System x

IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007 Version 2.2 Installation and User's Guide

Version 2.2

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

Third Edition 1999, 2009

This edition applies to version 2.2 of the IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007 and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this publication

This book provides instructions for installing IBM® Hardware Management Pack for Microsoft® System Center Operations Manager 2007, Version 2.2 into the Microsoft System Center Operations Manager 2007 and using the integrated features to manage systems in your environment.

Conventions and terminology

These notices are designed to highlight key information:

Note:
These notices provide important tips, guidance, or advice.

Important:
These notices provide information or advice that might help you avoid inconvenient or difficult situations.

Attention: These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

PDF files

View or print documentation that is available in Portable Document Format (PDF).

Downloading Adobe® Acrobat Reader

You need Adobe Acrobat Reader to view or print these PDF files. You can download a copy from the Adobe Web site.

Viewing and printing PDF files

You can view or print the following PDF files. The most current version of each document is available online in the information center and on the product download page. Go to the IBM Web site for Microsoft Systems Management Solutions for IBM Servers at http://www.ibm.com/systems/management/director/partners/microsoft/ to locate the download links for the following titles, or click any title in the following list to open the version of each book that is in the IBM System x® and BladeCenter® Tools information center:

- *IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 Release Notes®*
- *IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 Installation and User's Guide*

World Wide Web resources

The following Web pages provide resources for understanding, using, and troubleshooting IBM System x, BladeCenter blade servers, and systems-management tools.

IBM Web site for Microsoft Systems Management Solutions for IBM servers

IBM Web site for Microsoft Systems Management Solutions for IBM Servers at http://www.ibm.com/systems/management/director/partners/microsoft/

Locate the latest downloads for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2.

IBM Systems: Technical support site

IBM Systems: Technical support site at http://www-304.ibm.com/jct01004c/systems/support/

Locate support for IBM hardware and systems-management software.

IBM Systems Management Software: Download/Registration page

IBM Systems Management Software: Download/Registration page at http://www.ibm.com/systems/management/director/downloads.html

Download IBM systems-management software, including IBM Systems Director.

IBM System x Systems Management page

IBM System x Systems Management page at http://www.ibm.com/systems/management/

Obtain an overview of IBM systems management using IBM Director Agent or IBM Director Core Services.

IBM ServerProven® pages

System x ServerProven pages at http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html

BladeCenter ServerProven pages at http://www-03.ibm.com/servers/eserver/serverproven/compat/us/eserver.html

Obtain information about hardware compatibility with IBM System x, IBM BladeCenter, and IBM IntelliStation® hardware.

Microsoft System Center Operations Manager 2007 page

Microsoft System Center Operations Manager TechCenter at
http://technet.microsoft.com/en-us/opsmgr/default.aspx

Obtain information about System Center Operations Manager that describes how to monitor your IBM systems across large organizations, using IBM and Microsoft applications and operating system knowledge to resolve operational problems.

IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2

With the IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2, you can use enhanced features of Microsoft System Center Operations Manager 2007 to communicate with BladeCenter management modules to discover and monitor the health of IBM BladeCenter chassis and chassis components, and also discover and monitor the health of IBM System x systems and BladeCenter blade server systems that are installed with IBM Director Core Services or IBM Platform Agent.

Microsoft System Center Operations Manager overview

The Microsoft System Center Operations Manager combines monitoring, authoring, and administration to monitor the health of a management target, to author management packs, and to perform administrative operations. The IBM Hardware Management Pack provides the management know-how of its IBM management targets. A management target in Microsoft System Center Operations Manager can be a computer system, an operating system instance, an application, a network adapter, or a subcomponent inside of a management target. The scope of management classifies Microsoft System Center Operations Manager a systems management software tool.

Upon finding (discovering) a Windows system, the Microsoft System Center Operations Manager management server pushes the Microsoft System Center Operations Manager agent onto the system, along with scripts inside the IBM Hardware Management Pack that help provide policies for monitoring health and collecting events.

Microsoft System Center Operations Manager reports health characteristics of a management target in these categories:

- Availability
- Configuration
- Performance
- Security

For example, Microsoft System Center Operations Manager reports cooling fan availability based on the fan presence sensor reading and fan performance by the fan tachometer reading.

The IBM Hardware Management Pack establishes relationships for hosting, aggregation, and health dependency among IBM management targets. Microsoft System Center Operations Manager provides health roll-ups and drill-downs, to give

you a holistic view of objects, and to allow you to quickly identify any specific problem spot.

Related to Microsoft System Center Operations Manager health aggregation is the ability to create customizable groupings of objects. With custom groups, you can manage a holistic health aggregation that is based on your business needs. You can define different monitoring or aggregation rules for different groups.

For example, suppose that the IT staff of an application hosting provider might have a per-client holistic health view of all of the hardware, operating systems, applications, and other objects involved with the client. Or the IT staff might have a per-application view, or they might have both views available at the same time.

Microsoft System Center Operations Manager maintains operations databases to track all events that are reported. Expert analysis of the operations databases can show deep cause and effect relationships in the historical data that might reveal the root cause of a sophisticated problem.

How IBM Hardware Management Pack, Version 2.2 supports IBM systems

Because the IBM Hardware Management Pack communicates with BladeCenter chassis and components, as well as with individual System x and BladeCenter x86 blade servers, you can use Microsoft System Center Operations Manager to monitor all BladeCenter chassis and all Windows-based IBM servers in a holistic manner.

The IBM Hardware Management Pack communicates with BladeCenter chassis and components through the management module using Simple Network Management Protocol (SNMP) over a LAN.

The IBM Hardware Management Pack communicates with individual servers, including BladeCenter blade servers, that are running a Windows operating system and that have a supported version of IBM Director Core Services or IBM Platform Agent installed.

Installation overview

Install Microsoft System Center Operations Manager 2007 SP1 on the management server; then install IBM Hardware Management Pack on the management server. Use the Computer and Device Management Wizard of Microsoft System Center Operations Manager to choose to manage BladeCenter chassis, and Windows® systems running on either an IBM System x server or on a BladeCenter blade server.

You must enable SNMP communications on a BladeCenter chassis so that the chassis can communicate with the management server. Once that is set up successfully, the management server can automatically discover the chassis and communicate with the management module on the blade server.

Individual servers are handled differently. After selecting an individual server to manage, Microsoft System Center Operations Manager pushes its Microsoft System Center Operations Manager agent onto the managed system, along with the IBM Hardware Management Pack if the target is an IBM System x or BladeCenter x86 blade server. The Microsoft System Center Operations Manager agent and the IBM Hardware Management Pack begin communicating with the IBM Director Agent on the system and communicating across the network to the Operations Manager Server.

When you install the IBM Hardware Management Pack, the following Microsoft System Center Operations Manager functions are enhanced for IBM System x and BladeCenter x86 systems:

- **Health explorer view**: Examines the health state of IBM BladeCenter chassis and components, and individual servers at a component level in a hierarchical view of availability, configuration, performance, and security.
- **Diagram view**: Shows inner organization views of IBM chassis and IBM System x and BladeCenter x86 systems.
- **Events view**: Captures events that occur on specific or aggregate targets of IBM chassis and IBM System x and BladeCenter x86 systems.
- **Active alerts view**: Lists all alert notifications for specific or aggregate targets of IBM chassis and IBM System x and BladeCenter x86 systems.

Note:

These management functions are supported on IBM BladeCenter chassis and on System x and BladeCenter x86 systems running Windows. They are not supported on System i, System p, and System z systems.

Major features

Major features of the IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 include:

- Comprehensive monitoring of the health of BladeCenter chassis components with extended integration of management module events and their implication on BladeCenter blade servers.
- Enhanced monitoring of the health of IBM System x and BladeCenter x86 blade server systems and system components, including reporting all events, whether they are classified or not
- Identifying hardware problems in the Operations Manager Health Explorer more prominently, by rolling up the health of all hardware health monitors to the top-most level

- Creating groups of IBM systems and system components for monitoring at a high level
- Automatically restoring the health state of a component from an error state to a healthy state when an error is resolved, when possible

IBM Hardware Management Pack, Version 2.2 monitors all of the hardware health states that are critical for continuous functioning of your IBM systems. To help you focus on events that might need your attention, the Hardware Management Pack reports errors for all critical health conditions that might impact the system.

Installing

IBM provides the Hardware Management Pack for you to integrate into the Operations Manager, to enhance the management of IBM systems. The Hardware Management Pack discovers and monitors the health of IBM BladeCenter chassis and chassis components, such as the management module and I/O modules, IBM System x systems, BladeCenter blade server systems, and system components.

Installation requirements for the IBM Hardware Management Pack

You can install the IBM Hardware Management Pack on an IBM system that is running as a Microsoft System Center Operations Manager management server, or on the root management server (RMS) in a group of management servers. You can install the IBM Hardware Management Pack on other management servers in the same Active Directory domain as the RMS, but you must identify the RMS during installation.

Installing the Hardware Management Pack on a root management server

You can install the IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 on a Microsoft Operations Manager 2007 root management server (RMS).

About this task

To install the Hardware Management Pack, complete the following steps:

1. Uninstall any earlier Version of the IBM Hardware Management Pack before installing Version 2.2.
2. If it is not already installed, install Microsoft Operations Manager 2007 to establish a management server.

Go to the *Operations Manager 2007 Quick Start Guide* Web site at http://technet.microsoft.com/en-us/library/bb418758.aspx to install Microsoft Operations Manager 2007.

3. If it is not already installed, install Microsoft Operations Manager 2007 SP1.

   Go to the Operations Manager 2007 SP1 Upgrade Guide at http://technet.microsoft.com/en-us/library/bb822001.aspx to install Microsoft Operations Manager 2007 SP1.

4. If you are running Microsoft System Center Operations Manager 2007 Service Pack 1 (SP1) on a Windows Server 2008 root management server (RMS), install hot fixes on both Windows Server 2008 and Microsoft Operations Manager 2007 SP1.

   Go to the "Support for running System Center Operations Manager 2007 Service Pack 1 and System Center Essentials 2007 Service Pack 1 on a Windows Server 2008-based computer" at http://support.microsoft.com/kb/953141 to install the hot fixes.

5. Go to the IBM Web site for Microsoft Systems Management Solutions for IBM Servers at http://www.ibm.com/systems/management/director/partners/microsoft/ to install the Hardware Management Pack.

   You can also download the *Release Notes* and the *Installation and User's Guide* for IBM Hardware Management Pack, Version 2.2 from the same page.

6. Click **IBM Hardware Management Pack for Microsoft Systems Center Operations Manager 2007 Version 2.2** in the "Microsoft System Center Operations Manager 2007" section.

7. Click **Sign in** on the next page to sign in with your IBM ID and password. After signing in, the download page for IBM Director Upward Integration Modules (UIMs) is displayed.

8. Click the Download Director tab or the "http" tab to download the files using your preferred download method.

   - Downloading using the Download Director Java application:

     a. Select the checkbox for the appropriate download package for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 in the IBM Director Upward Integration Modules for Microsoft section.

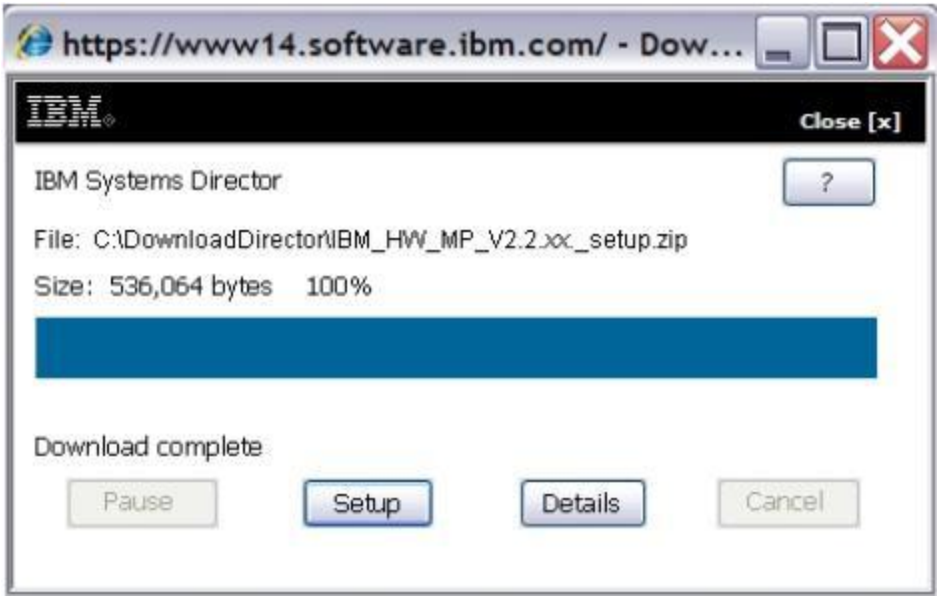
Version 2.2 (32-bit and 64-bit):
`IBM_HW_MP_V2.2.xx_setup.zip`

The *xx* part of the name is an internal IBM tracking number.

b. Scroll to the bottom of the page and select the check box to agree (**I agree**) to the license agreement; then click **I confirm** to begin the download for the IBM Hardware Management Pack, Version 2.2 installation package that is appropriate for your Operations Manager Server to a temporary directory.

c. Click **Run** on the security dialog window:

d. After the download completes, click **Close [x]** to close the download dialog window:



- Downloading using http:

  a. Click **I agree** beside the appropriate download package for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 in the IBM Director Upward Integration Modules for Microsoft section.

  Version 2.2 (32-bit and 64-bit):
  IBM_HW_MP_V2.2.*xx*_setup.zip

  The *xx* part of the name is an internal IBM tracking number.

  b. Click **Save** to begin the download to a download directory of your choice.

9. Double-click the downloaded installation file to install the IBM Hardware Management Pack to the Operations Manager Server.

   If the installer cannot find Microsoft Operations Manager on your system, the installation closes. Otherwise, the Welcome to the InstallShield Wizard for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 window is displayed.

10. Click **Next**.

    The License Agreement window is displayed.

11. Read the software license agreement. If you agree with the terms, select **I accept the terms in the license agreement**; then click **Next**.

If the system already has Version 2.2 installed, you can select to repair or remove the IBM Hardware Management Pack, Version 2.2 code.

Repairing the code reinstalls the code and registry entries on the local server.

Removing the code does not remove the entries for the IBM Hardware Management Pack, Version 2.2 on the Operations Console of the Microsoft System Center Operations Manager. You must use the Operations Console to remove those entries.

12. Verify the default target location. If necessary, select the target folder for the installation code and the knowledge articles that describe IBM systems and components.

13. Click **Next** to confirm the installation.

14. When the installation is complete, click **Close**.

The installation process does not import the IBM Hardware Management Pack into Operations Manager 2007.

15. Open the Operations Console of the Microsoft System Center Operations Manager.

16. Click the **Administration** button; then right click **Management Packs**; then click **Import Management Packs…**, following the wizard to manually import the three IBM Hardware Management Packs. They default installation location is "C:\Program Files\IBM\IBM HW Mgmt Pack for OpsMgr 2007\Management Packs"

After successfully imported the IBM Hardware Management Packs, in the Administration pane of the Operations Manager console are three components that indicate a successful installation:

- IBM Hardware Management Pack - Common Library
- IBM Hardware Management Pack for IBM System x and BladeCenter x86 Blade Systems
- IBM Hardware Management Pack for IBM BladeCenter Chassis and Modules

Note:

Sometimes management pack entries might not display immediately after the installation. Refresh the window or wait a few minutes until the management pack entries are displayed.

Installing the Hardware Management Pack on a non-root management server

You can install the IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 on a Microsoft Operations Manager 2007 server that is not a root management server (RMS), but that is in the same Active Directory as the RMS. The program also attempts to update the installation on the root management server (RMS), if the management server where you are installing is in the same Active Directory as the RMS.

About this task

To install the Hardware Management Pack, complete the following steps:

1. Uninstall any earlier Version of the IBM Hardware Management Pack before installing Version 2.2.

2. If it is not already installed, install Microsoft Operations Manager 2007 to establish a management server.

   Go to the *Operations Manager 2007 Quick Start Guide* Web site at http://technet.microsoft.com/en-us/library/bb418758.aspx to install Microsoft Operations Manager 2007.

3. If it is not already installed, install Microsoft Operations Manager 2007 SP1.

   Go to the Operations Manager 2007 SP1 Upgrade Guide at http://technet.microsoft.com/en-us/library/bb822001.aspx to install Microsoft Operations Manager 2007 SP1.

4. If you are running Microsoft System Center Operations Manager 2007 Service Pack 1 (SP1) on a Windows Server 2008 root management server (RMS), install hot fixes on both Windows Server 2008 and Microsoft Operations Manager 2007 SP1.

   Go to the "Support for running System Center Operations Manager 2007 Service Pack 1 and System Center Essentials 2007 Service Pack 1 on a Windows Server 2008-based computer" at http://support.microsoft.com/kb/953141 to install the hot fixes.

5. Go to the IBM Web site for Microsoft Systems Management Solutions for IBM Servers at http://www.ibm.com/systems/management/director/partners/microsoft/ to install the Hardware Management Pack.

   You can also download the *Release Notes* and the *Installation and User's Guide* for IBM Hardware Management Pack, Version 2.2 from the same page.

6. Click **IBM Hardware Management Pack for Microsoft Systems Center Operations Manager 2007 Version 2.2** in the "Microsoft System Center Operations Manager 2007" section.

7. Click **Sign in** on the next page to sign in with your IBM ID and password. After signing in, the download page for IBM Director Upward Integration Modules (UIMs) is displayed.

8. Click the Download Director tab or the "http" tab to download the files using your preferred download method.

   - Downloading using the Download Director Java application:

     a. Select the checkbox for the appropriate download package for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 in the IBM Director Upward Integration Modules for Microsoft section.

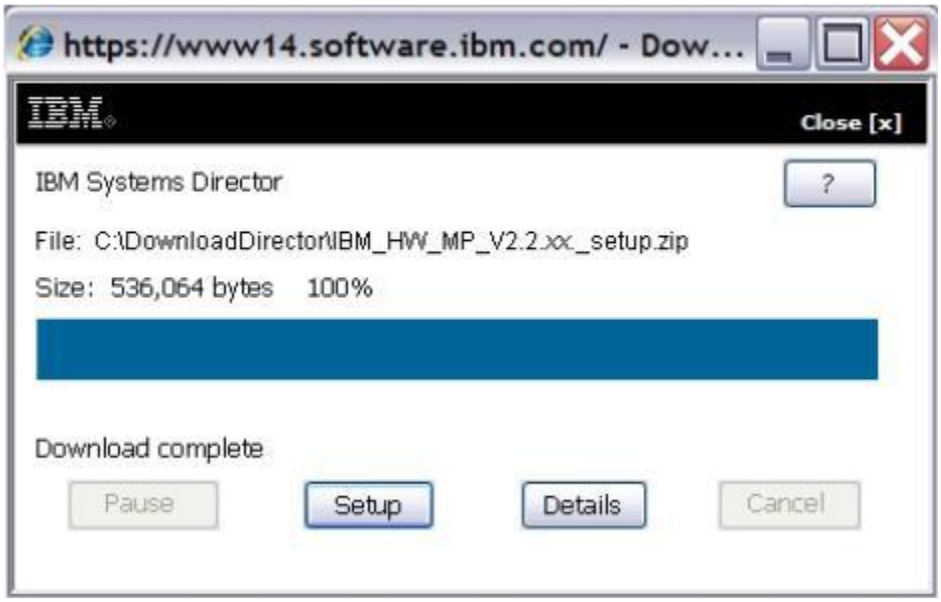
        Version 2.2 (32-bit and 64-bit):
        IBM_HW_MP_V2.2.*xx*_setup.zip

        The *xx* part of the name is an internal IBM tracking number.

     b. Scroll to the bottom of the page and select the check box to agree (**I agree**) to the license agreement; then click **I confirm** to begin the download for the IBM Hardware Management Pack, Version 2.2 installation package that is appropriate for your Operations Manager Server to a temporary directory.

c. Click **Run** on the security dialog window:

d. After the download complete, click **Close [x]** to close the download dialog window:



- Downloading using http:

a. Click **I agree** beside the appropriate download package for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 in the IBM Director Upward Integration Modules for Microsoft section.

Version 2.2 (32-bit and 64-bit):
IBM_HW_MP_V2.2.*xx*_setup.zip

The *xx* part of the name is an internal IBM tracking number.

b. Click **Save** to begin the download to a download directory of your choice.

9. Double-click the downloaded installation file to install the IBM Hardware Management Pack to the Operations Manager Server.

   If the installer cannot find Microsoft Operations Manager on your system, the installation closes. Otherwise, the Welcome to the InstallShield Wizard for IBM Hardware Management Pack for Microsoft System Center Operations Manager 2007, Version 2.2 window is displayed.

10. Click **Next**.

    The License Agreement window is displayed.

11. Read the software license agreement. If you agree with the terms, select **I accept the terms in the license agreement**; then click **Next**.

    If the system already has Version 2.2 installed, you can select to repair or remove the IBM Hardware Management Pack, Version 2.2 code.

    Repairing the code reinstalls the code and registry entries on the local server, but does not attempt to also reinstall the code on the RMS, if the server is a member of the Active Directory domain of an RMS.

    Removing the code does not remove the entries for the IBM Hardware Management Pack, Version 2.2 on the Operations Console of the Microsoft System Center Operations Manager. You must use the Operations Console to remove those entries.

12. Verify the default target location. If necessary, select the target folder for the installation code and the knowledge articles that describe IBM systems and components.

13. Click **Next** to confirm the installation.

14. Enter the DNS name or the IP address of the root management server in the **Request RMS Name** window. If the RMS is a cluster, also enter the cluster name.

15. Click **Connect**. A message is displayed to confirm that the RMS has been registered. If the RMS Name or IP address is in error, correct the error and click **Connect** again.

Note:

To cancel the installation at this point, click **Cancel**. Ignore the resulting error message. The installation process rolls back all changes to the pre-installation state.

16. When the installation is complete, click **Close**.

The installation process imports the IBM Hardware Management Pack into Operations Manager 2007. The installation process also configures Operations Manager 2007 with the location of the knowledge articles about IBM systems and components.

17. Open the Operations Console of the Microsoft System Center Operations Manager.

18. Click the **Administration** button; then click **Management Packs**; then click **Import Management Packs...**, following the wizard to manually import the three IBM Hardware Management Packs. They default installation location is "C:\Program Files\IBM\IBM HW Mgmt Pack for OpsMgr 2007\Management Packs"

After successfully imported the IBM Hardware Management Packs, in the Administration pane of the Operations Manager console are three components that indicate a successful installation:

- IBM Hardware Management Pack - Common Library
- IBM Hardware Management Pack for IBM System x and BladeCenter x86 Blade Systems
- IBM Hardware Management Pack for IBM BladeCenter Chassis and Modules

Note:

Sometimes management pack entries might not display immediately after the installation. Refresh the window or wait a few minutes until the management pack entries are displayed.

Uninstalling IBM Hardware Management Pack, Version 2.2

To uninstall, place the server where you are uninstalling in maintenance mode, remove the management pack entries from the Operations Console of the Microsoft System Center Operations Manager and then uninstall the software package using the "Add or Remove Programs" function in the Windows Control Panel.

Removing the management packs from the Operations Console of the Microsoft System Center Operations Manager

Find the BladeCenter blade server or System x server where you are uninstalling in the Operations Manager console, right-click the server, and click **Maintenance Mode** -> **Start Maintenance Mode** from the context menu.

Use the console to manually remove the IBM Hardware Management Pack, Version 2.2 management packs from the console.

Use the Microsoft System Center Operations Manager console Administration pane to select and manually remove all three management packs that are included in the IBM Hardware Management Pack, Version 2.2:

- IBM Hardware Management Pack - Common Library
- IBM Hardware Management Pack for IBM System x and BladeCenter x86 Blade Systems
- IBM Hardware Management Pack for IBM BladeCenter Chassis and Modules

Then remove the software package and files as described in Uninstalling the software package using the "Add or Remove Programs" function in the Windows Control Panel.

Uninstalling the software package using the "Add or Remove Programs" function in the Windows Control Panel

Remove the management pack entries as described in Removing the management packs from the Operations Console of the Microsoft System Center Operations Manager.

Then uninstall the software package and the files entirely using the "Add or Remove Programs" function in the Windows Control Panel. Select **Remove** on the **IBM Hardware Management Pack, v2.2, for Microsoft System Center Operations Manager 2007** entry.

Downgrading to a previous version

To downgrade the IBM Hardware Management Pack to a previous version, uninstall the current version and reinstall the earlier version.

File and registry locations

By default, the installation files for IBM Hardware Management Pack, Version 2.2 are installed into the following directory:

%ProgramFiles%\IBM\IBM HW Mgmt Pack for OpsMgr 2007

The registry path for the IBM Hardware Management Pack, Version 2.2 entry is:

HKEY_LOCAL_MACHINE\SOFTWARE\IBM\IBM HW Mgmt Pack for OpsMgr 2007

Reinstalling IBM Hardware Management Pack, Version 2.2

If you recently removed management packs from the Microsoft System Center Operations Manager 2007 console, wait for the settings to get propagated to the Operations Manager database before you reinstall.

If you do not wait for the removal of the management packs to register, reinstalling can result in managed clients that are not listed in the Operations Manager console.

See the "Discovery information is missing after you delete and then reimport a management pack in Microsoft System Center Operations Manager 2007" article at http://support.microsoft.com/kb/943307 on the Microsoft Web for information about this known limitation for Microsoft System Center Operations Manager 2007.

If you remove the management packs from the console, you detach the Hardware Management Pack from the Operations Manager server. You must then reinstall the Hardware Management Pack into Operations Manager 2007 to add the management packs back to the console view.

See Installing the Hardware Management Pack on a root management server for more information.

Configuring BladeCenter chassis discovery

IBM BladeCenter chassis that are properly enabled for Simple Network Management Protocol (SNMP) can be discovered automatically, based on Microsoft network device discovery. After installing the IBM Hardware Management Pack, you can verify that BladeCenter chassis are discoverable.

1. View Microsoft System Center Operations Manager consoles that are able to discover BladeCenter chassis, by clicking **IBM Hardware** -> **IBM BladeCenters and Modules** -> **Windows Computers for managing IBM BladeCenters**.

   Use this view to identify the health of computers that have the IBM Hardware Management Pack installed and are able to discover and manage BladeCenter chassis and components.

2. Select **Monitoring** -> **IBM Hardware** -> **IBM BladeCenters and Modules**.

   Chassis units are displayed in the middle window followed by a view of their components that is organized in the same way that the management modules present components:

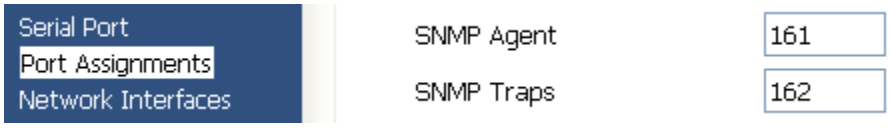
   - IBM BladeCenter Blades

- IBM BladeCenter Chassis
- IBM BladeCenter Cooling Modules
- IBM BladeCenter I/O Modules
- IBM BladeCenter Management Modules
- IBM BladeCenter Media Modules
- IBM BladeCenter Power Modules
- IBM BladeCenter Storage Modules

Each module type has a health state and the following properties:

- Product name, and the logical name for blades
- Physical location info
- The hardware vital product data (VPD), which might include the machine type and model, the machine serial number, the part number, the customer replaceable unit (CRU) or field replaceable unit (FRU) part number, and the CRU or FRU serial number
- Information relevant for troubleshooting a health problem:
  - Firmware build ID
  - MAC address for virtual LAN troubleshooting
- Information to connect to the resource, if applicable, such as an IP address
- The UUID, if applicable

3. To set ports for SNMP communication for a BladeCenter chassis that has not been discovered automatically, click **MM Control** -> **Port Assignment** on the management module Web console.



Use the default SNMP ports of 161 for agent (queries/polling) and 162 for trapping. It is important that the SNMP port settings are consistent. Otherwise, the Operations Manager cannot discover the BladeCenter chassis.

4. Click **MM Control** -> **Network Protocols** -> **Simple Network Management Protocol (SNMP)** to go to the SNMP settings.

a. Select **Enabled** for **SNMP Traps**, **SNMP v1 agent**,and **SNMP v3 agent**.

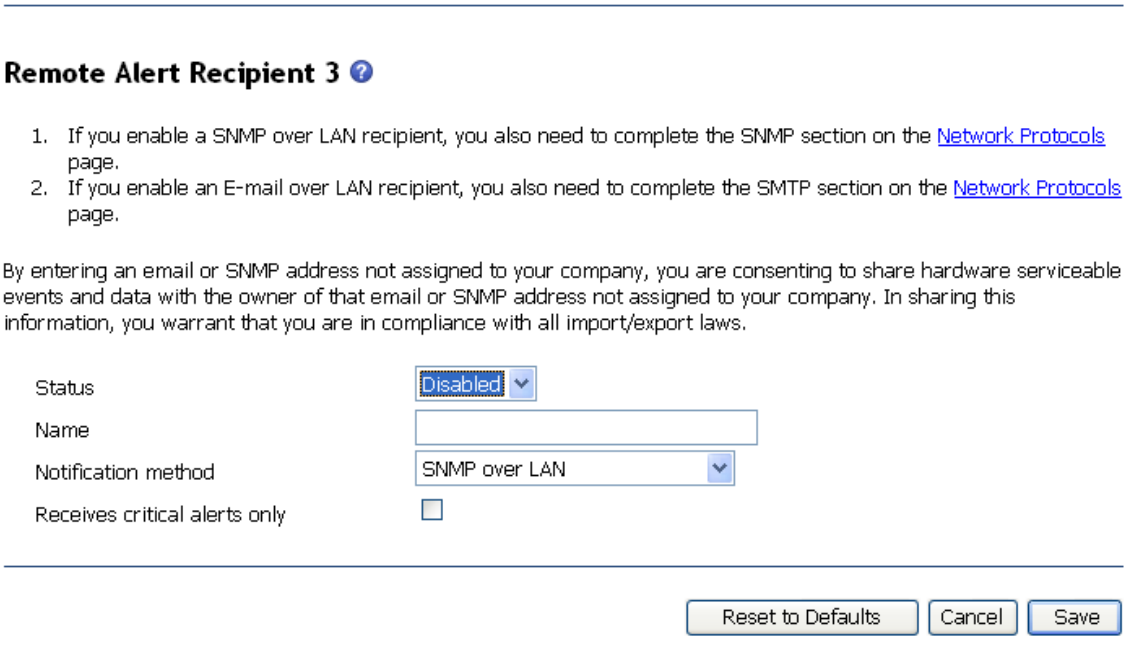
b. Use the IP address of any Microsoft System Center Operations Manager management server in the root management server Active Directory domain to make the following settings.

Community name	Access type	Fully qualified host name or IP address
Public	**Get**	*yourOpsMgrServer.yoursite.yourcompany.com*
Public	**Trap**	*yourOpsMgrServer.yoursite.yourcompany.com*
Public	**Set**	*yourOpsMgrServer.yoursite.yourcompany.com*

c. The community name is arbitrary, but use the same community name the Get, Set, and Trap access types so that the Microsoft System Center Operations Manager root management server (RMS) can retrieve data and alerts from BladeCenter, and perform management tasks.

To receive events from management modules, a network connection must exist between the management module and Microsoft System Center Operations Manager. In addition, you must configure the management module to send events.

5. Although this step might vary slightly depending on the firmware level, enable alerting using SNMP. To enable alerting using SNMP over the LAN in firmware revision 46, click **MM Control** -> **Alerts**. In the right pane, under **Remote Alert Recipients**, click a **~not used~** link to configure the alert recipient:

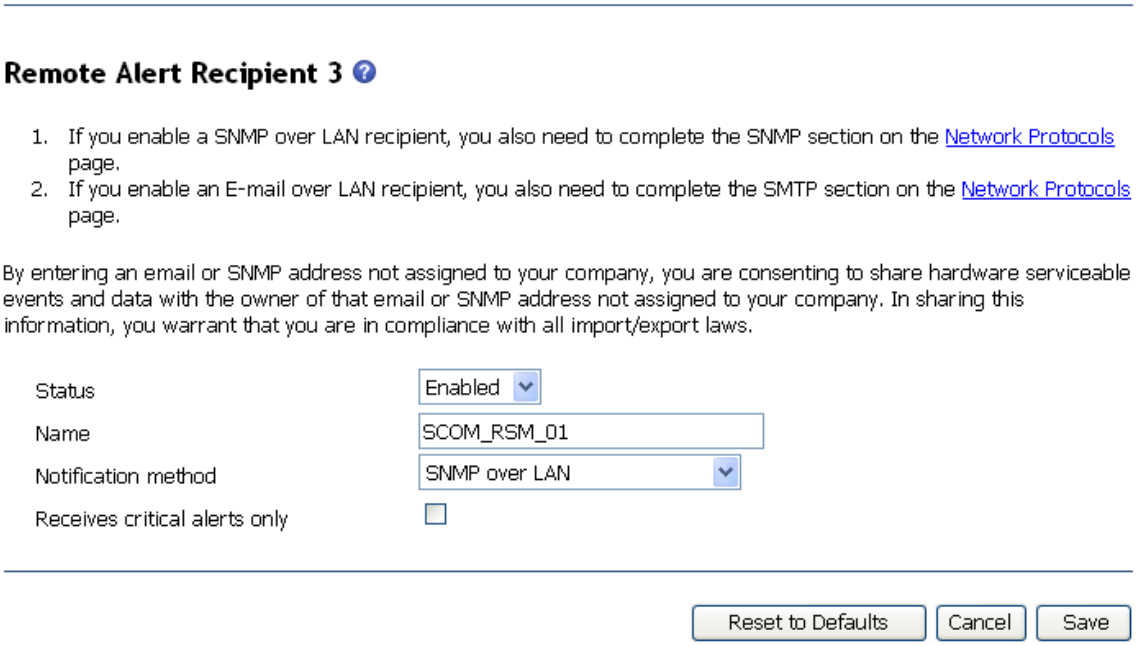


. In the new Remote Alert Recipient window, change the status from **Disabled** to **Enabled** under the name.

a. Type a descriptive name for the root management server (RMS) of the Microsoft System Center Operations Manager 2007 system in the **Name** field.

b. Select **SNMP over LAN** for the **Notification method**.

c. Click **Save**.



These instructions are for firmware revision 46, but might change in succeeding firmware levels.

6. In the left pane, under **MM Control**, click **Alerts**, scroll down to **Monitor Alert**, click which alerts to send, and click **Save**.

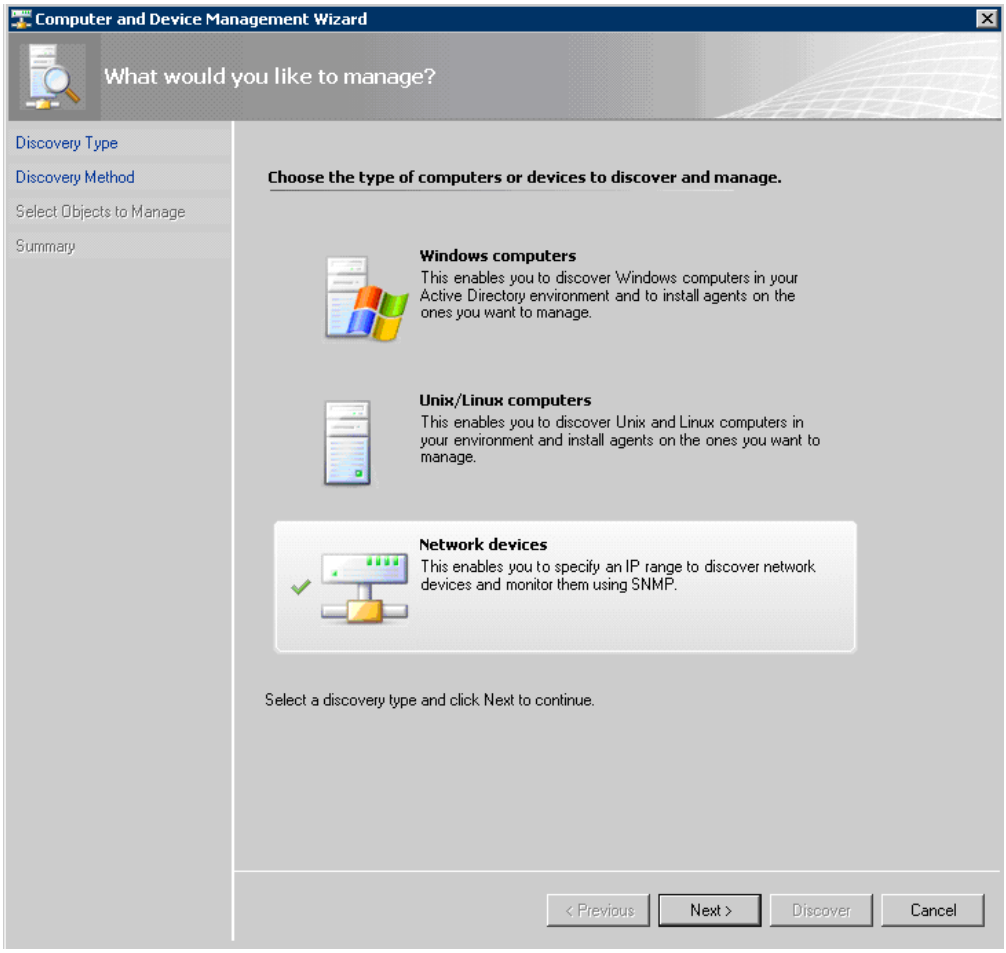
Monitored Alerts

Use enhanced alert categories

	Critical Alerts	Warning Alerts	Informational Alerts
Chassis/System Management	☑	☑	☑
Cooling Devices	☑	☑	☑
Power Modules	☑	☑	☑
Blades	☑	☑	☑
I/O Modules	☑	☑	☑
Storage Modules	☑	☑	☑
Event Log		☑	☑
Power On/Off			☑
Inventory change			☑
Network change			☑
User activity			☑

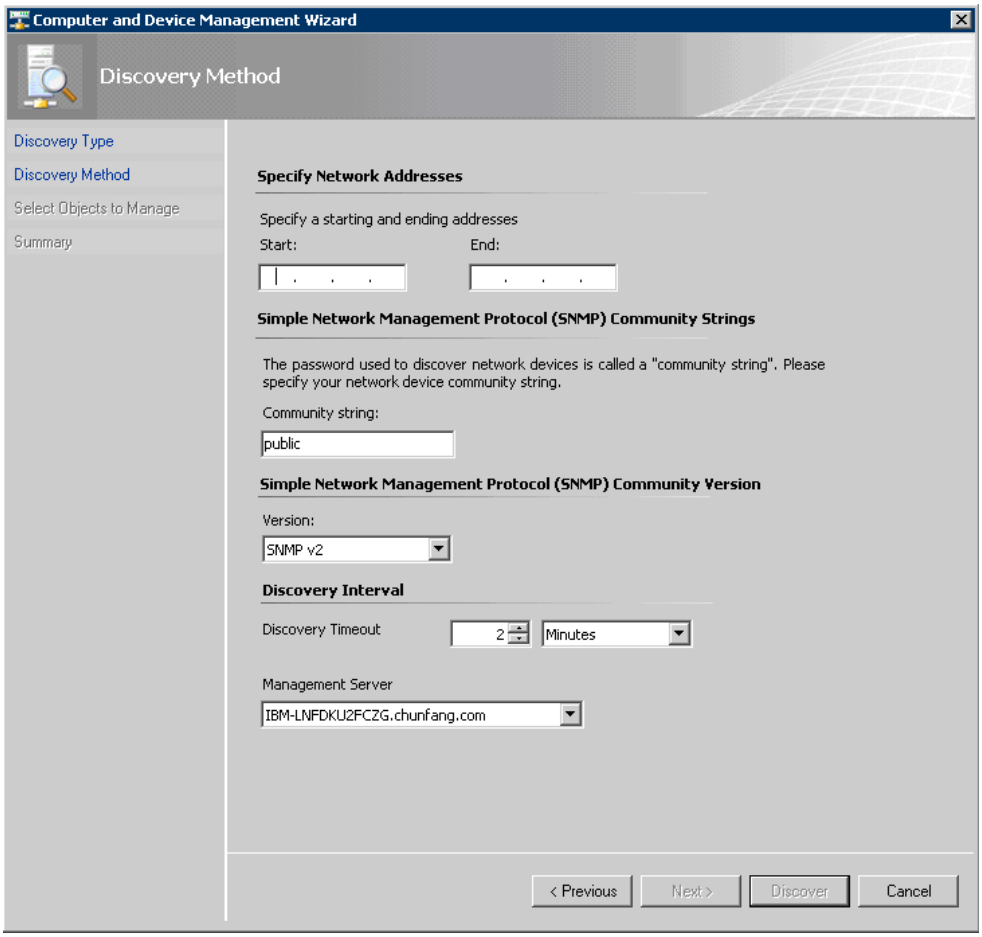
7. To discover chassis and their components in Microsoft System Center Operations Manager, complete the following steps on any management server in the Active Directory domain of the RMS:

   . Select **Discovery Wizard** to start the Discovery Wizard.



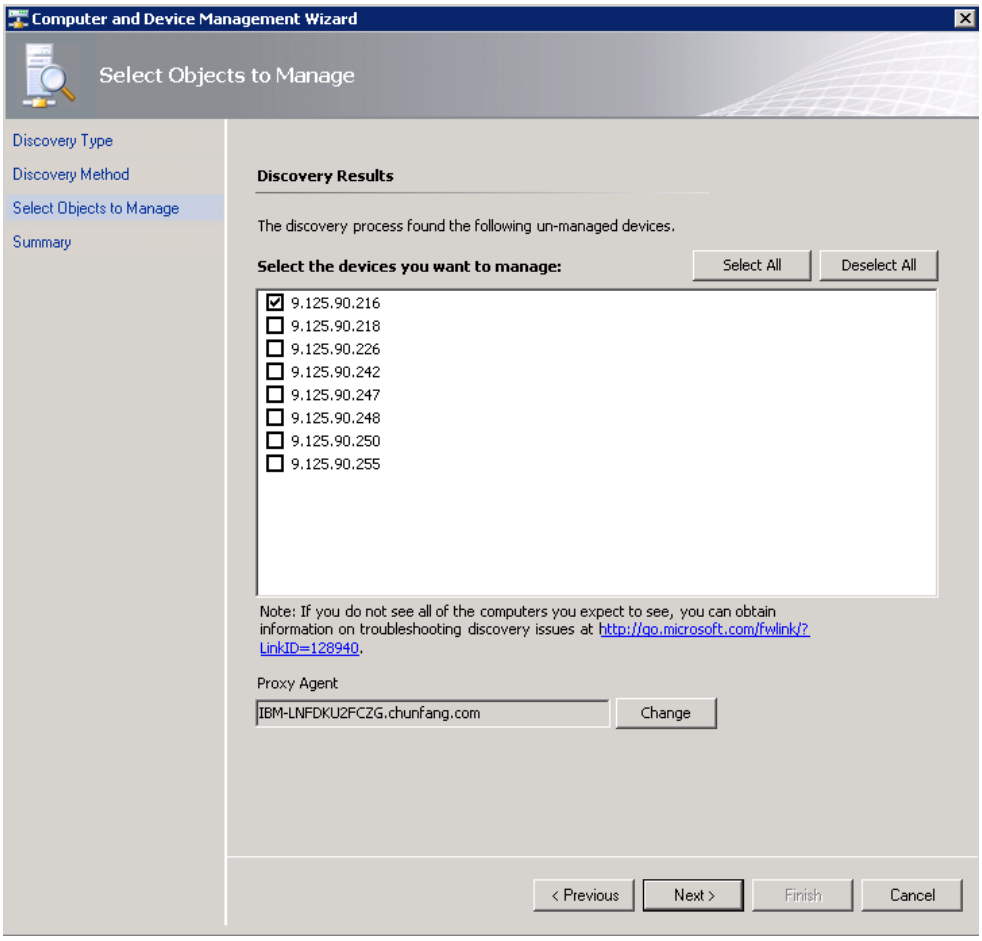
Select **Network devices** in SCOM 2007 R2 or Select **Auto or Advanced?** -> **Advanced discovery**, **Computer & Device Types** -> **Network Devices**, and **Management Server** -> ***the management server that can connect to the target BladeCenter*** in SCOM 2007 SP1. It management server is to run the SNMP discovery of the BladeCenter. The management server does not have to be the RMS. Choose a management server that has the IBM Hardware Management Pack installed.

a. Click **Next** to go to the **Discovery Method** page to enter more settings in the Discovery Wizard.



Enter an IP address range for discovery to examine. Enter the community string that you used on the BladeCenter chassis SNMP settings in the **Community string** field. Select **Version** -> **Network Devices** and a **Discovery Timeout**.

b. Click **Discovery** to go to the **Select Objects to Manage** page to select the IP address for the BladeCenter chassis to manage.



Select the IP address of the chassis unit to manage. Enter the name of the Microsoft System Center Operations Manager management server that you entered in the **Auto or Advanced** page in the **Proxy Agent** field.

The Proxy Agent handles event alerts from the target BladeCenter. The server must be a Microsoft System Center Operations Manager management server that has the IBM Hardware Management Pack, Version 2.2 installed and that can communicate with the target BladeCenter chassis using SNMP. Making the proxy server the same as the management server selected for the discovery simplifies any troubleshooting that you might perform later.

Removing a discovered chassis

You can remove a discovered BladeCenter chassis from the group of discovered systems.

Before you begin

To remove a discovered chassis, complete the following procedure.

1. Log on to the Microsoft Operations Manager 2007 operations console.
2. Select **Device Management** -> **Network Devices** -> ***BladeCenter chassis***.
3. Select **Delete** to start the Delete task.

   Once the chassis and its discovered components are removed from the group, they are no longer displayed in the instances of:

   - IBM BladeCenter Blades
   - IBM BladeCenter Chassis
   - IBM BladeCenter Cooling Modules
   - IBM BladeCenter I/O Modules
   - IBM BladeCenter Management Modules
   - IBM BladeCenter Media Modules
   - IBM BladeCenter Power Modules
   - IBM BladeCenter Storage Modules

Working with the Hardware Management Pack

The Hardware Management Pack enhances the functionality of the Operations Manager to provide more detailed information about managed IBM systems.

About this task

Use the following tasks to learn more about using the Operations Manager when you have installed the Hardware Management Pack.

- Use the Monitoring pane of the Operations Manager Console, as described in Using the Operations Manager Console with the Hardware Management Pack installed.
- Add an IBM system to the managed systems, as described in Adding an IBM system to be managed by the Operations Manager.
- Monitor the health of systems, components, and systems-management software, as described in Monitoring the health of systems, hardware components, and other targets.
- Identify and resolve errors, as described in Using Health Explorer to identify and resolve problems.

- Access IBM knowledge pages, as described in Using knowledge pages to resolve problems.

Using the Operations Manager Console with the Hardware Management Pack installed

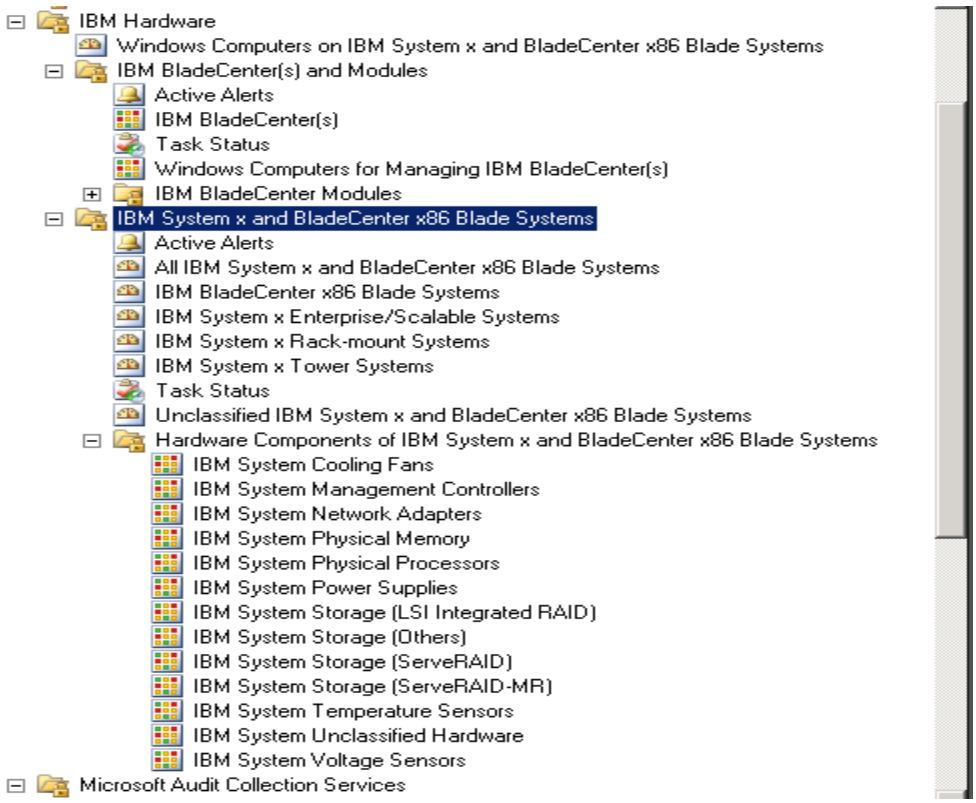
After installing the IBM Hardware Management Pack, you can use the Monitoring pane of the Operations Manager Console to monitor the system. The IBM Hardware folders and views in the Monitoring pane provide a complete view of the health of your IBM BladeCenter chassis and chassis components as well as your System x and BladeCenter x86 blade systems.

About this task

Perform the following procedure to become familiar with the Monitoring pane of the Operations Manager Console so that you can see what the Hardware Management Pack adds.

1. Click the **Monitoring** tab in the left pane of the Operations Manager Console to show the systems and hardware components that you can monitor with the Hardware Management Pack.

   The following graphic shows part of the **Monitoring** pane of the Operations Manager Console after you install the Hardware Management Pack.



Under the IBM Hardware folder is one view that provides a global view: Windows Computers on IBM System x and BladeCenter x86 Blade Systems view.

There are also two more folders of additional views of different aspects of monitoring data that is collected from IBM systems.

The IBM Hardware Management Pack adds the following folders and views:

IBM Hardware (folder)

The IBM Hardware folder includes active alerts, task status, and aggregate targets for all discovered IBM systems and hardware components. It also includes systems diagrams.

Windows Computers on IBM System x and BladeCenter x86 Blade Systems (view)

Windows Computers on IBM Systems is a state view of IBM System x and BladeCenter x86 Blade Systems. Use this view as you would use the **Monitoring** -> **Computers** view. The difference is that this view contains computers that are either IBM System x or BladeCenter x86 blade systems.

IBM BladeCenter(s) and Modules (folder)

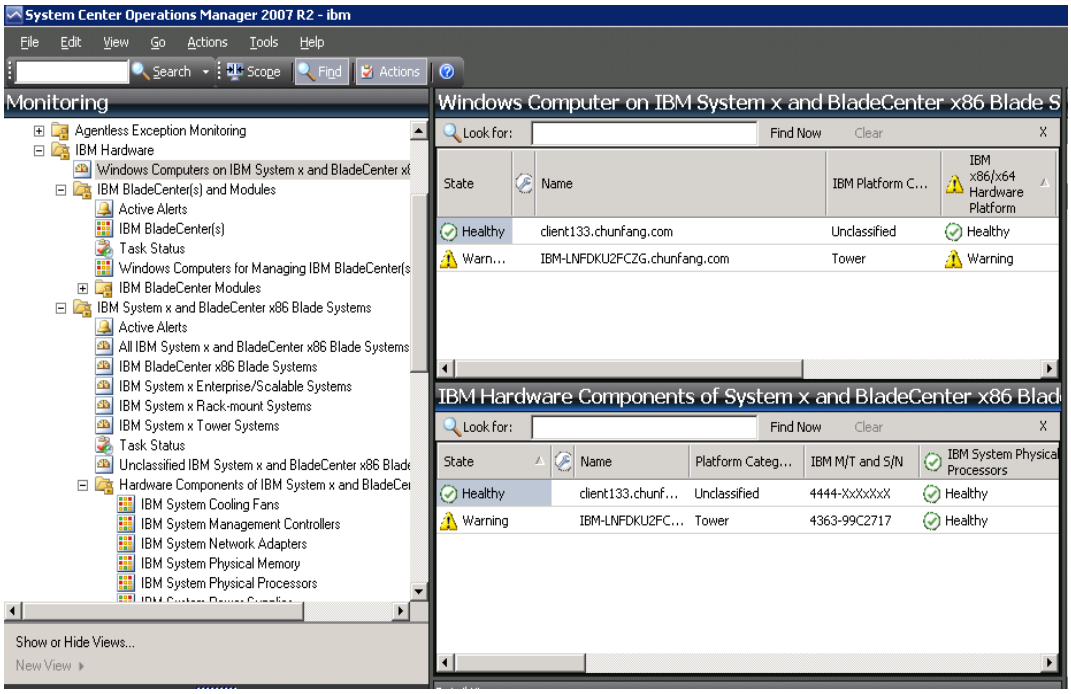
This folder contains a summarized view of all BladeCenter(s) and Modules as well as personalized summary views of specific Alerts, Task Status, IBM BladeCenter(s), and Windows Computers for Managing IBM BladeCenter(s).

IBM System x and BladeCenter x86 Blade Systems (folder)

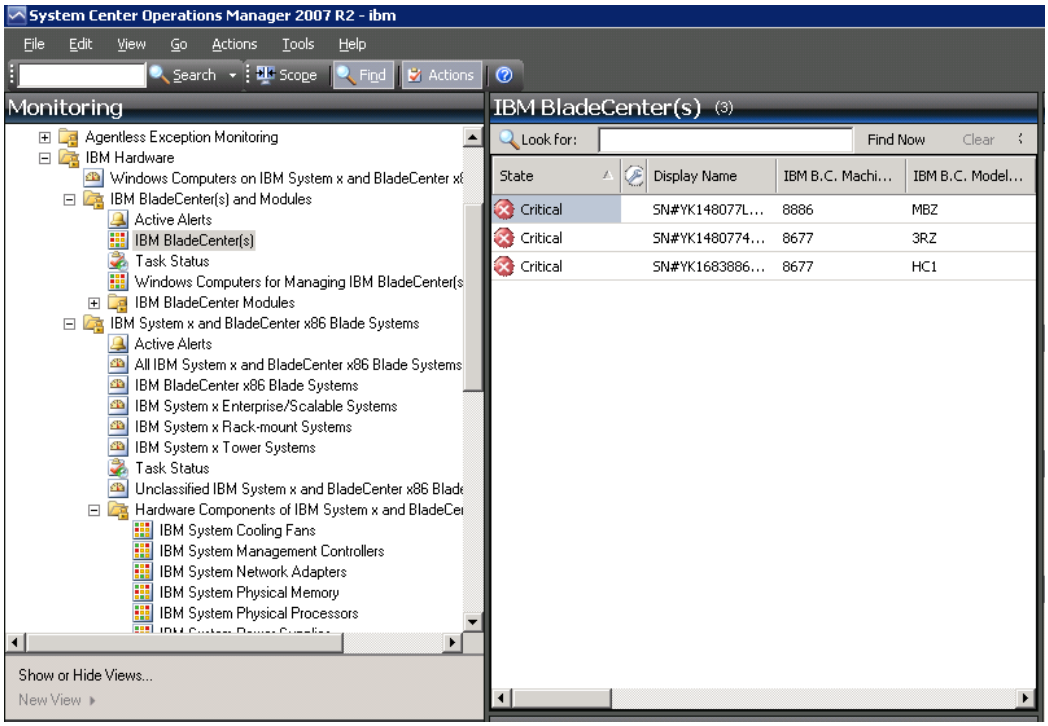
This folder contains a summarized view of all IBM systems in "All IBM System x and BladeCenter x86 Blade Systems" and personalized summary views of specific types of IBM System x and BladeCenter x86 Blade Systems that are grouped by the type of platform, such as Tower, rack, Blade, Enterprise server, and unclassified.

2. Click the **Windows Computer on IBM System x and BladeCenter x86 Blade Systems** view.

Only manageable hardware components are discovered and monitored, not all components. For example, a system with one or more non-manageable fans does not have all of its fans discovered or monitored. The pane labelled **IBM Hardware Components of System x and BladeCenter x86 Blade Systems** shows various components.



3. Click the **IBM BladeCenter(s) and Modules** folder to display detailed information.



Under the IBM BladeCenter Modules folder are four views and one folder:

- **Active Alerts (view)**

Active Alerts is a state view of IBM BladeCenter alerts.

- **IBM BladeCenter(s) (view)**

  IBM BladeCenter(s) contains a summarized view of all IBM BladeCenter chassis and chassis components, such as Blades, Cooling, I/O, Storage, Power, Management Module, and other components.

- **Task Status (view)**

  Task Status is a state view of IBM BladeCenter(s) and Modules.

- **Windows Computers for Managing IBM BladeCenter(s) (view)**

  This view shows management modules that can communicate with IBM BladeCenter chassis.

- **IBM BladeCenter Modules (folder)**

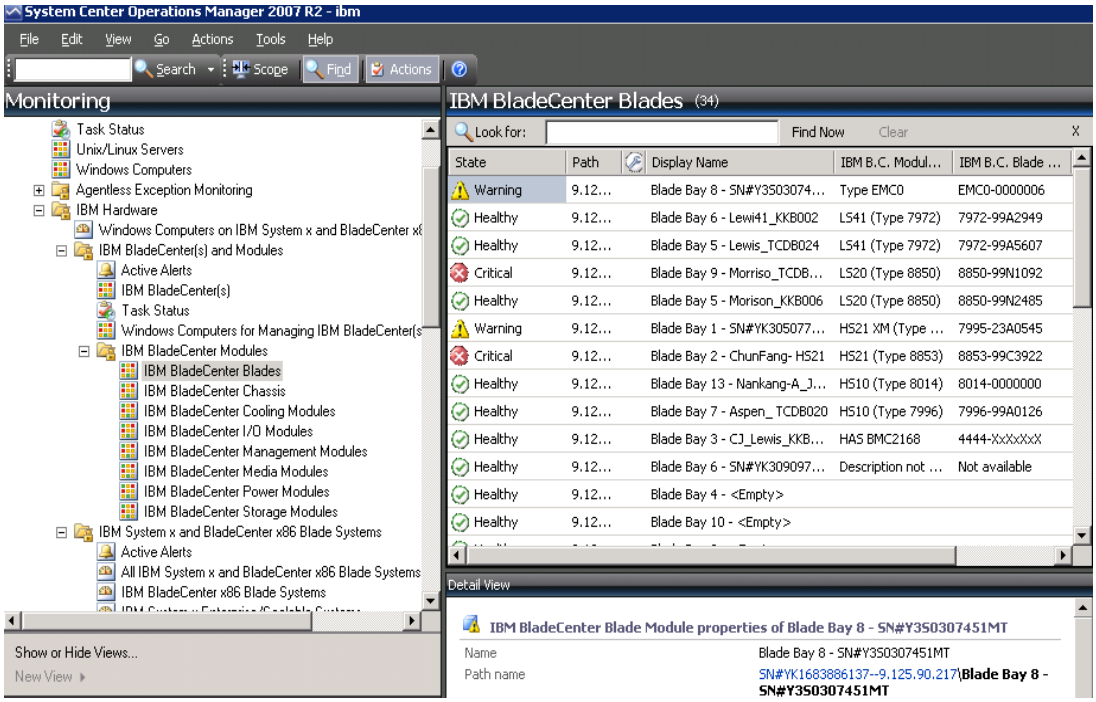
  The IBM BladeCenter Modules folder contains all component information and status information for BladeCenter chassis, chassis components, and blade servers. Categories include Blades, Chassis, Cooling, I/O, Management Module, Media Modules, Power, and Storage.

4. Click the **IBM BladeCenter Modules** folder to display the views in the folder.

After discovering an IBM BladeCenter chassis, the Hardware Management Pack classifies the system according to its system type, and adds the system to the view of all systems and to one of the other groups of system views:

- **IBM BladeCenter Blades**
- **IBM BladeCenter Chassis**
- **IBM BladeCenter Cooling Modules**
- **IBM BladeCenter I/O Modules**
- **IBM BladeCenter Management Modules**
- **IBM BladeCenter Media Modules**
- **IBM BladeCenter Power Modules**
- **IBM BladeCenter Storage Modules**

5. Click the **IBM BladeCenter(s) and Modules** -> **IBM BladeCenter Modules** -> **IBM BladeCenter Blades** to display detailed information about all BladeCenter blade servers.



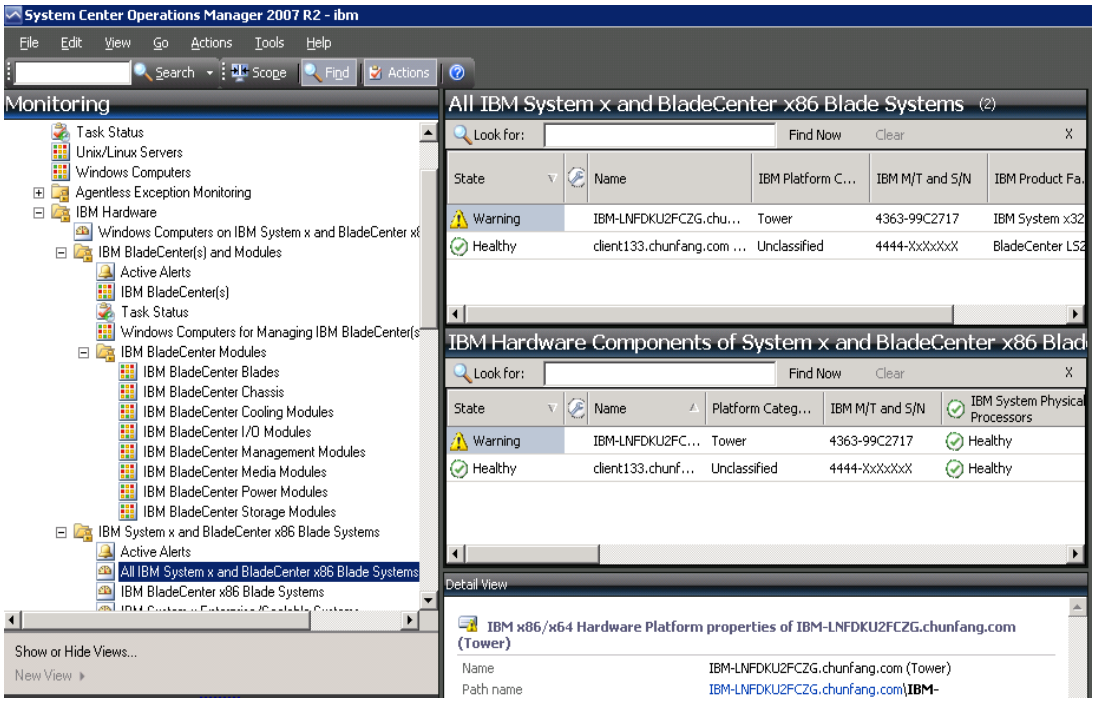
6. Click the **IBM System x and BladeCenter x86 Blade Systems** view to display the views in the folder.

After discovering an IBM system, the Hardware Management Pack classifies the system according to its system type, and adds the system to the view of all systems and to one of the other groups of system views:

- **Active Alerts**
- **All IBM System x and BladeCenter x86 Blade Systems** (all of the systems)
- **IBM BladeCenter x86 Blade Systems**
- **IBM System x Enterprise/Scalable Systems**
- **IBM System x Rack-mount Systems**
- **IBM System x Tower Systems**
- **Task Status**
- **Unclassified IBM System x and BladeCenter x86 Blade Systems** (systems that are either too old or too new to be classified correctly)
- **Hardware Components of IBM System x and BladeCenter x86 Blade Systems** (folder)

7. Click the **All IBM System x and BladeCenter x86 Blade Systems** view to show the dashboard views of its systems and hardware components.

   Each view of IBM systems provides a dashboard view of health states and a separate dashboard view of manageable hardware components in each system, as shown in the following graphic.



Adding an IBM system to be managed by the Operations Manager

Use the Microsoft Operations Manager 2007 Discovery Wizard to discover and add IBM systems to be managed. The Discovery Wizard deploys the Hardware Management Pack to the discovered system.

About this task

The Discovery Wizard does not show systems that are already being monitored.

1. Log on to the Operations Manager Server with an account that is a member of the Administrators role.

2. Click **Administration**.

3. Click **Discovery Wizard** at the bottom of the navigation pane above the list of buttons, or select **Configure computers and devices to manage** in the Actions column.

You can also right-click the Agent Managed view to select the Discovery Wizard from a context menu, as shown in the following graphic.

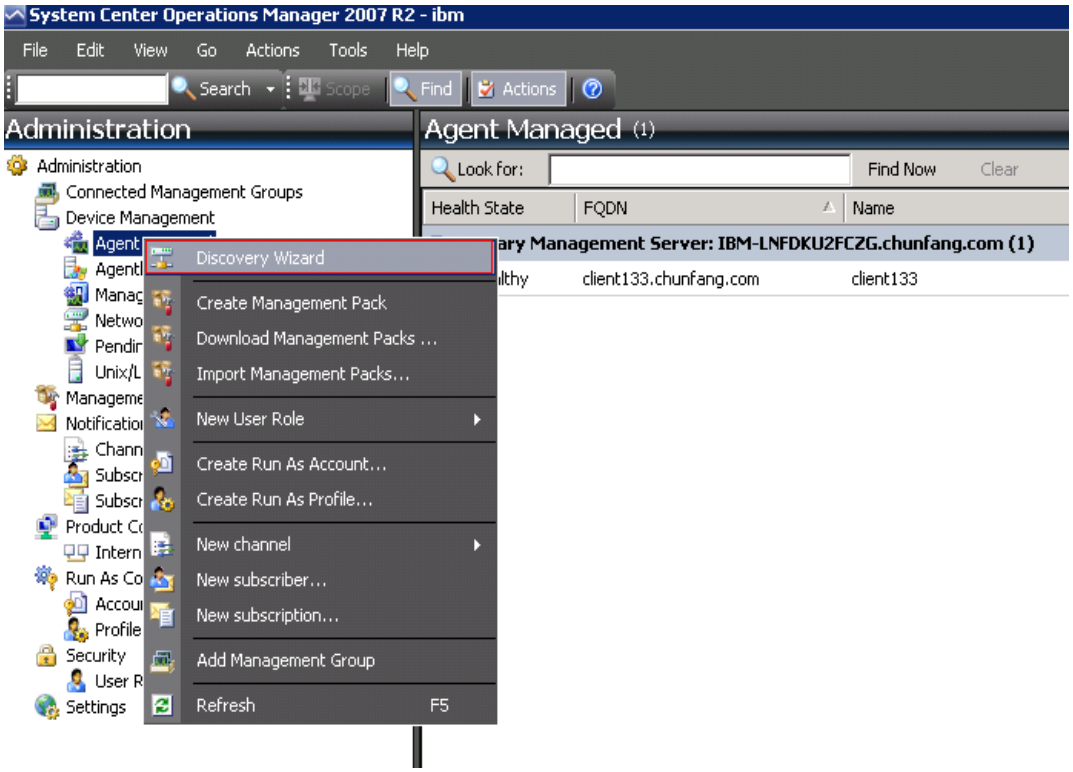


Figure 1. Using the context menu to select the Discovery Wizard

4. Click **Next** if the Introduction page is displayed. The page does not display if the Computer and Device Management Wizard has run before and "Do not show this page again" was selected.

5. Select **Advanced discovery** on the Auto or Advanced? page.

6. Select **Servers & Clients** in the Computer & Device Types list.

7. Select the Management Server to use to discover the computers in the Management Server list.

8. Select the **Verify discovered computers can be contacted** check box.

9. Click **Next** to display the Discovery Method page.

10. Click **Browse for, or type-in computer names** to type in the names of IBM systems, or to click **Browse** to search the network for IBM systems.

11. Click **Next** to display the Administrator Account page.

12. Type the user name, password, and domain of an account that is a member of the Administrators role.

    The account must have administrative privileges on the targeted computers to be managed. If **This is a local computer account, not a domain account** is selected, the Management Server Action Account is used to perform discovery. For more information about Operations Manager 2007 accounts, see "Security Considerations in Operations Manager 2007" at http://technet.microsoft.com/en-us/library/bb309725.aspx.

    When you run the Operations Console on a computer that is not an Management Server, the Connect To Server dialog box is displayed. Type the name of the Management Server to connect to it.

13. Click **Discover** to display the Discovery Progress page.

    Progress depends on the number of computers in the network and other factors. The Discovery Wizard might return up to 4000 computers if you selected the **Verify discovered computers can be contacted** check box, or up to 10,000 computers if the check box is not selected.

14. Select the computers to manage on the Select Objects to Manage page.

15. Click **Agent** in the Management Mode list; then click **Next**.

16. Click **Finish**.

17. Examine the Agent Management Task Status dialog box to verify that the status for the selected computers changes from Queued to Success.

18. Click **Close**.

What to do next

See the Microsoft Operations Manager documentation at http://technet.microsoft.com/en-us/opsmgr/default.aspx for more information about using the Discovery Wizard.

Viewing inventory

You can use Microsoft System Center Operations Manager to view inventory for appropriately configured management modules.

About this task

To view the inventory for a system, complete the following steps:

1. To view IBM BladeCenter chassis and their modules, from the Microsoft System Center Operations Manager operations console window, in the Computer and Groups pane, click **Computers and Groups View** -> **IBM Hardware** -> **IBM BladeCenters and Modules**.

2. To view IBM System x servers, BladeCenter blade servers, and other individual systems that have been discovered, click **Computers and Groups View** -> **IBM Hardware** -> **IBM System x and BladeCenter x86 Blade Servers**.

Monitoring the health of systems, hardware components, and other targets

The Hardware Management Pack discovers and monitors the health of hardware components: processors, memory, network adapters, storage, management controllers, power supplies, fans, temperature sensors, and voltage sensors. The Hardware Management Pack can also discover and monitor the health of system-management software, such as IBM Director Agent, IPMI driver, IBM IPMI Mapping Layer, and ServeRAID™ Manager Level 1 Agent.

About this task

Component discovery and health monitoring depend on firmware support, hardware compatibility, and management-software support. Because of the various factors involved, not all components are always discoverable. If a component is not discovered, it cannot be monitored or managed.

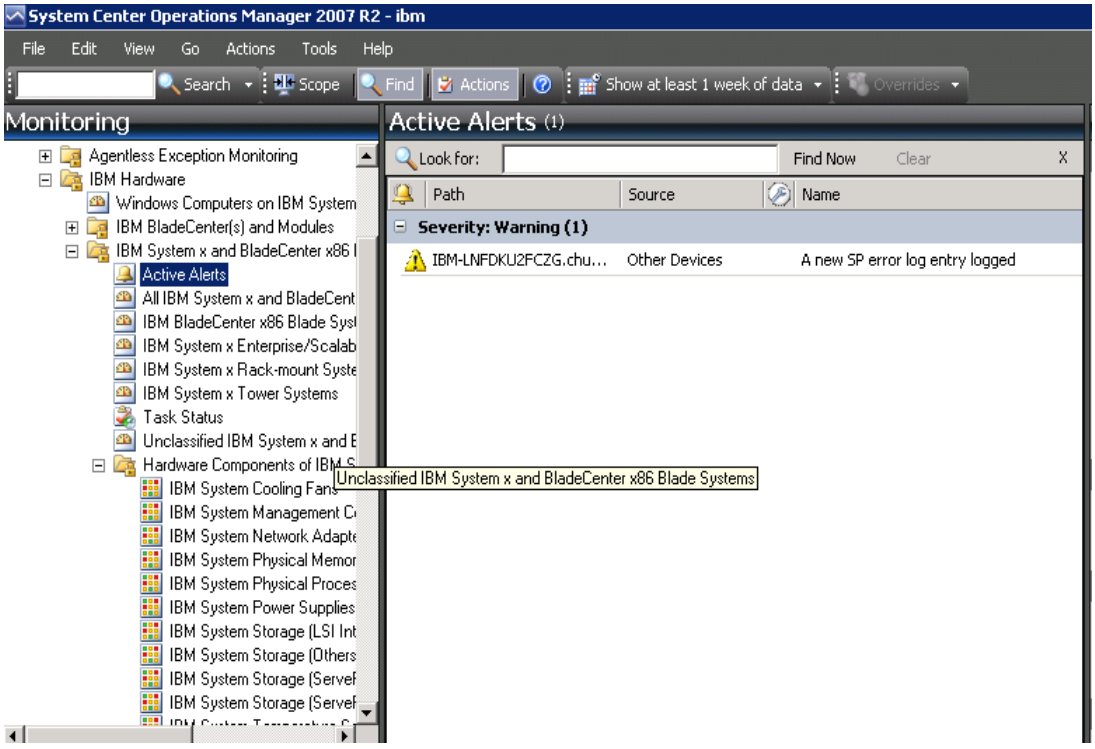
1. Click the **Monitoring** button in the navigation pane.

2. Expand the **IBM Hardware** folder to display the folders and views that the Hardware Management Pack adds to the Operations Manager Console.

3. Expand either **IBM BladeCenter(s) and Modules** or **IBM System x and BladeCenter x86 Blade Systems**.

4. Click **Active Alerts** to see if any Critical or Warning alerts are associated with your IBM Hardware.

   The following graphic shows an example of how active alerts might be displayed:



5. Check the health of your systems using one or more of the following options.

- Expand the **Windows Computer on IBM System x and BladeCenter x86 Blade Systems** folder to check the status of the Windows platform on each system in the IBM Hardware.
- Expand the **IBM BladeCenter(s) and Modules** folder to check the status of all IBM BladeCenter chassis. Then expand the **IBM BladeCenter Modules** view to see health information for all modules.
- Expand the **IBM System x and BladeCenter x86 Blade Systems** folder to the check the hardware status on all IBM systems. Then expand the **All IBM System x and BladeCenter x86 Blade Systems** view to display the health indicators in the first column of the systems dashboard and in the first column of the hardware components dashboard. You can also expand any group view, such as **IBM System x Rack-mount Systems**, to check the hardware state for those systems.

What to do next

Go to Using Health Explorer to identify and resolve problems to learn how to use the Health Explorer to examine a critical problem.

Viewing alerts

You can use Microsoft System Center Operations Manager to view alerts that are sent from appropriately configured management modules and IBM System x systems and BladeCenter blade servers.

About this task

To view the alerts for a system, complete the following steps.

1. To view BladeCenter chassis alerts, click **Monitoring** -> **IBM Hardware** -> **IBM BladeCenters and Modules**.

   In **IBM BladeCenters and Modules**, you can see these components under each chassis.

   - IBM BladeCenter Blades
   - IBM BladeCenter Chassis
   - IBM BladeCenter Cooling Modules
   - IBM BladeCenter I/O Modules
   - IBM BladeCenter Management Modules
   - IBM BladeCenter Media Modules
   - IBM BladeCenter Power Modules
   - IBM BladeCenter Storage Modules

2. To view individual System x, xSeries, BladeCenter blade server, and other systems, click **Monitoring** -> **IBM Hardware** -> **IBM System x and BladeCenter x86 Blade Systems**.

   Note:

   All WinEvents are reported under one monitor.

   The IBM Hardware Management Pack has limited support for tools like `WinEvent.exe` that generate IBM Director events, but do not fully prescribe specific target instances.

   In some circumstances, the `WinEvent.exe` tool does not support correctly the event ID and the event description. This improper support makes the `WinEvent.exe` tool unreliable for displaying all events.

   Successfully simulated events are displayed in the Operations Manager Console under the **Alerts** view and the **Events** view.

Monitored systems that have IBM Director Agent 5.1.x installed and that use the `WinEvent.exe` tool can cause errors to resurface even after you manually clear the alerts from the Health Explorer view. To eliminate such event recurrence, delete the IBM\director\cimom\data\health.dat file and all IBM\director\cimom\data\health.dat*.evt files from the client system and restart the system.

3. Right-click a BladeCenter chassis, a System x server, a BladeCenter blade server, or any other system to open views for monitoring. You can monitor using the Alert View, Diagram View, Event View, and State View.

Locating and finding Hardware errors vs Software errors

Navigate to "Windows Computer on IBM System x and BladeCenter x86 Blade Systems" to view IBM hardware and software errors, or Navigate to "All IBM System x and BladeCenter x86 Blade Systems" to view the hardware errors.

Using Health Explorer to identify and resolve problems

You can use the Health Explorer to identify and resolve error states that show up when monitoring IBM systems and hardware components. For a quick check up, you can take a look at Active Alerts, Windows Computer on IBM System x and BladeCenter x86 Blade Systems, or All IBM System x and BladeCenter x86 Blade Systems. These views show any existing Alerts on your IBM hardware.

Before you begin

You can use the Health Explorer to view, learn, and take action on alerts, state changes, and other issues raised by a monitored object. The Health Explorer helps troubleshoot your alerts.

Suppose that you see a critical error when you are monitoring your systems and hardware components, such as shown in the following graphic.

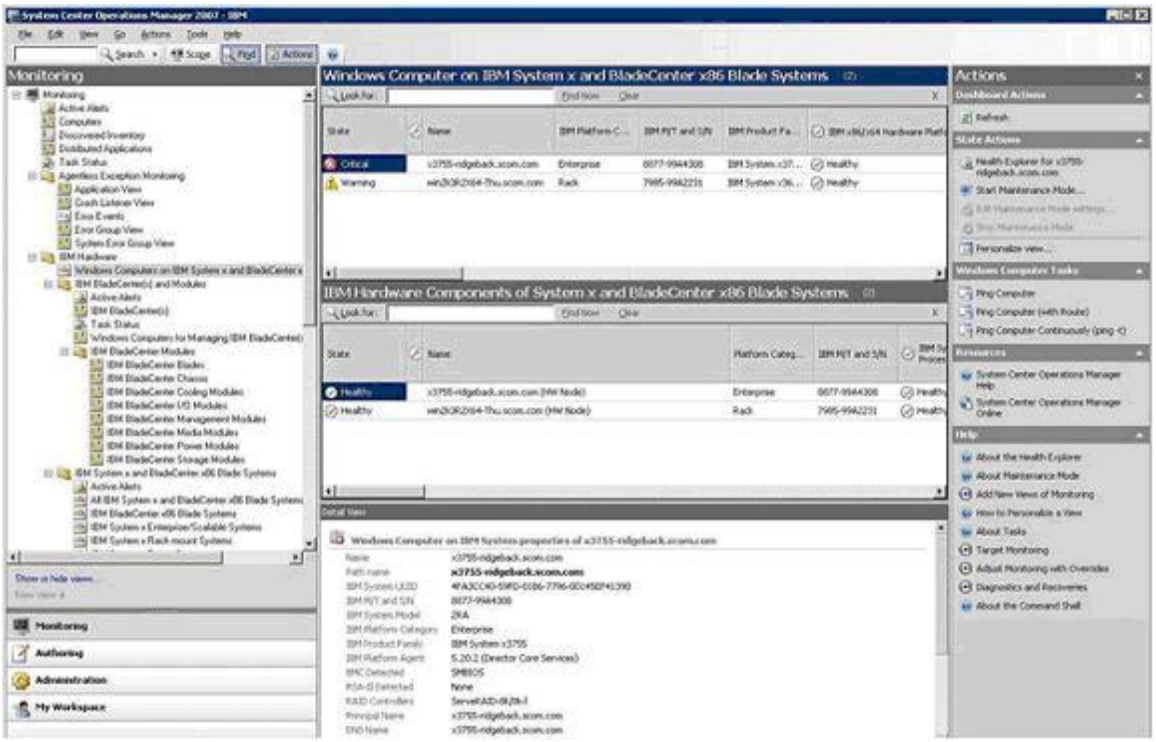


Figure 2. An example of a critical error showing up in a managed system

About this task

Use the following procedure to identify and resolve the error.

1. To open the Health Explorer when there is a Warning or a Critical alert, click **All IBM System x and BladeCenter x86 Blade Systems**; then double-click on the state. By default, the health Explorer opens with all failed monitors in expanded view.

   The following graphic shows how such an error might be displayed in the Heath Explorer:

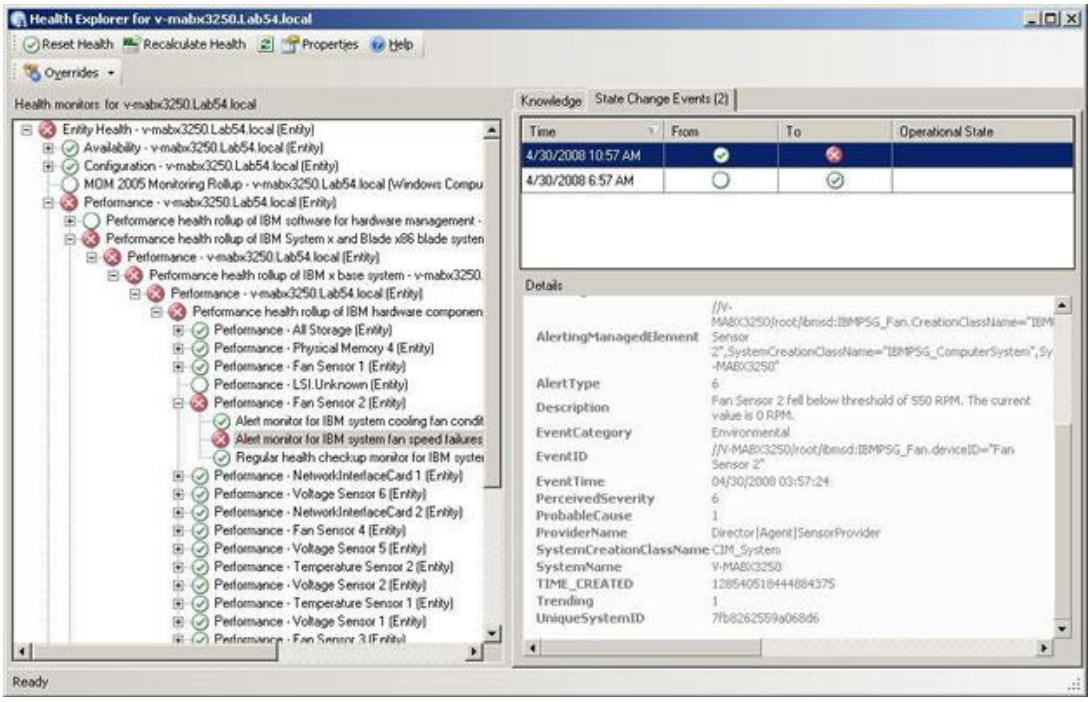


Figure 3. Example of hardware components causing a system to be in the error state

If there is no warning or critical alert, highlight an IBM system in the All IBM System x and BladeCenter x86 Blade Systems view; then right-click it to show its context menu. Click **Open**; then click **Health Explorer for *system_name***.

2. Use the Health Explorer to identify the basal level health monitor that is indicating an error. The indication should refer to a particular component instance.

   In this case, the cause of the error is a faulty fan.

3. Click **State Change Events** in the right-hand pane for details about the latest state change event.

   You can see the date and the time that the fan went into the error state. You can also read details about the nature of the error.

What to do next

Go to Using knowledge pages to resolve problems to learn how to use the knowledge pages to get help for resolving an error state and to learn about hardware components.

Using knowledge pages to resolve problems

You can access knowledge pages about errors, events, and components to learn more about your systems and hardware components, and to learn how to resolve errors when they occur.

Before you begin

This topic builds upon Using Health Explorer to identify and resolve problems. The following graphic shows how an error might be displayed in the Heath Explorer:

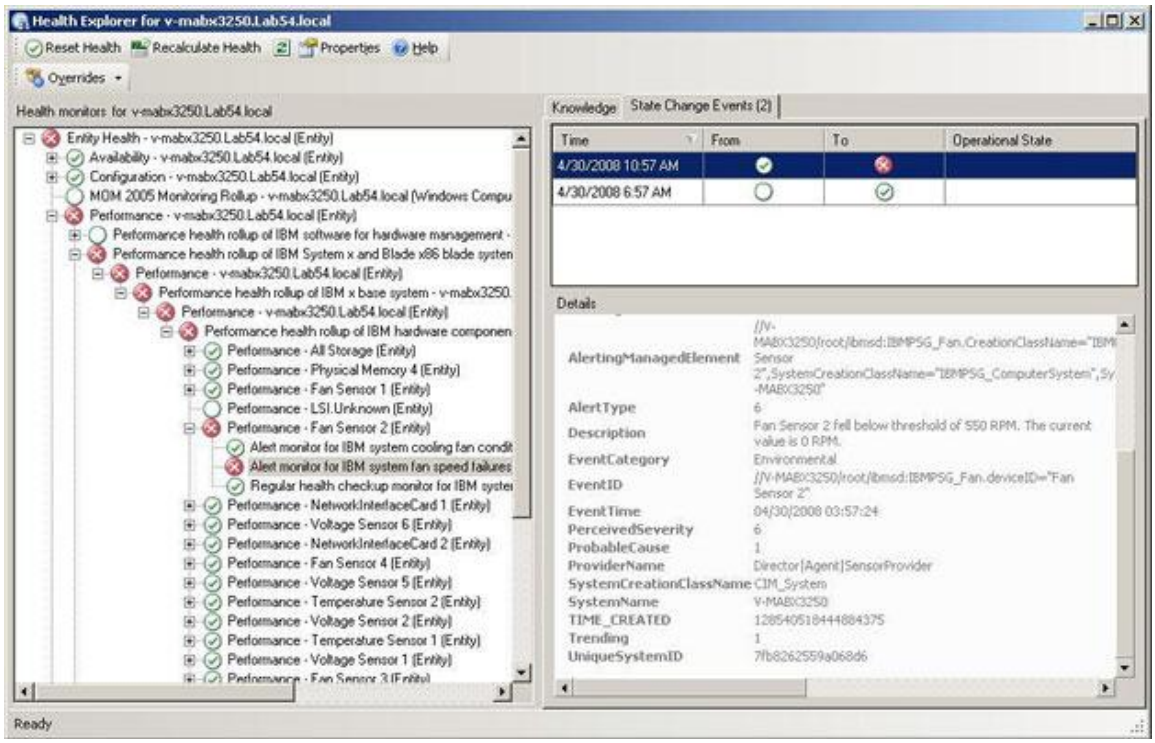


Figure 4. Example of hardware components causing a system to be in the error state

About this task

Knowledge articles written by IBM developers can help you understand more about IBM Systems x and BladeCenter x86 Blade Systems events, alerts, components, and other information.

You can access the knowledge pages in these ways:

- Use the Health Explorer/Monitors View to access IBM Hardware Management Pack monitor knowledge.
- Use the Events view to access knowledge about the event.
- You can also use any links provided in the knowledge to access related hardware event knowledge.

Perform the following procedure to learn how to use knowledge pages.

1. Click **Knowledge** in the right-hand pane of the Health Explorer to read about the error event, including explanations and necessary steps that might help you fix the problem.

   Read the "Knowledge" for the monitor in the right-hand pane to see if a manual "Reset Health" is needed, and for information about how to resolve the error if extra steps are needed. The following graphic shows how such a page might be displayed:

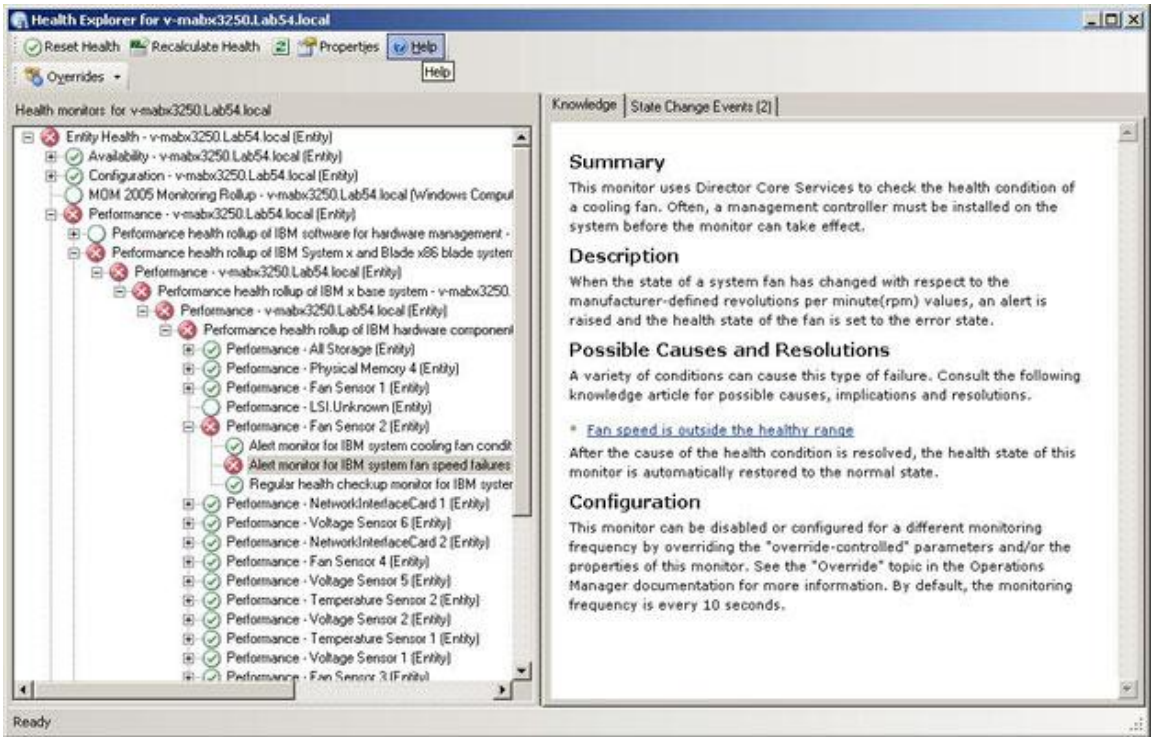


Figure 5. Example of a knowledge page that describes an error event

Some knowledge pages have links to another knowledge page for possible causes and suggested actions. Such pages might describe specific errors and their remedies, or describe hardware components.

2. Click the **Fan speed is outside the healthy range** link.

   The link opens another knowledge page, as shown in the following graphic:

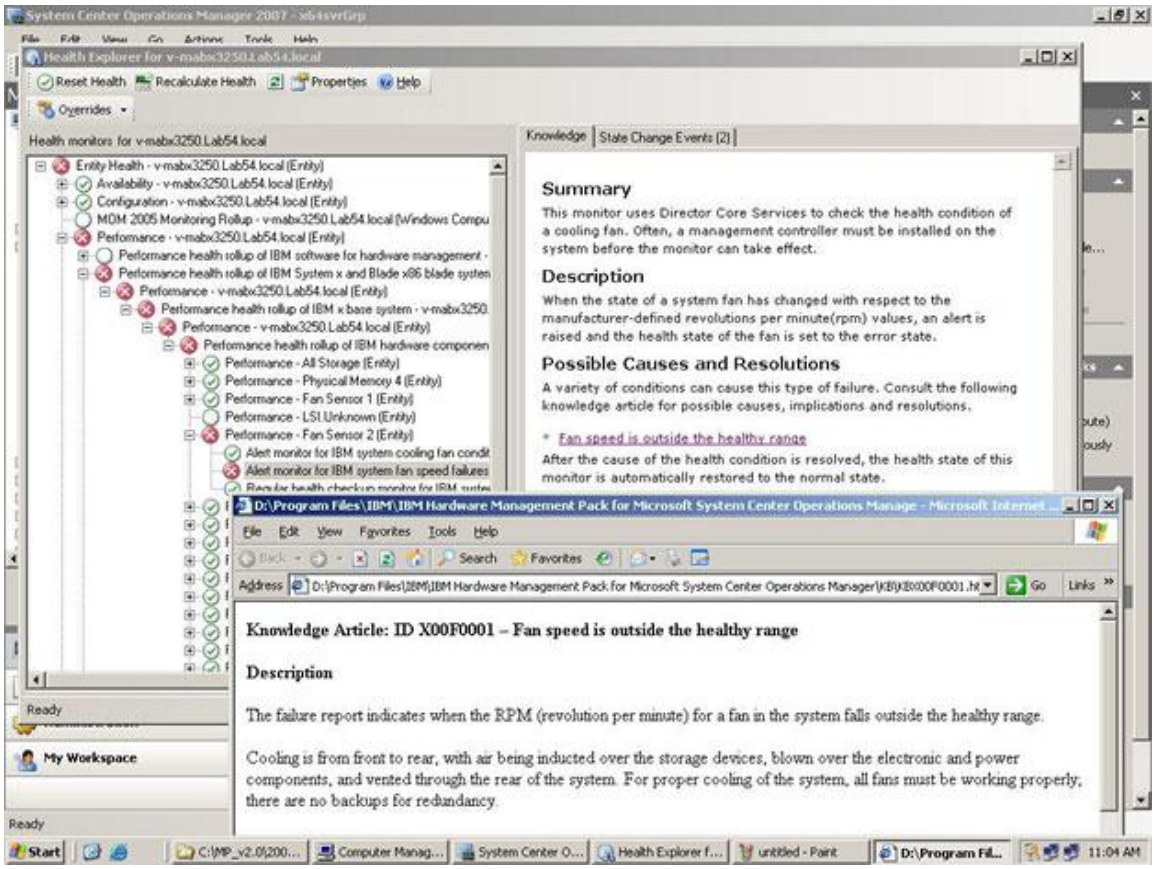


Figure 6. One knowledge page linking to another

3. Perform the procedures identified in the knowledge pages to resolve the error and reset the health sensor, if necessary.

What to do next

The knowledge is also accessible through the Active Alerts view. Double click an Alert to show the Alert Properties. The Alert description is in the General tab. The second tab is Product Knowledge that includes the link to the Knowledge article. The following graphic shows the Alert Properties for an Alert:

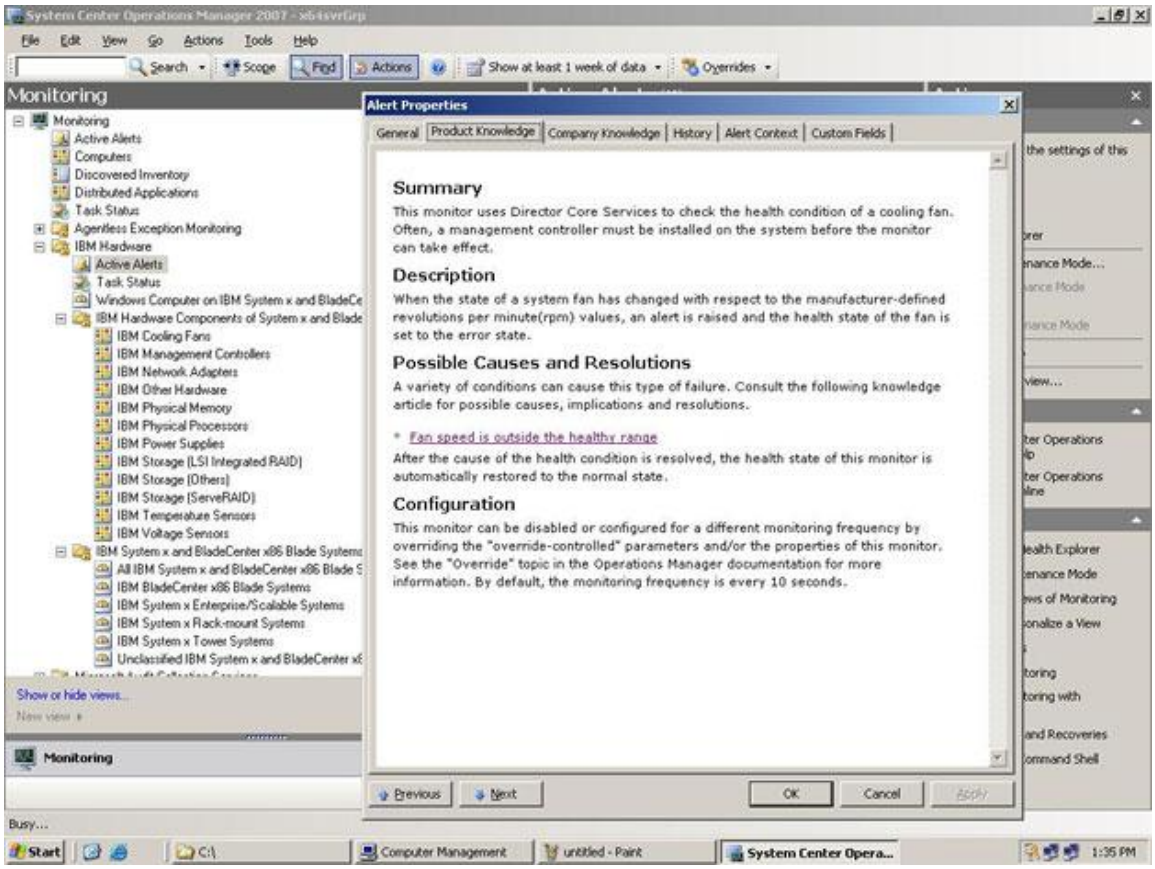


Figure 7. Example Alert Properties

Best practice: Determining the cause of an error

Use this recommended diagnostic procedure to help you look for and solve problems that might occur in the managed environment.

1. Open the Operation Console and click **Monitoring** to open the Monitoring pane.

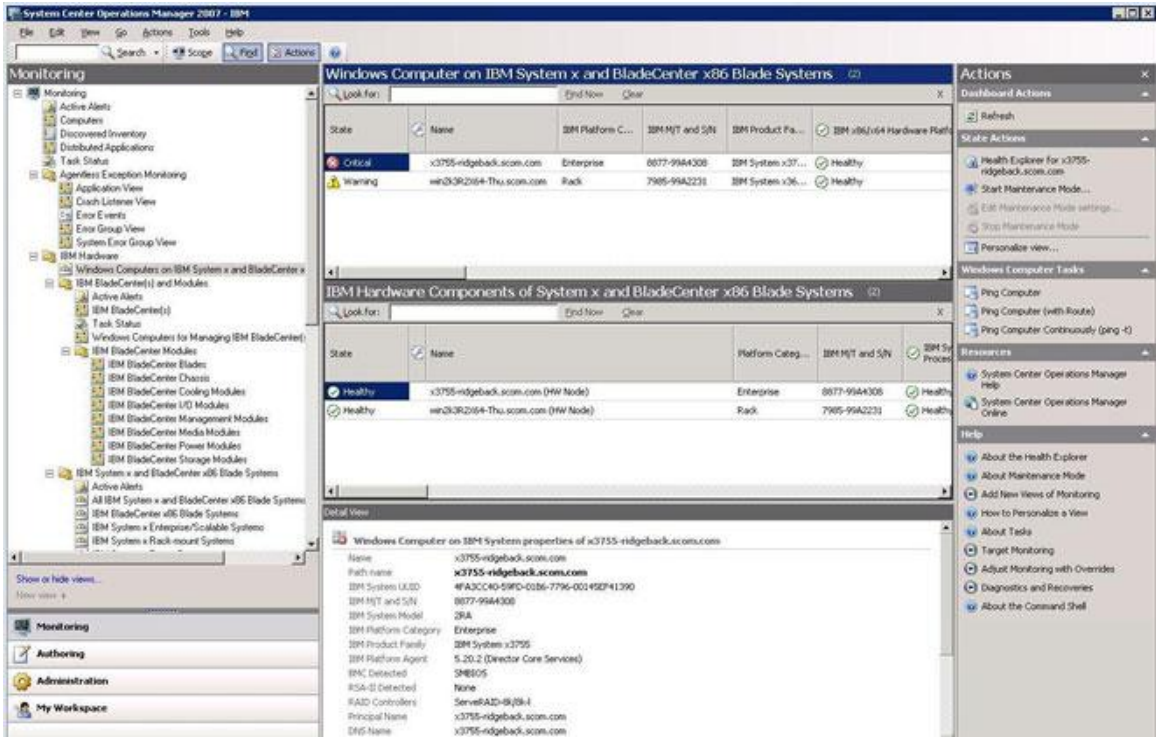
2. To quickly view the status of all of your managed IBM systems that have Windows operating systems, expand **IBM Hardware** and click **Windows Computers on IBM System x and BladeCenter x86 Blade Systems** to display the systems in the top middle pane.

3. Check the health of the systems in the top middle pane.

   All newly discovered objects are in the healthy state by default. Health check monitoring updates the status of an object at regular intervals, according to the default interval setting. You can configure the monitoring frequency by overriding the "override-controlled" parameters. See the Microsoft Systems

Center Operations Manager documentation about "Override" for more information.

4. Select a system that shows a Critical or Warning state.



5. Determine if the error is related to hardware or software.

- **Hardware-related failures:** Look in the **IBM Hardware Components of IBM System x and BladeCenter x86 Blade Systems** pane to select the system. Scroll to the right to view all of the component status and data. You can personalize this view.

  This pane contains state views on a per-**hardware**-component-class basis. The purpose of this view is to provide access to detailed properties of each component instance. Look for additional system information in the **Detail View** pane.

- **Software-related failures:** Look in the **Windows Computer on IBM System x and Blade Center x86 Blade Systems** pane. This pane contains state views and information on a per-**software**-component-class basis. Select a system that has a Critical or Warning health state.

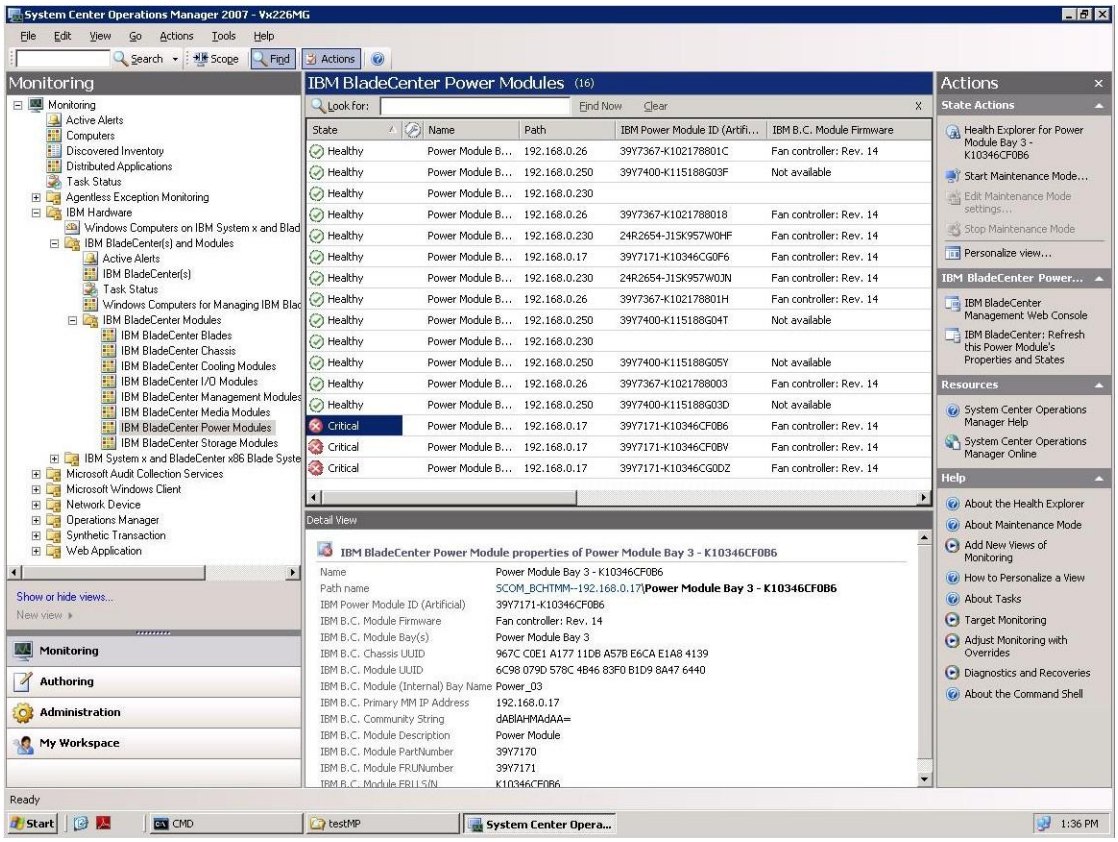
The purpose of these views is to provide access to detailed properties of each component instance. The **Detail View** pane displays all instances of the system software with a health state for each of the four health aspects.

6. Assume that your critical state system is a blade server, for example. To find more information and details about the failure, access the hardware information of a certain BladeCenter module or a certain hardware system component by clicking **IBM BladeCenter Modules**.

   From a previous view, suppose that you already know that a power supply component failed. Select the related view, **IBM BladeCenter Power Modules**, to determine the problem with the power supply.

   Select the **Critical** power module to review its related data.

   Review the information and data presented in the **Detailed View** pane to see all instances of the module type and each of its four health aspects.



7. Right-click the selected module and select **open** -> **Health Explorer**.

8. Select the Alert and look at the information on the **State Change Events** page.

9. Depending on what alert you have, you can click **View Alert** for more information.

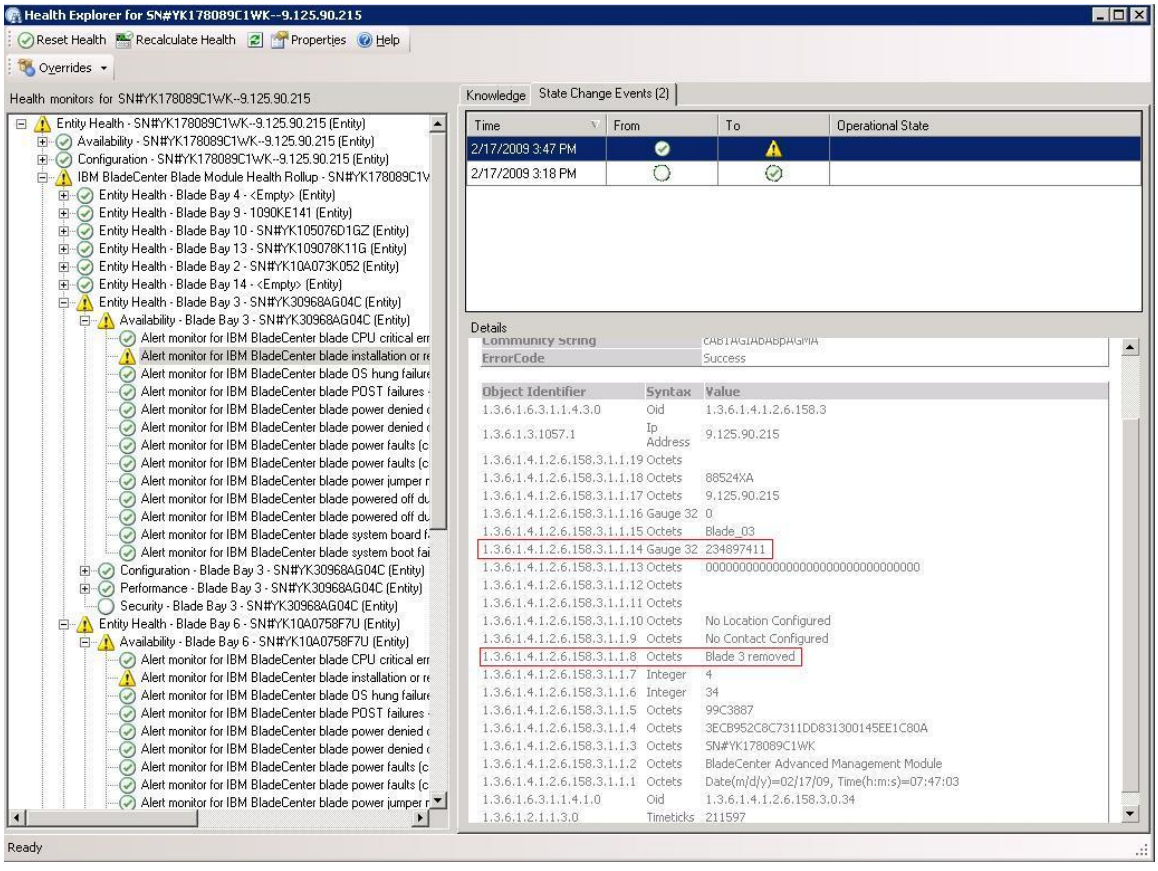
10. Click the **Knowledge** tab to read the Knowledge Page and the one or more Knowledge Articles that relate to your alert.

Important:

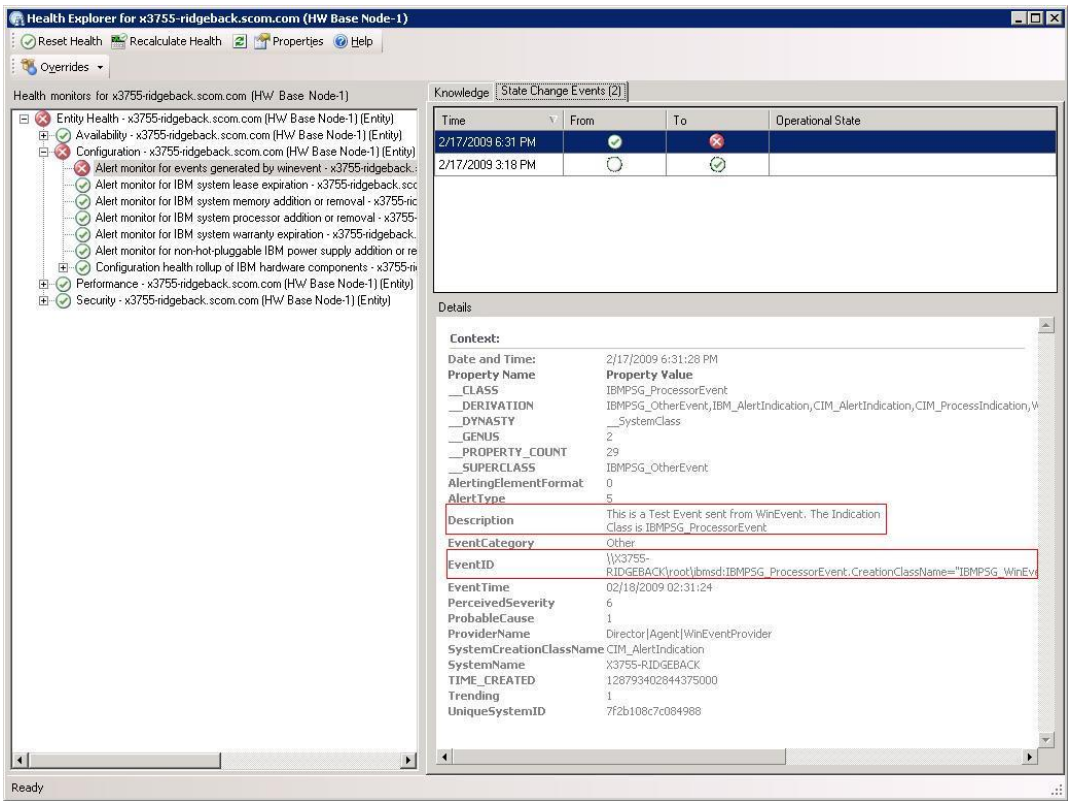
Besides the health information that is available for each object, related information might be available from other objects that are health-related from different perspectives. For instance, a blade that is monitored in-band through its platform agent shows a health state, but the BladeCenter chassis management module also shows a health state for the blade.

Other BladeCenter chassis modules might affect the blade health, such as a power supply that supplies power to the blade server. Similarly, the health of a blade from the management module perspective might include the health and other information about the operating system running on the blade.

11. For instance, the following BladeCenter simple network management protocol (SNMP) alert has an event description field of **1.3.6.1.4.1.2.6.158.3.1.1.8** and an event ID of **1.3.6.1.4.1.2.6.158.3.1.1.14**.Convert the decimal event ID value to hexadecimal to look up the message in the Advanced Management Module *Message Guide*.



12. For a System x WMI event, the **Details** pane usually includes the description and the event ID.



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