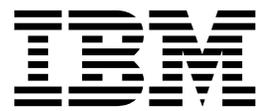


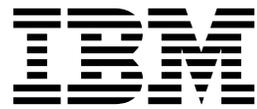
IBM SmartCloud Application Performance Management
Version 7.7.0.1

Standard Edition Offering Guide



IBM SmartCloud Application Performance Management
Version 7.7.0.1

Standard Edition Offering Guide



Note

Before using this information and the product it supports, read the information in "Notices" on page 35.

This edition applies to version 7.7 of IBM SmartCloud Application Performance Management (product number 5725-G70) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this publication

The IBM SmartCloud® Application Performance Management offering includes multiple component products. This document provides an overview of the component products and the installation process to install, and configure the product.

Intended audience

This publication is for users who are responsible for installing and configuring the components within the SmartCloud Application Performance Management offering. Readers might take on the following roles:

- System administrator
- Network administrator
- IBM Support
- Field system engineer

What this publication contains

This publication contains the following sections:

- Chapter 1, "Introduction"
Provides an overview of the contents of SmartCloud Application Performance Management and the related information sources.
- Chapter 2, "Planning your installation"
Provides installation-related information about the component products to help you decide which component to install, where to install them, and the hardware and software requirements.
- Chapter 3, "Installing and configuring IBM SmartCloud Application Performance Management"
Provides information sources for configuring the component products that are provided by the SmartCloud Application Performance Management offering.
- Chapter 4, "Integration among monitoring agents"
Provides information about integrating the component products that are provided by the SmartCloud Application Performance Management offering.

Publications

A list of publications in the SmartCloud Application Performance Management library is provided. A list of related documents is also provided. Learn how to access Tivoli® publications online and how to order Tivoli publications.

IBM SmartCloud Application Performance Management library

The following documents are available in the IBM SmartCloud Application Performance Management library:

- *IBM SmartCloud Application Performance Management UI: User's Guide, SC22-5490*
Provides information about how to use the UI to monitor your IBM business integration systems.

- *IBM SmartCloud Application Performance Management: Offering Guide, Standard Edition, SC27-5628*
Provides general information about the component products of SmartCloud Application Performance Management, Standard Edition.
- *IBM SmartCloud Application Performance Management: Quick Start Guide, Standard Edition, CF40UML*
Provides information about typical installation of SmartCloud Application Performance Management, Standard Edition.
- *IBM SmartCloud Application Performance Management: Offering Guide, Entry Edition, SC27-6201*
Provides general information about the component products of SmartCloud Application Performance Management, Entry Edition.
- *IBM SmartCloud Application Performance Management: Quick Start Guide, Entry Edition, CF40VML*
Provides information about typical installation of SmartCloud Application Performance Management, Entry Edition.
- *IBM SmartCloud Application Performance Management Entry Edition - VM Image: Installation and Deployment Guide, SC27-5334*
Provides information about how to install and deploy SmartCloud Application Performance Management Entry Edition - VM Image, and how to use it to monitor your IBM business integration systems.
- *IBM SmartCloud Application Performance Management Entry Edition - VM Image: Offering Guide, SC22-5489*
Provides general information about the component products of SmartCloud Application Performance Management Entry Edition - VM Image.
- *IBM SmartCloud Application Performance Management Entry Edition - VM Image: Quick Start Guide, CF3P5ML*
Provides information about typical installation of SmartCloud Application Performance Management Entry Edition - VM Image.

The following documents are available from the SmartCloud Application Performance Management wiki (https://www.ibm.com/developerworks/community/groups/service/html/communityview?communityUuid=0587adbc-8477-431f-8c68-9226adea11ed#fullpageWidgetId=W42ce7c6afdb9_42c2_a9ea_e1ba310bea8c). You can also find these documents in the Files section of the Application Performance Management developerWorks® community (https://www.ibm.com/developerworks/community/groups/service/html/communityview?communityUuid=0587adbc-8477-431f-8c68-9226adea11ed#fullpageWidgetId=W42ce7c6afdb9_42c2_a9ea_e1ba310bea8c):

- *IBM SmartCloud Application Performance Management UI Troubleshooting Reference, SC22-5490-01-T*
Provides general troubleshooting information for the SmartCloud Application Performance Management UI component.
- *IBM SmartCloud Application Performance Management UI Reference, SC22-5490-01-R*
Provides reference information for the SmartCloud Application Performance Management UI component.
- *IBM SmartCloud Application Performance Management Entry Edition - VM Image Reference, SC27-5334-01-R*
Provides reference information for the SmartCloud Application Performance Management Entry Edition - VM Image product.

Accessing terminology online

The IBM Terminology website consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology website at <http://www.ibm.com/software/globalization/terminology>.

Accessing publications online

To access the publications using a web browser, go to the IBM SmartCloud Application Performance Management Information Center.

IBM® posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Documentation Central website at <http://www.ibm.com/tivoli/documentation>.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File > Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering publications

You can order many Tivoli publications online at <http://www.elink.ibm.com/publications/servlet/pbi.wss>.

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative, complete the following steps:

1. Go to <http://www.elink.ibm.com/publications/servlet/pbi.wss>.
2. Select your country from the list and click **Go**.
3. Click **About this site** in the main panel to see an information page that includes the telephone number of your local representative.

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and explore the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

Tivoli technical training

For Tivoli technical training information, see the following IBM Tivoli Education website at <http://www.ibm.com/software/tivoli/education>.

Tivoli user groups

Tivoli user groups are independent, user-run membership organizations that provide Tivoli users with information to assist them in the implementation of Tivoli Software solutions. Through these groups, members can share information and learn from the knowledge and experience of other Tivoli users. Tivoli user groups include the following members and groups:

- 23,000+ members
- 144+ groups

Access the link for the Tivoli Users Group at <https://community.ibm.com/community/user/imwuc/home>.

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

Access the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html>.

IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to <http://www.ibm.com/software/support/isa>.

Chapter 1. Introduction

IBM SmartCloud Application Performance Management provides a comprehensive application performance management solution in a single product. Application transaction discovery, user experience monitoring, transaction tracing, and diagnostic features are provided in a single package. This document provides an overview of the component products and the installation process to help you determine which products to download, install, and configure.

The SmartCloud Application Performance Management offering is a package of component products that monitor and manage systems, application servers, and database servers. The offering tracks availability and performance and provides reports in a browser-based graphical user interface to track trends and troubleshoot problems. The user interface also offers expert advice on alerts and corrective actions.

The IBM SmartCloud Application Performance Management UI Version 7.7 provides new customizable dashboards for the SmartCloud Application Performance Management, IBM Tivoli Monitoring, and IBM Tivoli Composite Application Manager products.

IT operations and administrators can use the SmartCloud Application Performance Management offering to maintain high performance and availability levels for their systems. By using the consolidated set of tools, IT organizations can optimize service levels and contain costs on critical application resources across the enterprise.

Contents of the Standard Edition

This offering simplifies the IBM SmartCloud Application Performance Management, Standard Edition portfolio and creates a single product to solve your application management requirements.

Before you install any of the following components in this offering, you must install IBM Tivoli Monitoring and the SmartCloud Application Performance Management UI, which are prerequisite software. See Table 2 on page 14 for the version of Tivoli Monitoring that is required for the individual components.

Important: This offering is compatible with Tivoli Monitoring Version 6.2.3 Fix Pack 3 and later.

IBM SmartCloud Monitoring Version 7.2.0.2

IBM Tivoli Monitoring Version 6.3 Fix Pack 2

Monitors and manages system and network applications on various operating systems. Tracks the availability and performance of your enterprise system. Provides reports to track trends and troubleshoot problems. Tivoli Monitoring also provides the following components that consolidate, distribute, store, and display data for the monitoring agents that is shared by all component products in this offering:

- Tivoli Enterprise Portal browser and desktop clients
- Tivoli Enterprise Portal Server

- Tivoli Enterprise Monitoring Server
- Tivoli Data Warehouse

See the Tivoli Monitoring documentation in the IBM Tivoli Monitoring Information Center (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3fp2/welcome.htm) for descriptions of what is new in Version 6.3 Fix Pack 2.

IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2

IBM Tivoli Monitoring for Virtual Environments Agent for VMware VI

Provides you with the capability to monitor a VMware environment and to provide basic actions with VMware Virtual Centers.

IBM Tivoli Monitoring for Virtual Environments Agent for NetApp Storage

Provides you with the capability to monitor NetApp and IBM N Series storage systems through NetApp DataFabric Manager (DFM).

Linux Kernel-based Virtual Machines agent

Remote performance and availability monitoring to visualize availability, performance, and capacity trends for Kernel-based Virtual Machines (KVM) and hosts. This agent remotely monitors KVM by connecting to each host.

Monitoring Agent for Network Devices agent

Provides you with the capability to monitor network devices. You can also use the agent to take basic actions with the network devices.

Dashboard, Capacity Planner, and Reports

Tivoli Monitoring for Virtual Environments provides a comprehensive tool to monitor the availability and performance of virtual environments. Tivoli Monitoring for Virtual Environments also provides performance and capacity reporting of virtual environments and helps you with capacity planning activities to optimize, consolidate, and balance the overall capacity of the virtual environments.

IBM Tivoli Composite Application Manager for Applications Version 7.2.1

IBM Tivoli Composite Application Manager Agent for DB2® Version 7.1

Provides intelligent monitoring and management of DB2 database servers. Views show key metrics that are unique to each application, including buffer hits, connections that are used, thread activity, deadlocks, and contention.

IBM Tivoli Composite Application Manager Agent for WebSphere® Applications Version 7.2

Ensures the availability and performance of critical business applications and services by comprehensively monitoring the health and performance of WebSphere application resources. The agent alerts administrators of health and performance problems, provides real-time metrics for problem diagnosis, and collects historical metrics for reporting and capacity trends.

IBM Tivoli Composite Application Manager Agent for HTTP Servers Version 7.1

Ensures the availability and performance of critical business applications and services by comprehensively monitoring the health and performance of the HTTP server. The agent alerts administrators of health and performance problems, provides real-time metrics for problem diagnosis, and collects historical metrics for reporting and capacity trends.

IBM Tivoli Composite Application Manager Agent for J2EE Version 7.1

Ensures the availability and performance of critical business applications and services. Comprehensively monitors the health and performance of the underlying Java™ Platform, Enterprise Edition application server. The agent alerts administrators of health and performance problems, provides real-time metrics for problem diagnosis, and collects historical metrics for reporting and capacity trends.

IBM Tivoli Composite Application Manager Agent for Lotus® Domino® Version 6.2.1

Provides secure monitoring and management of Lotus Domino servers, helping to optimize the performance of the Lotus Domino application. The provided functions use models that focus on server availability, database management, mail routing, replication, server processes, and server health. The Lotus Domino agent includes IntelliWatch® for monitoring Lotus Domino servers.

IBM Tivoli Composite Application Manager Agent for Lotus Sametime® Version 6.2.4

Provides monitoring capabilities for Lotus Sametime community servers. The agent monitors server status, the availability of Sametime server processes, service port connectivity, statistics data, and the configuration of community service clustering. The agent also provides function tests for login, awareness, and instant messaging.

IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Application Domain V7.1.1

Monitors the availability, health, and performance of the following PeopleSoft Enterprise resources: PeopleSoft Application Domain, client connections, Tuxedo, Domain-wide view of Process Schedulers, and Application Domain and Tuxedo logs.

IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Process Scheduler V7.1.1

Monitors the availability, health, and performance of the following PeopleSoft Enterprise resources: Process (Batch) Scheduler, Tuxedo, individual Batch Process status, and Process Scheduler and Tuxedo Logs.

IBM Tivoli Composite Application Manager Agent for SAP Applications Version 7.1.1

Monitors the SAP environment. Offers a central point of management for gathering the information that is required to detect problems early and to take steps to prevent them from recurring. The agent enables effective systems management across SAP releases, applications, and components and the underlying databases, operating systems, and external interfaces. You can collect and analyze critical information about the SAP enterprise.

IBM Tivoli Composite Application Manager Agent for SOA Version

7.2.0.1 Provides monitoring and management of services and mediations in a service-oriented architecture (SOA) environment. ITCAM for SOA monitors a wide variety of metrics on many application server runtime environments and enterprise services buses. Now, ITCAM for SOA monitors the Business Process Execution Language (BPEL) and Business Process Definition (BPD) business processes from IBM Business Process Manager (IBPM) Version 7.5.1 and Version 8.0. ITCAM for SOA monitors interactions between components by implementing a service in the BPM environment.

IBM Tivoli Composite Application Manager Agent for Sybase ASE Version 6.2

Provides intelligent monitoring and management of Sybase servers. Views show key metrics that are unique to each application, including buffer hits, connections that are used, thread activity, deadlocks, and contention.

IBM Tivoli Composite Application Manager Agent for Siebel CRM Version 7.1.1

Monitors the availability, health, and performance of key Siebel Customer Relationship Management (CRM) resources: application server, gateway name server, components, tasks, file systems, and Siebel logs. The Siebel agent also provides the ability to perform basic actions with Siebel CRM.

IBM Tivoli Composite Application Manager Agent for WebSphere DataPower® Appliance Version 7.1 Fix Pack 1

Provides a central point of monitoring for the WebSphere DataPower Appliances in your enterprise environment and offers a comprehensive method to gather information that is required to detect problems early. This agent can identify and notify you of common problems with the appliances that it monitors by providing availability, performance, resource, and workload information.

IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Version 7.1 Fix Pack 1

Provides a monitoring and management tool with the means to verify, analyze, and tune message broker topologies that are associated with WebSphere Message Broker products.

IBM Tivoli Composite Application Manager Agent for WebSphere MQ Version 7.1 Fix Pack 1

Provides comprehensive monitoring and management capabilities for IBM WebSphere MQ. Monitors the status of key components such as queues, queue managers, channels, and message flows. Identifies problems in real time. Helps deliver quick problem resolution through local correlation, root cause analysis, and corrective actions.

IBM Tivoli Composite Application Manager Agent for WebSphere MQ File Transfer Edition Version 7.0.1

Monitors the activities in WebSphere MQ File Transfer Edition networks that are defined by coordination queue managers. This agent can be installed either locally or remotely to a coordination queue manager. The agent monitors status of the WebSphere MQ File Transfer Edition agent, file transfer status, transfer message logs, and other items.

IBM Tivoli Composite Application Manager Configuration Agent for WebSphere MQ Version 7.1 Fix Pack 1

Facilitates the tasks of defining your configuration of WebSphere MQ. You can use ITCAM Configuration Agent for WebSphere MQ to manage your WebSphere MQ network from a single point of control. See how your WebSphere MQ queue managers and resources are related by viewing a hierarchical representation of your entire network. Group related WebSphere MQ resources together in ways that reflect the business-oriented relationships between them and the logical structure of your enterprise.

IBM Tivoli Composite Application Manager Extended Agent for Oracle Database Version 6.3.1 Fix Pack 2

Provides intelligent monitoring and management of Oracle database servers, Oracle Real Application Clusters (RAC) database servers, Automated Storage Management (ASM) software, and Oracle Data Guard. Views show key metrics that are unique to each application, including buffer hits, connections that are used, thread activity, deadlocks, and contention.

IBM Tivoli Composite Application Manager for Transactions Version 7.4

Internet Service Monitoring

The information that is gathered and processed by Internet Service Monitoring can be used to determine whether a particular service is performing adequately. The data can be used to identify problem areas and report service performance that is measured against Service Level Agreements (SLAs). Performance data is forwarded to IBM Tivoli Monitoring, IBM Tivoli Composite Application Manager for Transactions, and other event management tools such as IBM Tivoli Netcool/OMNIBus.

Response Time Monitoring

The Response Time component of ITCAM for Transactions provides a targeted solution for managing composite applications. It is designed to provide support staff with the information they require to assess whether composite applications are working correctly everywhere in the network. This function plays a dual role in enterprise IT. If a composite application is used within your own enterprise environment, you might be able to tolerate a slight drop in performance that has little or no effect on your financial results. If, however, a composite application is used by external customers, a drop in performance might have legal consequences because of violations of preestablished Service Level Agreements (SLAs). While neither of these scenarios are desirable, both are addressed, and in many cases precluded, by the monitoring capabilities provided with Response Time agents.

Transaction Tracking

Transaction Tracking traces transactions within and between applications. It determines the time that is spent by the transaction in each application and, where possible, the time spent communicating between applications. You can observe transactions across products, providing integration between different products.

IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1

Active Directory agent

Offers a central point of management for your Microsoft Active Directory service. This agent provides a comprehensive means for gathering exactly the information that you require to detect problems early and to prevent them. You can monitor many servers from a single workstation, and information is standardized across the system.

Microsoft BizTalk Server agent

Monitors and indicates when BizTalk services status is down. Monitors for errors and events affecting BizTalk Server availability or performance. Collects applicable performance attributes and provides situations where appropriate. Provides actions to start and stop BizTalk services. Provides the ability to generate reports for the attributes collected.

Microsoft Cluster Server agent

Monitors availability of cluster and cluster resources. Provides the ability to generate reports for the metrics that are collected. Provides availability monitoring for the cluster server's key monitoring points (cluster level, cluster nodes, cluster resource groups, cluster resources, and cluster networks). Provides cluster resource usage across the nodes of the cluster. Reports threats in capacity availability of processor, memory, disk, and networks.

Microsoft Exchange Server agent

Offers a central point of management for your Microsoft Exchange Server product. This agent provides a comprehensive means for gathering the information that you require to detect problems early and to prevent them. By using this monitoring agent, you can collect and analyze information that is related to the Microsoft Exchange Server.

Microsoft Host Integration Server agent

Monitors and displays information that is related to Microsoft Host Integration Servers and BizTalk adapters for Host Systems.

Microsoft Hyper-V Server agent

Monitors Microsoft Hyper-V Server. Provides availability monitoring for Hyper-V services. Provides Hyper-V configuration and virtual machine configuration information. Collects applicable performance attributes, providing situations where appropriate. Displays the enterprise level information for all the Hyper-V systems. Provides actions to start and stop the Hyper-V services and virtual machines. Monitors the availability of virtual machines.

Microsoft Internet Information Services agent

Monitors internet information services and processes, indicating when they are down. Monitors for errors and events affecting Microsoft IIS availability or performance. Collects applicable performance attributes, providing situations where appropriate. Provides actions to start and stop the website, FTP sites, and the several internet services. Provides the ability to generate reports for the attributes collected.

Microsoft .NET Framework agent

Collects performance attributes within the .NET Framework, providing situations where appropriate. Monitors for errors and events affecting the .NET Framework. Provides the ability to

generate reports for the attributes that are collected. Provides support for 32 bit and 64 bit .NET applications.

Microsoft SharePoint Server agent

Monitors SharePoint Server services, indicating when they are down. Monitors for SharePoint event sources that are affecting SharePoint Server availability or performance. Collects applicable performance attributes, providing situations where appropriate. Provides start and stop functions for SharePoint services. Provides the ability to generate reports for the attributes that are collected.

Microsoft SQL Server agent

Offers a central point of management for distributed databases. This monitoring agent provides a comprehensive means for gathering exactly the information that you require to detect problems early and prevent them. Information is standardized across all systems so you can monitor hundreds of servers from a single workstation. You can collect and then analyze specific information by using the Tivoli Enterprise Portal.

Microsoft Lync Server agent

Monitors Microsoft Lync Server 2007, 2007 R2, and 2010. This monitoring agent monitors functional components of the Microsoft Lync Server, such as instance messaging, text conferencing, audio and video conferencing, and web conferencing. It also generates situational alerts and provides suggestions for triggered situations.

Network Devices agent

Offers a central point of management for your network devices environment or application. Provides a comprehensive means for gathering the information that you require to detect problems early and to prevent them. Information is standardized across the system. You can monitor multiple servers from a single workstation. By using the Network Devices agent, you can collect and analyze network devices-specific information.

.NET Data Collector agent

Enables you to track the transactions that occur in the .NET Framework application and the Internet Information Services (IIS) web applications.

IBM SmartCloud Application Performance Management UI Version 7.7 or later

The UI includes predefined templates for simple Java Platform, Enterprise Edition, complex Java Platform, Enterprise Edition, and SAP applications, which are based on industry best practices. You can use these templates to build your own dashboards to monitor the resources of your IT environments. The UI also has integrated views to monitor Tivoli Monitoring situation-based events and transactions for your applications.

IBM SmartCloud Monitoring - Application Insight Version 1.2

Application Insight is a lightweight solution for cloud consumers to monitor the performance and availability of their web-delivered applications to ensure optimal performance and efficient use of resources.

IBM InfoSphere® Federation Server Version 10.1

IBM InfoSphere Federation Server creates a consolidated view of your data to support key business processes and decisions.

New in this release

For version 7.7.0.1 of IBM SmartCloud Application Performance Management, the following enhancements were made since version 7.7.

IBM SmartCloud Monitoring - Application Insight Version 1.2

Application Insight is a lightweight monitoring solution that is designed for short-term performance and availability analysis, independent of the management infrastructure.

IBM SmartCloud Application Performance Management UI Version 7.7

This component is available from Passport Advantage® (http://www-01.ibm.com/software/lotus/passportadvantage/pao_customer.html).

Sources of information

This document provides information in summary form.

Information center for this offering

For detailed information about the component products, including installation instructions, see the product-specific information in the IBM SmartCloud Application Performance Management Information Center.

IBM Software Support overview

Customers who are entitled to IBM Software Support can use the *IBM Software Support Handbook* to address all questions that are related to IBM Software Support.

In general, customers in the United States can open a Service Request or a Problem Management Record (PMR) electronically by using IBM online Service Request Tools, or by calling 1-800-IBM-SERV for voice support. Customers outside the United States can also use IBM online Service Request Tools or can call the IBM number in their country for voice support. The IBM Software Support Handbook contains contact information, phone numbers, information about IBM online Service Request Tools, and other IBM Software Support information.

When you submit PMRs for IBM SmartCloud Application Performance Management 7.7.0.1 (5725-G70), use the component ID 5724V0900. The component ID can be different if you know the problem area or failing component.

Review the IBM product support pages to find solutions to known problems. This method is a quick way to get answers to your questions.

Before you contact IBM Software Support, review the documentation for the component that you want to troubleshoot.

Architecture

The IBM SmartCloud Application Performance Management offering includes multiple component products.

Figure 1 on page 10 illustrates the architecture of the application performance management environment after the following components are installed:

- Tivoli Data Warehouse
- Tivoli Enterprise Portal browser and desktop clients

- Tivoli Enterprise Portal Server
- The hub Tivoli Enterprise Monitoring Server
- The remote Tivoli Enterprise Monitoring Servers
- Operating system agents
- Any of the following IBM Tivoli Monitoring for Virtual Environments components:
 - Dashboard, Performance and Capacity Management Reports, and Capacity Planner
 - Linux Kernel-based Virtual Machines agent
 - NetApp Storage agent
 - Network Devices agent
 - VMWare VI agent
- Any of the following IBM Tivoli Composite Application Manager for Applications monitoring agents:
 - Agent for HTTP Servers
 - Agent for Java Platform, Enterprise Edition
 - DB2 agent
 - Lotus Domino agent
 - Lotus Sametime agent
 - Operating system agents
 - Oracle Database Extended agent
 - PeopleSoft agents
 - SAP agent
 - Siebel agent
 - SOA agent
 - Sybase ASE agent
 - Agent for WebSphere Applications
 - WebSphere DataPower Appliance agent
 - WebSphere Message Broker Monitoring agent
 - WebSphere MQ Monitoring agent
 - WebSphere MQ Configuration agent
 - WebSphere MQ File Transfer Edition agent
- The following IBM Tivoli Composite Application Manager for Transactions components:
 - Internet Service Monitoring
 - Response Time Monitoring
 - Transaction Tracking
- Any of the following IBM Tivoli Composite Application Manager for Microsoft Applications monitoring components:
 - Microsoft Active Directory agent
 - Microsoft BizTalk Server agent
 - Microsoft Cluster Server agent
 - Microsoft Exchange Server agent
 - Microsoft Host Integration Server agent
 - Microsoft Hyper-V Server agent
 - Microsoft Internet Information Services agent

- Microsoft Lync Server agent
- Microsoft .NET Framework agent
- Microsoft Sharepoint Server agent
- Microsoft SQL Server agent
- Network Devices agent
- Microsoft .NET Data Collector agent
- IBM SmartCloud Application Performance Management UI
- IBM InfoSphere Federation Server

Figure 1. Architecture of the application performance management environment

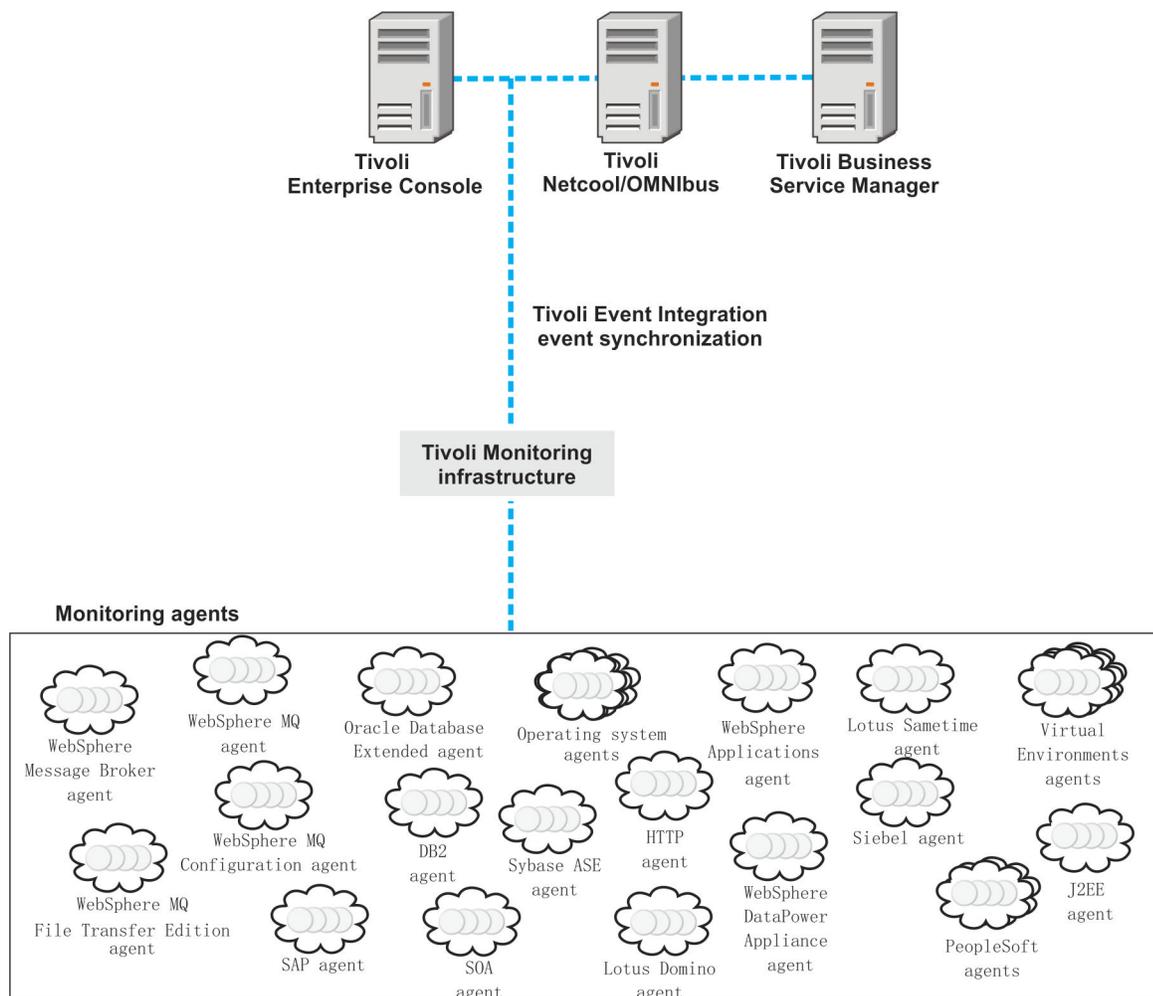


Figure 2. Integrating Tivoli event management and business service management into the environment

Figure 2 illustrates the optional integration of the Tivoli event management and business service management products into the monitoring environment. In Figure 2, the box that is labeled “Tivoli Monitoring Infrastructure” represents everything in Figure 1 on page 10 except for the monitoring agents. If you are using the IBM Tivoli Enterprise Console® or IBM Tivoli Netcool/OMNibus products, and Tivoli Monitoring to manage events in your enterprise, you can integrate and manage events from a single console. The event synchronization component sends updates to situation events. These events are forwarded to a Tivoli Enterprise Console event server or a Netcool/OMNibus object server and sent back to the monitoring server.

For information about how to design your network firewall in relation to your Tivoli Monitoring environment, see the “Firewalls” section of the IBM Tivoli Monitoring Installation Guide (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3fp2/install/firewalls.htm).

SmartCloud Application Performance Management community on Service Management Connect

Connect, learn, and share with Service Management professionals: product support technical experts who provide their perspectives and expertise.

Access the IBM SmartCloud Application Performance Management community on Service Management Connect at <https://www.ibm.com/developerworks/servicemanagement/apm/index.html>. Use Service Management Connect in the following ways:

- Become involved with transparent development, an ongoing, open engagement between other users and IBM developers of Tivoli products. You can access early designs, sprint demonstrations, product roadmaps, and prerelease code.
- Connect one-on-one with the experts to collaborate and network about Tivoli and the SmartCloud Application Performance Management community.
- Read blogs to benefit from the expertise and experience of others.
- Use wikis and forums to collaborate with the broader user community.

Chapter 2. Planning your installation

Before you install the component products, identify the components that you want to install and where to install them, the hardware and software requirements, the sizing, and the order for installing the products.

Which component products to install

Install different component products based on the software that you want to manage and monitor.

You must install the IBM SmartCloud Application Performance Management UI templates to build dashboards to monitor the resources of your IT environments. The UI also has integrated views to monitor IBM Tivoli Monitoring situation-based events and transactions of your applications. For more information, see the IBM SmartCloud Application Performance Management Information Center.

You must also install IBM InfoSphere Federation Server Version 10.1. For more information, about IBM InfoSphere Federation Server Version 10.1 prerequisites, see IBM InfoSphere Federation Server prerequisites (<http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/topic/com.ibm.swg.im.iis.prod.install.core.doc/topics/iypisrq-prereqs.html>).

Table 2 on page 14 lists the component products to install based on the software that you want to manage and monitor. For more information about the software that the included agents can monitor, see the agent-specific prerequisites information:

- IBM SmartCloud Monitoring Version 7.2.0.2:
 - For information about IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 prerequisites, see IBM Tivoli Monitoring for Virtual Environments prerequisites (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.tivoli.itmvs.doc_7.2.0.2/prerequisites/ve72fp2_systemreqs.html)
 - For information about IBM Tivoli Monitoring Version 6.3.0.2 prerequisites, see IBM Tivoli Monitoring prerequisites (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3fp2/install/plan_prereqs.htm)
- For information about IBM Tivoli Composite Application Manager for Applications Version 7.2.1 prerequisites, see ITCAM for Applications prerequisites (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_7.2.1/prerequisites/apps721_systemreqs.html)
- For information about IBM Tivoli Composite Application Manager for Transactions Version 7.4 prerequisites, see ITCAM for Transactions prerequisites on Service Management Connect (<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Prerequisites%20for%20ITCAM%20for%20Transactions>) and the ITCAM for Transactions User's Guide (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcamt.doc_7.4.0.0/ic/ug.html)
- For information about IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 prerequisites, see ITCAM for Microsoft Applications prerequisites (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcamms.doc_6.3.1/prerequisites/msapps631_systemreqs.html)

Before you install any of the agents that are listed in Table 2, you must install IBM Tivoli Monitoring Version 6.3 Fix Pack 2, which is the prerequisite software. For more information, if you already installed Tivoli Monitoring, see the Note in the Contents of the offering section. Tivoli Monitoring includes the following components that are shared by all component products in this offering and the agents that are listed in Table 1:

- Tivoli Enterprise Portal browser and desktop clients
- Tivoli Enterprise Portal Server
- Tivoli Enterprise Monitoring Server
- Tivoli Data Warehouse

Table 1. Agents that are included with Tivoli Monitoring

Agents included with IBM Tivoli Monitoring	Monitored resources
<p>Operating system agents, including AIX® for System p® agents, and agentless OS monitors:</p> <ul style="list-style-type: none"> • The agents that monitor Power® virtualized environments are included with the base IBM Tivoli Monitoring Version 6.2 and later products. Agents that monitor Power virtualized environments include the following agents: <ul style="list-style-type: none"> – Hardware Management Console (HMC) – Central Electronic Complex (CEC) – Virtual I/O Server (VIOS) – AIX Premium • The following agentless OS monitors are included with the base IBM Tivoli Monitoring Version 6.2.1 product: <ul style="list-style-type: none"> – Agentless Monitoring for AIX – Agentless Monitoring for HP-UX – Agentless Monitoring for Linux – Agentless Monitoring for Solaris – Agentless Monitoring for Windows 	<p>Operating systems, including the following systems:</p> <ul style="list-style-type: none"> • AIX • HP-UX • i5/OS™ • Linux • Sun Solaris • Windows
<p>IBM Tivoli Universal Agent</p> <p>IBM Tivoli Monitoring Agent Builder</p>	<p>Custom software</p>

Table 2. Determining the additional component products to install

Agent or product	Included agent	Monitored resources	IBM Tivoli Monitoring version
<p>IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2</p>	<ul style="list-style-type: none"> • Dashboard, Performance and Capacity Management Reports, and Capacity Planner • Linux Kernel-based Virtual Machines agent • NetApp Storage agent • Network Devices agent • VMWare VI agent 	<ul style="list-style-type: none"> • Linux Kernel-based Virtual Machines • NetApp Storage • Network Devices • VMware ESX 	<p>Version 6.2.2 Fix Pack 2 or later</p>
<p>IBM Tivoli Composite Application Manager Agent for DB2 Version 7.1</p>	<ul style="list-style-type: none"> • DB2 agent 	<ul style="list-style-type: none"> • IBM DB2 	<p>Version 6.2.2 Fix Pack 2 or later</p>

Table 2. Determining the additional component products to install (continued)

Agent or product	Included agent	Monitored resources	IBM Tivoli Monitoring version
IBM Tivoli Composite Application Manager Agent for HTTP Servers Version 7.1	<ul style="list-style-type: none"> • HTTP Servers agent 	<ul style="list-style-type: none"> • Web servers 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for J2EE Version 7.1	<ul style="list-style-type: none"> • Java Platform, Enterprise Edition agent 	<ul style="list-style-type: none"> • Java Platform, Enterprise Edition servers 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for WebSphere Applications Version 7.2	<ul style="list-style-type: none"> • Agent for WebSphere Applications 	<ul style="list-style-type: none"> • IBM WebSphere software 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for Lotus Domino Version 6.2.1	<ul style="list-style-type: none"> • Lotus Domino agent and IntelliWatch 	<ul style="list-style-type: none"> • IBM Lotus Domino 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for Lotus Sametime Version 6.2.4	<ul style="list-style-type: none"> • Lotus Sametime agent 	<ul style="list-style-type: none"> • Sametime community server 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Application Domain Version 7.1.1	<ul style="list-style-type: none"> • PeopleSoft Enterprise Application Domain agent 	<ul style="list-style-type: none"> • PeopleSoft Enterprise <ul style="list-style-type: none"> – PeopleSoft Application Domain 	Version 6.2.3 Fix Pack 3 or later
IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Process Scheduler Version 7.1.1	<ul style="list-style-type: none"> • PeopleSoft Enterprise Process Scheduler agent 	<ul style="list-style-type: none"> • PeopleSoft Enterprise <ul style="list-style-type: none"> – Process Scheduler – Tuxedo 	Version 6.2.3 Fix Pack 3 or later
IBM Tivoli Composite Application Manager Agent for SAP Applications Version 7.1.1	<ul style="list-style-type: none"> • SAP agent 	<ul style="list-style-type: none"> • SAP 	Version 6.2.3 Fix Pack 3 or later
IBM Tivoli Composite Application Manager Agent for SOA Version 7.2	<ul style="list-style-type: none"> • SOA agent 	<ul style="list-style-type: none"> • IBM WebSphere Enterprise Service Bus • IBM WebSphere DataPower SOA Appliance • IBM WebSphere Message Broker • IBM WebSphere Application Server • IBM CICS® Transaction Server 	Version 6.2.2 Fix Pack 3 or later
IBM Tivoli Composite Application Manager Agent for Sybase ASE Version 6.2	<ul style="list-style-type: none"> • Sybase ASE agent 	<ul style="list-style-type: none"> • Sybase ASE 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for Siebel CRM Version 7.1.1	<ul style="list-style-type: none"> • Siebel CRM agent 	<ul style="list-style-type: none"> • Siebel CRM 	Version 6.2.3 Fix Pack 3 or later

Table 2. Determining the additional component products to install (continued)

Agent or product	Included agent	Monitored resources	IBM Tivoli Monitoring version
IBM Tivoli Composite Application Manager Agent for WebSphere DataPower Appliance Agent Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> WebSphere DataPower Appliance agent 	<ul style="list-style-type: none"> DataPower appliances 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> WebSphere Message Broker agent 	<ul style="list-style-type: none"> IBM WebSphere Message Broker 	Version 6.2.3
IBM Tivoli Composite Application Manager Agent for WebSphere MQ Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> WebSphere MQ agent 	<ul style="list-style-type: none"> IBM WebSphere MQ 	Version 6.2.3
IBM Tivoli Composite Application Manager Agent for WebSphere MQ File Transfer Edition Version 7.0.1	<ul style="list-style-type: none"> WebSphere MQ File Transfer Edition monitoring agent 	<ul style="list-style-type: none"> WebSphere MQ File Transfer Edition 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager Configuration Agent for WebSphere MQ Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> WebSphere MQ Configuration agent 	<ul style="list-style-type: none"> IBM WebSphere MQ 	Version 6.2.3
IBM Tivoli Composite Application Manager Extended Agent for Oracle Database Version 6.3.1 Fix Pack 2	<ul style="list-style-type: none"> Oracle Database Extended agent 	<ul style="list-style-type: none"> Oracle RAC Oracle ASM Oracle Database Oracle Data Guard 	Version 6.2.2 Fix Pack 2 or later
IBM Tivoli Composite Application Manager for Transactions Version 7.4	<ul style="list-style-type: none"> Internet Service Monitoring Response Time Monitoring Transaction Tracking 	<ul style="list-style-type: none"> Web transactions Recorded scripts Real user desktop experiences 	Version 6.2.2 or later

Table 2. Determining the additional component products to install (continued)

Agent or product	Included agent	Monitored resources	IBM Tivoli Monitoring version
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1	<ul style="list-style-type: none"> • Microsoft BizTalk Server agent • Microsoft Cluster Server agent • Discovery and Deployment feature (including Application Launch Pad) • Microsoft Host Integration Server agent • Microsoft Hyper-V Server agent • Network Devices agent Version 6.2.2 • Microsoft .NET Framework agent • SQL Server agent • Exchange Server agent • Active Directory agent • SharePoint Server agent • MSCS agent • IIS agent • VMware VI agent • .NET Data Collector Version 7.3.1 	<ul style="list-style-type: none"> • SQL Server • Exchange Server • Active Directory service • SharePoint Server • Cluster Server • Internet Information Services • NET transactions • VMware Virtual Center • NET Framework • Network devices • Microsoft Lync Server • Microsoft Hyper-V Server • Host Integration Server • Discover the computers and devices in networks and monitor operating systems, network devices, and applications from a central location. 	Version 6.2.2 Fix Pack 2 or later

Where to install the component products

Information about where to install the component products varies depending on the product.

For information about where to install the component products, see the product-specific installation information in the user's guides in the IBM SmartCloud Application Performance Management Information Center.

Different types of agent installation

Different types of agent installation exist.

Figure 3 on page 18 illustrates a typical agent installation, where the application agents, for example, are on the same computer as the applications that they are managing. Some agents support different configurations. For the agent that you are installing, see the agent-specific information in the information center, according to Table 6 on page 23.

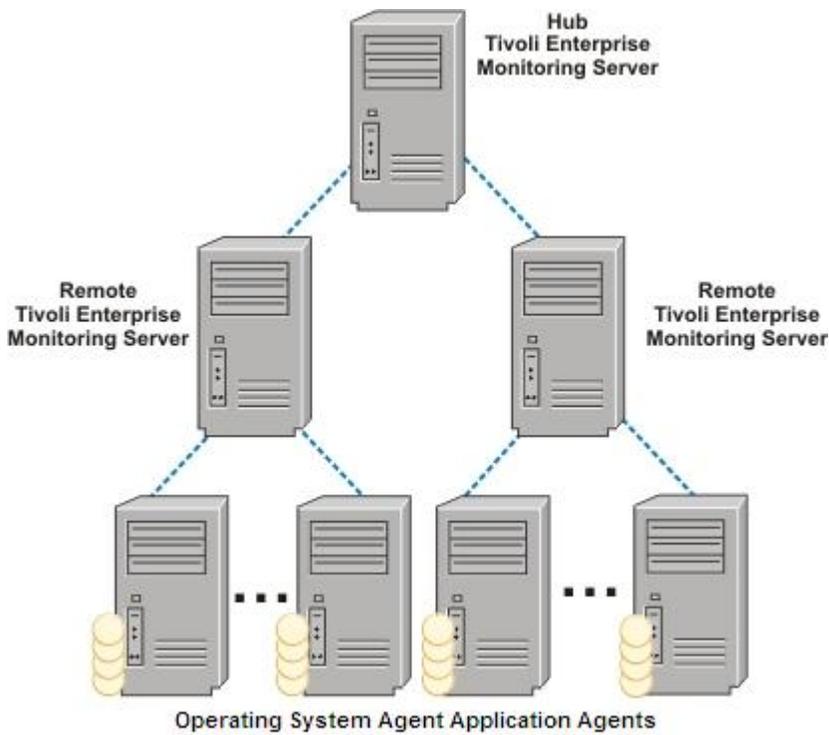


Figure 3. Typical agent installation

Figure 4 on page 19 illustrates the installation of a VMware VI agent, where the agent is not on the same computer as the system that is managed, but instead, manages systems remotely. The use of the VMware VirtualCenter greatly simplifies deployment of the VMware VI agent. A single VMware VI agent can remotely monitor many VMware ESX servers that are managed by the VMware VirtualCenter. Optionally, the VMware VI agent can be configured to monitor one or more VMware ESX servers remotely.

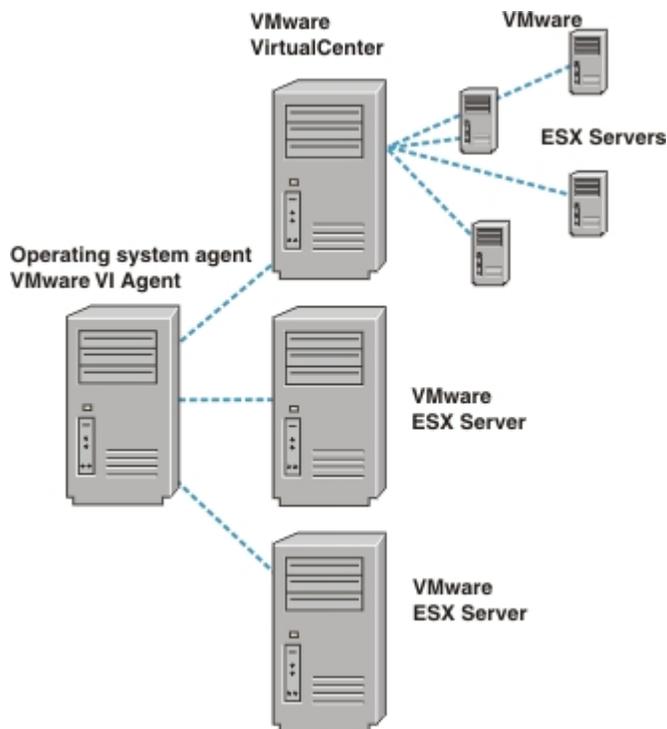


Figure 4. VMware VI agent installation

Hardware and software requirements

See Table 3 for locations of the hardware and software requirements for the component products.

Table 3. Where to find hardware and software requirements for the component products

Information	Location of information
IBM SmartCloud Application Performance Management UI requirements	IBM SmartCloud Application Performance Management Information Center

Table 3. Where to find hardware and software requirements for the component products (continued)

Information	Location of information
Agent hardware and software requirements	<ul style="list-style-type: none"> • For information about IBM Tivoli Composite Application Manager for Applications Version 7.2.1 prerequisites, see theITCAM for Applications prerequisites (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_7.2.1/prerequisites/apps721_systemreqs.html) • For information about IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 prerequisites, see theITCAM for Microsoft Applications prerequisites (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcamms.doc_6.3.1/prerequisites/msapps631_systemreqs.html) • For information about IBM Tivoli Composite Application Manager for Transactions Version 7.4 prerequisites, see theITCAM for Transactions prerequisites on Service Management Connect (https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Composite%20Application%20Manager/page/Prerequisites%20for%20ITCAM%20for%20Transactions) and the ITCAM for Transactions User’s Guide (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcamt.doc_7.4.0.0/ic/ug.html) • IBM SmartCloud Monitoring Version 7.2.0.2: <ul style="list-style-type: none"> – For information about IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 prerequisites, see the IBM Tivoli Monitoring for Virtual Environments prerequisites (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.tivoli.itmvs.doc_7.2.0.2/prerequisites/ve72fp2_systemreqs.html) – For information about IBM Tivoli Monitoring Version 6.3.0.2 prerequisites, see theIBM Tivoli Monitoring prerequisites (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3fp2/install/plan_prereqs.htm) • For more information, about IBM InfoSphere Federation Server Version 10.1 prerequisites, see IBM InfoSphere Federation Server prerequisites (http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/topic/com.ibm.swg.im.iis.prod.install.core.doc/topics/iypisrq-prereqs.html)

Size of installation

The following resources can help you size the installation:

- IBM Tivoli Monitoring installation and configuration guides in the IBM SmartCloud Application Performance Management Information Center
- Tivoli Data Warehouse load projections spreadsheet (<http://www-01.ibm.com/software/brandcatalog/portal/opal/details?catalog.label=1TW10TM1Y>) in the IBM Tivoli Open Process Automation Library

Completing the installation or upgrade

To install or upgrade the components, complete the following procedure:

Procedure

1. Install IBM Tivoli Monitoring Version 6.3 Fix Pack 2, according to the information in the IBM Tivoli Monitoring Installation and configuration guides in the IBM SmartCloud Application Performance Management Information Center. Follow the recommended upgrade order for server components, such as the Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Data Warehouse.
2. Install the agent application support on the Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Portal Server, and if you are using it, the Tivoli Enterprise Portal desktop client. You can use the Tivoli Monitoring images to install support files for the operating system agents. For all other types of agent, use the agent image to install the support files.
3. Optional: Install the IBM Tivoli Monitoring Version 6.3 Fix Pack 2 operating system agent. The operating system agent is used to remotely install, configure, and upgrade other agents on the same server. You must install the operating system agent first to remotely deploy other agents.
4. Install any other agents that you plan to use.
5. Install IBM SmartCloud Application Management UI Version 7.7 or later using the information in the *IBM SmartCloud Application Performance Management UI: User's Guide*.

Chapter 3. Installation and configuration of IBM SmartCloud Application Performance Management

The IBM SmartCloud Application Performance Management Information Center contains information about installing and configuring your monitoring agents.

Table 4. Location of IBM Tivoli Monitoring component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM Tivoli Monitoring Version 6.3.0.2 • Tivoli Enterprise Portal browser and desktop clients	• <i>IBM Tivoli Monitoring: Installation Guide</i>
IBM Tivoli Monitoring Version 6.3.0.2 • Tivoli Enterprise Portal Server	• <i>IBM Tivoli Monitoring: Installation Guide</i>
IBM Tivoli Monitoring Version 6.3.0.2 • Tivoli Enterprise Monitoring Server	• <i>IBM Tivoli Monitoring: Installation Guide</i>
IBM Tivoli Monitoring Version 6.3.0.2 • Tivoli Data Warehouse	• <i>IBM Tivoli Monitoring: Installation Guide</i>

Table 5. Location of IBM Tivoli Monitoring for Virtual Environments component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 • Linux Kernel-based Virtual Machines agent	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Monitoring for Virtual Environments Agent for Linux Kernel-based Virtual Machines User's Guide</i>
IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 • NetApp Storage agent	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Monitoring for Virtual Environments Agent for NetApp Storage User's Guide</i>
IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 • Network Devices agent	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Monitoring Agent for Network Devices User's Guide</i>
IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 • VMware VI agent	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Monitoring for Virtual Environments Agent for VMware VI User's Guide</i>
IBM Tivoli Monitoring for Virtual Environments Version 7.2.0.2 • Dashboard, Reporting, and Capacity Planning	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Monitoring for Virtual Environments: Dashboard, Reporting, and Capacity Planning User's Guide</i>

Table 6. Location of IBM Tivoli Composite Application Manager for Applications component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager Agent for DB2 Version 7.1	• <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for DB2 User's Guide</i>

Table 6. Location of IBM Tivoli Composite Application Manager for Applications component installation and configuration information in the product information center (continued)

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager Agent for HTTP Servers Version 7.1	<i>IBM Tivoli Composite Application Manager Agent for HTTP Servers, Java Platform, Enterprise Edition, and WebSphere Applications agents User's Guide</i>
IBM Tivoli Composite Application Manager Agent for J2EE Version 7.1	<i>IBM Tivoli Composite Application Manager Agent for HTTP Servers, Java Platform, Enterprise Edition, and WebSphere Applications agents User's Guide</i>
IBM Tivoli Composite Application Manager Agent for WebSphere Applications Version 7.2	<i>IBM Tivoli Composite Application Manager Agent for HTTP Servers, Java Platform, Enterprise Edition, and WebSphere Applications agents User's Guide</i>
IBM Tivoli Composite Application Manager Agent for WebSphere DataPower Appliance Version 7.1 Fix Pack 1	<i>IBM Tivoli Composite Application Manager Agent for WebSphere DataPower Appliance User's Guide</i>
IBM Tivoli Composite Application Manager Agent for Lotus Domino Version 6.2.1	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for Lotus Domino User's Guide</i>
IBM Tivoli Composite Application Manager Agent for Lotus Sametime Version 6.2.4	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for Lotus Sametime User's Guide</i>
IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Application Domain Version 7.1.1	<i>IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Application Domain User's Guide</i>
IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Process Scheduler Version 7.1.1	<i>IBM Tivoli Composite Application Manager Agent for PeopleSoft Enterprise Process Scheduler User's Guide</i>
IBM Tivoli Composite Application Manager Agent for SAP Applications Version 7.1.1	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for SAP Applications User's Guide</i>
IBM Tivoli Composite Application Manager Agent for Siebel CRM Version 7.1.1	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for Siebel CRM User's Guide</i>
IBM Tivoli Composite Application Manager Agent for Sybase ASE Version 6.2	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for Sybase ASE User's Guide</i>
IBM Tivoli Composite Application Manager Agent for SOA Version 7.2	<i>IBM Tivoli Composite Application Manager for SOA Installation Guide Version 7.2</i>
IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Monitoring, WebSphere MQ Monitoring, and WebSphere MQ Configuration agents Installation and Setup Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Monitoring Agent User's Guide</i>
IBM Tivoli Composite Application Manager Agent for WebSphere MQ Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Monitoring, WebSphere MQ Monitoring, and WebSphere MQ Configuration agents Installation and Setup Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere MQ Monitoring Agent User's Guide</i>

Table 6. Location of IBM Tivoli Composite Application Manager for Applications component installation and configuration information in the product information center (continued)

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager Agent for WebSphere MQ File Transfer Edition Version 7.0.1	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere MQ File Transfer Edition User's Guide</i>
IBM Tivoli Composite Application Manager Configuration Agent for WebSphere MQ Version 7.1 Fix Pack 1	<ul style="list-style-type: none"> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere Message Broker Monitoring, WebSphere MQ Monitoring, and WebSphere MQ Configuration agents Installation and Setup Guide</i> • <i>IBM Tivoli Composite Application Manager Agent for WebSphere MQ Configuration Agent User's Guide</i>
IBM Tivoli Composite Application Manager Extended Agent for Oracle Database Version 6.3.1 Fix Pack 2	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager Extended Agent for Oracle Database User's Guide</i>

Table 7. Location of IBM Tivoli Composite Application Manager for Transactions component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager for Transactions Version 7.4 <ul style="list-style-type: none"> • Internet Service Monitoring • Response Time Monitoring • Transaction Tracking 	<i>IBM Tivoli Composite Application Manager for Transactions Installation and Configuration Guide</i>

Table 8. Location of IBM Tivoli Composite Application Manager for Microsoft Applications component installation and configuration information at the information center

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 <ul style="list-style-type: none"> • Microsoft Active Directory agent 	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Active Directory Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 <ul style="list-style-type: none"> • Microsoft BizTalk Server agent 	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft BizTalk Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 <ul style="list-style-type: none"> • Microsoft Cluster Server agent 	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Cluster Server Agent Users' Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 <ul style="list-style-type: none"> • Microsoft Exchange Server agent 	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Exchange Server Agent User's Guide</i>

Table 8. Location of IBM Tivoli Composite Application Manager for Microsoft Applications component installation and configuration information at the information center (continued)

Product/component	Installation and configuration information
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft Host Integration Server agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Host Integration Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft Hyper-V Server agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Hyper-V Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft Internet Information Services agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Internet Information Services Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft .NET Framework agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft .NET Framework Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft SharePoint Server agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft SharePoint Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft SQL Server agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft SQL Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Microsoft Lync Server agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Microsoft Lync Server Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • Network Devices agent	<ul style="list-style-type: none"> • <i>IBM Tivoli Monitoring: Installation Guide</i> • <i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1: Network Devices Agent User's Guide</i>
IBM Tivoli Composite Application Manager for Microsoft Applications Version 6.3.1 • .NET Data Collector	<i>IBM Tivoli Composite Application Manager for Microsoft Applications Version 7.3.2: .NET Data Collector User's Guide</i>

Table 9. Location of IBM SmartCloud Application Performance Management UI component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM SmartCloud Application Performance Management UI Version 7.7	<i>IBM SmartCloud Application Performance Management UI: User's Guide</i>

Table 10. Location of IBM SmartCloud Monitoring - Application Insight component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM SmartCloud Monitoring - Application Insight Version 1.2	<i>IBM SmartCloud Monitoring - Application Insight Installation and Setup Guide</i>

Table 11. Location of IBM InfoSphere Federation Server component installation and configuration information in the product information center

Product/component	Installation and configuration information
IBM InfoSphere Federation Server Version 10.1	<i>IBM InfoSphere Federation Server Information Center installation section</i>

Chapter 4. Integration among monitoring agents

A workspace is the fundamental user interface of the Tivoli Enterprise Portal. Through workspaces, you track the situations that monitor events in your environment. You watch current conditions in your system in the bar charts, pie charts, and table views of the workspaces. You notice indicators or messages and drill down in the workspace to specific events that were triggered by situations.

Links between workspaces give users a quick way to obtain another level of detail about events. For more comprehensive root cause analysis, the ITCAM agents for WebSphere Messaging contain integration with operating system agents through workspace linking, as indicated in Table 12 and Table 13.

Table 12. Workspace linking that is available from WebSphere MQ Monitoring agent workspaces

Origin workspace	Destination workspace
WebSphere MQ Monitoring Agent Queue Manager Status	Tivoli Monitoring OS Agent System Overview
WebSphere MQ Monitoring Agent Application Connections	Tivoli Monitoring OS Agent Process Overview
WebSphere MQ Monitoring Agent Queue Open Handle	Tivoli Monitoring OS Agent Process Overview

Table 13. Workspace linking that is available from WebSphere Message Broker Monitoring agent workspaces

Origin workspace	Destination workspace
WebSphere Message Broker Monitoring Agent Broker Information	WebSphere MQ Monitoring Agent Queue Manager Status
WebSphere Message Broker Monitoring Agent Broker Information	Tivoli Monitoring OS Agent System Overview
WebSphere Message Broker Monitoring Agent Components	WebSphere MQ Monitoring Agent Queue Manager Status
WebSphere Message Broker Monitoring Agent Components	Tivoli Monitoring OS Agent System Overview
WebSphere Message Broker Monitoring Agent Message Processing Node Information	WebSphere MQ Monitoring Agent Queue Status
WebSphere Message Broker Monitoring Agent Neighbors	WebSphere MQ Monitoring Agent Queue Manager Status
WebSphere Message Broker Monitoring Agent Broker Statistics	Tivoli Monitoring OS Agent System Overview
WebSphere Message Broker Monitoring Agent Execution Group Statistics	Tivoli Monitoring OS Agent System Overview

Table 14. Workspace linking that is available from ITCAM for SOA to ITCAM Agent for WebSphere Applications

Origin workspace	Destination workspace
Operation Flow	Application Health

Glossary

This glossary includes terms and definitions for IBM SmartCloud Application Performance Management.

The following cross-references are used in this glossary:

- See refers you from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- See also refers you to a related or contrasting term.

To view glossaries for other IBM products, go to www.ibm.com/software/globalization/terminology (opens in new window).

A

agent Software that is installed to monitor systems. An agent collects data about an operating system, a subsystem, or an application.

alert A message or other indication that signals an event or an impending event that meets a set of specified criteria.

application

One or more computer programs or software components that provide a function in direct support of a specific business process or processes.

arithmetic expression

A statement that contains values joined together by one or more arithmetic operators and that is processed as a single numeric value. See also arithmetic operator.

arithmetic operator

A symbol, such as + or -, that represents a fundamental mathematical operation. See also arithmetic expression.

attribute group

A set of related attributes that can be combined in a view or a situation. See also view.

C

capacity planning

The process of determining the hardware and software configuration that is required to accommodate the anticipated workload on a system.

D

database (DB)

A collection of interrelated or independent data items that are stored together to serve one or more applications.

data warehouse

A central repository for all or significant parts of the data that an organization's business systems collect.

DB See database.

E

event An occurrence of significance to a task or system. Events can include completion or failure of an operation, a user action, or the change in state of a process. See also alert.

H

historical collection

A definition that is used to collect and store data samples for historical reporting. The historical collection identifies the attribute group, any row filtering you have assigned, the managed system distribution, frequency of data collection, where to store it for the short term, and whether to save data long term.

historical data management

A set of procedures that are applied to short-term binary files that send historical data to either a data warehouse or to delimited text files. Entries in the short-term history file that are over 24 hours old are deleted, which makes room for new entries.

I

interval

The number of seconds that have elapsed between one sample and the next.

M

managed system

A particular operating system, subsystem, or application in an enterprise where a monitoring agent is installed and running.

migrate

To move data from one location to another.

monitor

An entity that performs measurements to collect data pertaining to the performance, availability, reliability, or other attributes of applications or the systems on which the applications rely. These measurements can be compared to predefined thresholds. If a threshold is exceeded, administrators can be notified, or predefined automated responses can be performed.

monitoring agent

See agent.

monitor interval

A specified time, scalable to seconds, minutes, hours, or days, for how often the monitoring server checks to see if a situation has become true. The minimum monitor interval is 30 seconds; the default value is 15 minutes.

P

parameter (parm)

A value or reference passed to a function, command, or program that serves as input or controls actions. The value is supplied by a user or by another program or process.

parm See parameter.

performance

A measure of a system's ability to perform its functions, including response time, throughput, and number of transactions per second.

S

sample

The data that the product collects for the server.

V

view A window pane, or frame, in a workspace. It may contain data from an agent in a chart or table, or it may contain a terminal session or notepad, for example. A view can be split into two separate, autonomous views. See also attribute group.

virtual machine (VM)

A software implementation of a machine that executes programs like a real machine.

VM See virtual machine.

W

workspace

In Tivoli management applications, the working area of the user interface, excluding the Navigator pane, that displays one or more views pertaining to a particular activity. Predefined workspaces are provided with each Tivoli application, and systems administrators can create customized workspaces.

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Printed in USA

SC27-5628-01

