



IBM System x

IBM Hardware PRO Pack for
Microsoft System Center Virtual Machine Manager
User's Guide

Version 4.0





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Note

Before using this information and the product it supports, read the information in “Copyright notice” on page 33.

Edition notice

This edition applies to version 4.0 of the IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0 User's Guide and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this publication

This book provides instructions for installing the IBM® Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, Version 4.0 into the Microsoft System Center Operations Manager 2007 or Microsoft System Center Operations Manager 2012, and for 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 is displayed 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 on the product download page. Go to the IBM web site for Microsoft Systems Management Solutions for IBM servers at IBM System x® Integration Offerings for Microsoft Systems Management Solutions.

World Wide Web resources

The following web pages provide resources for understanding, using, and troubleshooting IBM System x, IBM 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:
<http://www-947.ibm.com/support/entry/portal/docdisplay?brand=5000016&docid=SYST-MANAGE>

Locate the latest product downloads available for the System Center Virtual Machine Manager for Microsoft System Center Virtual Machine Manager, v4.0 and linkage needed to purchase activation licenses per managed end point.

IBM Systems: Technical support site

IBM Systems: Technical support site: <http://www.ibm.com/systems/support/>

Locate support for IBM hardware and systems-management software.

IBM Systems Management Software: Download/Registration

IBM Systems Management Software: Download/Registration Page:
<http://www-03.ibm.com/systems/software/director/downloads/agents.html>

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

IBM System x Systems Management

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

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

IBM ServerProven®

For information about hardware compatibility with IBM System x, IBM BladeCenter IBM IntelliStation®, and hardware, refer to IBM ServerProven®.

Microsoft System Center Virtual Machine Manager

Microsoft System Center Virtual Machine Manager TechCenter at <http://technet.microsoft.com/en-us/scvmm/default.aspx>.

Obtain information about System Center Virtual Machine Manager that describes how to manage the virtualized datacenter. SCVMM provides cross-platform support, Performance and Resource Optimization (PRO), and enhanced high availability (HA) capabilities.

Microsoft System Center Operations Manager

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

Obtain information about Systems 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.

Chapter 1. IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager

The IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0, provides performance and resource-optimization tips (PRO tips) that describe the hardware health state, alerting information, and virtual machine migration recommendations for the physical systems hosting Hyper-V and Virtual Server.

The IBM Hardware PRO Pack, v4.0 also provides monitoring and alerting information for IBM System x rack servers and IBM BladeCenter blade servers that are installed with IBM Director Core Services or IBM Director Agent.

Key features

This topic explains the key features of the IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0.

Key features include:

- Detailed system health information for physical servers hosting virtual machines while managing Hyper-V or Virtual Server environments
- Comprehensive health state monitoring of physical processors, memory, hard disks, fans, power supplies, temperature and voltage on IBM System x and blade x86/x64 virtual host servers
- Advisory PRO tips in the event of existing or predictive hardware problems that warrant VMM administrative operations
- Automated VM Migration support based on hardware failure events or power consumption threshold exceptions for uEFI/IMM System x Servers and Blades running Windows 2008 R2, Hyper V or Virtual Server.

For more information on power consumption thresholds, refer to the Premium features topic in the Product information chapter for the IBM Hardware Management Pack for Microsoft System Center Operations Manager, v4.0 Installation and User's Guide.

Note: Automated VM Migration support based on power consumption threshold exceptions is supported only on uEFI/IMM System x Servers and Blades running Windows 2008 R2 and the IBM Director Platform Agent v6.2.1 and newer.

- BladeCenter and Blade hardware health correlation and event propagation

Important: The IBM Hardware PRO Pack, v4.0 is a fee-based product component of the IBM Upward Integration for Microsoft System Center, v4.0 bundle. All features and usage of the IBM Hardware PRO Pack require the purchase and implementation of an activation license. Activation licenses can be purchased by contacting your IBM representative or IBM Business Partner.

Microsoft System Center Virtual Machine Manager overview

Microsoft System Center Virtual Machine Manager is a comprehensive solution for virtualized data centers. SCVMM PRO combines the hardware health knowledge and monitoring capabilities built into Systems Center Operations Manager (SCOM) with the management services for the physical and virtual machines built into System Center Virtual Machine Manager (SCVMM).

This solution provides administrators with an extensible framework that they can use for monitoring and alerting of the physical resources within their virtual environments.

SCVMM and SCOM servers maintain continuous communication through their respective agents to provide comprehensive health and performance information on the infrastructures that they manage. While SCOM is designed to collect, monitor, and assist the user in resolving health or performance problems on physical resources, SCVMM is designed to manage the virtualized workloads that can be affected by these types of condition changes. Alerts are displayed through the SCVMM console in the form of PRO tips. A PRO tip is a recommendation to help you place, migrate, or reconfigure applications, hardware, or virtual machines. These recommendations can then be implemented manually in an effort to return the workload to an optimal state.

How IBM Hardware PRO Pack supports IBM systems

The IBM Hardware PRO Pack communicates with individual servers. These servers include BladeCenterblade servers that are running a Windows operating system supported by Hyper-V and Virtual Server with a supported version of IBM Director Core Services or IBM Director Agent installed.

Supported systems

This topic lists the servers supported by the IBM Hardware PRO Pack, v4.0.

The following servers are supported by the IBM Hardware PRO Pack, v4.0:

Note: Power monitoring support is available for the uEFI/IMM System x Servers and Blades denoted below with an asterisk (*), running Windows 2008 R2 and the IBM Director Platform Agent v6.2.1 and newer only.

Table 1. Supported servers

Server product name	Machine type
IBM BladeCenter HS12	8014, 8028
IBM BladeCenter HS21	8853
IBM BladeCenter HS22	7870*
IBM BladeCenter HS22V	7871*
IBM BladeCenter HS23	7875*, 1929
IBM BladeCenter HS23E	8038, 8039
IBM BladeCenter HX5	7872*
IBM BladeCenter LS21	7971
IBM BladeCenter LS22	7901
IBM BladeCenter LS41	7972

Table 1. Supported servers (continued)

Server product name	Machine type
IBM BladeCenter LS42	7902
IBM Flex System™ x220 Computer Node	7906, 2585
IBM Flex System x240 Computer Node	8737, 8738, 7863
IBM Flex System x440 Computer Node	7917
IBM System x3250 M3	4251*, 4252*
IBM System x3250 M4	2583, 2587
IBM System x3300 M4	7382
IBM System x3350	4192
IBM System x3400 M3	7378*, 7379*
IBM System x3500 M3	7380*
IBM System x3500 M4	7383*
IBM System x3530 M4	7160
IBM System x3550	7978
IBM System x3550 M3	7944*
IBM System x3550 M4	7914*
IBM System x3620 M3	7376*
IBM System x3630 M3	7377*
IBM System x3630 M4	7158
IBM System x3650	7979
IBM System x3650 M3	7945*
IBM System x3650 M4	7915*
IBM System x3690 X5	7147, 7148*
IBM System x3750 M4	8722, 8733
IBM System x3755	7163
IBM System x3755 M3	7164
IBM System x3850 M2	7141
IBM System x3850 X5	7145*
IBM System x3950 M2	7141
IBM System x3950 X5	7145*
IBM System x iDataPlex® dx360 M4	7912*, 7913*

Supported configuration

This topic explains important configuration information.

Important: Installing and using the IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0 in an unlicensed environment is not supported. Doing so might cause unexpected results for all monitored hosts.

When moving from a licensed environment to an unlicensed environment it is strongly recommended that you uninstall the IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0.

Installation requirements

This topic explains the software that must be installed on the management server to use the IBM Hardware PRO Pack.

Make sure that the following software is installed on the management server:

- For supporting System Center Virtual Machine Manager 2007, Microsoft System Center Operations Manager 2007 SP1, R2 are supported.
- For supporting System Center Virtual Machine Manager 2012, both Microsoft System Center Operations Manager 2007 and Microsoft System Center Operations Manager 2012 are supported.
- IBM Hardware Management Pack for Microsoft System Center Operations Manager, v4.0.

You can install the IBM Hardware PRO Pack, v4.0 on a Windows server that is running Microsoft System Center Operations Manager 2007 SP1, R2, or 2012.

Note: Verify that the system has enough disk space to perform this installation.

Microsoft System Center Operations Manager requirements are located on the Microsoft System Center Operations Manager web site.

The IBM Hardware Management Pack v4.0 installation and user's guide is located on the IBM System x Integration Offerings for Microsoft Systems Management Solutions web site.

You can install Microsoft System Center Virtual Machine Manager 2008 R2, R2 SP1, or 2012 on the system that is running as a Microsoft System Center Operations Manager root management server, or on a system that is a dedicated Microsoft System Center Virtual Machine Manager server. The Microsoft System Center Virtual Machine Manager system requirements are located on the Microsoft System Center Virtual Machine Manager web site.

Important: When importing the IBM Hardware PRO Pack Version 4.0, a connection to the management group must exist during the installation. To connect to the management group, you must be a member of the Operations Manager Administrators user role. Otherwise, you might encounter problems trying to import the IBM Hardware PRO Pack Version 4.0.

Chapter 2. Configuring Operations Manager integration with System Center Virtual Machine Manager

The following Microsoft topic explains how to configure Microsoft System Center Operations Manager with Microsoft System Center Virtual Machine Manager.

For information, refer to Configuring Operations Manager Integration with VMM.

Configuring the Hyper-V host

This topic lists information about configuring the Hyper-V host and refers you to additional information.

In order for the IBM Hardware PRO Pack to monitor the health of the physical host, one of the following IBM Director Agents must be installed on the physical Hyper-V host:

- IBM Director Agent 6.1.2
- IBM Director Agent 6.2
- IBM Director Agent 6.2.1
- IBM Director Agent 6.3
- IBM Director Agent 6.3.1
- IBM Director Agent 6.3.2

For further software requirements for the host, refer to Virtualization with Hyper-V.

Configuring Virtual Server 2008 R2 Enterprise Edition Support

This topic refers you to additional configuration information.

Note: System Center Virtual Machine Manager (SCVMM) 2012 no longer supports Virtual Server. The following content related to Virtual Server only works on SCVMM 2007 R2 or R2 SP1.

For further software requirements for the host, refer to Microsoft Virtual Server.

Chapter 3. Installing the IBM Hardware PRO Pack

Use this topic to help you install the IBM Hardware PRO Pack.

The integration of the IBM Hardware PRO Pack Version 4.0 into Microsoft's System Center Operations Manager enhances the management capabilities of IBM systems.

The IBM Hardware PRO Pack discovers IBM systems that host Hyper-V and virtual servers, and provides alerts about the health state of IBM System x and BladeCenter server systems.

Installation steps

Use the following steps to install the IBM Hardware PRO Pack, Version 4.0.

Before you begin

For an Operations Manager Remote Management Server, install hot fixes applicable to both Windows server operating systems and Microsoft Operations Manager.

About this task

For information on installing the hot fixes, see 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.

Procedure

1. Go to IBM System x Integration Offerings for Microsoft Systems Management Solutions to get links to the IBM Hardware PRO Pack, Version 4.0 and its respective documentation.
2. From the main index page, select **Microsoft System Center Virtual Machine Manager**. Refer to the content in the IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, Version 4.0.
3. Under File Link, click **Sign in** to sign in with your IBM ID and password. The download page for IBM Director Upward Integration Modules (UIMs) is displayed.
4. Click the **Download Director** or the **Http** tab to download the files using your preferred download method. To download using the Download Director Java™ application: In the IBM Director Upward Integration Modules for Microsoft section, select the checkbox for the appropriate download package for IBM Hardware PRO Pack Version 4.0 for Microsoft System Center Virtual Machine Manager.

Version 4.0 (32-bit and 64-bit):

ibm_hw_propack_v4.0.xx_setup.exe

Where xx in the name is an internal IBM tracking number.

- a. Scroll to the bottom of the page and select the check box to accept the license agreement. Then click **I confirm** to begin downloading the IBM Hardware PRO Pack, Version 4.0 installation package appropriate for your Microsoft System Center Operations ManagerServer to a temporary directory.

- b. On the Security dialog window that asks if you want to run the application, click **Run**
 - c. When the download completes, click **Close [x]** to close the download dialog window.
5. Click **OK**.

Note: The installer checks for prerequisites. If the installer cannot find all of the prerequisites, a message box is displayed that indicates which prerequisites cannot be found.

The installer also checks if there is a previous version of IBM Hardware PRO Pack installed. If a previous version is detected, an informative message is displayed informing you that this version is not supported for an upgrade by this installer. A manual deletion of the previous PRO management pack from the Operations Manager is required. For more information on how to delete management packs from Operations Manager, refer to Operations Manager's documentation.

The Welcome to the InstallShield Wizard for IBM Hardware PRO Pack Version 4.0 for Microsoft System Center Virtual Machine Manager window is displayed.

Note: Before installing the IBM Hardware PRO Pack version 4.0 on a non-RMS server, make sure the required IBM Hardware Management Pack, v4.0 is installed on the non-RMS server. If the installer cannot find the required IBM Hardware Management Pack, v4.0, the installer stops.

6. Click **Next**. The License Agreement window is displayed.
7. Read the software license agreement. If you agree with the terms, select **I accept the terms in the license agreement** and click **Next**. If the system already has version 4.0 installed, you can select to repair or remove the IBM Hardware Management Pack, version 4.0. See the "Repairing and removing the IBM Hardware PRO Pack" on page 11 topic for more information.
8. Verify the default target location. If necessary, select the target folder for the installation code.
9. Click **Next**. The Import IBM Hardware PRO Pack v4.0 Management Pack window is displayed. This window reminds you to import the IBM Hardware PRO Pack management pack into the Systems Center Operations Manager console.

Note: For instructions on how to import, open the Systems Center Operations Manager console, select **Administrator**, and then select **Import Management Pack**.

10. To begin the installation, click **Next**.
11. When the installation is complete, read the reminder and click **Finish**.
12. Open the Operations Console of the Microsoft Systems Center Operations Manager.

13. On the Operations Console, click **Administration > Management Packs > Import Management Pack** to import the IBM Hardware PRO Pack. This import process completes the installation.

Note: The IBM Hardware PRO Pack management pack is located in the installation directory.

After selecting to import the IBM Hardware PRO Pack management pack, the following message is displayed: One or more Management Packs present a security risk. Are you sure you want to continue?

This message is considered normal behavior for the IBM Hardware PRO Pack because the IBM Hardware PRO Pack is sending event messages between the management server and the host system.

14. Click **Yes**.
15. Verify that the IBM Hardware PRO Pack import was successful by ensuring that the “IBM Hardware PRO Pack v4.0 for IBM System x and BladeCenter x Blade Servers” management pack appears in the **Administration > Management Packs** view.

Note:

- Sometimes management pack entries do not display immediately after the installation. Refresh the window or wait a few minutes until the management pack entry is displayed.
- The installation or uninstallation of the IBM Hardware PRO Pack can also be executed by using the IBM Upward Integration for Microsoft System Center, v4.0 Installer. Refer to the IBM Upward Integration for Microsoft System Center Integrated Installer User's Guide for more information on how to perform this action.

Chapter 4. Uninstalling the IBM Hardware PRO Pack

To uninstall the IBM Hardware PRO Pack, use either Add or Remove Programs or Programs and Features.

Procedure for uninstalling the IBM Hardware PRO Pack

Procedure

1. On the Windows Control Panel, select either **Add or Remove Programs** or **Programs and Features** to completely uninstall the software package and files.

Note: These programs silently remove the installed files.

2. Select **IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0** and select **Uninstall** at the top of the panel. You can also right-click on **IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, v4.0** and select **Uninstall**.

Note: The process of uninstalling the IBM Hardware PRO Pack Pack the management pack from the Operations Manager console. Continue now with step 3.

3. To complete the uninstallation, open the Operations Manager console, click **Administration > Management Packs**, select the manage pack, and manually delete it.

Note: The installation or uninstallation of the IBM Hardware PRO Pack can also be executed by using the IBM Upward Integration for Microsoft System Center Integrated Installer. Refer to the IBM Upward Integration for Microsoft System Center Integrated Installer User's Guide for more information on how to perform this action.

Repairing and removing the IBM Hardware PRO Pack

About this task

The Repair function reinstalls the program and registry entries on the local server.

The Remove function uninstalls the IBM Hardware PRO Pack package from the local system, but does not delete the management pack from the Operations Manager console. You must use the Operations Manager console to delete the management pack from the Operations Manager.

File and registry locations

This topic provides details about the default installation directory and registry path for the IBM Hardware PRO Pack, v4.0.

By default, the installation files for IBM Hardware PRO Pack, v4.0 are installed into the following directory:

`%ProgramFiles%\IBM\IBM Hardware PRO Pack`

The registry path for the IBM Hardware PRO Pack, v4.0 entry is:

`HKEY_LOCAL_MACHINE\SOFTWARE\IBM\System Management Integrations\IBM HW PRO Pack`

Reinstalling the IBM Hardware PRO Pack

If you recently removed management packs from the Microsoft System Center Operations Manager console, wait at least 30 minutes for the settings to propagate to the operations manager database before you reinstall.

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

For more information on this known Microsoft System Center Operations Manager limitation, see the article [Discovery information is missing after you delete and then reimport a management pack in Microsoft System Center Operations Manager](#).

If you delete the management packs from the console, you detach the IBM Hardware PRO Pack from the Operations Manager server. You must then import the IBM Hardware PRO Pack into Microsoft System Center Operations Manager to add the management pack back into the console view.

Chapter 5. Working with the IBM Hardware PRO Pack

These topics describe how to manage and use the IBM Hardware PRO Pack.

The IBM Hardware PRO Pack enhances the functionality of both the Systems Center Operations Manager and the System Center Virtual Machine Manager to provide detailed information about managed Hyper-V and Virtual Server, IBM System x hardware.

Note: System Center Virtual Machine Manager (SCVMM) 2012 no longer supports Virtual Server.

After you have installed the IBM Hardware PRO Pack, use the following tasks to learn more about using the Systems Center Operations Manager and System Center Virtual Machine Manager.

See the Monitoring page of the Operations Manager console as described in the topic “Using the Operations Manager console with the IBM Hardware PRO Pack” on page 17.

- Monitor the health of systems and components, as described in the “Monitoring the health of systems and hardware components” on page 15 topic.
- Identify and resolve errors, as described in the Chapter 6, “Using Health Explorer to identify and resolve problems,” on page 25 topic.

Synchronizing System Center Virtual Machine Manager 2008 and Systems Center Operations Manager

This topic provides the commands to use to synchronize System Center Virtual Machine Manager 2008 and Systems Center Operations Manager.

About this task

Important: When importing the IBM Hardware PRO Pack Version 4.0, a connection to the management group must exist during the installation. To connect to the management group, you must be a member of the Operations Manager Administrators user role. Otherwise, you might encounter problems trying to import the IBM Hardware PRO Pack.

Procedure

1. On your SCVMM management server, open a Windows PowerShell window.
2. On the command line, enter the following commands:

```
get-vmmserver <fully qualified domain name of management server>
```

```
set-vmmserver -opsmgrserver <fully qualified domain name of management server>
```

For more information on using Windows PowerShell and the set-vmmserver command, refer to Microsoft documentation.

Synchronizing System Center Virtual Machine Manager 2012 and Systems Center Operations Manager

This topic provides the commands to use to synchronize System Center Virtual Machine Manager 2012 and Systems Center Operations Manager.

About this task

Important: When importing the IBM Hardware PRO Pack Version 4.0, a connection to the management group must exist during the installation. To connect to the management group, you must be a member of the Operations Manager Administrators user role. Otherwise, you might encounter problems trying to import the IBM Hardware PRO Pack.

Procedure

1. On your SCVMM management server, open a Windows PowerShell window.
2. On the command line, enter the following commands:
 - a. **Test-SCPROTip**
This command creates a test PRO Tip, which is a roundtrip test that checks whether the VMM to Operations Manager integration is set up correctly to receive PRO Tips.
 - b. **Write-SCOpsMgrConnection**
This command pushes all the objects that were previously undiscovered to Operations Manager. The discovery refresher runs every 6 hours in VMM to push objects to Operations Manager at regular intervals.

IBM Hardware PRO Pack host discovery

This topic explains discovery time after installing the IBM Hardware PRO Pack host.

After the installation, it might take two or more minutes for an IBM system to show up in the **IBM SCVMM-Managed Licensed Hosts (PRO Views) > Licensed SCVMM-Managed Hosts Status** view. The time for all hardware components to be discovered and to start indicating their health state might take five minutes or longer.

Latency is subject to a variety of directly related influences:

- The number of managed systems in the discovery task
- The performance of the Operations Manager database
- The amount and speed of network traffic

Note: Lag time for discovery is normal behavior for Microsoft System Center Operations Manager. However, you can override default monitoring interval values to set a shorter interval.

To override default monitoring intervals, click **Resources > System Center Operations Manager Help**. The online help contains additional information.

Monitoring the health of systems and hardware components

This topic explains what the IBM Hardware PRO Pack monitors and the steps you need to take to facilitate monitoring.

About this task

The IBM Hardware PRO Pack, v4.0 discovers and monitors only the following hardware health components of a Microsoft virtual machine host:

- Processors
- Memory
- Network adapters
- Storage
- Management controllers
- Power supplies
- Fans
- Temperature sensors
- Voltage sensors
- Power[®] usage sensors

For best practices, use the IBM Hardware Management Pack to verify that all of the necessary management software is installed on all managed hosts.

Note: IBM Hardware PRO Pack health state reporting is limited to the components listed above only, and requires that all dependencies are met and functioning properly.

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.

There are three locations where you can monitor system health with the IBM Hardware PRO Pack:

- Systems Center Operations Manager console
- System Center Virtual Machine Manager
- Applications Event log

Procedure

1. On the Systems Center Operations Manager console navigation panel, click **Monitoring**.
2. Expand the **IBM SCVMM-Managed Licensed Hosts (PRO Views)** folder. It contains the folders and views that the IBM Hardware PRO Pack adds to the Operations Manager console.

3. To view any critical or warning alerts associated with your IBM hardware, click **Active PRO Alerts**. The following image is an example of how active alerts might be displayed:

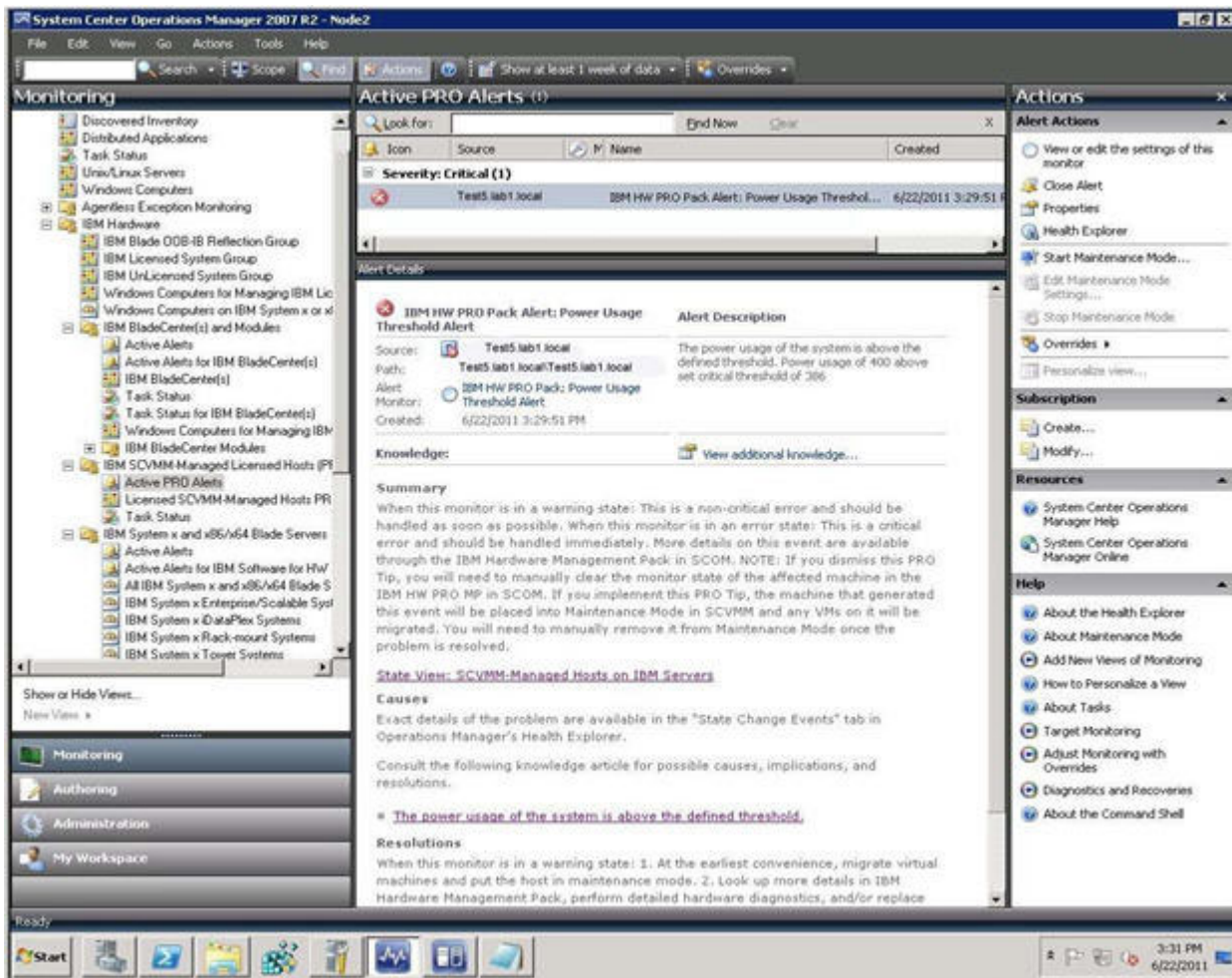


Figure 1. Active alerts displayed

4. To view the hardware status and health of all your IBM systems, expand the **IBM SCVMM-Managed Licensed Hosts (PRO Views)** folder.

Using the Operations Manager console with the IBM Hardware PRO Pack

This topic provides the steps for using the Operations Manager console with the IBM Hardware PRO Pack.

About this task

After installing the IBM Hardware PRO Pack, use the Monitoring page in the Operations Manager console to monitor systems. The IBM SCVMM-Managed Licensed Hosts (PRO Views) folder and views on the Monitoring page provide a complete view of the health of your PRO-Enabled Hyper-V and Virtual Server IBM System x hardware.

To see what the IBM Hardware PRO Pack adds, perform the following procedure to become familiar with the Monitoring page of the Operations Manager console.

Procedure

1. On the left panel of the Operations Manager console, click **Monitoring**.
2. Open the IBM SCVMM-Managed Licensed Hosts (PRO Views) folder. This folder includes Active PRO Alerts, task status, and the view for all discovered PRO-enabled virtual server and Hyper-V System x hardware.

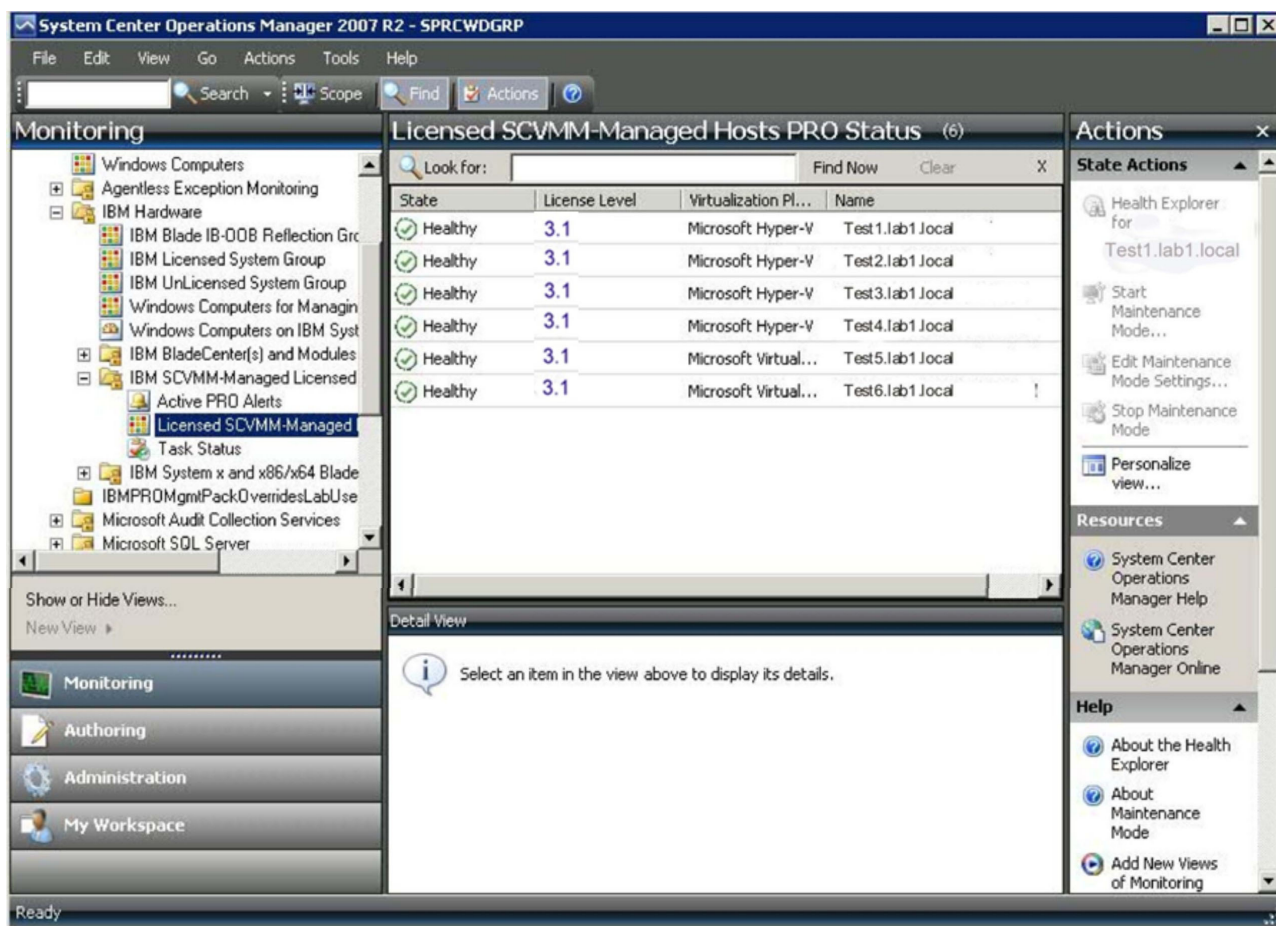


Figure 2. Available views

The IBM Hardware PRO Pack adds the following views:

Active PRO alerts

Active Alerts provides a state view of alerts for all discovered and PRO-enabled virtual server and Hyper-V IBM System x hardware.

Note: Alert text for many events is generic and might cover multiple events affecting the same hardware component. For more detailed alert information, see Chapter 6. Using Health Explorer to identify and resolve problems.

IBM SCVMM-Managed Licensed Hosts (PRO Views)

IBM SCVMM-Managed Licensed Hosts (PRO Views) is a state view of all discovered PRO-enabled virtual server and Hyper-V IBM systems. Use this view as you use the **Monitoring > Computers** view. The difference is that this view contains only computers that are PRO-enabled, running Virtual Server or Hyper-V, and are on IBM System x hardware.

Note:

- If you are removing a managed client from the operations console, remove the client from the VMM as well. Otherwise, the client is grayed out under the **Licensed SCVMM-Managed Host PRO Status** from Operation Console.
- If you are upgrading the IBM Director Agent from an older version (for example, from 6.2.1 to 6.3) on a target server, remove and re-install the PRO Pack, restart the SCOM services, and follow the instructions in synchronize the SCVMM 2008 and SCOM servers or synchronize the SCVMM 2012 and SCOM servers based on your SCVMM version. Otherwise, the older version of the director agent entry may still show under the Licensed SCVMM-Managed Host PRO Status from Operations Console.

Task status

Task Status is the state view of all discovered and PRO-enabled virtual server and Hyper-V IBM System x hardware.

Viewing alerts in System Center Virtual Machine Manager

This topic describes how to view alerts in System Center Virtual Machine Manager.

You can view alerts in System Center Virtual Machine Manager from the main console page or the PRO Tip view.

Viewing alerts from the main console page for SCVMM 2008

This topic shows how to view alerts from the main console page for SCVMM 2008.

About this task

The stage needs to be set just so.

Procedure

1. In the navigation panel, click **Jobs**.
2. Look for jobs with the name **Set State of a PRO Tip**, or with a result name that starts with either **IBM HW PRO Pack Alert** or **IBM Hardware PRO Pack Alert**.

Note: If **Automatically implement PRO Tips** for this host group is checked on the PRO tab in the properties for **Hosts > All Hosts > group_name**, you see all PRO tips in this view as resolved even if an alert is active.

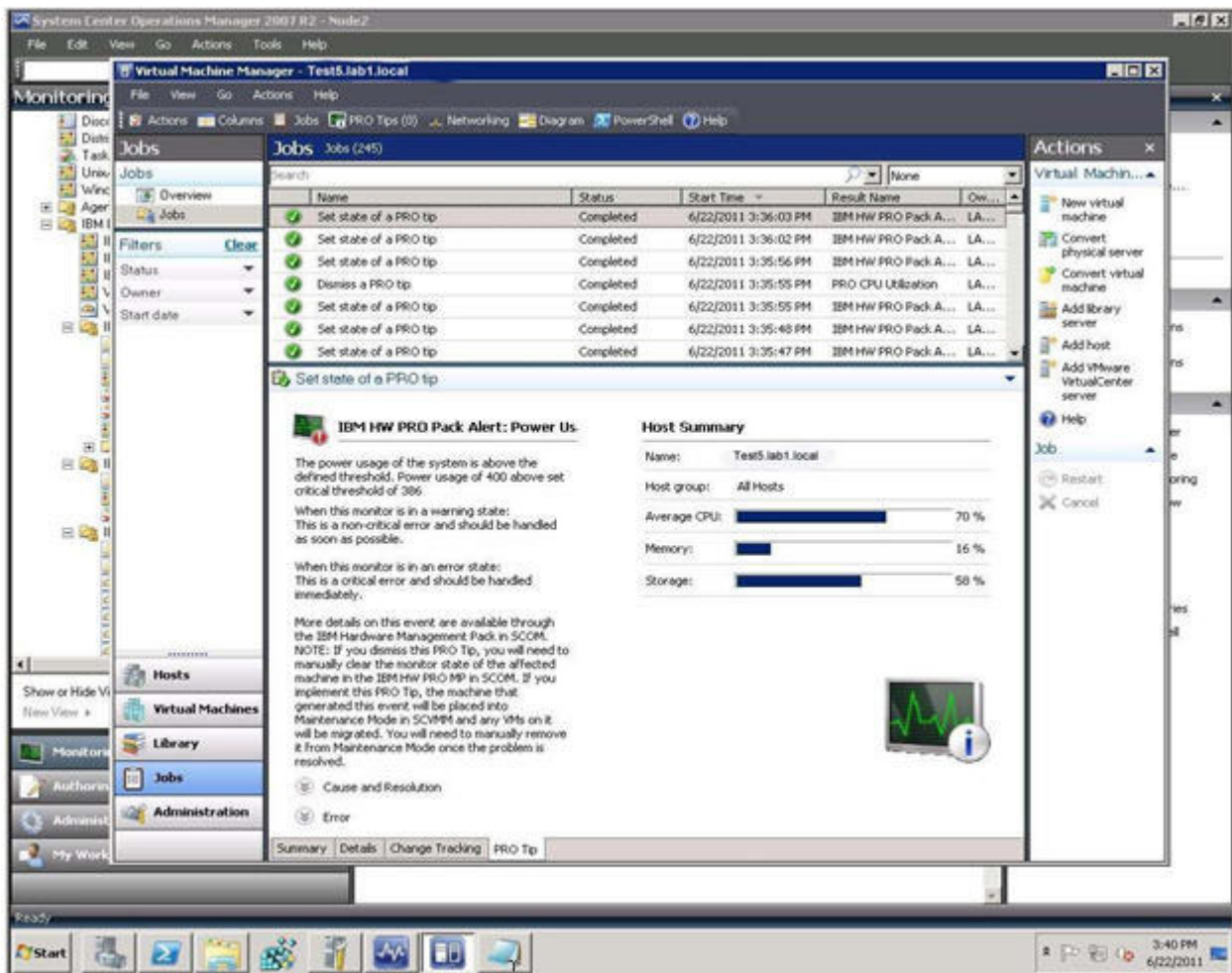


Figure 3. Host summary

Viewing alerts from the main console page for SCVMM 2012

This topic shows how to view alerts from the main console page for SCVMM 2012.

About this task

The stage needs to be set just so.

Procedure

1. In the navigation panel, click **VMs and Services**.
2. Right-click the machine and then click **Properties**.
3. On the Properties window, click **PRO State**. The detail view of PRO is displayed on the right side of the window.

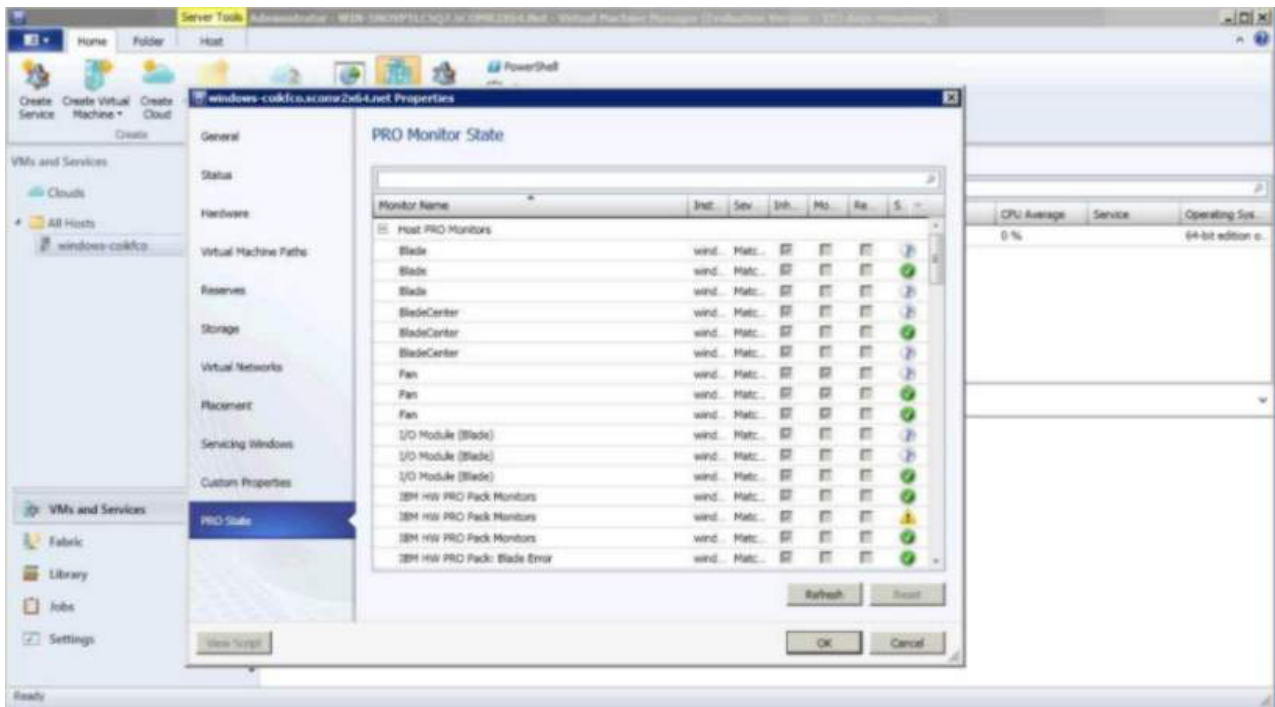


Figure 4. Detailed view of PRO

Viewing alerts from the PRO Tips view for SCVMM 2008

This topic shows how to view alerts from the PRO Tips view for SCVMM 2008.

Procedure

1. On the horizontal toolbar, click **PRO Tips**. Any active alerts are displayed here.

Note: If **Automatically implement PRO Tips on this Host Group** is checked on the PRO tab in the properties for **Hosts > All Hosts > group_name**, you do not see PRO Tips in this view as "resolved" even if an alert is active.

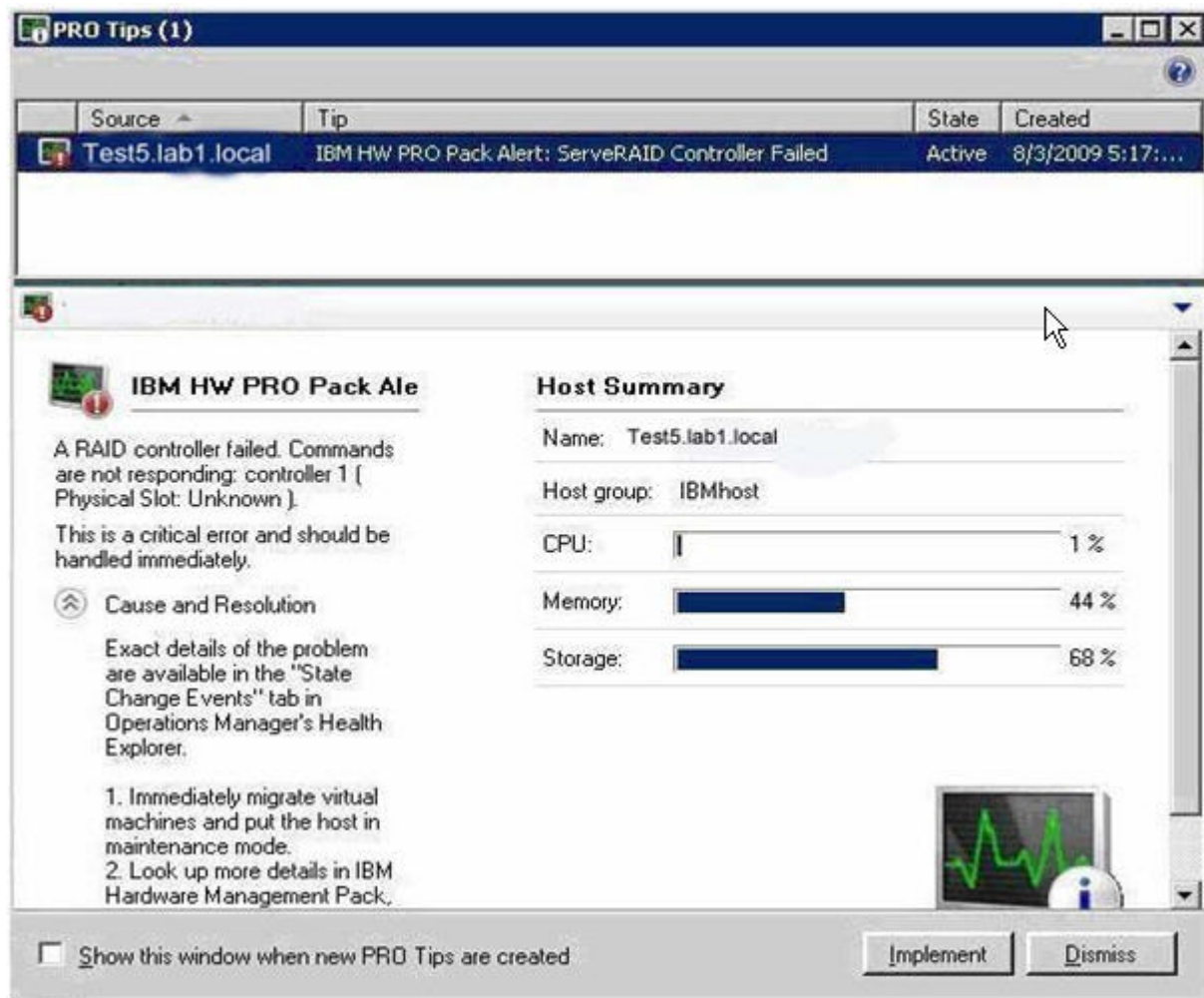


Figure 5. Host summary

- From the server manager, expand **Diagnostics > Event Viewer > Windows Logs > Application**. The IBM Hardware PRO Pack events are displayed with a source of VMM PRO.

What to do next

Learn how to use the Health Explorer to identify, examine, and resolve critical problems. See [Using Health Explorer to identify and resolve problems](#).

Viewing alerts from the PRO Tips view for SCVMM 2012

This topic shows how to view alerts from the PRO Tips view for SCVMM 2012.

Procedure

On the horizontal toolbar, click **PRO Tips**. Any active alerts are displayed here.

Note: In some cases, text may not display completely in the PRO tip window. To show all the text, maximize the PRO tip window.

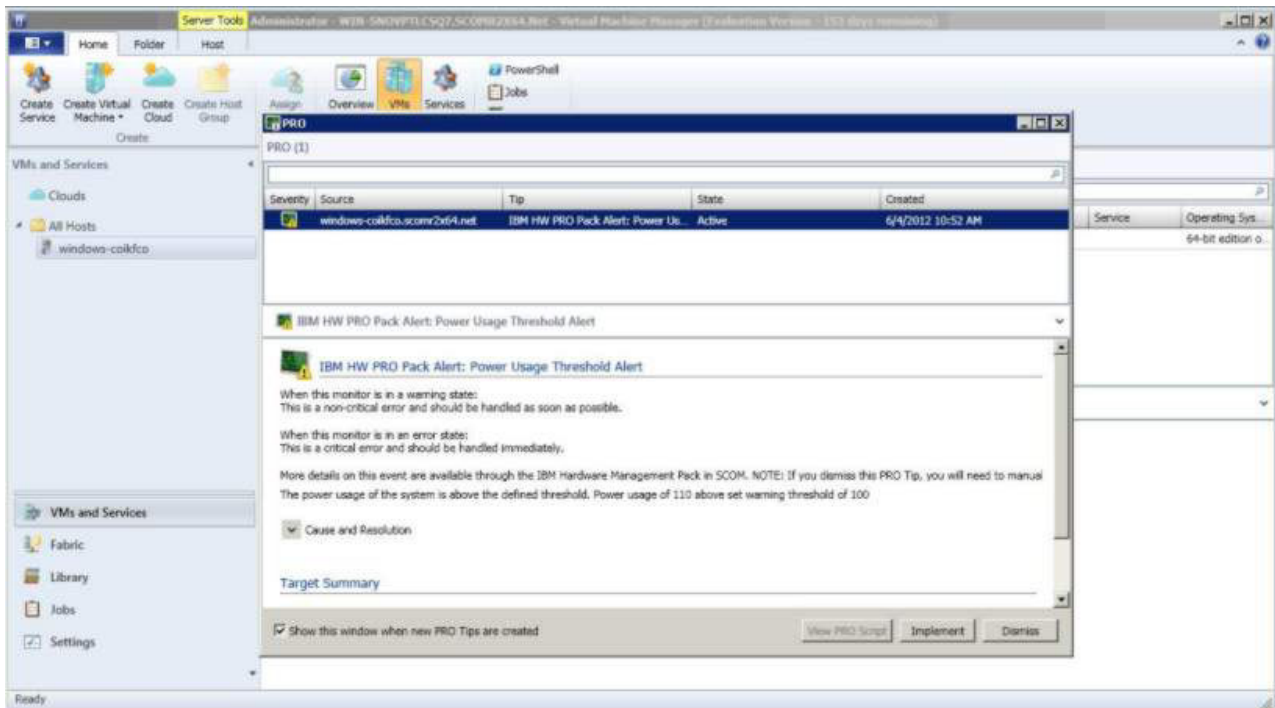


Figure 6. Host summary

Viewing alerts from servers

You can use Microsoft System Center Operations Manager to view alerts that are sent from appropriately configured PRO-enabled virtual servers and Hyper-V IBM System x hardware.

About this task

If a PRO Tip is implemented, the IBM Hardware PRO Pack,v4.0 automatically resets the health status. However, dismissed or cancelled PRO Tips require manual health resets to the normal health state of components after the condition or problem has been investigated and resolved.

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

Procedure

1. Navigate to **Monitoring > IBM SCVMM-Managed Licensed Hosts (PRO Views) > Licensed SCVMM-Managed Hosts Status**.
2. Right-click on a system to open views for monitoring. You can monitor using the Alert View, Diagram View, Event View, and State View.

Chapter 6. Using Health Explorer to identify and resolve problems

You can use the Health Explorer to identify and resolve error states that are displayed when monitoring IBM systems and hardware components.

For a quick checkup, look at Active PRO Alerts or IBM SCVMM-Managed Licensed Hosts (PRO Views). These views show any existing alerts on your IBM hardware.

Note: Alert text for many events is generic and might cover multiple events affecting the same hardware component.

Use the Health Explorer to view, learn about, and act on alerts, state changes, and other issues that occur for the monitored object. For example, you see a critical error when you are monitoring your systems and hardware components. The following image shows an example of a critical error appearing in a managed host.

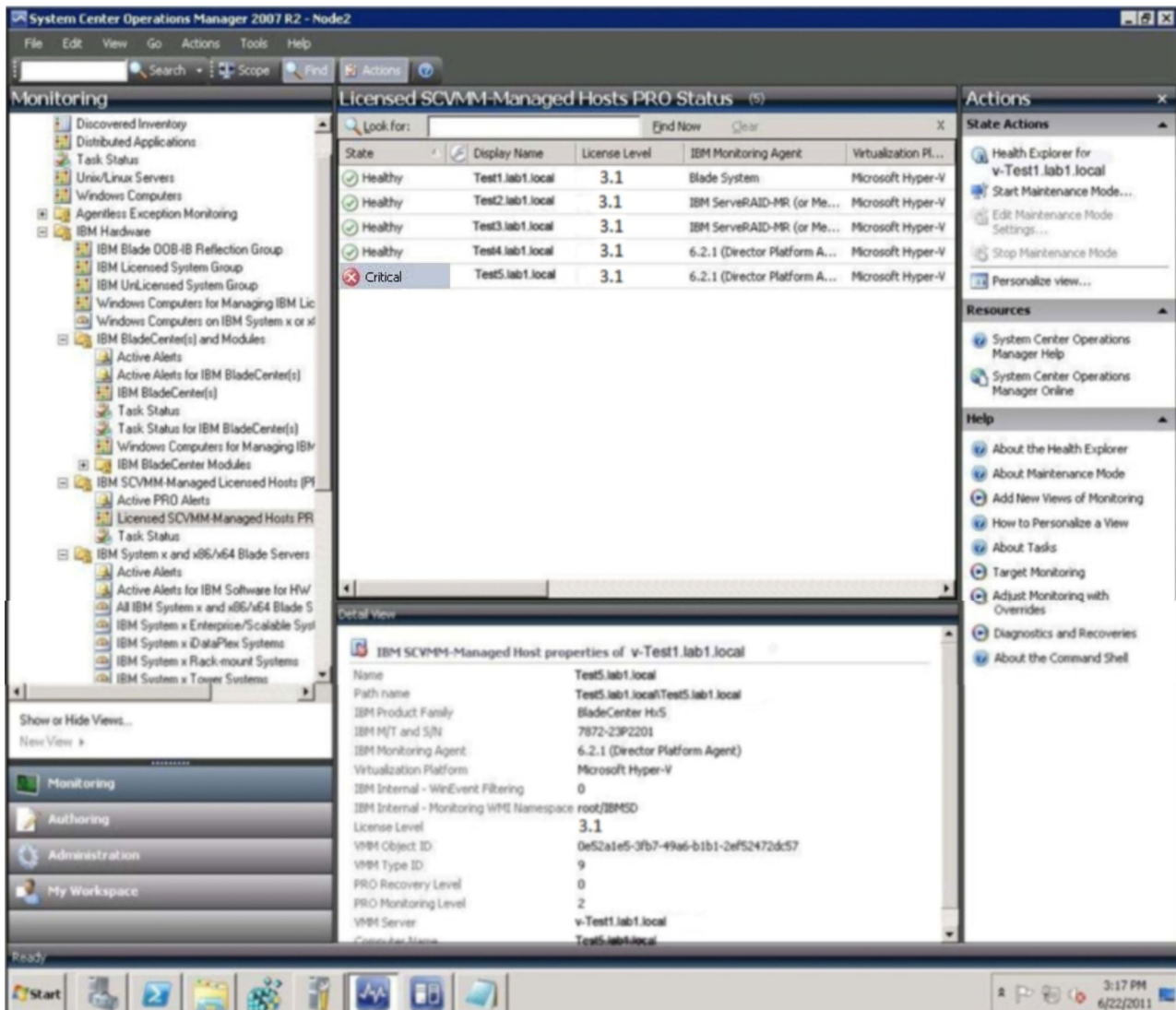


Figure 7. Critical error for a managed host

Identifying and resolving a critical error

Use the Health Explorer to identify and resolve error states that are displayed when monitoring IBM systems and hardware components.

About this task

To identify and resolve the critical error, complete the following steps.

Procedure

1. To open the Health Explorer when there is a Warning or a Critical alert, navigate to **Monitoring > SCVMM > IBM SCVMM-Managed Licensed Hosts (PRO Views)**.
2. Double-click the state. By default, the Health Explorer opens with all failed monitors in an expanded view.

The following image shows how an error might be displayed in the Health Explorer:

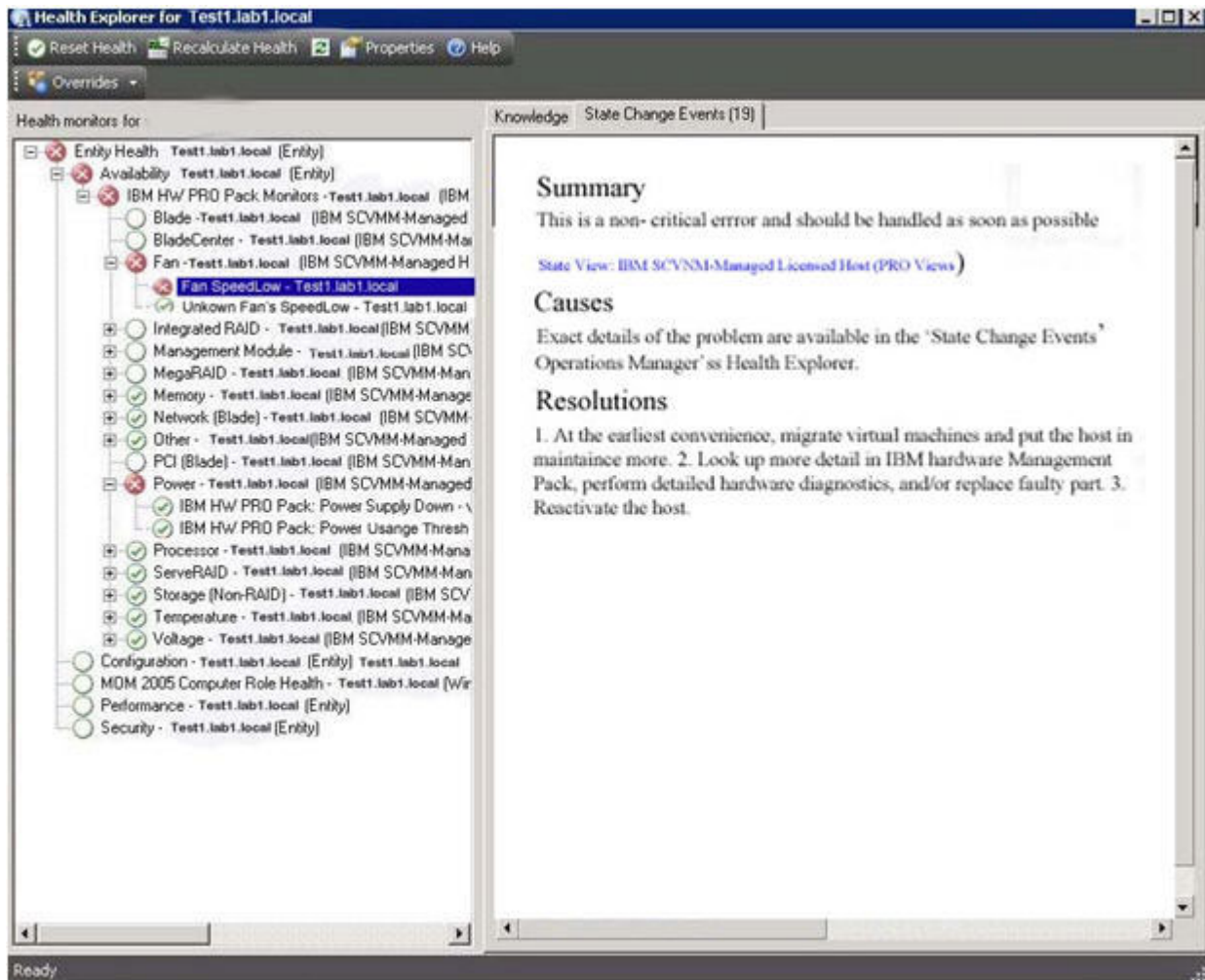


Figure 8. Error displayed in Health Explorer

Note: If there is no warning or critical alert, select and right-click on the IBM system in the IBM SCVMM-Managed Licensed Hosts (PRO Views) view to show its context menu. Click **Open** and click **Health Explorer for system name**.

- Identify the basal-level health monitor that is indicating an error. The indication should refer to a particular component instance.

In the example on the image below, the cause of the error is a power usage that is above a set critical power threshold. Manually complete the steps listed in the Resolutions section by the IBM Hardware PRO Pack.

- On the right panel, click **State Change Events** for details about the latest state change event.

You can see the date and the time that the fan entered the error state. You can also read details about the error.

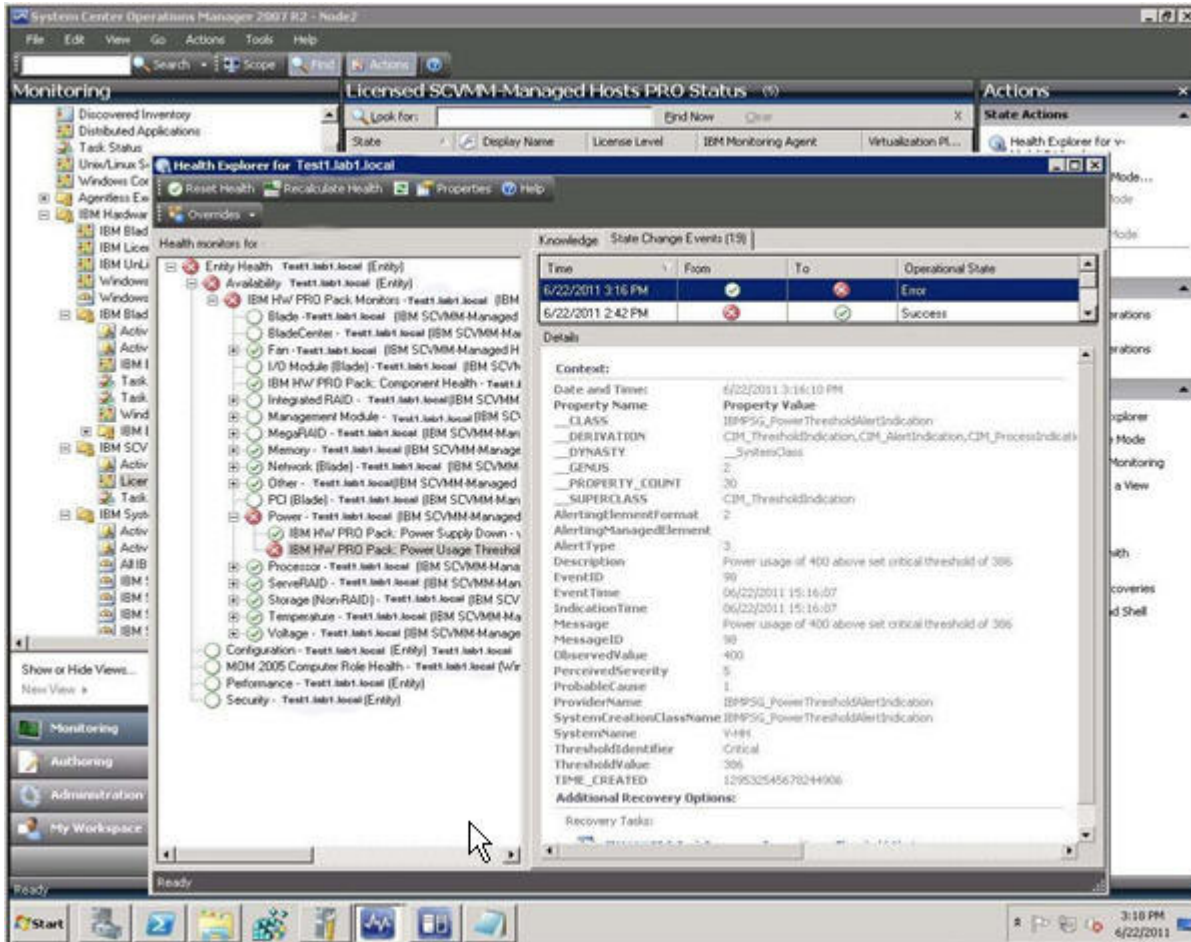


Figure 9. Error details

- To view additional details on any alerts in the IBM Hardware Management Pack, click **Monitoring > IBM Hardware > IBM System x and BladeCenter x86/x64 Blade Servers Systems > All IBM System x and BladeCenter x86/x64 Blade Servers Systems**.

6. Check the Health Explorer for the system with the PRO error.

What to do next

For details on accessing and using the IBM knowledge pages, check the IBM Hardware Management Pack for Microsoft System Center Operations Manager, v4.0 documentation.

Appendix. References

These topics contain additional reference information to help you.

Accessibility for IBM Hardware PRO Pack

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

IBM strives to provide products with usability access for everyone, regardless of age or ability.

Accessibility features

For specific information about accessibility features and keyboard navigation, refer to the Microsoft System Center Virtual Machine Manager software documentation.

The following list includes the major accessibility features in IBM System Updates:

- Can be operated using only the keyboard
- Communicates all information independent of color
- Inherit system settings for font, size, and color
- Supports interfaces commonly used by screen readers and screen magnifiers

You can view the publications for IBM Hardware PRO Pack for Microsoft System Center Virtual Machine Manager, Version 4.0 in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader. You can access the PDFs from the IBM Hardware PRO Pack, v4.0 download site.

Keyboard navigation

This product uses standard Microsoft® Windows navigation keys.

IBM and accessibility

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IBM System x
IBM Hardware PRO Pack for
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