management Wiki (<http://www-10.lotus.com/ldd/tivmonitorwiki.nsf>) provides information about IBM Tivoli Monitoring and related distributed products, including IBM Tivoli Composite Application Manager products.
- Tivoli System z® Monitoring and Application Management Wiki (<http://www.ibm.com/developerworks/wikis/display/tivoliomegamon/Home>) provides information about the OMEGAMON XE products, Tivoli NetView® for z/OS, Tivoli Monitoring Agent for z/TPF, and other System z monitoring and application management products.

Appendix G. Accessibility

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully.

The major accessibility features in this product enable users in the following ways:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. Consult the product documentation of the assistive technology for details on using those technologies with this product.
- Operate specific or equivalent features using only the keyboard.
- Magnify what is displayed on the screen.

In addition, the product documentation was modified to include the following features to aid accessibility:

- All documentation is available in both HTML and convertible PDF formats to give the maximum opportunity for users to apply screen-reader software.
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

Navigating the interface using the keyboard

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. See the documentation provided by your operating system for more information.

Magnifying what is displayed on the screen

You can enlarge information in the product windows using facilities provided by the operating systems on which the product is run. For example, in a Microsoft Windows environment, you can lower the resolution of the screen to enlarge the font sizes of the text on the screen. See the documentation provided by your operating system for more information.

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Index

Numerics

926290, SAP Note 10

A

- ABAP Dump 265
- ABAP Dumps 55, 106
- accessibility 439
- action 205
- action links 50
- Active Users 55, 108, 265
- additional information
 - attributes 97
 - situations 259
 - Take Action commands 285
 - Workspaces 49
- agent 31, 289, 311, 322
 - functions 1
 - installation problems 305
 - performance considerations 323
- Agent depot 13
- Agent Log 56
- Agent Management Services 6
- agent trace logs 296
- agent upgrade and restart using non-root 293
- agent-specific 291
- agents 296
- alert 50, 259, 285, 286
- Alert 57
- Alert situations 265
- Alert Take Action 286
- alerts 46, 51, 58, 64, 65, 71, 109, 213
 - 9911 321
 - CCMS, selecting 42
 - ITM generated 41
- Alerts 56, 70, 89
- Alerts navigator 56
- appendix 291
- application performance 93
- Application Performance 59
- Archive Monitor 59, 111
- archiving 111
- asynchronous 111
- Asynchronous 86
- Asynchronous Updates 60
- attribute 98
- attribute group 250
- attribute groups
 - list of all 98
 - overview 97
- attributes 106, 108, 109, 111, 114, 116, 117, 119, 120, 135, 138, 139, 146, 147, 148, 150, 152, 168, 176, 178, 179, 181, 183, 184, 186, 188, 191, 205, 207, 210, 213, 219, 222, 223, 228, 231, 243, 244, 245, 247, 249, 253
 - additional information 97
 - historical data collection 97
 - overview 97
- average 210, 231
- average total memory 272

B

- back up 39
- background 111
- Background Job Logs 60
- backup 38
- basic agent monitoring 32
- batch 168, 259, 279
- batch data create 267
- Batch Data Create 60, 114
- Batch Data Create Log 61
- Batch Data Create Logs 116
- batch job
 - COLLECTOR_FOR_PERFORMANCE 10
- Batch Job Log 61
- Batch Job Logs 119
- batch jobs 285
- Batch Jobs 62, 117
- Batch Jobs situations 267
- Batch Jobs Take Action 286
- BPE 64
- BPE Inbound Processing 62, 63
- BPE Inbound Processing Error Status 62, 63
- buffer 259, 267, 275, 279
- Buffer Performance 63, 120
- buffer requests 63
- Buffer situations 267
- built-in troubleshooting features 293
- bundle 13
- Business 270
- Business Process 64, 213
- Business Process Engine 64
- Business Process Monitoring Alerts 64

C

- calculate historical data disk space 100
- cancel 286
- Cancel Job 33
- capacity 273
- capacity planning for historical data 100
- CCMS 46, 56, 57, 58, 412
 - centralized reporting 43
- CCMS alerts
 - which to report 42
- CCMS event adapter events 410
- CCMS events
 - adding event classes 411
 - event classes 411
 - example 412
 - generating v5.1 411
- Central User Administration 33
- Centralized CCMS reporting 43
- classes 413, 414
- classification 293
- cleanup 290
- Client 65
- client number 23
- Clients 65
- Clients Details 65
- Close Alert Results 65

- Close All Alerts Results 65
- Cognos-based report packages
 - configuring historical collection 330
 - connecting to 331
 - importing 331
 - installing Tivoli Common Reporting v2.1 330
 - prerequisites 329
 - running 331
 - tables requiring summarization and pruning 330
 - Tivoli Data Warehouse 331
 - views required 330
- Cognos-based reports
 - attribute groups 333
 - CPU Pools Utilization Details 334
 - obtaining packages and extracting reports 330
 - predefined 333
 - SAP 334, 335
- COLLECTOR_FOR_PERFORMANCE batch job 10
- command 40, 286, 287
- command line utility 41
- commands 285
 - itm config 37
 - itmcmd agent 29
 - itmcmd config 21
 - ksanfy 415
 - ksapwd 422
 - ksar3 418
 - ksar3exe 419
 - ksar3nfy 416
 - ksar3pwd 423
 - non-Unicode 16
 - sapshcut 36
 - tacmd addSystem 20
 - Take Action 285
 - tp addtobuffer 16
 - tp import 16
 - unicode 16
 - utility 415
- Component monitoring 65
- components 5, 65
 - IBM Tivoli Monitoring 5
- Computing Center Management System 43
- configuration 274, 299
 - advanced 30
 - agent 9
 - basic 14
 - considerations for upgrade 28
 - transactions 37
 - UNIX 21
 - Windows 21
- configuration considerations for upgrade 28
- configure 25, 42
- configuring the monitoring agent 9
- confirming user ID agent is using 293
- connection 45, 56
- control 299
- Control files 300
- copy 38, 39
- count 51
- CPU 75, 186, 272, 275, 279, 283
- CPU Pools Utilization report 334
- creating automation 33
- CUA 33
- Current 66
- Current State 66
- current status 88
- customization 45

- customizing
 - agent behaviors 37

D

- data
 - trace logs 295
- Data Base 67
- Data Base Detail 135
- Data Base Summary 139
- data collection
 - COLLECTOR_FOR_PERFORMANCE 10
 - historical 97
 - Oracle 10
 - OS Collector 10
 - prerequisites 9
 - setting SAP system time zone 10
- Data Transfer Information 68
- database 66, 67, 77, 135, 139, 168, 253, 267, 281
- Database 271
- Database Archive Log file 67
- Database Backup Log file 67
- Database Details 66
- Database Logs 67, 138
- database objects 270
- Database Overview 67
- Database Performance 336
- database situations 270
- DB Access 120
- DB2 69, 70, 271, 336
- DB2 database 69
- default sample periods, maintaining 41
- defining the user 16
- delete 286
- Delete Job 33
- Delete Product-provided 271
- deleted 60
- deploy 18, 19
- deployment 18
- details 73, 74, 87
- Details 66, 79, 81, 82, 83
- Developer Traces 70, 146
- developerWorks website 436
- diagnostic 73
- dialog 168, 231
- Dialog situations 272
- dialog step response system 42
- dictionary 139
- disable 72
- Disable Gateway Statistics Results 70
- disabling 46
- Discovery Library Adapter 431
 - See DLA
- Discovery Library Toolkit 431
 - installing 432
- disk capacity planning for historical data 100
- DLA 425, 431
 - data model 425
 - classes 425
- documentation
 - See publications
- double-byte language support 44
- dump 259

E

- Early 70
- Early Watch Alerts 70
- EDI files 68, 147
- enable 31, 72, 322
- Enable Gateway Statistics Results 71
- enabling 46
- encrypting a password 36
- encryption libraries 28
- Engine 270
- enhancements 2
- enqueue 168
- Enqueue Locks 71
- environment variables
 - ksar3 and ksanfy 34
- error 70
- Error Status 62
- errors 59
- event 413, 414
- event classes 352
- event mapping 351
 - resource model 410
 - version 5.1 410
- event slots 352
- events 412, 413, 414
 - CCMS 410
 - mapping 351
 - Syslog 413
- excess memory 272
- Execute brarchive 287
- extended memory 267
- extract 14
- extraction 13

F

- failures 282
- file 299
- file names, maintaining for logs 42
- File system 273
- file systems 285
- File Systems 71, 148
- File Systems Take Action 287
- FILE() 35
- FILE(file_name) 35
- files 17, 295
 - K710_00xxx_DELETE 16, 17
 - K710_00xxx.ITM 16, 17
 - K710_00xxxU.ITM 16, 17
 - ksar3 33
 - new Adapter baroc 410
 - R710_00xxx_DELETE 16, 17
 - R710_00xxx.ITM 16, 17
 - R710_00xxxU.ITM 16, 17
 - tecad_wr3moni 410
 - tecad_wr3slog 410
 - trace logs 295
 - transport
 - non-Unicode 16, 17
 - Unicode 16, 17
- forecast 148
- function module 30, 31, 322
- functions 259

G

- gateway connection 72
- Gateway Connection 273
- Gateway connections 150
- gateway name 23
- gateway service 23
- Gateway Statistics 50, 72, 152
- gathering support information 291
- generic 351
- groups 98
- guidelines for monitoring 15

H

- Hide Agent Logon Parm from ITM 34
- historical 78
- Historical Alerts 88
- historical data
 - calculate disk space 100
 - disk capacity planning 100
- historical data collection 97
- Historical Database 72
- Historical Operating System 72
- Historical Service Response Time 73
- host name 22
- HTTP 73, 273
- HTTP services 73
- HTTP Services 73

I

- IBM Software Support 291
- IBM Tivoli Enterprise Console
 - event mapping 351
- IBM Tivoli Monitoring 5
 - overview 1
- IBMMON_AGENT user ID 32
- ICM 73, 274
- image 13, 14
- import 245
- import options 16
- inactive 275
- Inbound Queue performance 336
- include file 432
- information, additional
 - workspaces 78
- installation 25, 26
 - advanced 30
 - agent 9
 - basic 14
 - problems 305
 - to the IBM Tivoli Monitoring system 18
 - to the mySAP system 15
- installation trace 296
- installing
 - SAP transport 16
 - to the IBM Tivoli Monitoring system 18
 - to the mySAP system 15
- installing language packs 10
- installing the monitoring agent 9
- instance 45, 274
- Instance 74
- instance configuration 51
- Instance Configuration 74, 168
- instance number 22
- instance performance 335

- Instance Summary 75
- instances 275
- Instances Details 74
- Integrated Service Management Library documentation 436
- interface, user
 - description 7
 - troubleshooting for Tivoli Enterprise PortalTivoli Enterprise Portal 318
- Intermediate Documents 176
- Intermediate Documents (IDocs) 68
- Internet Communication Manager 73
- interval 183
- itm config command 37
- itmcmd agent command 29
- itmcmd config command 21
- ITMK710_00xxx.ITM transport request 16

J

- Job 274
- job logs 271
- Job Logs 60
- Job Monitoring 75
- job, COLLECTOR_FOR_PERFORMANCE 10
- jobs 286

K

- K710_00xxx_DELETE files 16, 17
- K710_00xxx.ITM files 16, 17
- K710_00xxxU.ITM 16
- K710_00xxxU.ITM files 17
- KSAENV 300
- ksanfy
 - command 415
 - script 34
 - variables 34
- ksanfy script 28
- ksapwd
 - command 422
 - script 36
- ksapwd utility 28
- ksar3
 - command 418
 - script 33
 - variables 34
- ksar3 script 28
- ksar3exe
 - command 419
 - script 33
- ksar3nfy
 - command 416
 - utility 34
- ksar3pwd
 - command 423
 - utility 36

L

- LAN 186, 275
- language packs 10
 - installing 10
 - silent installation 10
- language support
 - double-byte 44
 - non-unicode 44

- languages 24
- last week 70
- launch definitions, predefined 50
- launching the SAPGUI 33
- limited user permissions, upgrading your warehouse
 - with 340
- line 40
- links, action 50
- Linux 26
- local 150
- local management 31
- locally 26
- lock 71
- Lock Entries 178
- locks 274
- log 207, 295, 299
- log file 67
- log files 296
- Log files 291
- log files, maintaining names 42
- logging 111, 296, 299
 - built-in features 293
 - location and configuration of logs 295
 - trace log files 295
- Login 275
- Logoff 275
- logon environment variables 34
- Logon Groups 179
 - workspace
 - description 75
- Logon Information 181
 - workspace
 - description 76
- logs 299
- Logs 282, 283

M

- mail 205
- maintaining
 - default sample periods 41
 - ITM generated alerts 41
 - log file names 42
 - managed groups 42
- managed groups, maintaining 42
- max 51
- maximum 210
- Memory
 - workspace
 - description 76
- message 116, 119, 176, 223, 243
- Message 275, 284
- Message Server Monitor
 - workspace 76
- messages, built-in features 293
- minimum 210
- modify 46
- monitor 259, 275, 282, 283
- monitor sets, selecting 42
- monitor, service 73
- monitoring 46, 289
 - basic 32
 - guidelines 15
- Monitoring 64, 274
- monitoring agent 18, 19, 58
- Monitoring Agent 50

- monitors 265, 267, 270, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282
- monitors, selecting 42
- mysap 42
- mySAP 45, 50, 51, 55, 56, 58, 60, 63, 68, 70, 71, 72, 74, 75, 90, 106, 108, 109, 111, 114, 116, 117, 119, 120, 135, 138, 139, 146, 147, 148, 150, 152, 176, 178, 179, 181, 183, 184, 186, 205, 219, 222, 243, 244, 245, 247, 249, 250, 273, 281, 286, 289
- mySAP permissions 33
- mySAP system 61, 67, 287
- mySAP systems 62
- mySAP utilities 30

N

- navigator 55
- Navigator item 51
- new Adapter baroc files 410
- new in this release 2
- non-root, agent upgrade and restart using 293
- non-Unicode language support 44
- non-windows 19
- Non-windows 41
- Number Range 275
- Number Range Buffer 183, 184
 - workspace
 - description 77

O

- object 135, 183
- objects 67, 139, 178
- Objects 244
- obsolete 271
- Occurrence Time 57
- Occurrence Time GMT 57
- ODBC 331
- Operating system 291
- Operating System and LAN 77
- Operating System Performance 186
- operating systems 13
- options 301
- oracle 67, 77
- Oracle 72, 78
- Oracle data collection 10
- OS 275
- OS Collector 10
- output 219, 276
- output request 285
- Output Request 33
- Output Request Take Action 287
- output requests 86
- Output Requests 78, 188
- overview 89, 289
 - IBM Tivoli Monitoring 1
- Overview 66, 79, 80, 81

P

- parameters 178, 181, 299
- paremeters 301
- password
 - configuration parameter 24
 - encrypting 36
 - ksapwd 36
 - variable 35

- Password file changes 28
- path names, for trace logs 295
- percentage 267
- Perform Requested Action 191
- performance 283
- performance considerations 323
- performance history 69, 70
- performance trends and resource forecasts reports 334
- permissions, upgrading your warehouse with limited user 340
- Persistence Layer Analysis
 - workspace 79
- Physical Memory 186
- policies 289, 290
 - list of all 289
 - predefined 289
- port number, gateway host 23
- predefined 56, 58, 59, 61, 62, 63, 65, 67, 70, 71, 72, 73, 74, 90, 264, 265
- Predefined 51, 259, 289
- predefined launch definitions 50
- Predefined Take Action 285
- prerequisite checker 9
- prerequisite publications 435
- prerequisites 9
 - Cognos-based report packages 329
- prerequisites for data collection, verifying 9
- previous 25
- Principal 296
- print 188
- printer 276
- Private Memory 277
- Private Mode 277
- probe rules file
 - include 432
- problem 276
- Problem 293
- problems 279, 282
 - and workarounds 304
 - uninstallation 311
- process 253, 277
- Process 270
- production 290
- publications 435, 436
 - developerWorks website 436
 - IBM Tivoli Monitoring 435
 - Integrated Service Management Library 436
 - prerequisite 435
 - Redbooks 436
 - related 436
 - Technotes 436
 - wikis 436
- purposes
 - troubleshooting 291

Q

- qRFC 79, 81, 82, 278, 336
- qRFC Inbound Queue Details 79
- qRFC Inbound Queue Overview 79
- qRFC Inbound Saved Queue Details 82
- qRFC Outbound Queue Details 81
- qRFC Outbound Queue Overview 80
- qRFC Saved Inbound Queue Overview 81
- queries, using attributes 97
- Queue 79, 80, 81, 82
- Queues 81

R

- R3 Monitor ABAP Dumps 289
- R3 Monitor Batch Jobs policy 290
- R3 Monitor File Systems policy 290
- R3 Monitor Production Repairs policy 290
- R3 Start Buffer Monitoring policy 290
- R710_00xxx_DELETE files 16, 17
- R710_00xxx.ITM files 16, 17
- R710_00xxxU.ITM 16
- R710_00xxxU.ITM files 17
- RAS 299
- RAS trace 299
- RAS1 295, 300
- real time 50
- record 51
- Redbooks 436
- Refresh Database Statistics Results
 - workspace
 - description 82
- remote 18, 25, 150
- remote deployment
 - Agent tab 19
 - command line 20
 - Tivoli Enterprise Portal/Tivoli Enterprise Portal 19
- remote deployment troubleshooting 307
- Remote Function Calls 31
- remote function modules, removing 44
- remote management 31
- remotely 27
- removing remote function modules from SAP 44
- repair 282
- Repair Transport 290
- reporting, CCMS 43
- reports
 - performance trends and resource forecasts 334
- reprocessed 60
- request 51, 71
- requests 282
- requirements 13
- Reset Gateway Statistics Results
 - workspace
 - description 82
- resource model event mapping 410
- response file template 10
- Response Time 278
- restart using non-root 293
- restart using non-root, agent upgrade and 293
- restore 38, 39
- RFC 31, 282, 302
 - connections 32
- RFC trace 24, 302
- RFC trace logs
 - problems 303
- RFC tracing 302
- roll in 253
- RSORAUD0 program 10

S

- sample 176, 188, 210, 228
- sample interval 245
- Sample Interval 114
- SAP 25, 30, 31, 45, 56, 57, 59, 322, 336
- sap agent 26
- SAP agent 27, 302
- SAP Note 926290 10

- SAP Notes
 - 16083 10
 - 591801 10
 - 713211 10
- SAP Office 279
- SAP Office email
 - utility to send 34
- SAP Office Inbox 205
 - workspace
 - description 83
- SAP Router 279
- SAP transport, installing 16
- SAPBA log file 67
- SAPGUI 278
 - launching 33
- saposcol program 10
- SAPPASSWORD variable 34
- Saprouter Log 207
- SAProuter Logs
 - workspace
 - description 83
- sapshcut command 36
- SAPUSER variable 34
- schedule 117
- script 290
- scripts
 - ksanfy 28, 34
 - ksapwd 36
 - ksar3 28, 33
 - ksar3 and ksanfy 34
 - ksar3exe 33
 - wrapper 28
- selecting monitor sets and monitors 42
- server 184
- Server 83, 179, 275
- server performance 334
- Service 273, 274
- service requests 279
- Service Response 279
- Service Response Time 210
 - workspace
 - description 84
- Services 73
- session 108, 116
- Set default Sample Period 213
- setting 301
- silent installation 10, 14
- silent installation of language packs 10
- situation 272, 273, 275, 277, 278, 279, 282
- situations 259, 264, 265, 267, 270, 271, 273, 274, 275, 276, 278, 279, 280, 281, 282, 283
 - additional information
 - predefined, defined 259
 - general troubleshooting 324
 - overview 259
 - Situation Editor 259
 - specific problem determination 323
- situations, using attributes 97
- size 135, 148
- SM37 transaction 10
- SNA 152
- Software Components Details workspace 85
- Software Support 291
- Solution Manager 213
- Solution Overview workspace 85
- space 63
- spool 188, 219, 259, 279

- Spool 280
- Spool Output workspace 85
- spool requests 85
- Spool Requests 219
- Spool Requests workspace 86
- start 286
- Start Job 33
- starting the Monitoring Agent for mySAP 29
- startup 264, 270
- state 249
- State 66
- statistics 71, 176
- Statistics 95
- statistics collection 10
- status 64, 176, 228, 249
- STMS transaction 16
- stopping the Monitoring Agent for mySAP 29
- sub-agent-level navigator node 75
- Sub-Application Performance workspace 86
- summary 69, 72
- support
 - gathering information for 291
- Swap Space 186
- Synchronous 86
- Synchronous Asynchronous Communication 86
- syslog 413, 414
- Syslog 414
- Syslog event adapter events 413
- Syslog events
 - adding event classes 414
 - event classes 413
 - example 414
- system 108, 117, 119, 138, 146, 147, 148, 168, 179, 183, 188, 210, 243, 244, 247
- System Details 87
- system identifier 22
- System Log 222, 281
- System Log Detail
 - workspace
 - description 87
- System Log Details 223
- System Log workspace 88
- System Monitoring 88, 89
- System Monitoring Historical Alerts 88
- System Monitoring Open Alerts 89
- system number 22
- System Overview 89
- System Summary 90
- System Summary workspace 90
- System Topology 90

T

- tables 135
- tacmd addSystem command 20
- Take Action command script changes 28
- Take Action commands 33
 - additional information 285
 - list of all 285
 - overview 285
 - predefined 285
 - troubleshooting 326
- target 228
- tasks 33
- TCP 152
- TEC 413
- tecad_wr3moni.baroc 410

- tecad_wr3slog.baroc 410
- Technotes 436
- Temporary Errors 63
- test 45
- text elements 44
- time spans 50
- time stamps 10
- time zone, setting 10
- timeouts 184
- timestamps 57
- Tivoli Business Service Manager
 - components for integrating with 431
 - configuring additional IBM Tivoli Monitoring web services 433
 - creating a service 432
 - creating data source mapping 433
 - installing Discovery Library Toolkit 432
 - integration 431
 - launching from Tivoli Enterprise Portal 433
 - Tivoli Enterprise Portal
 - Tivoli Integration Facility (EIF) probe 431
 - viewing data in Tivoli Enterprise Portal 433
 - Tivoli Business Service Manager integration tasks 432
- Tivoli Common Reporting
 - documentation 329
- Tivoli Common Reporting Community 329
- Tivoli Common Reporting documentation 329
- Tivoli Enterprise Console
 - CCMS events 410
 - event mapping 351
 - Syslog events 413
- Tivoli Enterprise Monitoring Server 45
- Tivoli Enterprise Portal Server 45
- Tivoli Enterprise Portal/Tivoli Enterprise Portal
 - troubleshooting 318
- Tivoli Event Integration Facility (EIF) probe
 - configuring 432
- topology 90
- Topology Information 228
- total 139
- tp addtobuffer command 16
- tp import command 16
- trace 150, 296, 299, 301
- Trace 283
- trace logging
 - examples 295
 - log 295
 - log files 295
- trace logs 295
 - directories 295
 - examples 298
- Trace logs 95
- tracing 302
- transaction 116, 228, 278, 281
- Transaction Performance 231
- Transaction Performance workspace 91
- Transactional 282
- Transactional RFC 282
- Transactional RFC Activity 228
- Transactional RFC workspace 91
- transactions 50, 114
 - agent-provided 37
 - SM37 10
 - STMS 16
- transport 51, 259
- Transport 17, 244, 282
- Transport Log workspace 91

- Transport Logs 243
- Transport Objects and Steps workspace 92
- transport request, ITMK710_00xxx.IMG 16
- Transport Requests 245
- Transport Requests workspace 92
- Transport Steps 247
- transports, SAP 16
- troubleshooting 291, 296
 - agents 311
 - built-in features 293
 - installation 305
 - remote deployment 307
 - RFC trace log 303
 - situations 322, 324
 - symptoms and workarounds 304
 - Take Action commands 326
 - Tivoli Enterprise Portal/Tivoli Enterprise Portal 318
 - uninstallation 305
 - workspaces 319
- Troubleshooting 291

U

- uninstallation 296
 - problems 305, 311
 - removing remote function modules 44
- Unix 26
- UNIX
 - configuring the agent for 21
 - starting the Monitoring Agent for mySAP 29
 - stopping the Monitoring Agent for mySAP 29
- UNSET statements 28
- update 168
- update requests 60
- update work 279
- Updates Information 249
- Updates situations 282
- upgrade 25, 27
 - configuration considerations 28
 - encrypted passwords 28
 - Password file changes 28
 - Take Action command script changes 28
- upgrading 26
- upgrading for warehouse summarization 339
- upgrading using non-root 293
- upgrading your warehouse with limited user
 - permissions 340
- URL 65
- user 108
 - defining 16
 - IDs
 - basic agent monitoring 32
 - IBMMON_AGENT 32
 - purposes supported 32
 - SAPGUI, launching 33
- User Activity 55
- user ID
 - confirming 293
- User ID 24
- user IDs 33
- user information 250
- User Information workspace 93
- user interfaces options 7
- User Performance workspace 93
- user permissions, upgrading your warehouse with
 - limited 340
- User Transaction Performance workspace 94

- using non-root, agent upgrade and restart 293
- utilities
 - agent 30
 - commands 415
 - encrypting a password 36
 - ksar3nfy 34
 - ksar3pwd 36
 - running automated functions 33
 - sapshcut 36
 - sending SAP Office email 34
- utility 40
 - ksapwd 28

V

- values 265
- variables
 - logon environment 34
 - SAPASSWORD 34
 - SAPUSER 34
- verifying 46
- verifying prerequisites for data collection 9

W

- Wait 253
- warehouse summarization
 - upgrading for
 - overview 339
- warehouse summarization upgrading
 - affected attribute groups and supporting scripts 343
 - DB2 warehouse database procedure 347
 - effects on summarized attributes 339
 - MS SQL warehouse database procedure 348
 - Oracle warehouse database procedure 348
 - procedures for running scripts 346
 - table summary 341
 - tables in the warehouse 339
 - types of table changes 341
 - upgrading your warehouse 343
- Watch 70
- wikis 436
- Windows 18, 40
 - agent installation problems 305
 - configuring the agent for 21
 - starting the Monitoring Agent for mySAP 29
 - stopping the Monitoring Agent for mySAP 29
- work 277, 279
- work processes 51
- Work processes 253
- Work Processes 283
- Work Processes workspace 94
- workarounds 304
 - agents 311
 - remote deployment 307
 - situations 322
 - Take Action commands 326
 - Tivoli Enterprise Portal/Tivoli Enterprise Portal 318
 - workspaces 319
- workflow 95
- Workflow 283
- Workflow Trace Logs 95
- workspace 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 79, 80, 81, 82, 83, 86, 87, 88, 89, 90, 95
 - description 77, 78

- workspace (*continued*)
 - Logon Groups 75
 - Software Components Details 85
 - User Information 93
- workspaces 50, 51, 77
 - list of all 51
 - Logon Information 76
 - Memory 76
 - Message Server Monitor 76
 - more information 78
 - Number Range Buffer 77
 - Output Requests 78
 - Persistence Layer Analysis 79
 - predefined 51
 - Refresh Database Statistics Results 82
 - Reset Gateway Statistics Results 82
 - SAP Office Inbox 83
 - SAProuter Logs 83
 - Service Response Time 84
 - Solution Overview 85
 - Spool Output workspace 85
 - Spool Requests 86
 - Sub-Application Performance 86
 - System Log 88
 - System Log Detail 87
 - System Summary 90
 - Transaction Performance 91
 - Transactional RFC 91
 - Transport Log 91
 - Transport Objects and Steps 92
 - Transport Requests 92
 - troubleshooting 319
 - User Performance 93
 - User Transaction Performance 94
 - Work Processes 94
- Workspaces
 - additional information 49
 - overview 49
- wrapper scripts 28

X

- XML 284
- XML Message Logs 95
- XML Messages 95
- XML Messages Processing Statistics 95



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