IBM Tivoli Composite Application Manager for Microsoft Applications: Microsoft Exchange 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 51

This edition applies to version 6.3.1.10 of IBM Tivoli Composite Application Manager for Microsoft Applications: Microsoft Exchange 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 Exchange Server Agent (product code EX) provides you with the capability to monitor Microsoft Exchange Server. You can also use the agent to take basic actions with the Microsoft Exchange Server.

IBM[®] Tivoli[®] Monitoring is the base software for the Microsoft Exchange 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 49 for complete information about IBM Tivoli Monitoring and the Tivoli Enterprise Portal.

Functions of the monitoring agent

The Microsoft Exchange Server agent offers a central point of management for your Microsoft Exchange Server. It provides a comprehensive means for gathering exactly the information you need to detect problems early and to prevent them.

By using this monitoring agent, you can easily collect and analyze the following Microsoft Exchange Server server-specific information:

- · Address book activity
- Cache statistics
- Connection statistics
- Internet mail statistics
- Message traffic statistics

The Microsoft Exchange Server agent is an intelligent, remote monitoring agent that is located on managed systems. It assists you in anticipating trouble and warns system administrators when critical events take place on their systems. With the Microsoft Exchange Server agent, system administrators can set threshold levels as desired and set flags to alert them when the system reaches these thresholds.

The Microsoft Exchange Server agent provides the following benefits:

- Enhances efficiency and simplifies application and system management by managing diverse applications and resources across your enterprise.
- Increases profits by providing you with real-time access to reliable, up-to-the-minute data that allows you to make faster, better informed operating decisions.
- Enhances system performance by letting you integrate, monitor, and manage your environment, networks, console, and mission-critical applications. The monitoring agent alerts the Tivoli Enterprise Console[®] when conditions in your environment meet threshold-based conditions. These alerts notify your system administrator to limit and control system traffic. You can view data gathered by the monitoring agent in reports and charts that inform you of the status of your managed systems.

The Microsoft Exchange Server agent helps you monitor and gather consistent, accurate, and timely information that you need to effectively perform your job.

New in this release

For version 6.3.1.10 of the Microsoft Exchange Server agent, the following enhancements were made since version 6.3, including the fix packs:

- New attribute groups:
 - MS Exchange Oversized Email Count
 - MS Exchange Oversized Email Details
 - MS Exchange DLP Policy Tips
 - MS Exchange HTTP Proxy Per Forest
 - MS Exchange GoLocal Assistant
 - MS Exchange Shared Cache
 - MS Exchange Service Proxy Pool
- New or changed attributes in the following attribute groups:
 - MS Exchange Transport Queues
 - MS Exchange OAB Request Handler

Components of the IBM Tivoli Monitoring environment

After you install and set up the Microsoft Exchange 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^m 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 Exchange 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.

Agent Management Services

You can use IBM Tivoli Monitoring Agent Management Services to manage the Microsoft Exchange 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 Exchange Server agent available, and to provide information about the status of the product to the Tivoli Enterprise Portal. IBM Tivoli Monitoring V6.2.2, Fix Pack 2 or later provides support for Agent Management Services. For more information about Agent Management Services, see *Agent Management Services* in the *IBM Tivoli Monitoring Administrator's Guide*.

User interface options

Installation of the base IBM Tivoli Monitoring software and other integrated applications provides a variety of 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 TADDM 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.

Data sources

Monitoring agents collect data from specific data sources.

The Microsoft Exchange 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.

Scripts

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

Log files

The agent uses the file system to monitor application log files or other data files to gather metrics.

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

Table 1. Mechanisms used to gather attributes

Attribute group	Collection source
Forefront Exchange On Demand Scanner	Perfmon
Forefront Exchange Realtime Scanner	Perfmon
Forefront Exchange Scheduled Scanner	Perfmon
Forefront Exchange Transport Scanner	Perfmon
Mailbox Server Cluster State	Exchange Server
Microsoft Forefront Server Security Scan	Perfmon
MS Exchange Active Manager	Perfmon
MS Exchange Active Manager Client	Perfmon
MS Exchange Active Manager Server	Perfmon
MS Exchange Active Sync	Perfmon
MS Exchange ADAccess Caches	Perfmon
MS Exchange ADAccess Domain Controllers	Perfmon
MS Exchange ADAccess Forest Discovery	Perfmon
MS Exchange ADAccess Processes	Perfmon
MS Exchange Address Book	Perfmon
MS Exchange Assistants	Perfmon
MS Exchange Assistants Per Database	Perfmon
MS Exchange Attachment Filtering	Perfmon
MS Exchange Authentication	Perfmon

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
MS Exchange Autodiscover Service	Perfmon
MS Exchange Availability Service	Perfmon
MS Exchange Calendar Attendant	Perfmon
MS Exchange Connection Filtering Agent	Perfmon
MS Exchange Content Filter Agent	Perfmon
MS Exchange Control Panel (RBAC)	Perfmon
MS Exchange Database Availability Group	Active Directory Service Interfaces
MS Exchange DB	Perfmon
MS Exchange DB Instance	Perfmon
MS Exchange Delivery DSN	Perfmon
MS Exchange DS	Perfmon
MS Exchange Email Statistics	Log files
MS Exchange Event Details	Windows Event Log
MS Exchange Extensibility Agents	Perfmon
MS Exchange FDS OAB	Perfmon
MS Exchange IS	Perfmon, Active Directory Service Interfaces
MS Exchange IS Client	Perfmon
MS Exchange IS HA Active Database	Perfmon
MS Exchange IS Private	Perfmon, Active Directory Service Interfaces, Exchange Server
MS Exchange IS Public	Perfmon, Active Directory Service Interfaces, Exchange Server
MS Exchange IS Public Replication	Perfmon
MS Exchange IS Store	Perfmon, Active Directory Service Interfaces, Exchange Server
MS Exchange Mail Submission	Perfmon
MS Exchange Mail Tips	Perfmon
MS Exchange Mailbox Replication Service	Perfmon
MS Exchange Mailbox Replication Service per Mdb	Perfmon
MS Exchange Mailbox Detail	Perfmon, Active Directory Service Interfaces, Exchange Server
MS Exchange Managed Folder Assistant	Perfmon
MS Exchange MAPI Connectivity Details	Active Directory Service Interfaces, Exchange Server
MS Exchange Non Delivery Report	Log files
MS Exchange NLB Status	Windows Systems API
MS Exchange OAB Details	Active Directory Service Interfaces
MS Exchange OAB Request Handler	Perfmon
MS Exchange OWA	Perfmon
MS Exchange Protocol Analysis Agent	Perfmon
MS Exchange Public Folder Detail	Perfmon, Active Directory Service Interfaces, Exchange Server

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
MS Exchange Reachability	Active Directory Service Interfaces, Exchange Server
MS Exchange Recipient Cache	Perfmon
MS Exchange Recipient Filter Agent	Perfmon
MS Exchange Replication	Perfmon, Exchange Server
MS Exchange Replica Seeder	Perfmon
MS Exchange Replication Server	Perfmon
MS Exchange Resource Booking	Perfmon
MS Exchange Resource Health	Perfmon
MS Exchange Rights Management Service	Perfmon
MS Exchange Role Based Services	Exchange Server
MS Exchange Role Topology	Active Directory Service Interfaces, Exchange Server
MS Exchange RPC Client Access	Perfmon
MS Exchange Search Indices	Perfmon
MS Exchange Search Mailbox Operators	Perfmon
MS Exchange Search Mailbox Session Cache	Perfmon
MS Exchange Sender Filter Agent	Perfmon
MS Exchange Sender ID Agent	Perfmon
MS Exchange Server	Active Directory Service Interfaces, Windows Systems API
MS Exchange Services Detail	Windows Systems API
MS Exchange Storage Group Detail	Active Directory Service Interfaces, Windows Systems API
MS Exchange Store Driver	Perfmon
MS Exchange Store Driver Database	Perfmon
MS Exchange Store Driver Server	Perfmon
MS Exchange Store Interface	Perfmon
MS Exchange Submission	Perfmon
MS Exchange Submission DSN	Perfmon
MS Exchange Text Messaging	Perfmon
MS Exchange Throttling	Perfmon
MS Exchange Transport Database	Perfmon
MS Exchange Transport Dumpster	Perfmon
MS Exchange Transport Queues	Perfmon
MS Exchange Transport Rules	Perfmon
MS Exchange Transport Shadow Redundancy	Perfmon
MS Exchange Transport SMTP Availability	Perfmon
MS Exchange Transport SmtpReceive	Perfmon
MS Exchange Transport SmtpSend	Perfmon
MS Exchange UM Auto Attendant	Perfmon
MS Exchange UM Availability	Perfmon

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
MS Exchange UM Call Answer	Perfmon
MS Exchange UM Enabled User Details	Active Directory Service Interfaces
MS Exchange UM General	Perfmon
MS Exchange UM Subscriber Access	Perfmon
MS Exchange Web Services	Perfmon
MS Exchange Workloads	Perfmon
MS Exchange Workload Management Policies	Active Directory Service Interfaces
RPC/HTTP Proxy	Perfmon

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 Exchange Server agent, use the procedures for installing monitoring agents in the *IBM Tivoli Monitoring Installation and Setup Guide* along with the agent-specific installation and configuration information.

If you are doing a silent installation 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*.

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 Exchange 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.

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

Ensure that you have installed the product in English.

Procedure

To install language packs on Windows systems, complete the following steps:

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.

Note: The NLSPackage files are located in the nlspackage folder that contains the installer executable file.

6. Select the language support for the required agent and click Next.

Note: To select multiple languages, press Ctrl and select the required languages.

- 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 is completed, click Finish.
- **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.
- 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
#vour 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:\\zosgmv\\LCD7-3583-01\\nlspackage). **#For UNIX and Linux:** Use the slash-slash (//) as a file separator (for example, # #//installtivoli//lpsilenttest//nlspackage). #_____ #NLS PACKAGE FOLDER=C:\\zosgmv\\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(\backslash) as a file separator. **#For Unix and Linux:** Use the slash-slash (//) as a file separator. # #_____ #PROD SELECTION PKG=C:\\zosqmv\\LCD7-3583-01\\nlspackage\\KIP NLS.nlspkg #BASE AGENT FOUND PKG LIST=C:\\zosgmv\\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 checker utility verifies whether all the prerequisites that are required for the agent installation are met. The prerequisite checker creates a log file that contains a report of all the prerequisites checks when the prerequisite checker was run.

For the Microsoft Exchange Server agent, the prerequisite checker verifies the following requirements:

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

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

Agent-specific installation and configuration

Before configuring the agent to monitor the Exchange Server resources, you must configure the Microsoft Exchange Server to communicate with the Microsoft Exchange Server agent.

To configure the Microsoft Exchange Server to communicate with the Microsoft Exchange Server agent, complete the following tasks:

- "Creating users"
- "Assigning administrator rights to the Microsoft Exchange Server user" on page 16
- "Making the Microsoft Exchange Server user a local administrator" on page 18
- "Creating an MAPI profile for each server" on page 20
- "Configuring the Microsoft Exchange Server for reachability" on page 21
- "Configuring the agent to run under the domain user" on page 22

Creating users

You can create a user for the agent on the Exchange Server manually or by running the *New User* utility. You must create the user on each Microsoft Exchange Server that you want to monitor.

Use one of the following methods to create users:

- "Creating users manually on Exchange Server 2007 and 2010"
- "Creating users manually on Exchange Server 2013" on page 15
- "Creating users by running the New User utility" on page 15

Creating users manually on Exchange Server 2007 and 2010

You must create a user for the agent on Exchange Server 2007 and 2010 so that the agent can communicate and authenticate with the Exchange Server that you want to monitor.

Before you begin

Install the monitoring agent for Microsoft Exchange Server. For information about installing the agent, see "Installing monitoring agents" in the *IBM Tivoli Monitoring Installation and Setup Guide*. To create a user, you must be a domain administrator with full administrator rights on the Microsoft Exchange Server.

About this task

This task provides information about creating a user on Exchange Server 2007. The procedure for creating users on Exchange Server 2010 is similar.

Procedure

To create a user, complete the following steps:

- 1. Click **Start > Programs > Microsoft Exchange Server 2007 > Exchange Management Console**. The Exchange Management Console window opens.
- 2. In the Console tree, click Mailbox in Recipient Configuration.
- 3. In the Action pane, click New Mailbox. The New Mailbox wizard opens.
- 4. On the Introduction page, click User Mailbox.
- 5. On the User Type page, click New User.
- 6. On the User Information page, specify the following information:

Organizational unit

By default, the users container in the Active Directory is displayed. Click **Browse** to change the default organizational unit.

First name

Type the first name of the user.

Initials

Type the initials of the user.

Last name

Type the last name of the user.

Name By default, the user's first name, initials, and last name are displayed in this field. You can modify the name.

User logon name (User Principal Name)

Type the name that the user must use to log on to the mailbox.

User logon name (pre-Windows 2000, or earlier)

Type the user name that is compatible with Microsoft Windows 2000 Server, or earlier.

Password

Type the password that the user must use to log on to the mailbox.

Confirm password

Retype the password that you entered in the Password field.

User must change password at next logon

Select this check box if you want the user to reset the password.

- 7. On the Mailbox Settings page, specify the following information:
 - Alias By default, the value for this field is identical to the value that you specified in the User logon name (User Principal Name) field.

Mailbox database

Click **Browse** to open the Select Mailbox Database window. Select the mailbox database that you want to use and click **OK**.

Managed folder mailbox policy

Select this check box to specify a messaging records management (MRM) policy. Click **Browse** to select the MRM mailbox policy that you want to associate with this mailbox.

Exchange ActiveSync mailbox policy

Select this check box to specify an Exchange ActiveSync mailbox policy. Click **Browse** to select the Exchange ActiveSync mailbox policy that you want to associate with this mailbox.

- **8**. On the New Mailbox page, review the configuration summary. Click **New** to create a mailbox. On the Completion page, the Summary section shows whether the mailbox was created.
- 9. Click Finish.

Results

The user is created.

What to do next

Assign administrator rights to the Exchange user that you created. For information about assigning administrator rights, see "Assigning administrator rights to the Microsoft Exchange Server user" on page 16.

Creating users manually on Exchange Server 2013

You must create a user for the agent on Exchange Server 2013 so that the agent can communicate and authenticate with the server that you want to monitor.

Before you begin

Install the monitoring agent for Microsoft Exchange Server. For information about installing the agent, see "Installing monitoring agents" in the *IBM Tivoli Monitoring Installation and Setup Guide*. To create a user, you must be a domain administrator with full administrator rights on the Microsoft Exchange Server.

Procedure

To create a user on Exchange Server 2013, complete the following steps:

- 1. Log in to the Exchange Admin Center with administrator credentials.
- 2. On the "Exchange admin center", click **recipients** on the upper-left corner of the page, and then click **mailboxes** in the right pane.
- **3**. Click the down arrow next to the plus sign (+) that is located below the **mailboxes** option, and then click **User mailbox**.
- 4. On the "new user mailbox" page, click New user, and specify values for the other fields.
- 5. Click Save.

What to do next

Assign administrator rights to the Exchange user that you created. For information about assigning administrator rights, see "Assigning administrator rights to the Microsoft Exchange Server user" on page 16.

Creating users by running the New User utility

You can run the New User utility to create users on Exchange Server 2007, or later. The user that is created by running this utility has all the required permissions to run the agent. This utility is installed when you install the agent.

Before you begin

Ensure that the agent is installed. To run the New User utility, you must be a domain administrator with full administrator rights on the Exchange Server.

About this task

This task provides information about running the New User utility to create a user on the Exchange Server that you want to monitor. After you run this utility, the user is created in the Users group of the Active Directory, and has the following permissions:

- On Exchange Server 2007:
 - Local administrator
 - Remote desktop user
 - Exchange recipient administrator
 - Exchange view-only administrator
- On Exchange Server 2010, or later:
 - Local administrator
 - Remote desktop user
 - Recipient management
 - View-Only organization management

Procedure

To run the New User utility, complete the following steps:

- 1. Double-click the kexnewuser.exe file that is available at the following locations:
 - CANDLE_HOME \TMAITM6 (for the 32-bit agent)
 - CANDLE_HOME \TMAITM6_x64 (for the 64-bit agent)
- 2. In the New User window, complete the following steps:
 - a. Enter the first name and the last name of the user in the appropriate fields.

Restriction: The length of the first and the last name must not exceed 28 characters.

b. In the User Logon Name field, enter the name that the user must type whenever the user logs in.

Restriction: The length of the user logon name must not exceed 256 characters.

- c. In the Password field, enter your password.
- d. In the Confirm Password field, enter the password again.
- e. Select **User Must Change Password at Next Logon** if you want the specified password to be reset the next time when the user logs on.
- f. Click Next.

The configuration values that you specify are validated, and error messages are displayed for incorrect values.

- **3**. From the list of mailbox databases, select the required mailbox database, and click **Next**. A summary of configuration values is displayed.
- 4. Click Finish. The settings are saved, and the user is created.

What to do next

Create an MAPI profile for each user. For information about creating an MAPI profile, see "Creating an MAPI profile for each server" on page 20.

Assigning administrator rights to the Microsoft Exchange Server user

The user that you created for the Microsoft Exchange Server agent must be a domain administrator with full administrator rights on Microsoft Exchange Server. The administrator rights are required to access the Microsoft Exchange Server components.

Before you begin

Create a Microsoft Exchange Server user who has the mailbox on the Exchange Server that is being monitored.

About this task

Use one of the following methods to assign administrator rights to the user:

- "Assigning administrator rights on Exchange Server 2007"
- "Assigning administrator rights on Exchange Server 2010" on page 17
- "Assigning administrator rights on Exchange Server 2013" on page 18

Assigning administrator rights on Exchange Server 2007

You must assign Exchange Recipient Administrator rights to the user on Exchange Server 2007.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To assign Exchange Recipient Administrator rights to the user on Exchange Server 2007, complete the following steps:

- 1. Click **Start > Programs > Microsoft Exchange Server 2007 > Exchange Management Console**. The Exchange Management Console window opens.
- 2. In the Console tree, click **Organization Configuration**.
- 3. In the Action pane, click Add Exchange Administrator.
- 4. On the Add Exchange Administrator page, click **Browse**. Select the new user that you created, and then select **Exchange Recipient Administrator** role.
- 5. Click Add.
- 6. On the Completion page, click **Finish**.

What to do next

Make the user a local administrator of the computer where the Microsoft Exchange Server is installed. For information about making the user a local administrator, see "Making the Microsoft Exchange Server user a local administrator" on page 18.

Assigning administrator rights on Exchange Server 2010

You must provide Exchange Recipient Management rights to the user on Exchange Server 2010.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To assign Exchange Recipient Management rights to the user on Exchange Server 2010, complete the following steps:

- 1. Click **Start > Programs > Microsoft Exchange Server 2010 > Exchange Management Console**. The Exchange Management Console window opens.
- 2. In the Console tree, click **Toolbox**.
- **3**. In the Work pane, double-click the **Role Based Access Control (RBAC) User Editor** tool. The Exchange Control Panel window opens.
- 4. Enter the user credentials for the account with permissions to open the user editor in the Exchange Control Panel. Click **Sign in**.
- 5. Click the **Administrator Roles** tab.
- 6. Select the **Recipient Management** role group, and then click **Details**.
- 7. In the **Members** area, click **Add**.
- 8. Select the user that you want to add to the role group, and then click OK.
- 9. Click **Save** to save the changes to the role group.

What to do next

Make the user a local administrator of the computer where the Microsoft Exchange Server is installed. For information about making the user a local administrator, see "Making the Microsoft Exchange Server user a local administrator" on page 18.

Assigning administrator rights on Exchange Server 2013

You must provide Exchange Recipient Management rights to the user on Exchange Server 2013.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To assign Exchange Recipient Management rights to the user on Exchange Server 2013, complete the following steps:

- 1. Log in to the Exchange Admin Center with administrator credentials.
- 2. Click Mails > Options > Manage My Organization.
- 3. In the left navigation pane, click **Roles & Auditing**.
- 4. In the right pane, double-click **Recipient Management**.
- 5. On the Recipient Management page, click Add.
- 6. From the list of users, select the user that you want to add to the group, and click **OK**.
- 7. Click Save.

Results

The user is added to the Recipient Management group. All the members of the Recipient Management group have administrator rights.

What to do next

Make the user a local administrator of the computer where the Microsoft Exchange Server is installed. For more information, see "Making the Microsoft Exchange Server user a local administrator."

Making the Microsoft Exchange Server user a local administrator

To access the Microsoft Exchange Server data, the user that you created for the Microsoft Exchange Server agent must be a local administrator of the computer where the Microsoft Exchange Server is installed.

Before you begin

Create a Microsoft Exchange Server user.

About this task

Use one of the following methods to make the user a local administrator:

- "Making the user a local administrator on Windows 2003 computer"
- "Making the user a local administrator on Windows 2008 computer" on page 19
- "Making the user a local administrator on Windows 2012 computer" on page 20

Note: You can make a user a local administrator on a computer by different methods, such as use of group policies. Use the specified methods so that the Tivoli component software functions properly.

Making the user a local administrator on Windows 2003 computer

You must make the user that you created for the Microsoft Exchange Server agent a local administrator of the computer that runs on the Windows 2003 operating system, and where the Microsoft Exchange Server is installed.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To make the user a local administrator on the computer that runs on the Windows 2003 operating system, complete the following steps:

- 1. Right-click **My Computer** on the computer desktop and click **Manage**.
- 2. Expand Local Users and Groups.
- 3. Click Groups.
- 4. Double-click Administrators to display the Administrators Properties window.
- 5. Click Add.
- 6. Select Entire Directory from the Look in list.
- 7. Select the name of the user that you created and click Add.
- 8. Click OK.
- 9. Click OK.

What to do next

Create an MAPI profile for each user. For information about creating an MAPI profile, see "Creating an MAPI profile for each server" on page 20.

Making the user a local administrator on Windows 2008 computer

You must make the user that you created for the Microsoft Exchange Server agent a local administrator of the computer that runs on the Windows Server 2008 operating system, and where the Microsoft Exchange Server is installed.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To make the user a local administrator on the computer that runs on the Windows Server 2008 operating system, complete the following steps:

- 1. Click Start > Administrative Tools > Server Manager.
- 2. In the left pane, expand **Configuration**.
- 3. Double-click Local Users and Groups.
- 4. Click Groups.
- 5. Right-click the group to which you want to add the user account, and then click Add to Group.
- 6. Click **Add** and type the name of the user account.
- 7. Click Check Names and then click OK.

What to do next

Create an MAPI profile for each user. For information about creating an MAPI profile, see "Creating an MAPI profile for each server" on page 20.

Making the user a local administrator on Windows 2012 computer

You must make the user that you created for the Microsoft Exchange Server agent a local administrator of the computer that runs on the Windows Server 2012 operating system and where the Microsoft Exchange Server is installed.

Before you begin

Create a Microsoft Exchange Server user.

Procedure

To make the user a local administrator on the computer that runs on the Windows Server 2012 system, complete the following steps:

- 1. Click Start > Server Manager.
- 2. On the upper-right corner of the "Server Manager dashboard" page, click Tools > Computer Management.
- **3**. In the left navigation pane of the Computer Management page, expand **Local Users and Groups**, and then click **Users**.
- 4. From the users list in the right pane, right-click the user to which you want to assign administrator rights, and click **Properties**.
- 5. Click the **Member Of** tab, and click **Add**.
- 6. On the Select Group page, type Administrators, and then click **OK**.
- 7. Click **Apply** and **OK**.

What to do next

Create an MAPI profile for each user. For information about creating an MAPI profile, see "Creating an MAPI profile for each server."

Creating an MAPI profile for each server

A Messaging Application Programming Interface (MAPI) profile is a set of MAPI configuration settings that are stored in the registry. With an MAPI profile, you can connect to various messaging services, such as Microsoft Exchange Server, Microsoft Outlook, and Outlook Express.

Before you begin

Before you create an MAPI profile, ensure that the following tasks are completed:

- Create a user with administrative rights on each Microsoft Exchange Server that you want to monitor.
- Make the user a local administrator on the computer where the Exchange Server is installed.

About this task

This task provides information about creating an MAPI profile for each Microsoft Exchange Server that you want to monitor.

Note: Do not create an MAPI profile if any of the following conditions is true:

- You are using a 32-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2010, or later.
- You are using a 64-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2007, or later.

Procedure

To create an MAPI profile, complete the following steps:

- 1. Log on to the computer by specifying the credentials of the user that you created.
- 2. Download and install the MFCMAPI editor from the Microsoft supported website (http://www.codeplex.com/MFCMAPI).

To run the Microsoft Exchange Server agent on Microsoft Exchange Server 2007, install MSExchangeMAPIcdo, MAPI and CDO support from the Microsoft supported website (http://www.microsoft.com/downloads/details.aspx?FamilyID=E17E7F31-079A-43A9-BFF2-0A110307611E&displaylang=en).

- 3. Open the MFCMAPI editor.
- 4. Create an MAPI profile.

Note: Specify a name that identifies the purpose of the profile, such as TivoliProfile. Do not use a space in the profile name.

5. Enter the name of the Microsoft Exchange mailbox server for the specified user.

Note: You must create the MAPI profile with the user that you created for the Microsoft Exchange Server agent.

6. Resolve the mailbox name by selecting check names.

Note: Note the profile name because it is required when you configure the Microsoft Exchange Server agent.

Configuring the Microsoft Exchange Server for reachability

To verify reachability, the Microsoft Exchange Server agent sends an email message to the server, and measures the amount of time to receive an automated response. Before you start the agent, you must configure the Microsoft Exchange Server to automatically respond to email messages.

Before you begin

Before you configure the Microsoft Exchange Server, ensure that:

- A mailbox is created for the user on the Microsoft Exchange Server that you want to monitor.
- The user that you created for the agent is a domain user.
- The servers in your Microsoft Exchange organization are configured for mail flow between servers.

About this task

This task provides information about configuring the Microsoft Exchange Server to automatically respond to email messages.

Procedure

Complete the following steps for each Microsoft Exchange Server for which you want to verify reachability:

- 1. Log in to Microsoft Outlook by specifying credentials of the user that you created.
- 2. Click Next on the Startup window.
- 3. Select Yes and click Next.
- 4. In the Microsoft Exchange Server field, type the name of the Microsoft Exchange Server.
- 5. In the Mailbox field, type the name of the user that you created.
- 6. Click **Finish**.

- 7. Click OK.
- 8. Click Tools > Rules and Alerts > New Rule.
- 9. Select Start from a blank rule.
- 10. Select Check messages when they arrive and click Next.
- **11**. Select the following options:
 - Where my name is in the To: box
 - With specific words in the subject or body
- 12. Under Step 2 in the window, click Specific words.
- **13**. In the **Specify words or phrases to search for in the subject or body** field, type AVAILABILITY CHECK.
- 14. Click Add.
- 15. Click OK and then click Next.
- 16. Select Have the server reply using a specific message and click a specific message.
- 17. In the email message editor, type the following text in the subject field of the message: CHECK RECEIVED: MAILBOX AVAILABLE.
- 18. Close the email message editor and click **Yes** to save these changes.
- 19. Click Next.
- 20. When you are asked about exceptions, do not specify any restrictions.
- 21. Click Next.
- 22. Click Finish and then click OK.

What to do next

Configure the Microsoft Exchange Server agent.

Configuring the agent to run under the domain user

By default, the Microsoft Exchange Server agent is configured to run under the local user. The agent must be run under the domain user that you created.

Before you begin

Ensure that the following tasks are complete:

- The user that you created is a domain user with local administrator rights.
- An MAPI profile is created for the user.
- The user has administrator rights on the server where the monitoring agent is installed.

About this task

The domain user that you created has administrator rights on the Exchange Server that you want to monitor. When the agent is run under the domain user, the agent can monitor all the components of the Exchange Server. This task provides information about configuring the monitoring agent to run under the domain user.

Note: You can use the Tivoli Enterprise Portal or the tacmd command line to configure the user under which the agent runs. For information about the configuration parameters that are used when you configure the user for the agent, see "Remote installation and configuration" on page 32. You can also configure the user for the agent by using Windows services for the Microsoft Exchange Server agent.

Procedure

To change the user under which the agent runs, complete the following steps:

- 1. Run the following command to verify which user ID is being used for starting the agent. install_dir\InstallITM\KinCinfo.exe -r
- 2. If the monitoring agent was started with a user ID that does not belong to the Administrator group, stop the agent.
- 3. Open the Manage Tivoli Enterprise Monitoring Services window.
- 4. Right-click the agent instance, and click Change Startup.
- 5. Specify the fully qualified user ID as <Domain\Userid>, and then specify the password.

Note: The user must have administrator rights and must be the owner of the MAPI profile that is used to connect to the Exchange Server.

6. Start the monitoring agent. For information about starting the agent, see "Starting and stopping the Microsoft Exchange Server agent" on page 43.

Local installation and configuration

You can install and configure the Microsoft Exchange Server agent locally.

If you are installing the agent locally, see the "Installing monitoring agents" topic in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Silent installation

If you are performing a silent installation, see the "Performing a silent installation of IBM Tivoli Monitoring" topic in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Local configuration

For configuring the agent locally, see the following topics:

- "Configuring the agent locally"
- "Configuration parameters in the Exchange Server Properties tab" on page 24
- "Configuration parameters in the Exchange Services Monitoring tab" on page 27
- "Configuration parameters in the Advanced Configuration Properties tab" on page 29
- "Validation of configuration values" on page 30

Configuring the agent locally

You can configure the agent locally by using the Manage Tivoli Enterprise Monitoring Services window.

Before you begin

Ensure that you complete all the tasks that are specified in the "Agent-specific installation and configuration" on page 13 topic.

Procedure

To configure the agent locally, complete the following steps:

- 1. Click Start > All Programs > IBM Tivoli Monitoring.
- 2. Click Manage Tivoli Enterprise Monitoring Services.
- **3**. In the Manage Tivoli Enterprise Monitoring Services window, right-click **Monitoring Agent for Microsoft Exchange Server**.

- 4. Click Reconfigure.
- 5. In the Monitoring Agent for Microsoft Exchange Server: Agent Advanced Configuration window, click OK.
- 6. In the Agent Configuration window, complete the following steps:
 - a. Click the **Exchange Server Properties** tab, and specify values for the configuration parameters. When you click **OK**, the specified values are validated.
 - b. Click the **Exchange Services Monitoring** tab, and specify values for the configuration parameters. When you click **OK**, the specified values are validated.
 - c. Click the Advanced Configuration Properties tab, and specify values for the configuration parameters. When you click OK, the specified values are validated.
- 7. Recycle the agent.

Configuration parameters in the Exchange Server Properties tab

The Agent Configuration window for the Microsoft Exchange Server agent contains the **Exchange Server Properties** tab. This tab contains the parameters to configure Exchange Server properties, such as server name, domain name, and user name.

The following figure shows the contents in the Exchange Server Properties tab:

Fxchange Server Properties	
Exchange Server Name	Tivoli_Server
Exchange Domain Name	EXCHHOME
Exchange User Name	Tivoli_User
Exchange User Password	*****
Confirm Password	*****
Exchange MAPI Profile Name	
Cluster Properties	
Configuration in cluster	
Cluster Server Name	
Exchange Subsystem ID	
Exchange Agent Historical Data Directory	

Figure 1. Exchange Server Properties tab

Table 2 on page 26 contains detailed descriptions of the configuration settings in the **Exchange Server Properties** tab.

Parameter name	Description	Mandatory field	Examples
Exchange Server Name	Name of the Exchange Server. During installation of the Exchange Server, the default Exchange Server name is the Windows Server host name. If you change the default Exchange Server name, you must use the changed name when you configure the Exchange Server agent. Note: In clustered and distributed environments, specify the Mailbox Server name for Exchange Server 2007.	Yes Note: Do not specify a value if the agent is installed on a server that has a single copy cluster with more than two nodes.	If the Exchange Server name is popcorn, enter popcorn in the Exchange Server Name field.
Exchange Domain Name	Name of the domain where the Exchange Server is installed.	Yes	If the Exchange Server is in the LAB.XYZ.com domain, enter the name that is to the left of the first dot, for example, LAB.
Exchange User Name	Name of the user who is configured to access the Exchange Server. Note: User must have a mailbox on the same Exchange Server.	Yes	
Exchange User Password	Password of the user who is configured to access the Exchange Server.	Yes	
Confirm Password	Same password that you specify for the Exchange Server user.	Yes	
Exchange MAPI Profile Name	 MAPI profiles are the primary configuration settings that are required for accessing the Exchange Server. For information about creating an MAPI profile, see "Creating an MAPI profile for each server" on page 20. Note: The Exchange MAPI Profile Name field is disabled if any of the following conditions is true: You are using a 32-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2010, or later. You are using a 64-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2007, or later. An MAPI profile must be created with the same user that you specified in the Exchange User Name field. 	No Note: This field is mandatory if reachability monitoring or mailbox detail monitoring is enabled.	
Configuration in cluster	Select this check box if you want to configure the Exchange Server agent in a cluster environment.	Not applicable	
Cluster Server Name	Name of the Cluster Server. This field is enabled when you select the Configuration in cluster check box.	Yes, if the field is enabled.	For example, SCCCluster

Table 2. Names and descriptions of configuration settings in the Exchange Server Properties tab

Parameter name	Description	Mandatory field	Examples
Exchange Subsystem ID	Name of the Cluster Server node. This field is enabled when you select the Configuration in cluster check box.	Yes, if the field is enabled.	For example, node1
Exchange Agent Historical Data Directory	Location on the disk where the historical data is stored. This field is enabled when you select the Configuration in cluster check box.	Yes, if the field is enabled.	For example, c:\history

Table 2. Names and descriptions of configuration settings in the Exchange Server Properties tab (continued)

Configuration parameters in the Exchange Services Monitoring tab

The Agent Configuration window for the Microsoft Exchange Server agent contains the **Exchange Services Monitoring** tab. This tab contains a list of Exchange services that you can select to know the Exchange Server status.

The following figure shows the contents in the **Exchange Services Monitoring** tab:

Systeme Services	Services Coofigured for Server Status
Achange ber vices	Services Contriguied for Server Status
Microsoft Exchange Active Directory Topology S Microsoft Exchange Information Store Microsoft Exchange Mail Submission Microsoft Exchange Monitoring Microsoft Exchange Replication Service Microsoft Exchange Service Host Microsoft Exchange System Attendant Microsoft Exchange Throttling Microsoft Exchange Transport Log Search Microsoft Search	Microsoft Exchange Mailbox Assistants Microsoft Exchange RPC Client Access Microsoft Exchange Search Indexer
	<<
Microsoft Exchange Monitoring Enables calling of Exchange diagnostic cmdlets. This : 2010,	ervice is available on Exchange Server 2007 and

Figure 2. Exchange Services Monitoring tab

Table 3 contains detailed descriptions of the configuration settings in the **Exchange Services Monitoring** tab.

						-	
Table 2	Namac and	docarintianc a	faonfiguration	cottings in th	na Evahanaa	Saniana	Monitoring tak
Table S.	Maines and		Comuuation	seumus m u	ie Excilative	Services	womonitoring lap

Parameter name	Description	Mandatory field
Exchange Services	Select the Exchange services that the Exchange Server agent must monitor from the list of available Exchange services. Note: The list of available services changes according to the Exchange Server version and the roles that you install.	Not applicable
Services Configured for Server Status	The selected services are displayed in this list. The selected services determine the status of the Exchange Server.	Not applicable

Configuration parameters in the Advanced Configuration Properties tab

The Agent Configuration window for the Microsoft Exchange Server agent contains the **Advanced Configuration Properties** tab. This tab contains the parameters related to reachability, such as target email address and reachability interval.

The following figure shows the contents in the **Advanced Configuration Properties** tab: Table 4 on page 30 contains detailed descriptions of the configuration settings in the **Advanced**

1		Advanced Carfin webber Du	aparties.
change Server Properties Exi	change Services Monito	oring Advanced Configuration Pro	opercies
Mailbox Reachability Monitorin	g		
Fnable Mailbox Reachabilit	w Monitoring		
	y moniconing		
Target Email Addresses			
tivoli@ibm.com			
Email Transmission Tehenual	Terr.	Empil Teopomicsion Timosut	
(seconds)	300	(seconds)	60
Mailbox Detail Monitoring			
Enable Mailbox Detail Mon	itorina		
Mailbox Detail Collection Start	17:27:55	Mailbox Detail Collection	86400
TIME		Incerval (seconds)	
Exchange Event Monitoring —			
Event Logs Collection Time	1440	Maximum Number of Events	50
(minutes)	1		1
Collection Telescole			
Collection InterVals	19 <u>10</u>		
Collection Interval (seconds)	120	Exchange Topology Interval (seconds)	300
Message Tracking Collection		(eese had)	
Interval (hours)	1		
			Canad

Figure 3. Advanced Configuration Properties tab

Configuration Properties tab.

Parameter name	Description	Mandatory field
Enable Mailbox Reachability Monitoring	Select this check box if you want the agent to capture the reachability metrics data.	Not applicable
Target Email Address	An email address to verify reachability. Separate multiple email addresses with a semicolon (;). Note: The total number of characters in this field must not exceed 1023.	Yes, if this field is enabled
Email Transmission Interval (seconds)	The waiting time (in seconds) of the Exchange Server agent between sending emails.	Yes, if this field is enabled
Email Transmission Timeout (seconds)	The interval (in seconds) for which the Exchange Server agent waits for a response to the email that was sent to test whether the Mailbox Server is reachable.	No
Enable Mailbox Detail Monitoring	Select this check box to collect data for the mailbox detail metrics.	Not applicable
Mailbox Detail Collection Start time	The time (in hh:mm:ss format) when mailbox detail metrics are collected.	No
Mailbox Detail Collection Interval (seconds)	The interval (in seconds) between collections of mailbox detail metrics.	No
Event Logs Collection Time (minutes)	The duration (in minutes) for which the Exchange Server agent collects event records.	No
Maximum Number of Events	The maximum count up to which event records are collected. The collection of event records stops when the number of collected event records exceeds the maximum count.	No
Collection Interval (seconds)	The interval (in seconds) between the Exchange Server agent cycles.	No
Exchange Topology Interval (seconds)	The interval (in seconds) between collections of topology detail information.	No
Message Tracking Collection Interval (hours)	 The interval (in hours) for which the message tracking logs are collected. Note: The interval value must be in the range 1 - 12. If you specify the interval value that is greater than 12, the value is saved as 12. If you enter an invalid value that contains alphabets or special characters, the value is saved as 0. The value of 0 indicates that the message tracking collection is disabled. This field is disabled if any of the following conditions is true: The Mailbox Server role, Hub Transport role, or Edge Transport role is not installed on the Exchange Server. The message tracking feature is disabled on the Exchange Server. 	No

Table 4. Names and descriptions of configuration settings in the Advanced Configuration Properties tab

Validation of configuration values

The values that you specify for configuring the agent are validated. The validation ensures that the values are specified for all the mandatory parameters and certain conditions are met, such as local administrator rights for the user.

Table 5 shows the validation tests that are performed on the specified configuration values.

Table 5. Validation tests

Validation test	Verifies
Exchange Server Name	Whether the Mailbox Server name of the user matches with the specified Exchange Server name.

Table 5. Validation tests (continued)

Validation test	Verifies
Exchange Server Rights	Whether the user has the required Exchange Server rights. On Exchange Server 2007, the user must have recipient administrator rights, and on Exchange Server 2010 and 2013, the user must have recipient management rights.
Local Admin	Whether the user has local administrator rights.
MAPI Profile	Whether the specified MAPI profile is available.
Agent Service Logon	Whether the agent service is configured to run with the specified user account.

If any of the specified validation tests fails, an error message is generated. Figure 1 shows the validation message that is generated when the Agent Service Logon validation test fails.

Name	Message
Agent Service Logon	The specified user is different than the user that is configured to ru
11-1:J-1:	itinal and the second second stand state second to second the second state
Validation of the spec configuration values, configuration values.	ified configuration values has failed. Click Continue to save the specified or click Cancel to view the Agent Configuration window, and then modify the
Validation of the spec configuration values, configuration values.	ified configuration values has failed. Click Continue to save the specified or click Cancel to view the Agent Configuration window, and then modify the

Figure 4. Message displayed when the Agent Server Logon validation fails

You must specify values for all the mandatory parameters. Otherwise, you cannot save the configured values. Figure 2 shows the validation message that is generated when you leave the **Exchange User Name** field blank.

Name	Message	
Exchange User Name	The Exchange user name cannot be blank.	
These verifications m	ust be passed to ensure normal functioning of the agent.	
mese venneadons me		

Figure 5. Message displayed when the Exchange user name is not specified

Remote installation and configuration

You can install and configure the agent remotely by using the Tivoli Enterprise Portal or tacmd command line.

For information about installing and configuring the agent remotely, see the "Deploying non-OS agents" topic in the *IBM Tivoli Monitoring Installation and Setup Guide*. For information about the configuration parameters, see the following topics:

- "Remote configuration parameters" on page 33
- "Validation of remotely configured values" on page 39

Tivoli Enterprise Portal

To deploy the monitoring agent remotely by using the Tivoli Enterprise Portal, use the "Deploying through the portal" procedure in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Also, use the agent-specific configuration information in the "Remote configuration parameters" on page 33.

tacmd command line

To deploy this monitoring agent remotely by using the command line, use the "Deploying through the command line" procedure in the *IBM Tivoli Monitoring Installation and Setup Guide*. Also, use the agent-specific configuration information in "Remote configuration parameters" on page 33 for the **tacmd addSystem** command. The *IBM Tivoli Monitoring Command Reference* has complete information about the **tacmd addSystem** command.

Use the **-t** or **--type TYPE** parameter to specify the Microsoft Exchange Server agent that you are configuring: EX.

Specify the properties with the -p or -property option.

For example:

```
tacmd addSystem -t EX -n Primary:myhostname:NT -p
EXCHSETTINGS.exchange server=ESservername
EXCHSETTINGS.exchange reach enable=1
EXCHSETTINGS.exchange_password=itm@123
EXCHSETTINGS.exchange reach threshold=60
EXCHSETTINGS.exchange mailbox runtime=02:00:00
EXCHSETTINGS.exchange user=tivoliuser
EXCHSETTINGS.exchange interval=120
EXCHSETTINGS.exchange targets=us2k3x2k3@ibm.com
EXCHSETTINGS.exchange profile=TivoliMapiProfile
EXCHSETTINGS.exchange domain=LAB
EXCHSETTINGS.exchange reach interval=600
EXCHSETTINGS.exchange_mailbox_interval=1800
EXCHSETTINGS.exchange mailbox enable=1
EXCHSETTINGS.exchange topology interval=300
EXCHSETTINGS.exchange message tracking interval=0
SERVICESSETTINGS.exch_service_conncont=1
SERVICESSETTINGS.exch service lotus=1
SERVICESSETTINGS.exch service event=0
SERVICESSETTINGS.exch_service_imap=0
CLUSTERSETTINGS.exch cluster server= mbxserver
CLUSTERSETTINGS.exch_history=C:\History
CLUSTERSETTINGS.exch subsystem=CCRNode1
_WIN32_STARTUP_.Username=domain\justin
_WIN32_STARTUP_.Password=lotus150#
```

If you want to select a service, specify the following value: SERVICESETTINGS.*ServiceID*=1. If you want to remove a service that is already selected, specify the following value: SERVICESETTINGS.*ServiceID*=0.

The parameters in the example are shown on separate lines for clarity. When you type the command, type all of the parameters on one line.

The **configureSystem** command is used to configure the agent. For more information about using this command, see *IBM Tivoli Monitoring Command Reference Guide*.

When you configure the agent, specify the property that you want to change and the INSTANCE property.

Remote configuration parameters

You must specify values for the configuration parameters when you configure the agent remotely by using the command line or Tivoli Enterprise Portal.

Note: Before you configure the agent remotely, ensure that you complete all the tasks that are specified in the "Agent-specific installation and configuration" on page 13 topic. Table 6 on page 34 contains descriptions of configuration parameters for each of the interfaces.

Table 6. Names and	descriptions of	f configuration	settings for	r remote configuration
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Interfaces where configuration settings are specified			
Tivoli Enterprise Portal	tacmd command line	Description	Examples
Exchange Server Name ¹	EXCHSETTINGS.exchange _server	Name of the Exchange Server. During installation of the Exchange Server, the default Exchange Server name is the Windows Server host name. If you change the default Exchange Server name, you must use the changed name when configuring the Exchange Server agent. Note: In clustered and distributed environments, provide the Mailbox Server name for Exchange Server 2007.	If the Exchange Server name is popcorn, enter popcorn in the Exchange Server name field.
Exchange Domain Name ¹	EXCHSETTINGS.exchange _domain	Name of the domain where the Exchange Server is located.	If the Exchange Server is located in domain LAB.XYZ.com, enter the name that is to the <i>left</i> of the first dot, for example, LAB.
Exchange User Name ¹	EXCHSETTINGS.exchange _user	Name of the user who is configured to access the Exchange Server. Note: User must have a mailbox on the same Exchange Server.	
Exchange User Password ¹	EXCHSETTINGS.exchange _password	Password of the user who is configured to access the Exchange Server.	
Exchange MAPI Profile Name ¹	EXCHSETTINGS.exchange _profile does not apply	 MAPI profiles are the primary configuration settings that are required for accessing the Exchange Server. See "Creating an MAPI profile for each server" on page 20 for more information. Note: The Exchange MAPI Profile Name field is disabled if any of the following conditions is true: You are using a 32-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2007 and 2010. The MAPI profile must be created with the same user that you specified in the Exchange 	

Interfaces where of specified	configuration settings are		
Tivoli Enterprise Portal	tacmd command line	Description	Examples
Enable Mailbox Reachability Monitoring	EXCHSETTINGS.exchange _reach_enable	 This setting enables or disables the collection of reachability metrics. The following settings are used: 0 = Disabled 1 = Enabled 	 To enable reachability: On the Tivoli Enterprise Portal, select Yes. On the command line, specify EXCHSETTINGS.exchange_reachenable=1
Target Email Address ¹	EXCHSETTINGS.exchange _targets	An email address to verify reachability. Separate multiple email addresses with a semicolon (;). Note: Total number of characters in this field must not exceed 1023.	Use the following format for specifying multiple email addresses: john@ibm.com;jim@ibm.com
Email Transmission Interval (seconds) ¹	EXCHSETTINGS.exchange _reach_interval	The waiting time (in seconds) of the Exchange Server agent between sending emails. Note: If you specify the interval in the range 0 - 300, the value is changed to 300.	
Exchange Transmission Timeout (seconds) ¹	EXCHSETTINGS.exchange _reach_threshold	The interval (in seconds) for which the Exchange Server agent waits for a response to the email that was sent to test whether the Mailbox Server is reachable. Note: If you specify the interval in the range 0 - 60, the value is changed to 60.	
Enable Mailbox Detail Monitoring	EXCHSETTINGS.exchange _mailbox_enable	 This enables or disables the collection of mailbox detail metrics. The following settings are used: 0 = Disabled 1 = Enabled 	 To enable mailbox details: On the Tivoli Enterprise Portal, select yes. On the command line, specify EXCHSETTINGS.exchange_mailbox_enable=1
Mailbox Detail Collection Start Time ¹	EXCHSETTINGS.exchange _mailbox_runtime	The time (in hh:mm:ss format) when mailbox detail metrics are collected. The hours are based on the 24-hour clock format.	For example: 02:30:00 30 minutes past 2 AM. 14:30:00 30 minutes past 2 PM.
Mailbox Detail Collection Interval (seconds)	EXCHSETTINGS.exchange _mailboxinterval	The interval (in seconds) between collections of mailbox detail metrics. Note: If you specify the interval in the range 0 - 1800, the value is changed to 1800.	
Event Logs Collection Time (minutes)	EXCHSETTINGS.exchange _event_interval	The interval (in minutes) for which the Exchange Server agent collects event records. Note: A value 0 is saved as 1440.	

Table 6. Names and descriptions of configuration settings for remote configuration (continued)

	Table 6. Na	ames and	descriptions of	of configuration	settings for	remote configuration	(continued)
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Interfaces where configuration settings are specified			
Tivoli Enterprise Portal	tacmd command line	Description	Examples
Maximum Number of Events	EXCHSETTINGS.exchange _event_count	The maximum count up to which event records are collected. The collection of event records is stopped when the number of collected event records exceeds the maximum count. Note: A value 0 is saved as 50.	
Collection Interval (seconds) ¹	EXCHSETTINGS.exchange _interval	The interval (in seconds) between the Exchange Server agent cycles. Note: If you specify the interval in the range 0 - 120, the value is changed to 120.	
Exchange Topology Interval (seconds)	EXCHSETTINGS.exchange _topology_interval	The interval (in seconds) between collections of topology detail information. Note: The agent does not collect information if you specify θ for the interval. If you specify an interval in the range 1 - 300, the value is changed to 300, which is the default collection interval. Any value that is greater than 300 is used as it is.	
Message Tracking Collection Interval (hours)	EXCHSETTINGS.exchange _message_tracking_ interval	 The interval (in hours) for which the message tracking logs are collected. Note: The interval value must be in the range 1 - 12. If you specify the interval value that is greater than 12, the value is saved as 12. If you enter an invalid value that contains alphabets or special characters, the value is saved as 0. The value of 0 indicates that the message tracking collection is disabled. This field is disabled if any of the following conditions is true: The Mailbox, Hub Transport, or Edge Transport role is not installed on the Exchange Server. The message tracking feature is disabled on the Exchange Server. 	

Interfaces where of specified	configuration settings are		
Tivoli Enterprise Portal	tacmd command line	Description	Examples
Use this account ² If selecting this option complete the following fields as described:	_WIN32_STARTUP Username and_WIN32_STARTUP Password	For more information see "Configuring the agent to run under the domain user" on page 22.	
• Account: ID under which the agent instance is to run			
• Password and Confirm password: password			
Exchange Services Monitoring	SERVICESSETTINGS.exch _service_is, SERVICESSETTINGS.exch _service_sa, SERVICESSETTINGS.exch _service_search, SERVICESSETTINGS.exch _service_adts,	 Exchange Windows services to be monitored to determine the server status (Up or Down). Select any of the following Windows services that the Exchange agent monitors to determine if Microsoft Exchange Server is active: Microsoft Exchange Information Store Microsoft Exchange System Attendant Microsoft Search Microsoft Exchange Active Directory Topology Service Microsoft Exchange Anti-spam Update Microsoft Exchange EdgeSync 	To select a service, specify: SERVICESSETTINGS.exch_service _conncont=1 To remove a selected service, specify: SERVICESSETTINGS.exch_service _conncont=0
		(Continued on next page)	

Table 6. Names and descriptions of configuration settings for remote configuration (continued)

Table 6. Names and descriptions of configuration settings for remote configuration (continued)

Tivoli Enterprise Portaltacmd command lineDescriptionExamplesExchange Services Monitoring (Continued)SERVICESSETTINGS.exch service_adgesync, SERVICESSETTINGS.exch service_fd, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_mailsub, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_rep, SERVICESSETTINGS.exch service_si, SERVICESSETTINGS.exch service_servhost,ObscriptionExamplesExamplesContinued)Microsoft Exchange Mail SubmissionMicrosoft Exchange Mailbox AssistantsMicrosoft Exchange MonitoringMicrosoft Exchange Monitoring serviceMicrosoft Exchange Replication ServiceMicrosoft Exchange Search IndexerMicrosoft Exchange Service HostMicrosoft Exchange Service HostMicrosoft Exchange Transport	Interfaces where configuration settings are specified			
Portaltacmd command lineDescriptionExamplesExchangeSERVICESSETTINGS.exch(Continued)Services.service_asu,MonitoringSERVICESSETTINGS.exch(Continued).service_edgesync,SERVICESSETTINGS.exch.service_fd,Service_mailsub,.service_mailsub,SERVICESSETTINGS.exch.service_mailassist,SERVICESSETTINGS.exch.service_mailassist,SERVICESSETTINGS.exch.service_monitor,SERVICESSETTINGS.exch.service_rep,SERVICESSETTINGS.exch.service_rep,SERVICESSETTINGS.exch.service_rep,SERVICESSETTINGS.exch.service_rep,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_si,SERVICESSETTINGS.exch.service_	oli Enterprise			
ExchangeSERVICESSETTINGS.exch .service_asu, Monitoring(Continued)MonitoringSERVICESSETTINGS.exch .service_fd, SERVICESSETTINGS.exch .service_mailsub, SERVICESSETTINGS.exch .service_mailassist, SERVICESSETTINGS.exch .service_mailassist, SERVICESSETTINGS.exch .service_monitor, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_rep, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_servhost,(Continued)Microsoft Exchange Mail SubmissionMicrosoft Exchange Mailbox AssistantsMicrosoft Exchange Monitoring .service .service_rep, SERVICESSETTINGS.exch .service_si, SERVICESSETTINGS.exch .service_servhost,	rtal tacmo	amd command line	Description	Examples
SERVICESSETTINGS.exch _service_transport, SERVICESSETTINGS.exch _service_dadbook, SERVICESSETTINGS.exch _service_dadbook, SERVICESSETTINGS.exch _service_fbauth, SERVICESSETTINGS.exch _service_mailboxrep, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_protservhost, SERVICESSETTINGS.exch _service_rpcclient access, SERVICESSETTINGS.exch _service_rpclient access, SERVICESSETTINGS.exch _service_rpclient access, SERVICESSETTINGS.exch _service_rpclient access, SERVICESSETTINGS.exch• Microsoft Exchange Address Book • Microsoft Exchange Mailbox Replication • Microsoft Exchange Protected Service Host • Microsoft Exchange RPC Client Access • Microsoft Exchange Throttling	change SERVI vices _serv onitoring SERVI ontinued) _serv SERVI	RVICESSETTINGS.exch ervice_asu, RVICESSETTINGS.exch ervice_edgesync, RVICESSETTINGS.exch ervice_fd, RVICESSETTINGS.exch ervice_mailsub, RVICESSETTINGS.exch ervice_mailassist, RVICESSETTINGS.exch ervice_monitor, RVICESSETTINGS.exch ervice_rep, RVICESSETTINGS.exch ervice_si, RVICESSETTINGS.exch ervice_si, RVICESSETTINGS.exch ervice_transport, RVICESSETTINGS.exch ervice_translog, RVICESSETTINGS.exch ervice_fbauth, RVICESSETTINGS.exch ervice_fbauth, RVICESSETTINGS.exch ervice_mailboxrep, RVICESSETTINGS.exch ervice_mailboxrep, RVICESSETTINGS.exch ervice_protservhost, RVICESSETTINGS.exch ervice_rpclient cess, RVICESSETTINGS.exch	 (Continued) Microsoft Exchange File Distribution Microsoft Exchange Mail Submission Microsoft Exchange Mailbox Assistants Microsoft Exchange Monitoring Microsoft Exchange Replication Service Microsoft Exchange Search Indexer Microsoft Exchange Search Indexer Microsoft Exchange Service Host Microsoft Exchange Transport Log Search Microsoft Exchange Transport Log Search Microsoft Exchange Address Book Microsoft Exchange Protected Service Microsoft Exchange Mailbox Replication Microsoft Exchange Protected Service Host Microsoft Exchange RPC Client Access Microsoft Exchange Throttling 	

Table 6. Names and descriptions of configuration settings for remote configuration (continued)

Interfaces where of specified	configuration settings are		
Tivoli Enterprise Portal	tacmd command line	Description	Examples
Cluster Properties	CLUSTERSETTINGS.exch _cluster_server, CLUSTERSETTINGS.exch _history, CLUSTERSETTINGS.exch _subsystem	 The cluster environment for the agent. The following settings are used: Cluster Server Name = Name of the Exchange Cluster Server Exchange Agent History Data Directory = Directory to store historical data of the Microsoft Exchange Server (if the history for Microsoft Exchange Server is configured to be stored at the monitoring agent) Exchange Subsystem ID = Name of the Cluster Server node. Note: The cluster environment settings are mandatory if you specify a value for any of the cluster parameters. For Exchange Server 2010, do not specify any value in these fields. 	 For example: Cluster Server name = SCCCluster Exchange Agent History Data Directory = c:\history Exchange Subsystem ID = node1

Validation of remotely configured values

When you configure the agent remotely, the configuration values that you specify are validated. The validation ensures that the values are specified for all the mandatory parameters.

The validation results are stored in a log file that is saved at the following locations on the Exchange Server where the agent is installed:

- ibm\itm\tmaitm6\logs (for the 32-bit agent)
- ibm\itm\tmaitm6_x64\logs (for the 64-bit agent)

The agent configuration fails if any of the mandatory parameters are not configured. For information about mandatory parameters, see "Local installation and configuration" on page 23.

When the agent configuration fails, the appropriate error message is displayed on the Tivoli Enterprise Portal or on the tacmd command line in the following format:

validation_test_name:error_message

The message is also saved in the log file in the same format. The name of log file has the following format:

kexconfig_hostname_timestamp.log

All the mandatory parameters are validated sequentially, and only one error code and message is displayed on the portal at a time. For example, if more than one mandatory parameters are not configured, the error code and the message for the first mandatory parameter is displayed on the portal. If all the mandatory parameters are configured, the other optional parameters are validated and the agent is configured. A confirmation message about the agent configuration is displayed on the portal.

You can view the log file to see the invalid configuration values. You can again configure the agent with correct configuration values.

Exchange services

The Microsoft Exchange Server provides services for each server role. You can view the services for each server role in the Exchange Configuration panel.

Table 7 provides the services for Exchange Server 2007 and 2010 and the required roles for these services.

Table 7. Exchange services in Microsoft Exchange Server 2007 and 2010

Microsoft Exchange services	Server roles
MSExchangeADTopology	 Client Access role Mailbox role Unified Messaging role Hub Transport role
MSExchangeFDS	Client Access roleUnified Messaging role
MSExchangeServiceHost	Client Access roleHub Transport role
MSExchangeTransport	Hub Transport roleEdge Transport role
MSExchangeAntispamUpdate	 Edge Transport role Hub Transport role
ADAM_MSExchange	Edge Transport role
EdgeCredentialSvc	Edge Transport role
MSExchangeMailboxAssistants	Mailbox role
MSExchangeMailSubmission	Mailbox role
MSExchangeRepl	Mailbox role
MSExchangeSearch	Mailbox roleHub Transport role
MSExchangeSA	Mailbox role
W3Svc	All roles
MSSpeechService	Unified Messaging role
MSExchangeUM	Unified Messaging role
MSExchangeEdgeSync	Hub Transport role
MSExchangeTransportLogSearch	 Hub Transport role Mailbox role Edge Transport role
MSExchangeMonitoring	All roles
MSExchangePOP3	Client Access role
MSExchangeIMAP4	Client Access role

Table 8 on page 41 provides the services for Exchange Server 2010 and the required roles for these services.

Table 8. Exchange services in Microsoft Exchange Server 2010

Microsoft Exchange services	Server Roles
MSExchangeAB	Client Access role
MSExchangeFBA	Client Access role
MSExchangeMailboxReplication	Client Access role
MSExchangeProtectedServiceHost	Client Access roleHub Transport role
MSExchangeRPC	Client Access roleMailbox role
MSExchangeThrottling	• Mailbox role

Table 9 provides the services for Microsoft Exchange Server 2013 and the required roles for these services.

Note: In Exchange Server 2013, the Mailbox Server role includes the Hub Transport role and the Unified Messaging role.

Microsoft Exchange services	Server roles
MSExchangeAntispamUpdate	Mailbox Server role
MSExchangeADTopology	All roles
MSExchangeEdgeSync	Mailbox Server role
IISAdmin	All roles
MSExchangeIMAP4	Client Access Server role
MSExchangeIS	Mailbox Server role
MSExchangeMailboxAssistants	Mailbox Server role
MSExchangeRepl	Mailbox Server role
MSExchangeMonitoring	All roles
MSExchangePOP3	Client Access Server role
MSExchangeServiceHost	All roles
MSExchangeTransport	Mailbox Server role
MSExchangeTransportLogSearch	Mailbox Server role
MSExchangeUM	Mailbox Server role
W3Svc	All roles
MSExchangeMailboxReplication	Mailbox Server role
MSExchangeRPC	Mailbox Server role
MSExchangeThrottling	Mailbox Server role
MSExchangeDiagnostics	All roles
MSExchangeFrontEndTransport	Client Access Server role
MSExchangeHM	All roles
MSExchangeIMAP4BE	Mailbox Server role
MSExchangeDelivery	Mailbox Server role
MSExchangeSubmission	Mailbox Server role

 Table 9. Exchange services in Microsoft Exchange Server 2013

Table 9. Exchange services in Microsoft Exchange Server 2013 (continued)

Microsoft Exchange services	Server roles
MSExchangePOP3BE	Mailbox Server role
MSExchangeFastSearch	Mailbox Server role
HostControllerService	Client Access Server role
Wsbexchange	Mailbox Server role
MSExchangeUMCR	Client Access Server role
SearchExchangeTracing	All roles
FMS	Mailbox Server role

Note: If you do not select a specific service in the Agent Configuration panel, the Microsoft Exchange Server agent monitors all services that are available in Microsoft Exchange Server 2007, or later.

Attribute groups affected by configuration parameters and environment variables

When you configure the agent, some of the attribute groups are affected.

Table 10 provides information about the attribute groups that are affected by each configuration parameter, and the agent behavior when values are not specified for the parameters.

Table 10. Effect of configuration parameters on attributes

Parameter	Affected attribute group	Agent behavior when parameter value is not specified
Exchange Agent Interval	MS Exchange IS Public, MS Exchange IS Private	Default value of 2 minutes is used.
Exchange Server Name	Mailbox Detail, Reachability, Public Folder Detail	No attribute data is returned.
Exchange Domain Name	Mailbox Detail, Reachability, Public Folder Detail, Role Based Topology	No attribute data is returned.
Exchange User Name Exchange User Password	Mailbox Detail, Reachability, Public Folder Detail, MAPI Connectivity Detail	No attribute data is returned.
Exchange MAPI Profile Name	Mailbox Detail, Reachability, Public Folder Detail, MAPI Connectivity Detail	 No attribute data is returned. Note: Do not specify a value in the Exchange MAPI Profile Name field if any of the following conditions is true: You are using a 32-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2010, or later. You are using a 64-bit Microsoft Exchange Server agent to monitor Microsoft Exchange Server 2007, or later.
Enable Mailbox Reachability Monitoring	Reachability	Reachability is considered as disabled.
Target E-mail Addresses	Reachability	No attribute data is returned.

Parameter	Affected attribute group	Agent behavior when parameter value is not specified
Email Transmission Interval (seconds)	Reachability	Default value of 300 seconds is used.
Email Transmission Timeout (seconds)	Reachability	Default value of 60 seconds is used.
Enable Mailbox Detail Monitoring	Mailbox Detail	Mailbox detail monitoring is considered as disabled.
Mailbox Detail Collection Start Time	Mailbox Detail	No attribute data is returned if the value is not updated after you start the agent.
Mailbox Detail Collection Interval (seconds)	Mailbox Detail	Default value of 86400 seconds is used.
Event Logs Collection Time (minutes)	Event Details	Default value of 1440 minutes is used.
Maximum Number of Events	Event Details	Default value of 50 is used.
Exchange Topology Interval (seconds)	Role Based Topology	Default value of 300 seconds is used.
Message Tracking Collection Interval (hours)	Email Statistics, Non Delivery Report, Oversized Email Count, Oversized Email Detail	No attribute data is returned.
Exchange Services Monitoring	MS Exchange Server	For default settings and monitored services, see the description of the Server Status attribute in the "Attributes reference" chapter of the <i>Microsoft Exchange Server Agent V6.3.1</i> <i>Reference Guide.</i>
Cluster Properties	All attribute groups	The agent does not work as a cluster resource.

Table 10. Effect of configuration parameters on attributes (continued)

Table 11 provides information about the attribute groups that are affected by each environment variable, and the agent behavior when values are not specified for the environment variables.

Table 11. Effect of environment variables on attributes

Environment variable	Affected attribute group	Agent behavior when environment variable value is not specified
KEX_EMAIL_SIZE Note: Set the value of this environment variable greater than 4 and then restart the agent.	Oversized Email Count, Oversized Email Detail	No attribute data is returned.

Starting and stopping the Microsoft Exchange Server agent

You can start and stop the Microsoft Exchange Server agent locally or remotely.

Table 12 shows the interfaces that you can use on Windows operating systems to start or stop the monitoring agent locally or remotely.

Table 12. Interfaces for starting and stopping the Microsoft Exchange Server agent locally and remotely

Local	Remote	
Manage Tivoli Enterprise Monitoring Services	• Tivoli Enterprise Portal	
• tacmd startAgent	• tacmd startAgent	
• tacmd stopAgent	• tacmd stopAgent	
• tacmd restartAgent	 tacmd restartAgent 	

For information about starting and stopping the agent, see the following topics:

- "Starting the agent from the Manage Tivoli Enterprise Monitoring Services window"
- "Tivoli Enterprise Portal"
- "tacmd command line"

Starting the agent from the Manage Tivoli Enterprise Monitoring Services window

You can start and stop the Microsoft Exchange Server agent from the Manage Tivoli Enterprise Monitoring Services window.

Procedure

To start the Microsoft Exchange Server agent from the Manage Tivoli Enterprise Monitoring Services window, complete the following steps:

- 1. Click Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Enterprise Monitoring Services.
- 2. In the Manage Tivoli Enterprise Monitoring Services window, right-click the instance of the Microsoft Exchange Server agent, and click **Start**. Similarly, you can stop the agent.

Tivoli Enterprise Portal

You can use the Tivoli Enterprise Portal to start and stop the Microsoft Exchange Server agent.

For more information, see the "Starting and stopping components" topic in the *IBM Tivoli Monitoring Installation and Setup Guide*.

tacmd command line

You can use the tacmd command line to start and stop the Microsoft Exchange Server agent.

In the following examples, the **tacmd** command is used to start, stop, or restart the Microsoft Exchange Server instance named Primary. The instance is on a Windows system where *myhostname* is the short host name for the system where the monitoring agent is running:

- Local
 - tacmd startAgent -t ex
 - tacmd stopAgent -t ex
 - tacmd restartAgent -t ex
- Remote
 - tacmd stopagent -t ex -n Primary:myhostname:NT
 - tacmd startagent -t ex -n Primary:myhostname:NT
 - tacmd restartagent -t ex -n Primary:myhostname:NT

For information about using the tacmd commands, see the IBM Tivoli Monitoring Command Reference.

Microsoft Exchange Server agent in a cluster environment

You can configure the Microsoft Exchange Server agent in a cluster environment.

The Microsoft Exchange Server agent can be configured in any of the following cluster environments:

- Single Copy Cluster (SCC)
- Cluster Continuous Replication (CCR)
- Local Continuous Replication (LCR)
- Standby Continuous Replication (SCR)
- Database Availability Group (DAG) for Exchange Server 2010, or later

Information in this topic is specific to configuring the Exchange Server agent in the SCC and CCR cluster environments.

To configure the agent in the cluster environment, complete the following tasks:

- Install the agent on each node in the cluster.
- Change the startup type for the agent to manual.
- Add the agent as a cluster resource.
- Configure the cluster parameters.

When the resources are moved from node to node, the server down situation event is triggered. This event is triggered because the Microsoft Exchange Server agent comes online faster than the Exchange Server. When the Exchange Server comes online, the server down event is cleared.

Note: When the agent is configured in a cluster environment, do not use Start and Stop Take Action commands because the use of these commands conflicts with the actions performed by the Cluster Server.

For more information about clustering, see IBM Tivoli Monitoring Installation and Setup Guide.

Setting up the agent startup as manual

Set the **startup** parameter for the agent to manual so that the cluster resource can start or stop the agent.

Procedure

To configure the **startup** parameter, complete the following steps:

- 1. Click Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Enterprise Monitoring Services.
- 2. In the Manage Tivoli Enterprise Monitoring Services window, right-click the instance of the Microsoft Exchange Server agent, and click **Change Startup**.
- 3. In the Service Startup for Microsoft Exchange Server agent window, select Manual.
- 4. Click OK.

Addition of the agent service as a resource

You must add the agent service as a resource in the cluster. You can start or stop the agent by using the cluster administrator after you add the agent service as a resource.

The cluster resource that you create for the agent service must be associated with the same cluster resource group that controls the Microsoft Exchange Server instance. For information about adding the agent service as a resource, see the following topics:

- "Adding the agent service as a resource in the Windows 2003 cluster" on page 46
- "Adding the agent service as a resource in the Windows 2008 cluster" on page 46

Adding the agent service as a resource in the Windows 2003 cluster

You must add the agent service as a resource in the Windows 2003 cluster.

Before you begin

Ensure that the following tasks are completed:

- Set up the cluster.
- Install the Exchange Server agent on each node in the cluster.

Procedure

To add the agent service as a resource in Windows 2003 cluster, complete the following steps:

- 1. Open the Cluster Administrator window.
- 2. Right-click the resource group that is created for the agent, and click New > Resource.
- 3. In the New Resource window, complete the following steps:
 - a. In the Name field, type a resource name.
 - b. In the **Description** field, specify a description for the resource.
 - c. From the **Resource Type** list, select **Generic Service**.
 - d. Click Next.
- 4. In the **Modify Possible Owners** window, select all the nodes from the **Available nodes** list and click the arrow to move the nodes to the **Possible owners** list.
- 5. In the **Dependencies** window, do not select any dependencies, and click **Next**.
- 6. Specify the service name as kexcma_Primary.
- 7. Retain the default settings in all the other windows, and click **Finish** in the Summary window. The agent service is added as a resource.
- 8. Right-click Monitoring Agent for Microsoft Exchange Server, and click Bring Resource Online.

Adding the agent service as a resource in the Windows 2008 cluster

You must add the agent service as a cluster resource in the Windows 2008 cluster.

Before you begin

Ensure that you complete the following tasks:

- Set up the cluster.
- Install the Exchange Server agent on each node in the cluster.

Procedure

To add the agent service as a resource in the Windows Server 2008 cluster, complete the following steps:

- 1. Open the Failover Cluster Management window.
- 2. In the left pane, right-click **Services and Applications**, and then 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 Exchange 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 Exchange Server and click Bring Resource Online.

Adding the VB script as a resource

You must add the customized VB script as a resource in the cluster. This VB script is used for configuring the cluster parameters in the SCC cluster environment with more than two nodes.

Before you begin

The shared disk on each active node in the cluster must contain this script, and the name of all the scripts must be the same.

Procedure

To add the VB script as a resource, complete the following steps:

- 1. Click Start > Admin Tools > Cluster Administrator.
- 2. Right-click the agent resource group, and click New > Resource.
- 3. Select Generic Script as a resource type, and specify a name for the resource.
- 4. Do not specify any owners for the resource, and click Next.
- 5. Select the shared disk as a dependency, and click **Next**.
- 6. Specify the path of the script on the shared disk of the Exchange Server.
- 7. Click Finish.
- 8. Right-click the resource, and click Bring Resource Online.

Results

The script is run and the cluster parameters are configured. Also, the agent is started on the current active node in the cluster.

Configuration of cluster parameters

You must configure the cluster parameters so that the agent works in the SCC and CCR cluster environments.

Before you configure the cluster parameters, ensure that you complete the following tasks:

- Install and configure the Microsoft Exchange Server agent on each node in the cluster.
- Add the agent service and the script as cluster resources.
- Change the startup parameter for the agent to manual.

You can configure the following cluster parameters:

Cluster Server name

The name of the Cluster Server. This name must be same for each node in the cluster.

Exchange subsystem ID

The name of the Cluster Server node.

Exchange agent history directory

The location to store historical data files. If the historical data is stored at the Tivoli Enterprise Monitoring Server, you can ignore this parameter. However, it is recommended that you do not store the history at the Tivoli Enterprise Monitoring Server.

Note: The directory that you select for storing historical data must be on a local drive or a shared physical disk. Shared directory or mapped drives are not supported for this parameter.

For information about configuring cluster parameters, see "Local installation and configuration" on page 23. A VB script is used for configuring the cluster parameters in the SCC cluster environment with more than two nodes. The same VB script is used for configuring the cluster parameters of the agent on each

node. Before you use the VB script for configuring the cluster parameters, ensure that no value is specified for the cluster parameters, and the VB script is added as a resource in the cluster. For information about adding the VB script as a resource, see "Adding the VB script as a resource" on page 47.

Before you run the VB script, you must update the values of the following variables in the VB script:

- *strCluster* The name of the cluster.
- *strSubSystemID* The host name of the active node.
- *strHistDir* The history directory location on the shared disk.

The VB script is the agent configuration utility. When the agent configuration utility is used to configure cluster parameters, the utility stops the monitoring agent. In a cluster environment, the agent service that is added as a cluster resource controls the starting and stopping of the Exchange Server agent. When an agent is configured in a cluster environment, you must preferably start or stop the agent from the cluster management tool.

To start or stop the agent, the status of the agent service is changed from the online state to the offline state. If the agent configuration utility stops the agent, the Cluster Server notices that the agent is stopped. If other cluster resources in the cluster are in the online state, the Cluster Server tries to start the agent. If the agent fails to start, no data is displayed on the Tivoli Enterprise Portal.

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.

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 Knowledge Center (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

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) 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

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

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.

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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