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# Quest Management Xtensions Operations Manager 2007 & Virtual Machine Manager 2008 ProTips Integration Guide

*Quest Management Xtensions leverages key integration between System Center Operations Manager 2007 and System Center Virtual Machine Manager 2008*

# QMX OpsMgr/VMM Integration Guide

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Quest® Management Xtensions - Operations Manager 2007 Edition  
Virtual Machine Manager 2008 Integration Guide  
Version 7.0.0.0  
Quest QMX Base Framework Version: 4.0.0.496  
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## About this Guide

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## Overview

IT professionals can now leverage their preferred tool for monitoring and proactive issue resolution of Windows and non-Windows systems alike. Quest® Management Xtensions - Operations Manager 2007 Edition (formerly *eXc Software eXtenders*) extends the power of Microsoft System Center Operations Manager 2007 (*System Center Operations Manager 2007* or simply *OpsMgr*) to more than 240 non-Windows operating systems, applications, network components, storage, security, and mobile devices. In addition, you can now integrate the QMX alerts into Virtual Machine Manager 2008 (VMM).

This guide is intended for IT administrators who have installed Quest® Management Xtensions - Operations Manager 2007 Edition (*QMX - Operations Manager 2007*) and want to integrate into VMM 2008 in the form of VMM PROTips. By following the instructions presented in this guide, an IT administrator will be ready to monitor non-Windows systems and applications from within the Operations Console as well as view VMM PROTips in the Microsoft System Center Virtual Machine Manager 2008 Console.

## Conventions

Quest Software, Inc. products support a number of different implementations of UNIX-like operating systems. The terms "Unix" or "non-Windows" throughout this document is used to encompass all UNIX and Linux operating systems. (See <http://www.quest.com/quest-management-xtensions-operations-manager/supported-platforms.aspx> for a list of all platforms supported by QMX - Operations Manager 2007.)

## Product Name Change

Earlier versions of QMX - Operations Manager 2007 were developed using the terms MOM and SCOM instead of Microsoft Operations Manager 2007 and System Center Operations Manager 2007. Thus, you might see these terms in the code or directory paths.

Quest Software, Inc. purchased eXc Software and changed the name of this product from eXc Software nonWindows MOM eXtenders to Quest® Management Xtensions - Operations Manager 2007 Edition (QMX - Operations Manager 2007). At that time, *Virtual Agents* were re-named, *Management Packs*. While this guide uses the term *Extensions* instead of *Virtual Agent*, during the transition, you will see the usage of "eXc Software" and "Virtual Agents" in the user interface and in file directory paths.

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## About Quest System Center Solutions Group

With a comprehensive set of solutions that extend the powerful capabilities of the Microsoft System Center family to heterogeneous environments, Quest Software enables IT professionals to leverage System Center as the single, end-to-end platform for managing physical and virtual IT environments across data centers, desktops and devices. For more information on Quest's System Center Solutions group, please visit:

<http://www.quest.com/system-center/>

## About Quest Software, Inc.

Quest Software, Inc., a leading enterprise systems management vendor, delivers innovative products that help organizations get more performance and productivity from their applications, databases, Windows infrastructure and virtual environments. Quest also provides customers with client management through its ScriptLogic subsidiary and server virtualization management through its Vizioncore subsidiary. Through a deep expertise in IT operations and a continued focus on what works best, Quest helps more than 100,000 customers worldwide meet higher expectations for enterprise IT. Quest's System Center solutions enable the Microsoft System Center platform to serve as the comprehensive systems management platform for organizations managing heterogeneous environments. Together, an integrated platform improves IT productivity, increases return on IT investments, and ensures compliance and service levels to help drive business profitability. Visit Quest's System Center solutions at [www.quest.com/system-center](http://www.quest.com/system-center). Quest Software can be found in offices around the globe and at [www.quest.com](http://www.quest.com).

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Email to	<a href="mailto:support@quest.com">support@quest.com</a>

Please refer to our Web site for regional and international office information.

## Join the Community

Get the latest product information, find helpful resources, and join a discussion with the QMX - Operations Manager 2007 team and other community members at:

<http://www.management-extensions.org/index.jspa>

## What's New or Changes in this update

April 2009 – Initial release.

## About QMX VMM ProTips Management Pack Integration

The *QMX VMM ProTips Management Pack* is a management pack that allows you to pass alerts from System Center Operations Manager 2007 to System Center Virtual Machine Manager 2008. For example, if you have an operating system or an application on a virtual machine, such as Microsoft HyperV, or VMware, the alert goes into Operations Manager and is then passed into Virtual Machine Manger 2008.

Active Alerts (2)

Look for: Find Now Clear

Source	Name	Description
w20082.mms.com	PRO BEA WebLogic cacheMonitorRuntimeCurrentSize	cacheMonitorRuntimeCurrentSize is impacting MEMORY utilization. [VM Fedora9 on w20082.mms.com]
Fedora9	non-Windows Alert	BEAWebLogic3001: The BEA Weblogic workload is too high (Queue Load threshold has been exceeded)

Severity: Critical (2)

PRO Tips (1)

Source	Tip	State
w20082.mms.com	PRO BEA WebLogic cacheMonitorRuntimeCurrentSize	Active

w20082.mms.com

**PRO BEA WebLogic cacheMonitorRuntimeCurrentSize**

cacheMonitorRuntimeCurrentSize is impacting MEMORY utilization. [VM Fedora9 on w20082.mms.com]:BEAWebLogic3001: The BEA Weblogic workload is too high (Queue Load threshold has been exceeded) [see SNMP Trap .1.3.6.1.4.1.140.625.107.1.50] cacheMonitorRuntimeCurrentSize is impacting MEMORY utilization.

**Cause and Resolution**

The current size of the BEA Weblogic cache is high.

Review the guest Memory resource allocation against the memory requirements for the Weblogic cache.

**Host Summary**

Name: [w20082.mms.com](#)

Host group: Production

CPU: 51 %

Memory: 76 %

Storage: 96 %

Show this window when new PRO Tips are created

Implement Dismiss

## Before You Import the Management Pack

Before you import the QMX VMM ProTips Management Pack (eXcSoftware.nonWindows.SystemCenterVMM2008Integration.xml), you must import the following Management Packs into Operations Manager:

1. Microsoft.Windows.Library version 6.0.6278 or greater

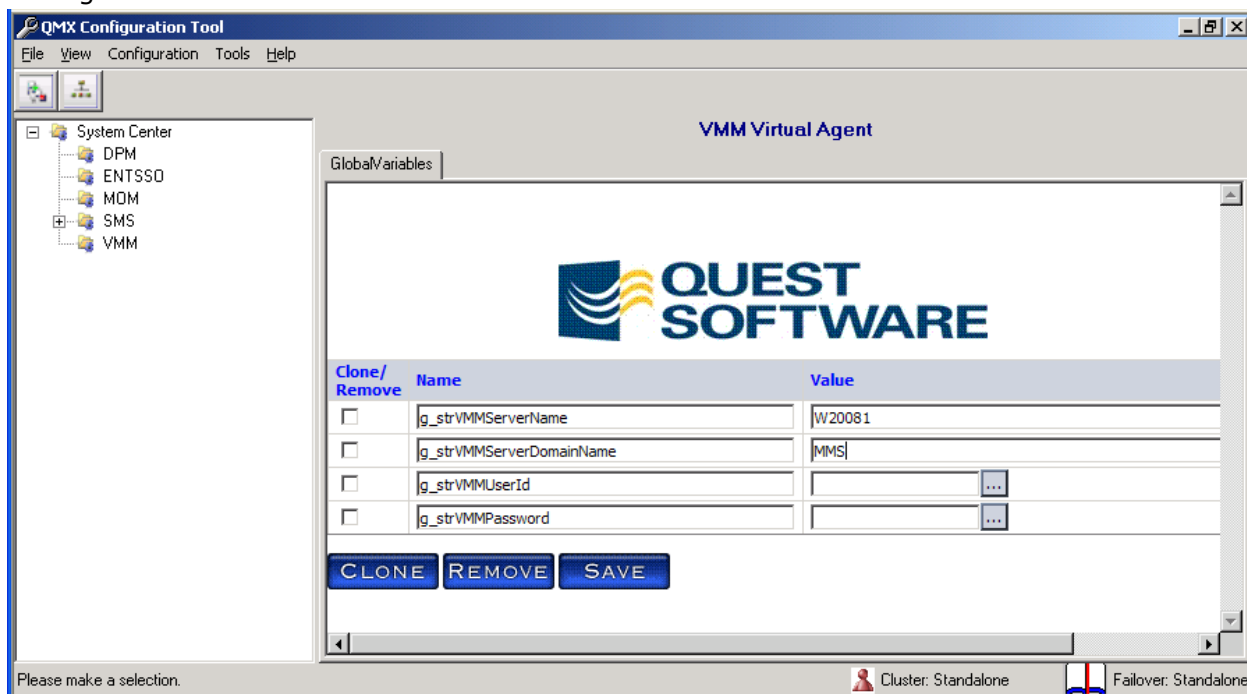
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2. Microsoft.SystemCenter.VirtualMachineManager.Pro.2008.Library version 2.0.3451.0 or greater
3. eXcSoftware.nonWindows version 7.0.0.0 or greater

## Integrating QMX, OpsMgr, and VMM

### To integrate QMX, OpsMgr 2007, and VMM 2008

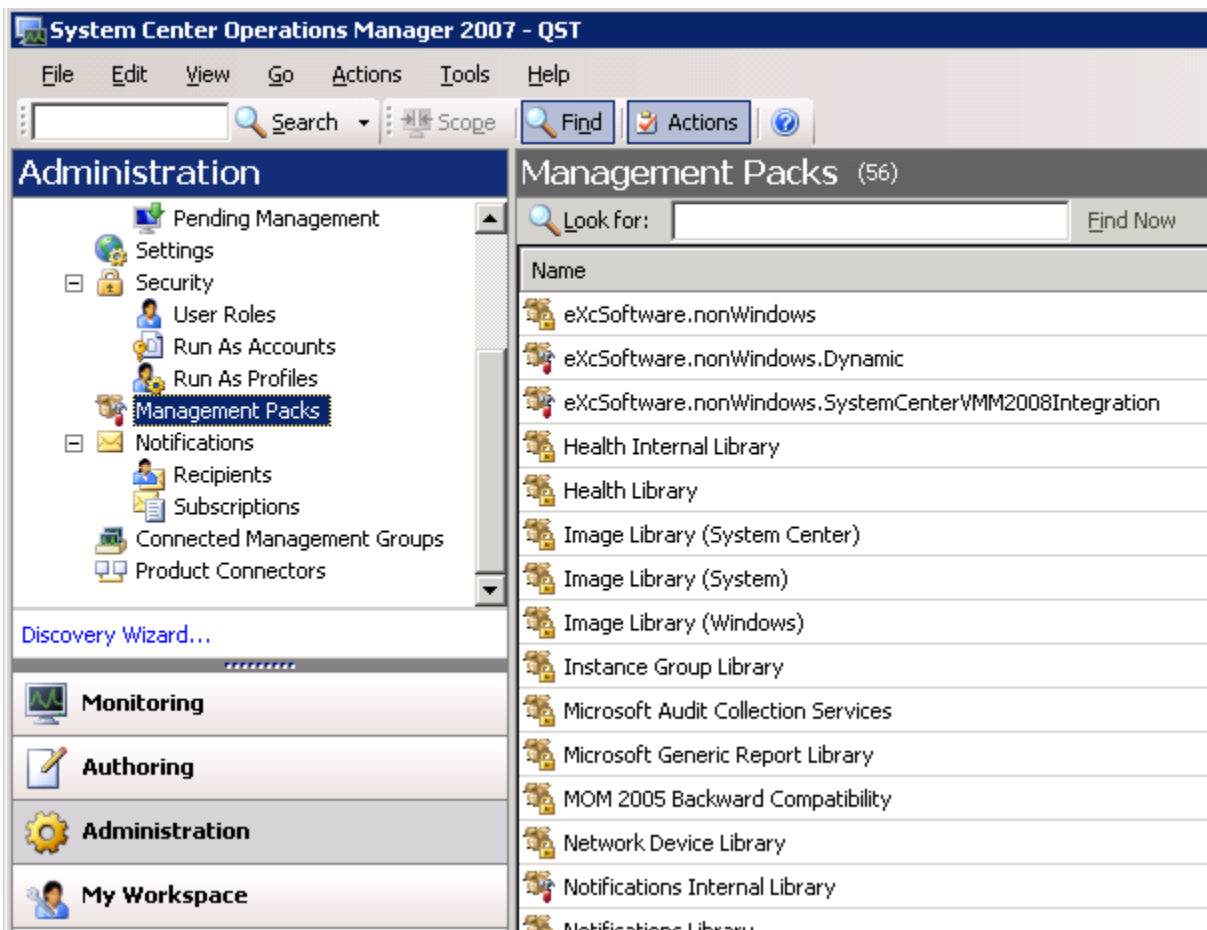
1. Perform the steps outlined by Microsoft to integrate System Center Operations Manager and Virtual Machine Manager 2008. That is, load the product consoles and Management Packs.



2. Install QMX – Operations Manager 2008 and ensure that non-Windows systems and devices are properly generating alerts in the Operations Manager Console.  
**Note:** The Quest Base Framework version must be 4.0.0.493 or higher. If it is not, either upgrade it or contact Quest Support for the Virtual Agent Library\VMM\\*.ps1 Powershell files required for the Virtual Machine Manager 2008 integration.
  - a. Click the **VMM** folder in the QMX Configuration Tool tree view.
  - b. Select the **GlobalVariables** tab.
  - c. Specify the value for `g_strVMMServerName` variable, the NETBIOS name of the VMM Server.  
**Note:** It is not necessary to specify the remaining global variables. These global variables are for future features:
    - i. `g_strVMMServerDomainName`
    - ii. `g_strVMMUserId`
    - iii. `g_strVMMPassword`

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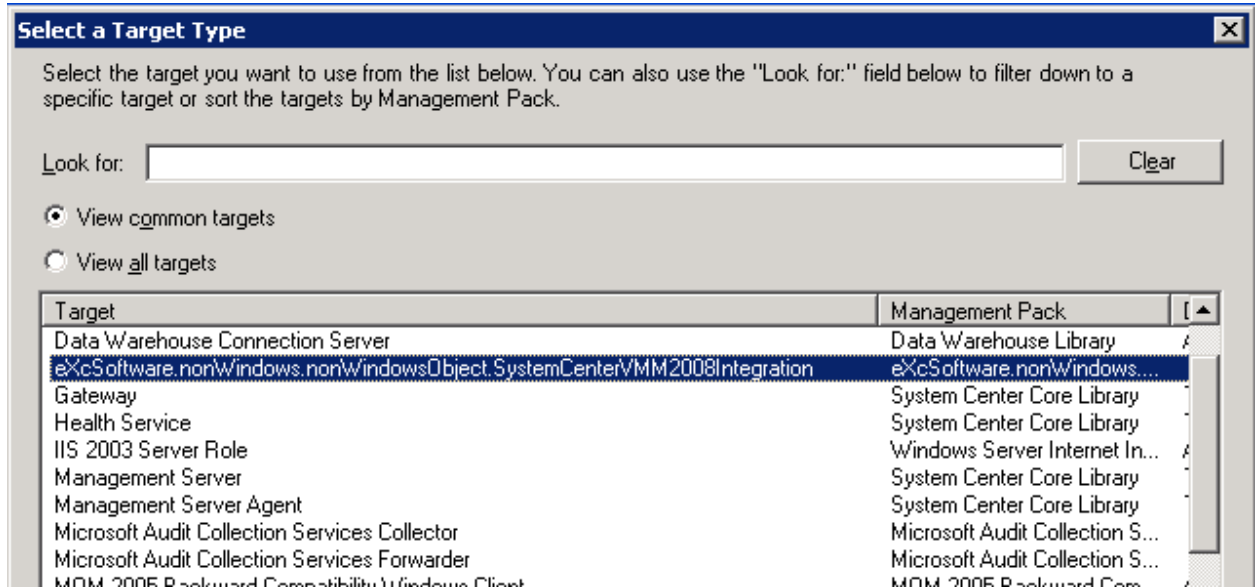
---



3. Import the `eXcSoftware.nonWindows.SystemCenterVMM2008Integration.mp` Management Pack.  
**Note:** As of April 2, 2009, the current version of this management pack is 7.0.0.0.
4. Select the **Monitoring** navigation button and then **Discovered Inventory**.
5. Select **Change target type...** on the Results pane.
6. Select  
[eXcSoftware.nonWindows.nonWindowsObject.SystemCenterVMM2008Integration](#)



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7. Wait for up to 5 minutes until one or more Virtual Machine Manager 2008 managed host system objects to appear in the *Target* window.
8. Since the Virtual Machine Manager 2008 Extension runs on a schedule, you need to force a discovery from the VMM Powershell interface. From either the Operations Manager or Virtual Machine Manager Server, enter the following Powershell commands.

**Note:** This example assumes your VMM server is named VMM01 and the OpsMgr RMS server is named OpsMgr01:

```
# Get-VMMServer -ComputerName VMM01  
# Set-VMMServer -OpsMgrServer OpsMgr01
```

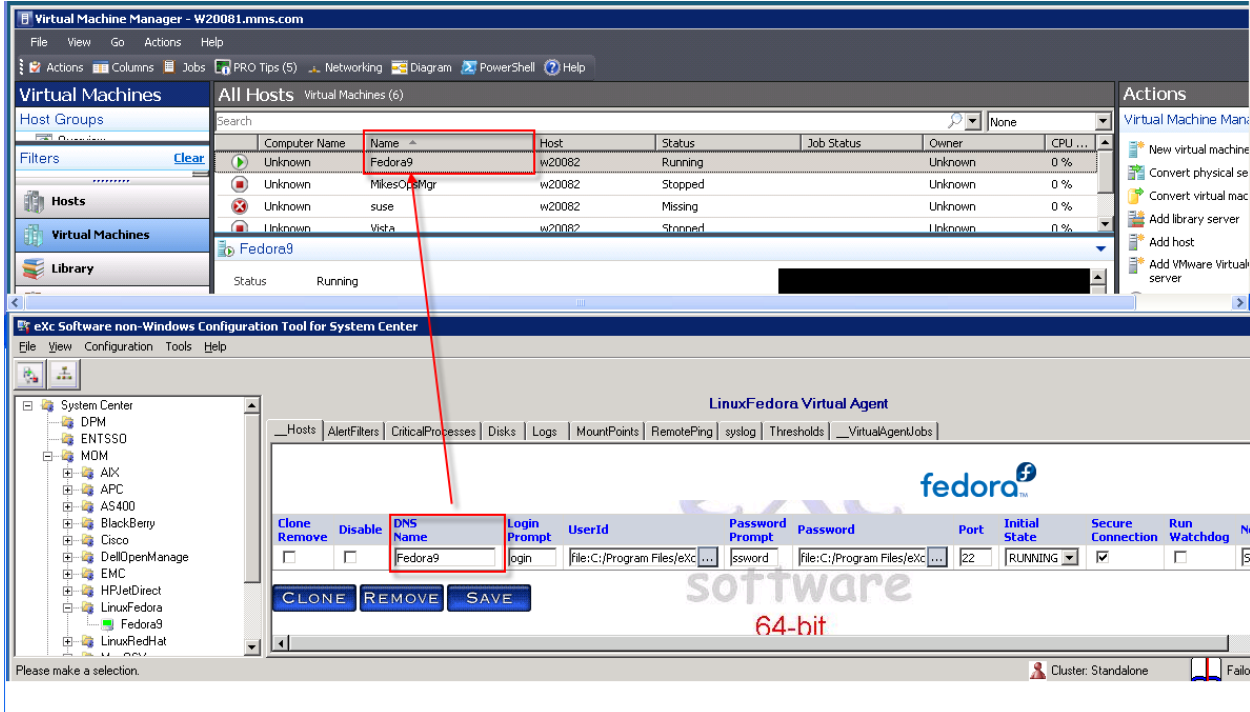
Verify that a value displays for the "PRO Monitoring Level":

VMM Object ID	VMM Type ID	PRO Monitoring Level
b8483657-c3a7-...	9	2

## Synchronizing QMX with VMM

The host name you specify in the QMX Configuration Tool must match the in Virtual Machine "Name" in Virtual Machine Manager. Note that it is case-sensitive! This is how Operations Manager knows to generate a Virtual Machine Manager PROTip.

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## Known Issues

Due to a limitation of the current Virtual Machine Manager extensibility model, this solution generates PROTips only at the Virtual Machine Host level even though the PROTip is intended to target the actual Virtual Machine. The Virtual Machine for which the PROTip is actually intended is displayed in the PROTip alert text.

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The screenshot shows a window titled "PRO Tips (5)" with a table of tips and a detailed view of one tip. The table has columns for Source, Tip, and Status. The detailed view shows the tip title, description, cause and resolution, and host summary.

Source	Tip	Status
w20082.mms.com	PRO IBM MQ Series ChannelINETTIME	Active
w20082.mms.com	PRO Apache Request_Timeout	Active
w20082.mms.com	PRO BEA WebLogic cacheMonitorRuntimeCurrentSize	Active
w20082.mms.com	PRO BEA Tuxedo tuxIfQueueLoad	Active
w20082.mms.com	PRO Tomcat OutOfMemoryError	Active

**PRO IBM MQ Series ChannelINETTIME**

The average time spent to send a request to a receiver channel and receive a response is impacting NETWORK utilization. [VM Fedora9 on w20082.mms.com] IBM MQ Series3001: A channel send/receive response time is too high (Channel NETTIME warning).

The average time spent to send a request to a receiver channel and receive a response is impacting NETWORK utilization.

**Cause and Resolution**

The average time spent to send a request to a receiver channel and receive a response is high.

Review the guest CPU and Memory and NIC resource allocations since they directly contribute to the health of the MQ Series channel definitions (assuming all other software

**Host Summary**

Name: w20082.mms.com

Host group: Production

CPU: 7 %

Memory: 76 %

Storage: 96 %

Show this window when new PRO Tips are created

Implement Dismiss

**Note:** In this example, the PROTip for the IBM MQ Series Application is running on Virtual Machine Fedora9 but that this PROTip has a target of the Host w20082.mms.com.

## Override Management Pack Customizations

The QMX VMM ProTips Management Pack does not support Management Pack overrides.

## Security

This Management Pack uses the agentless security requirements from the eXcSoftware.nonWindows base Management Pack. (See the *QMX—Operations Manager 2007 Edition Installation Guide* available from <http://www.quest.com/common/registration.aspx?requestdefid=18322> for details.) In general however, the security requirements for the Unix and non-Windows applications are all specified in the QMX Configuration Tool. Therefore, you do not need to perform any special security configuration steps in Operations Manager 2007.

## How Health Rolls Up

The Operations Manager 2007 alerts generated for Virtual Machine Manager PROTip map to the VMM host systems. However there are some limitations to this. (See [Known Issues](#).) Once we are able to map to the actual Virtual Machine, Quest will update this Management Pack.

## Platforms Supported by QMX VMM ProTips Management Pack

The following QMX Extensions are supported today:

1. All Unix systems that can run in a Virtual Machine (either HyperV and/or VMWare)
2. BEA Tuxedo and Weblogic
3. IBM Websphere and MQ Series
4. Apache web server
5. Tomcat

If you have a platform or application you want incorporated, please visit our on-line community and let us know! (Go to: <http://management-extensions.org/monitorextensions.jspa>)

## Getting Support

Quest Support is available to customers who have a trial version of a Quest product or who have purchased a commercial version and have a valid maintenance contract. Quest Support provides around-the-clock self-service coverage with SupportLink at: <http://support.quest.com>

From SupportLink, you can do the following:

- Quickly find thousands of solutions (Knowledgebase articles and documents).
- Access FAQs
- Download patches and upgrades
- Seek help from a Support engineer
- Update or view support requests

View the *Global Support Guide* for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at [http://support.quest.com/pdfs/Global\\_Support\\_Guide.pdf](http://support.quest.com/pdfs/Global_Support_Guide.pdf).

When you contact Support please include the following information:

1. The software you are working with.
2. The versions you have installed.
3. The Windows versions you have installed: XP, 2003 Server, 2003 Server R2, etc.
4. The name of your Microsoft System Center Operations Manager 2007 Contact.
5. How many non-Windows resources you are monitoring.
6. Any information you feel is appropriate about your System Center Operations Manager 2007 environment or test lab setup.