

IBM Tivoli Composite Application Manager for Microsoft  
Applications: Microsoft Cluster Server Agent  
6.3.1 Fix Pack 10

## *Installation and Configuration Guide*





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**Note**

Before using this information and the product it supports, read the information in “Notices” on page 21.

This edition applies to version 6.3.1.10 of IBM Tivoli Composite Application Manager for Microsoft Applications: Microsoft Cluster Server Agent (product number 5724-U17) and to all subsequent releases and modifications until otherwise indicated in new editions.

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## Chapter 1. Overview of the agent

The IBM® Tivoli® Composite Application Manager for Microsoft Applications: Microsoft Cluster Server Agent (product code Q5) provides you with the capability to monitor Microsoft Cluster Server. You can also use the agent to take basic actions with the Microsoft Cluster Server.

IBM Tivoli Monitoring is the base software for the Microsoft Cluster Server agent.

### IBM Tivoli Monitoring

IBM Tivoli Monitoring provides a way 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 IBM Tivoli Monitoring publications listed in “Prerequisite publications” on page 19 for complete information about IBM Tivoli Monitoring and the Tivoli Enterprise Portal.

### Functions of the monitoring agent

#### Availability and resource monitoring

Monitors availability for Cluster and Cluster resources.

#### Error/event log monitoring

Monitor for all events in the Cluster Server log.

#### Performance monitoring

Cluster Server does not currently keep cluster performance attributes.

#### Reporting

Provides a history enablement file that helps to generate reports for all metrics collected.

#### Cluster resource availability

Provides availability monitoring for the cluster servers' key monitoring points: cluster level, cluster nodes, cluster resource groups, cluster resources, and cluster networks.

#### Cluster resources usage

Provides cluster resource usage across the nodes of the cluster, and reports threats in capacity availability for processor, memory, disk, and networks.

#### Cluster dashboard

Cluster shared volume, cluster shared volume I/O, cluster summary for all clusters in an organization along with its CPU usage, and summary of shared storage usage.

## Take Actions

Actions are provided for taking resource and resource group offline and online.

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## New in this release

For version 6.3.1.10 of the Microsoft Cluster Server agent, no new features were added since 6.3.1. For version 6.3.1 of the Microsoft Cluster Server agent, the following enhancements have been made since version 6.3, including the fix packs:

- Changes related to system requirements. See the information about system requirements in Software product compatibility reports (<http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html>).
- New attribute groups:
  - CAU Configuration
  - CAU Last Run
  - CAU Current Run
- New or changed attributes in the following attribute group:
  - Resources
- New or changed workspace:
  - Cluster Aware Updating
- New or changed views:
  - CAU Current Run Status
  - CAU Last Run Result
  - CAU Configuration
- New or changed situations:
  - KQ5\_CAU\_Failed
  - KQ5\_CAU\_Offline
  - KQ5\_CLUSTER\_BACKUP\_ABORTED
  - KQ5\_SHARED\_DISK\_MISSING
  - KQ5\_CLUSTER\_SERVICE\_SHUTTING
  - KQ5\_CLUSTER\_DISK\_CORRUPT
  - KQ5\_CSV\_ACCESS\_ERROR
- Updated the kq5.baroc file to support event mapping changes
- Added new Cognos® data models and reports
- Added the Prerequisite Scanner report to verify the availability of tables and views in the Tivoli Data Warehouse for the predefined reports

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## Components of the IBM Tivoli Monitoring environment

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

This 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, Microsoft Cluster Server agent**

This monitoring agent collects data and distributes the data to the Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, Tivoli Enterprise Portal, Tivoli Data Warehouse, and Tivoli Integrated Portal.

**IBM Tivoli Netcool/OMNIBus**

Tivoli Netcool/OMNIBus is an optional component and the recommended event management component. The Netcool/OMNIBus software is a service level management (SLM) system that delivers real-time, centralized monitoring of complex networks and IT domain events. Event information is tracked in a high-performance, in-memory database and presented to specific users through individually configurable filters and views. The software includes automation functions that you can use to perform intelligent processing on managed events. You can use this software to forward events for Tivoli Monitoring situations to Tivoli Netcool/OMNIBus.

**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 Tivoli Monitoring situations to the Tivoli Enterprise Console component. If you do not already use Tivoli Enterprise Console and need an event management component, you can choose to use IBM Tivoli Netcool/OMNIBus.

**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 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 Tivoli Monitoring and TADDM.

**Tivoli Integrated Portal**

Tivoli Integrated Portal helps the interaction and secure passing of data between Tivoli products through a common portal. Within the same dashboard view, you can launch from one application to another and research different aspects of your managed enterprise. This component is installed automatically with the first Tivoli product that uses the Tivoli Integrated Portal framework. Subsequent products can install updated versions of Tivoli Integrated Portal. After version 2.2, this component is replaced by the Dashboard Application Services Hub.

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## **Agent Management Services**

You can use IBM Tivoli Monitoring Agent Management Services to manage the Microsoft Cluster Server 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 Microsoft Cluster Server 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*. IBM Tivoli Monitoring V6.2.2, Fix Pack 2 or later provides support for Agent Management Services.

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## User interface options

Installation of the base IBM Tivoli Monitoring software and other integrated applications provides various interfaces that you can use to work with your resources and data.

The following interfaces are available:

### Tivoli Enterprise Portal user interface

You can run the Tivoli Enterprise Portal as a desktop application or a browser application. The client interface is a graphical user interface (GUI) based on Java on a Windows or Linux workstation. The browser application is automatically installed with the Tivoli Enterprise Portal Server. The desktop application is installed by using the Tivoli Monitoring installation media or with a Java Web Start application. To start the Tivoli Enterprise Portal browser client in your Internet browser, enter the URL for a specific Tivoli Enterprise Portal browser client installed on your web server.

### Command-line interface

You can use Tivoli Monitoring commands to manage the Tivoli Monitoring components and their configuration. You can also run commands at the Tivoli Enterprise Console event server or the Tivoli Netcool/OMNIbus ObjectServer to configure event synchronization for enterprise situations.

### Manage Tivoli Enterprise Monitoring Services window

You can use the window for the Manage Tivoli Enterprise Monitoring Services utility to configure the agent and start Tivoli services not designated to start automatically.

### IBM Tivoli Netcool/OMNIbus event list

You can use the Netcool/OMNIbus event list to monitor and manage events. An event is created when the Netcool/OMNIbus ObjectServer receives an event, alert, message, or data item. Each event is made up of columns (or fields) of information that are displayed in a row in the ObjectServer alerts.status table. The Tivoli Netcool/OMNIbus web GUI is also a web-based application that processes network events from one or more data sources and presents the event data in various graphical formats.

### IBM Tivoli Enterprise Console

You can use the Tivoli Enterprise Console® to help ensure the optimal availability of an IT service for an organization. The Tivoli Enterprise Console is an event management application that integrates system, network, database, and application management. If you do not already use Tivoli Enterprise Console and need an event management component, you can choose to use Tivoli Netcool/OMNIbus.

### IBM Tivoli Common Reporting

Use the Tivoli Common Reporting web user interface for specifying report parameters and other report properties, generating formatted reports, scheduling reports, and viewing reports. This user interface is based on the Dashboard Application Services Hub for Tivoli Common Reporting 3.1 and on Tivoli Integrated Portal for earlier versions.

### IBM Tivoli Application Dependency Discovery Manager

The Discovery Management Console is the TADDDM client user interface for managing discoveries.

### IBM Tivoli Business Service Manager

The Tivoli Business Service Manager console provides a graphical user interface 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 moment in time or how the enterprise performed over a time period.

### **Tivoli Integrated Portal**

Web-based products that are built on the Tivoli Integrated Portal framework share a common user interface where you can launch applications and share information. After version 2.2, this interface is replaced by the Dashboard Application Services Hub.

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## **Data sources**

Monitoring agents collect data from specific data sources.

The Microsoft Cluster Server agent collects data from the following sources:

**WMI** You can use Windows Management Instrumentation (WMI) to monitor and control managed resources throughout the network. Resources include hard drives, file systems, operating system settings, processes, services, shares, registry settings, networking components, event logs, users, and groups. WMI is built into clients with Windows 2000 or later, and can be installed on any 32-bit Windows client.

### **Perfmon**

You can use the Windows Performance Monitor, or Perfmon, to view various system and application performance metrics for collection and use by management applications. You typically view system metrics on a Windows system through the 'perfmon' application.

### **Availability**

You can use the agent to monitor availability of the application and related components in the following ways:

- Monitor the status of the processes.
- Monitor the Windows services used by the application.

### **Scripts**

You can use the agent's application-specific commands and interfaces to gather metrics.

### **Windows Event Log**

You can use the agent to collect Windows Event Log entries related to the monitored resource and forward them to IBM Tivoli Monitoring.

The following table shows each Microsoft Cluster Server agent attribute group and the mechanism that is used to gather the attributes.

*Table 1. Mechanisms used to gather attributes*

<b>Attribute group</b>	<b>Collection source</b>
Availability	Operating system
CAU Configuration	Script
CAU Current Run	Script
CAU Last Run	Script
Cluster Domain	WMI
Cluster Shared Volume	WMI
Cluster Shared Volume Block Redirection	Perfmon
Cluster Shared Volume Cache	Perfmon
Cluster Shared Volume Coordinator	Perfmon
Cluster Shared Volume File System	Perfmon

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
Cluster Shared Volume Manager	Perfmon
Cluster Shared Volume IO	Perfmon
Cluster Summary	Script
Cluster Topology	Script
Configuration	WMI
CPU Interrupts Rollup	WMI
CPU per Node	WMI
CPU per Node Rollup	WMI
Degradation Risk	Script
Disk	WMI
Disk MB Rollup	WMI
Disk PCT Rollup	WMI
Enterprise Cluster Summary	Script
Event Log	Windows Event Log
Global Update Messages	Perfmon
Memory	WMI
Memory MB Rollup	WMI
Memory PCT Rollup	WMI
MRR Messages	Perfmon
Network Interfaces	Script
Network Interfaces State Rollup	WMI
Network Performance	WMI
Network Performance Packets Rollup	WMI
Network Performance Received Rollup	WMI
Network Performance Sent Rollup	WMI
Network Reconnections	Perfmon
Networks	Script
Networks Messages	WMI
Networks Rollup	WMI
Node To Active Group	WMI
Nodes	WMI
Nodes State Rollup	WMI
Performance Object Status	Operating system
Quorum Configuration	WMI
Resource Control Manager	Perfmon
Resource Group Moves	WMI
Resource Group To Preferred Node	WMI
Resource Group To Resource	WMI
Resource Groups	Script
Resource Groups State Rollup	WMI

*Table 1. Mechanisms used to gather attributes (continued)*

<b>Attribute group</b>	<b>Collection source</b>
Resource To Dependent Resource	WMI
Resource To Possible Owner	WMI
Resources	Script
Resources State Rollup	WMI
Resources Summary	Perfmon
Shared Storage Summary	Script
Structural Risk	Script





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## 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 Microsoft Cluster Server agent, use the *Installing monitoring agents* procedures in the *IBM Tivoli Monitoring Installation and Setup Guide* along 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 using IBM Tivoli Monitoring V6.2.3 or later can become operational after installation without having to perform 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*.

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### Requirements

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

For the most up-to-date information about system requirements, see the Software product compatibility reports (<http://www-969.ibm.com/software/reports/compatibility/clarity/index.html>). Search for the ITCAM for Microsoft Applications product.

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### 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”
- “Installing language packs on UNIX or Linux systems” on page 10
- “Installing language packs on Windows, UNIX, or Linux systems silently” on page 10

### 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.

## Installing language packs on UNIX or Linux systems

You can install the language packs on a UNIX or Linux system.

### Before you begin

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

### Procedure

1. Enter the `mkdir` command to create a temporary directory on the computer, for example, `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 UNIX and Linux 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, UNIX, or Linux systems silently

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 located 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 of the following steps 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

```

---

## Prerequisites checking

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

For the Microsoft Cluster Server agent, the Prerequisite Scanner verifies the following requirements:

- Memory
- Disk
- Operating systems
- Microsoft Cluster Server versions

Additionally, the Prerequisite Scanner verifies whether the user, who installs the agent, is a member of the Administrators group.

For detailed information about installation prerequisites, see the Software product compatibility reports (<http://www-969.ibm.com/software/reports/compatibility/clarity/index.html>).

You can run the Prerequisite Scanner in stand-alone mode or remotely. For more information about the Prerequisite Scanner, see “Prerequisite Checking for IBM Tivoli Monitoring agents” in the *IBM Tivoli Monitoring Installation and Setup Guide*.

---

## Running as a non-administrator user

You can run the monitoring agent for the Cluster Server as a non-administrator user. However, some functionality is unavailable.

To create a non-administrator user, create a new domain user, and set up registry permissions for the new user as follows:

- Full access to the HKEY\_LOCAL\_MACHINE\SOFTWARE\Candle directory
- Read access to the HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib directory

**Note:** Provide the specified access rights on all the nodes in a cluster.

If you define these permissions for the domain user, data is displayed for all the Perfmon-based attribute groups. See “Data sources” on page 5 for a list of all the Perfmon-based attributes. However, on the Tivoli Enterprise Portal, display of data varies according to the operating system as follows:

- Partial data is displayed on Windows 2003 systems.
- No data is displayed on Windows 2008 R2 systems.

---

## Agent-specific installation and configuration

In addition to the installation and configuration information in the *IBM Tivoli Monitoring Installation and Setup Guide*, use the agent-specific installation and configuration information to install the Microsoft Cluster Server agent.

The agent must be installed and configured in the same way on all nodes in the cluster. This ensures that the node controls the active agent and the agents cluster resource. When installing for the first time, go through the installation procedures in the IBM Tivoli Monitoring Installation and Setup Guide before creating the cluster resources. When applying fix packs to multiple nodes, bring the resource group offline before applying the fix packs, and then bring the resource group back online.

The starting and stopping of the agent is controlled by cluster server. Using IBM Tivoli Monitoring v6.2 utilities to manage the agent (start, stop, restart, remove, configure) conflicts with cluster server control of the agent. When using the IBM Tivoli Monitoring v6.2 utilities to manage the agent take the cluster agent resource offline. This ensures that the cluster server does not automatically restart the agent when the IBM Tivoli Monitoring v6.2 utility needs the agent to be offline. See the “Troubleshooting” chapter of the *IBM Tivoli Composite Application Manager for Microsoft Applications: Microsoft Cluster Server Agent Troubleshooting Guide* for related behaviors.

Use the Microsoft Cluster Administrator to create a resource group and resource to control the agent. When creating the agent resource group, specify the name and description you want to use to identify the agent. Use the same preferred nodes sequence as set for the cluster group controlling the cluster resources.

If agent history is stored at the Tivoli Enterprise Monitoring Agent, a shared disk resource must be created to store agent history. This disk resource must be added to the agent's resource group so that the node owning the agent resource group can access the disk.

The agent defaults to a startup type of manual and Log on As system account. The account that the agent runs under needs to be changed to have authority to use remote WMI queries. This will help access system attributes like CPU Utilization across all nodes in the cluster. The cluster administrator ID, with a format domain\_name\administrator\_id, is an example of a user ID that could be used.

## Agent startup parameters and environment variables

You must configure the agent startup parameters and environment variables.

Each node in the cluster has a single instance of the agent installed. Use Manage Tivoli Monitoring Services to configure and set startup agent parameters. In addition to the standard agent configuration, Microsoft Cluster Name and Shared Agent History Directory parameters must be configured.

The **Microsoft Cluster Name** configuration parameter is used to create the Windows system name that appears in the Tivoli Enterprise Portal. The Microsoft Cluster Name configuration is used to set **CTIRA\_HOSTNAME** host name, which is part of the managed system name. The Managed System Status workspace of the enterprise view shows the status of each managed system. Note that this name is case sensitive and must be entered the same way on each node's agent configuration. Also, use only ASCII characters.

The Shared Agent History Directory field is required if the history configuration specifies that the collection location is at the Tivoli Enterprise Monitoring Agent. History is then stored on the agent on the shared disk. The **Shared Agent History Directory** configuration parameter, **CTIRA\_HIST\_DIR**, specifies a directory on a shared disk that is controlled by the agent resource group. On the shared disk, create a directory to store the history because the agent does not create the directory.

For cluster systems that do not support shared disks, history must be stored on the Tivoli Enterprise Monitoring Server. If history is stored on the Tivoli Enterprise Monitoring Server, ensure that you select the amount of data so that you do not overrun the Tivoli Enterprise Monitoring Server. For information about the amount of disk space to be consumed by the historical data in each attribute group, see 'Disk capacity planning for historical data' in the *IBM Tivoli Composite Application Manager for Microsoft Applications: Microsoft Cluster Server Agent Reference Guide*.

## Adding the agent service as a resource

You can add the cluster agent service as a resource in the Cluster Server so that the agent can monitor the Cluster Server.

Before adding the agent service as a resource, ensure that you have completed the following tasks:

- The startup type for the agent is set to **Manual**.
- The agent is stopped on each node in the cluster.

For information about adding the agent service as a resource, see the following topics:

- "Adding the agent service as a resource on the Windows 2003 cluster"
- "Adding the agent service as a resource on the Windows 2008 cluster" on page 15
- "Adding the agent service as a resource on the Windows 2012 cluster" on page 15

## Adding the agent service as a resource on the Windows 2003 cluster

You must add the cluster agent service as a resource in the Cluster Server that runs on the Windows 2003 operating system.

### Procedure

To add the agent service as a resource, complete the following steps:

1. Right-click the agent resource group that is created for the agent. Select **New > select Resource**.
2. Select **Generic Service** as a resource type, and specify a name for the agent resource.
3. Ensure that the **Possible Owners** list contains all the nodes in the cluster.
4. If historical data is stored at the agent, you must create a shared disk resource that is set as a resource dependency.
5. Specify the service name as kq5cma (the service for the Monitoring Agent for Microsoft Cluster Server Agent).
6. Retain the default settings in all the other windows and click **Finish**.

## Results

The agent is started on the preferred node in the cluster, and the agent starts monitoring the cluster. Ensure that the agent is stopped on the other nodes in the cluster.

### Adding the agent service as a resource on the Windows 2008 cluster

You must add the cluster agent service as a resource in the Cluster Server that runs on the Windows 2008 operating system.

#### Procedure

To add the agent service as a resource, complete the following steps:

1. Open the Failover Cluster Management window.
2. In the left pane, right-click **Services and Applications**, and click **More Actions > Create Empty Service or Application**. The new service is displayed in the **Services and Applications** list.
3. Rename the newly created service.
4. Right-click the new service and click **Add Resource > Generic Service**.
5. In the New Resource Wizard window, select **Monitoring Agent for Microsoft Cluster Server** and click **Next**.
6. Click **Next** in the subsequent windows until you see the **Finish** button.
7. Click **Finish**. The agent service is added as a resource.
8. Right-click **Monitoring Agent for Microsoft Cluster Server** resource and click **Bring Resource Online**.

## Results

The agent is started on the preferred node in the cluster, and the agent starts monitoring the cluster. Ensure that the agent is stopped on the other nodes in the cluster.

### Adding the agent service as a resource on the Windows 2012 cluster

You must add the cluster agent service as a resource in the Cluster Server that runs on a Windows 2012 operating system.

#### Procedure

To add the agent service as a resource, complete the following steps:

1. Open the Failover Cluster Management window.
2. In the left pane, right-click **Roles** and click **Create Empty Role**. The role represents a resource group.
3. Rename the newly created role.
4. Right-click the new role and click **Add Resource > Generic Service**.
5. In the New Resource Wizard window, select **Monitoring Agent for Microsoft Cluster Server** and click **Next**.
6. Click **Next** in the subsequent windows until you see the **Finish** button.
7. Click **Finish**. The agent service is added as a resource.
8. Right-click **Monitoring Agent for Microsoft Cluster Server** resource and click **Bring Resource Online**.

## Results

The agent is started on the preferred node in the cluster, and the agent starts monitoring the cluster. Ensure that the agent is stopped on the other nodes in the cluster.

## Configuration values

For both local and remote configuration, you provide the configuration values for the agent to operate.

When you are configuring an agent, a panel is displayed so you can enter each value. When a default value exists, this value is pre-entered into the field. If a field represents a password, two entry fields are displayed. You must enter the same value in each field. The values you type are not displayed to help maintain the security of these values.

The configuration for this agent is organized into the following groups:

### Microsoft Cluster Server Agent Configuration (MSCS)

The configuration elements defined in this group are always present in the agent's configuration.

This group defines information that applies to the entire agent.

#### Shared Agent History Directory (CTIRA\_HIST\_DIR)

A shared directory for the cluster that is not a quorum drive where the agents can locate cluster historical information.

The type is string.

This value is optional.

Default value: None

#### Microsoft Cluster Name (CTIRA\_HOSTNAME)

A unique name assigned to the cluster that will be displayed in the Tivoli Enterprise Portal.

The type is string.

This value is required.

Default value: None

## Remote installation and configuration

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

When you install the agent remotely, you must provide the configuration values for the agent to operate. See "Configuration values."

To install from the portal, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

To remotely install or configure an agent through the Tivoli Enterprise Portal, application support for that agent must be installed (Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal). Also, the agent bundle must be installed in the Remote Deploy Depot.

For information about displaying the configuration options that are available to use with the **configureSystem** command, see "tacmd describeSystemType" in the *IBM Tivoli Monitoring Command Reference*.

If you are using the command line, the following commands are examples of remote installation and configuration for Windows operating systems:

### Remote installation

```
tacmd addSystem -t Q5 -n Primary:sample.node.name:NT
-p MSCS.CTIRA_HIST_DIR=value
MSCS.CTIRA_HOSTNAME=value
```



## Remote configuration

The following example illustrates configuration by using all configuration variables. Typically, you specify only the variables and values that you want to change.

```
tacmd configureSystem hostname:Q5  
-p MSCS.CTIRA_HIST_DIR=value  
   MSCS.CTIRA_HOSTNAME=value
```



---

## Appendix. ITCAM for Microsoft Applications documentation library

Various publications are relevant to the use of ITCAM for Microsoft Applications.

For information about how to access and use the publications, see **Using the publications** ([http://www.ibm.com/support/knowledgecenter/SSTFXA\\_6.3.0.1/com.ibm.itm.doc\\_6.3/common/using\\_publications.htm](http://www.ibm.com/support/knowledgecenter/SSTFXA_6.3.0.1/com.ibm.itm.doc_6.3/common/using_publications.htm)).

To find publications from the previous version of a product, click **Previous versions** under the name of the product in the **Contents** pane.

Documentation for this product is in the ITCAM for Microsoft Applications Information Center ([http://www.ibm.com/support/knowledgecenter/SSDKXQ\\_6.3.1/com.ibm.itcamms.doc\\_6.3.1/welcome\\_msapps631.html](http://www.ibm.com/support/knowledgecenter/SSDKXQ_6.3.1/com.ibm.itcamms.doc_6.3.1/welcome_msapps631.html))

- Quick Start Guides
- Offering Guide
- Download instructions
- Links to Prerequisites
- Installation and Configuration Guide for each agent
- Link to Reference information for each agent
- Link to Troubleshooting Guide for each agent

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### Prerequisite publications

To use the information about the agents effectively, you must have some prerequisite knowledge.

See the following information at the IBM Tivoli Monitoring Information Center ([http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon\\_share.doc\\_6.3.0.2/shared\\_welcome/welcome.htm](http://www.ibm.com/support/knowledgecenter/SSAUBV/com.ibm.omegamon_share.doc_6.3.0.2/shared_welcome/welcome.htm)) to gain prerequisite knowledge:

- *IBM Tivoli Monitoring Administrator's Guide*
- *IBM Tivoli Monitoring Installation and Setup Guide*
- *IBM Tivoli Monitoring High Availability Guide for Distributed Systems*
- IBM Tivoli Monitoring: Installation and Configuration Guides for the following agents: Operating System agents and Warehouse agents
- IBM Tivoli Monitoring: User's Guides for the following agents: Agentless OS monitors, Log file agent, System p agents, Systems Director base agent
- *IBM Tivoli Monitoring Agent Builder User's Guide*
- *IBM Tivoli Monitoring Command Reference*
- *IBM Tivoli Monitoring: Messages*
- *IBM Tivoli Monitoring Troubleshooting Guide*
- IBM Tivoli Monitoring: References for the following agents: Operating System agents and Warehouse agents
- IBM Tivoli Monitoring: Troubleshooting Guides for the following agents: Operating System agents and Warehouse agents
- *Tivoli Enterprise Portal User's Guide*

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## 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 (<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Documentation%20Central>):

- Tivoli Monitoring
- Tivoli Application Dependency Discovery Manager
- Tivoli Business Service Manager
- Tivoli Common Reporting
- Tivoli Enterprise Console
- Tivoli Netcool/OMNIBus

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## Tivoli Monitoring Community on Service Management Connect

Service Management Connect (SMC) is a repository of technical information that is organized by communities.

Access Service Management Connect at <https://www.ibm.com/developerworks/servicemanagement>.

For information about Tivoli products, see the Application Performance Management community (<http://www.ibm.com/developerworks/servicemanagement/apm/index.html>).

Connect, learn, and share with Service Management professionals. Get access to developers and product support technical experts who provide their perspectives and expertise. You can use SMC for these purposes:

- 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 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.

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## 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 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.

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