IBM Tivoli Composite Application Manager for Microsoft
Applications: Microsoft Lync Server Agent
Version 6.3.1

Installation and Configuration Guide

IBM

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Chapter 1. Overview of the agent

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

IBM® Tivoli® Monitoring is the base software for the Microsoft Lync 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 21 for complete information about IBM Tivoli Monitoring and the Tivoli Enterprise Portal.

Functions of the monitoring agent

Availability monitoring

Monitors the following OCS 2007 services, indicating when down:
- Office Communications Server Front-End Service
- Office Communications Server IM Conferencing Service
- Office Communications Server Telephony Conferencing Service
- Office Communications Server Web Conferencing Service
- Office Communications Server Audio/Video Conferencing Service
- Office Communications Server Archiving and CDR Service
- Office Communications Server Audio/Video Authentication Service
- Office Communications Server Audio/Video Edge Service
- Office Communications Server Web Conferencing Edge Service

Monitors the following OCS 2007 R2 services, indicating when down:
- Office Communications Server Application Host Service
- Office Communications Server Application Sharing Service
- Office Communications Server Audio/Video Conferencing Service
- Office Communications Server Conferencing Announcement Service
- Office Communications Server Conferencing Attendant Service

- Office Communications Server Front-End Service
- Office Communications Server IM Conferencing Service
- Office Communications Server Monitoring Agent Service
- Office Communications Server Outside Voice Control Service
- Office Communications Server Response Group Service
- Office Communications Server Telephony Conferencing Service
- Office Communications Server Web Conferencing Service
- Office Communications Server Call Detail Recording Service
- Office Communications Server QoE Monitoring Service
- Office Communications Server Archiving Service
- Office Communications Server Audio/Video Authentication Service
- Office Communications Server Audio/Video Edge Service
- Office Communications Server Web Conferencing Edge Service

Monitors the following Lync Server 2010 services, indicating when down:
- Lync Server Application Sharing Service
- Lync Server Audio Test Service
- Lync Server Audio/Video Conferencing Service
- Lync Server Call Park Service
- Lync Server Front-End Service
- Lync Server IM Conferencing Service
- Lync Server Mediation Service
- Lync Server Replica Replicator Agent Service
- Lync Server Response Group Service
- Lync Server Web Conferencing Service
- Lync Server Web Conferencing Compatibility Service
- Lync Server Bandwidth Policy Service (Authentication)
- Lync Server Bandwidth Policy Service (Core)
- Lync Server File Transfer Agent Service
- Lync Server Master Replicator Agent Service
- Lync Server Audio/Video Authentication Service
- Lync Server Audio/Video Edge Service
- Lync Server Web Conferencing Edge Service

Monitors the following Lync Server 2013 services, indicating when down:
- Lync Server Application Sharing Service
- Lync Server Audio Test Service
- Lync Server Audio/Video Conferencing Service
- Lync Server Call Park Service
- Lync Server Front-End Service
- Lync Server IM Conferencing Service
- Lync Server Mediation Service
- Lync Server Replica Replicator Agent Service
- Lync Server Response Group Service
- Lync Server Web Conferencing Service
- Lync Server Web Conferencing Compatibility Service

- Lync Server Bandwidth Policy Service (Authentication)
- Lync Server Bandwidth Policy Service (Core)
- Lync Server File Transfer Agent Service
- Lync Server Master Replicator Agent Service
- Lync Server Audio/Video Authentication Service
- Lync Server Audio/Video Edge Service
- Lync Server Web Conferencing Edge Service
- Lync Server Centralized Logging Service Agent
- Lync Server XMPP Translating Gateway Service

Error and Event log Monitoring

Monitors for the following event sources that affect the Microsoft OCS availability or performance:
- OCS A/V Authentication Edge Server
- OCS A/V Edge Server
- OCS ACP MCU
- OCS Address Book and Distribution List Expansion Web Service
- OCS Address Book Server
- OCS AppDomain Host Process
- OCS Application Error
- OCS Application Server
- OCS ApplicationSharing Conferencing Server
- OCS ApplicationSharing Conferencing Server
- OCS Applications Module
- OCS Archiving Agent
- OCS Archiving Server
- OCS Audio-Video Conferencing Server
- OCS Auto Update Server
- OCS Call Detail Recording
- OCS Certificate Manager
- OCS Client Version Filter
- OCS Common Library
- OCS Communicator Mobile Component Session Service
- OCS Communicator Web Access Authentication
- OCS Communicator Web Access MMC Snap-In
- OCS Communicator Web Access Policy
- OCS Communicator Web Access Session Service
- OCS Communicator Web Access User Search
- OCS Conferencing Announcement Service
- OCS Conferencing Attendant
- OCS Data MCU
- OCS DB Access Layer
- OCS Exchange Unified Messaging Routing
- OCS IM MCU
- OCS Inbound Routing
- OCS Intelligent IM Filter

- OCS LDM
- OCS MCU Factory
- OCS MCU Infrastructure
- OCS Mediation Server
- OCS Outbound Routing
- OCS Outside Voice Control
- OCS Password Expiry Check
- OCS Protocol Stack
- OCS QoE Monitoring Agent
- OCS QoE Monitoring Service
- OCS Response Group Service
- OCS Script-Only Applications
- OCS Server
- OCS Setup
- OCS Snap-in
- OCS Software Update Service
- OCS Translation Service
- OCS UserPin Service
- OCS User Replicator
- OCS User Services
- OCS Web Conferencing Edge Server
- OCS WMI Consumer
- OCS WMI Event Provider
- OCS WMI Provider
- OCS Archiving and CDR Server
- OCS Distribution List Expansion Web Service
- OCS QoE Monitoring Server

The following Lync Server 2010 event sources are monitored by the agent:
- LS A/V Authentication Edge Server
- LS A/V Edge Server
- LS ACP MCU
- LS Address Book and Distribution List Expansion Web Service
- LS Address Book Server
- LS AppDomain Host Process
- LS Application Error
- LS Application Server
- LS ApplicationSharing Conferencing Server
- LS Applications Module
- LS Archiving Agent
- LS Archiving Server
- LS Audio-Video Conferencing Server
- LS Auto Update Server
- LS Bandwidth Policy Service (Authentication)
- LS Bandwidth Policy Service (Core)
- LS Call Detail Recording

- LS Call Park Service
- LS Certificate Manager
- LS Client Version Filter
- LS Common Library
- LS Conferencing Announcement Service
- LS Conferencing Attendant
- LS Configuration Provider
- LS Data MCU
- LS DB Access Layer
- LS Dialin Web Service
- LS Exchange Unified Messaging Routing
- LS File Transfer Agent Service
- LS IM MCU
- LS Inbound Routing
- LS Incoming Federation Service
- LS Intelligent IM Filter
- LS InterCluster Routing
- LS Join Launcher Web Service
- LS LDM
- LS Location Information Service
- LS Lync Web App
- LS Master Replicator Agent Service
- LS MCU Factory
- LS MCU Infrastructure
- LS Mediation Server
- LS Meeting MCU
- LS MGC ADMIN TOOL
- LS MGC CLIENT
- LS MGC COMMON
- LS MGC COMPLIANCE
- LS MGC CONFIG
- LS MGC ENDPOINT
- LS MGC LOADER
- LS MGC LOOKUP
- LS MGC SERVER
- LS MGC SERVICE
- LS MGC TRANSPORT
- LS Outbound Routing
- LS Outgoing Federation Service
- LS Password Expiry Check
- LS Protocol Stack
- LS Provisioning Service
- LS QoE Monitoring Agent
- LS QoE Monitoring Service
- LS Remote PowerShell

- LS Replica Replicator Agent Service
- LS Response Group Service
- LS Routing Data Sync Agent
- LS Script-Only Applications
- LS Server
- LS Software Update Service
- LS Translation Service
- LS UserPin Service
- LS User Replicator
- LS User Services
- LS Web Components Server
- LS Web Conferencing Edge Server
- LS Audio/Video Authentication Server

Performance Monitoring

Gathers performance attributes in the following areas, providing situations where appropriate:
- Instant Messaging
- IM Conferencing
- IM MCU State and Performance
- IM CCCP Processing
- Audio Video Operations
- Audio Video MCU State and Performance
- Audio Video CCCP Processing
- Web Conferencing
- Web MCU State and Performance
- Web CCCP Processing
- User Services Endpoint Cache
- User Services HTTPS Transport
- User Services Conference Control
- User Services Conference Control Notification
- User Services MCU Allocation Latency
- User Services Pool Conference Statistics
- User Services DBStore
- SIP Networking
- SIP Peers
- SIP Protocols
- SIPEPS Transactions
- Server
- QMS Agent
- QMS Media Quality Locations
- QMS Media Quality Audio Video MCU
- CDR Service DB Operations
- CDR Service Read
- CDR Service Write
- MSMQ Operations
- Archiving Service DB Operations

- Archiving Service Read
- Archiving Service Write
- CWA Directory Search
- CWA Authentication
- CWA Security
- CWA User Sessions
- Media Planning
- Media Private
- Lync Web Relay
- Address Book File Download
- Address Book Web Query
- Throttling and Authentication
- OCS2k7 Roles
- OCS2k7R2 Roles
- Lync Server Roles

Actions

Provides actions to start and stop the following OCS services:
- IM Conferencing Service
- Web Conferencing Service
- Audio/Video Conferencing Service
- Front-End Service
- Application Sharing Service
- OCS Application Host Service
- OCS Conferencing Announcement Service
- OCS Conferencing Attendant Service
- OCS Monitoring Agent Service
- OCS Outside Voice Control Service
- OCS Response Group Service
- OCS Telephony Conferencing Service
- OCS Archiving Service
- OCS Call Detail Recording Service
- OCS QoE Monitoring Service
- OCS Audio/Video Authentication Service
- OCS Audio/Video Edge Service
- OCS Web Conferencing Edge Service
- Lync Server Audio Test Service
- Lync Server File Transfer Agent Service
- Lync Server Master Replicator Agent Service
- Lync Server Replica Replicator Agent Service
- Lync Server Web Conferencing Compatibility Service
- Lync Server Call Park Service
- Lync Server Response Group Service
- Lync Server Mediation Service
- Lync Server Bandwidth Policy Service (Authentication)
- Lync Server Bandwidth Policy Service (Core)

- Lync Server Audio/Video Authentication Service
- Lync Server Audio/Video Edge Service
- Lync Server Web Conferencing Edge Service

Reporting

Provides a history enablement file that enables the ability to generate reports for all attributes collected.

New in this release

For version 6.3.1 of the Microsoft Lync Server agent, the following enhancements have been made since version 6.3, including the fix packs:

- Changes related to system requirements. See the information about system requirements in Software product compatibility reports (http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html).
- New attribute groups:
  - Autodiscover
  - Response Group Service Hosting
  - Response Group Service Workflow
  - User Services REGDBStore
  - Call Park Service Hosting
  - Call Park Service Planning
- New or changed workspaces:
  - Response Group and Call Park Statistics
  - Database Performance Statistics
- New or changed views:
  - Availability
- New or changed situations:
  - KQL_CentralizedLogging_SvcDown
  - KQL_XMPPGateway_SvcDown
- New Take Action commands or changed Take Action commands:
  - Start Centralized Logging Service Agent
  - Start XMPP Translating Gateway Service
  - Stop Centralized Logging Service Agent
  - Stop XMPP Translating Gateway Service
- Updated the `kql.baroc` file to support event mapping changes
- Added the Prerequisite Scanner report to verify the availability of tables and views in the Tivoli Data Warehouse for the predefined reports
- Added new Cognos® data models and reports

Components of the IBM Tivoli Monitoring environment

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

This Tivoli Monitoring environment contains the following components:

Tivoli Enterprise Portal client

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

Tivoli Enterprise Portal Server
>   The portal server is placed between the client and the Tivoli Enterprise Monitoring Server and enables retrieval, manipulation, and analysis of data from the monitoring agents. The Tivoli Enterprise Portal Server is the central repository for all user data.

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

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

User interface options

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

The following interfaces are available:

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

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

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

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

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

IBM Tivoli Common Reporting
> Use the Tivoli Common Reporting web user interface for specifying report parameters and other report properties, generating formatted reports, scheduling reports, and viewing reports. This user interface is based on the Tivoli Integrated Portal.

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.

Data sources

Monitoring agents collect data from specific data sources.

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

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

Availability
> Use the agent to monitor availability of the application and related components in the following ways:
> - Monitor the status of the processes.
> - Monitor the Windows services used by the application.

Scripts
> The agent uses application-specific commands and interfaces to gather metrics.

Windows Event Log
> The agent collects Windows Event Log entries related to the monitored resource and forwards them to IBM Tivoli Monitoring.

Table 1. Mechanisms used to gather attributes

Attribute group	Collection source
Availability	Operating System
Performance Object Status	Agent
Event Log	NT Event Log
Instant Messaging	Filter
IM Conferencing	Filter
IM MCU State and Performance	Filter
IM CCCP Processing	Filter
Audio Video Operations	Filter
Audio Video MCU State and Performance	Filter
Audio Video CCCP Processing	Filter
Web Conferencing	Filter
Web MCU State and Performance	Filter
Web CCCP Processing	Filter
User Services Endpoint Cache	Filter
User Services HTTPS Transport	Filter
User Services Conference Control	Filter

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
User Services Conference Control Notification	Filter
User Services MCU Allocation Latency	Filter
User Services Pool Conference Statistics	Filter
User Services DBStore	Filter
SIP Networking	Filter
SIP Peers	Filter
SIP Protocols	Filter
SIPEPS Transactions	Filter
MSMQ Operations	Filter
Archiving Service DB Operations	Filter
Archiving Service Read	Filter
Archiving Service Write	Filter
CDR Service DB Operations	Filter
CDR Service Read	Filter
CDR Service Write	Filter
X INTERNAL Archiving Service DB Operations OCS	Perfmon
X INTERNAL Archiving Service DB Operations Lync	Perfmon
X INTERNAL Archiving Service Read OCS	Perfmon
X INTERNAL Archiving Service Read Lync	Perfmon
X INTERNAL Archiving Service Write OCS	Perfmon
X INTERNAL Archiving Service Write Lync	Perfmon
X INTERNAL CDR Service DB Operations OCS	Perfmon
X INTERNAL CDR Service DB Operations Lync	Perfmon
X INTERNAL CDR Service Read OCS	Perfmon
X INTERNAL CDR Service Read Lync	Perfmon
X INTERNAL CDR Service Write OCS	Perfmon
X INTERNAL CDR Service Write Lync	Perfmon
X INTERNAL MSMQ Operations OCS	Perfmon
X INTERNAL MSMQ Operations Lync	Perfmon
Server	Script
X INTERNAL Instant Messaging OCS	Perfmon
X INTERNAL Instant Messaging Lync	Perfmon
X INTERNAL IM Conferencing OCS	Perfmon
X INTERNAL IM Conferencing Lync	Perfmon
X INTERNAL IM MCU State and Performance OCS	Perfmon
X INTERNAL IM MCU State and Performance Lync	Perfmon
X INTERNAL IM CCCP Processing OCS	Perfmon
X INTERNAL IM CCCP Processing Lync	Perfmon
X INTERNAL Audio Video Operations OCS	Perfmon
X INTERNAL Audio Video Operations Lync	Perfmon

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
X INTERNAL Audio Video MCU State and Performance OCS	Perfmon
X INTERNAL Audio Video MCU State and Performance Lync	Perfmon
X INTERNAL Audio Video CCCP Processing OCS	Perfmon
X INTERNAL Audio Video CCCP Processing Lync	Perfmon
X INTERNAL Web Conferencing OCS	Perfmon
X INTERNAL Web Conferencing Lync	Perfmon
X INTERNAL Web MCU State and Performance OCS	Perfmon
X INTERNAL Web MCU State and Performance Lync	Perfmon
X INTERNAL Web CCCP Processing OCS	Perfmon
X INTERNAL Web CCCP Processing Lync	Perfmon
X INTERNAL USRV Endpoint Cache OCS	Perfmon
X INTERNAL USRV Endpoint Cache Lync	Perfmon
X INTERNAL USRV HTTPS Transport OCS	Perfmon
X INTERNAL USRV HTTPS Transport Lync	Perfmon
X INTERNAL USRV Conference Control OCS	Perfmon
X INTERNAL USRV Conference Control Lync	Perfmon
X INTERNAL USRV Conference Control Notification OCS	Perfmon
X INTERNAL USRV Conference Control Notification Lync	Perfmon
X INTERNAL USRV MCU Allocation Latency OCS	Perfmon
X INTERNAL USRV MCU Allocation Latency Lync	Perfmon
X INTERNAL USRV Pool Conference Statistics OCS	Perfmon
X INTERNAL USRV Pool Conference Statistics Lync	Perfmon
X INTERNAL USRV DBStore OCS	Perfmon
X INTERNAL USRV DBStore Lync	Perfmon
X INTERNAL SIP Networking OCS	Perfmon
X INTERNAL SIP Networking Lync	Perfmon
X INTERNAL SIP Peers OCS	Perfmon
X INTERNAL SIP Peers Lync	Perfmon
X INTERNAL SIP Protocols OCS	Perfmon
X INTERNAL SIP Protocols Lync	Perfmon
X INTERNAL SIPEPS Transactions OCS	Perfmon
X INTERNAL SIPEPS Transactions Lync	Perfmon
X INTERNAL Media Planning OCS	Perfmon
X INTERNAL Media Planning Lync	Perfmon
X INTERNAL Response Group Service Hosting OCS	Perfmon
X INTERNAL Response Group Service Hosting Lync	Perfmon
X INTERNAL Response Group Service Hosting Lync13	Perfmon

Table 1. Mechanisms used to gather attributes (continued)

Attribute group	Collection source
X INTERNAL Response Group Service Workflow OCS	Perfmon
X INTERNAL Response Group Service Workflow Lync	Perfmon
X INTERNAL Response Group Service Workflow Lync13	Perfmon
X INTERNAL Usrv REGDBStore Lync	Perfmon
X INTERNAL Usrv REGDBStore Lync13	Perfmon
X INTERNAL Call Park Service Hosting Lync	Perfmon
X INTERNAL Call Park Service Hosting Lync13	Perfmon
X INTERNAL Call Park Service Planning Lync	Perfmon
X INTERNAL Call Park Service Planning Lync13	Perfmon
CWA Security	Perfmon
CWA Directory Search	Perfmon
CWA Authentication Module	Perfmon
CWA User Session Service	Perfmon
Address Book Web Query	Perfmon
Address Book File Download	Perfmon
Lync Web Relay	Perfmon
Throttling and Authentication	Perfmon
Media Planning	Filter
Lync Media Quality	Perfmon
QMS Agent	Filter
QMS Media Quality Locations	Perfmon
X INTERNAL QMS Agent OCS	Perfmon
X INTERNAL QMS Agent Lync	Perfmon
OCS 2k7 Roles	Script
OCS 2k7 R2 Roles	Script
Lync Server Roles	Script
Autodiscover	Perfmon
Response Group Service Hosting	Filter
Response Group Service Workflow	Filter
User Services REGDBStore	Filter
Call Park Service Hosting	Filter
Call Park Service Planning	Filter

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 Lync Server agent, use the *Installing monitoring agents* procedures in the *IBM Tivoli Monitoring Installation and Setup Guide*.

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

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

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 Lync Server Agent.

For the most current information about system requirements, see the Software product compatibility reports (http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/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 16
- "Installing language packs on Windows, UNIX, or Linux systems silently" on page 16

Installing language packs on Windows systems

You can install the language packs on a Windows system.

Before you begin

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

Procedure
1. On the language pack CD, double-click the `lpinstaller.bat` file to start the installation program.
2. Select the language of the installer and click **OK**.
3. In the Introduction panel, click **Next**

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

Installing language packs on UNIX or Linux systems

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

Before you begin

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

Procedure
1. Enter the `mkdir` command to create a temporary directory on the computer, for example, `mkdir` *dir_name*. Make sure that the full path of the directory does not contain any spaces.
2. Mount the language pack CD to the temporary directory that you created.
3. Enter the following command to start the installation program:

   `cd dir_name lpinstaller.sh -c install_dir`

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

Installing language packs on Windows, UNIX, or Linux systems silently

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

Before you begin

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

Procedure

1. Copy and paste the `ITM_Agent_LP_silent.rsp` response file template as shown in "Response file example."

2. Change the following parameter settings:

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

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

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

   LANG_SELECTION_LIST
   Language you want to install.

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

   - For Windows systems:

     `lpinstaller.bat -f path_to_response_file`

   - For UNIX or Linux systems:

     `lpinstaller.sh -c candle_home -f path_to_response_file`

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

Response file example

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

```
#-------------------------------------------------------------------------------
#Force silent install mode.
#-------------------------------------------------------------------------------
INSTALLER_UI=silent
#-------------------------------------------------------------------------------
#Run add and update actions.
#-------------------------------------------------------------------------------
CHOSEN_INSTALL_SET=ADDUPD_SET
#-------------------------------------------------------------------------------
#NLS Package Folder, where the NLS Packages exist.
#For Windows:
#   Use the backslash-backslash(\\) as a file separator (for example,
#C:\\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(\\) as a file separator.
#For Unix and Linux:
#           Use the slash-slash (//) as a file separator.
#-------------------------------------------------------------------------------
#PROD_SELECTION_PKG=C:\\zosgmv\\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 Lync Server agent, the prerequisite checker verifies the following requirements:
- Memory
- Disk
- Operating systems
- Microsoft Lync Server or Microsoft OCS 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://publib.boulder.ibm.com/infocenter/prodguid/v1r0/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*.

Running as a non-administrator user

You can run the monitoring agent for Microsoft Lync Server as a non-administrator user; however, some functionality is unavailable.

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

- Full access to the KEY_LOCAL_MACHINE\SOFTWARE\Candle directory
- Read access to the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib directory
- Full access to the CANDLE_HOME directory

If you define these permissions for a non-administrator user, data is displayed for all the Perfmon-based attribute groups. See "Data sources" on page 11 for a list of all Perfmon-based attributes. The non-administrator user must be a member of the *Performance Monitor Users* and *Performance Log Users*.

The Availability attribute group shows data for users who are members of the *Administrators* group.

Appendix. ITCAM for Microsoft Applications documentation library

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

For information about how to access and use the publications, see **Using the publications** (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3/common/using_publications.htm).

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

Documentation for this product is in the ITCAM for Microsoft Applications Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcamms.doc_6.3.1/welcome_msapps631.htm)
- 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://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3/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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