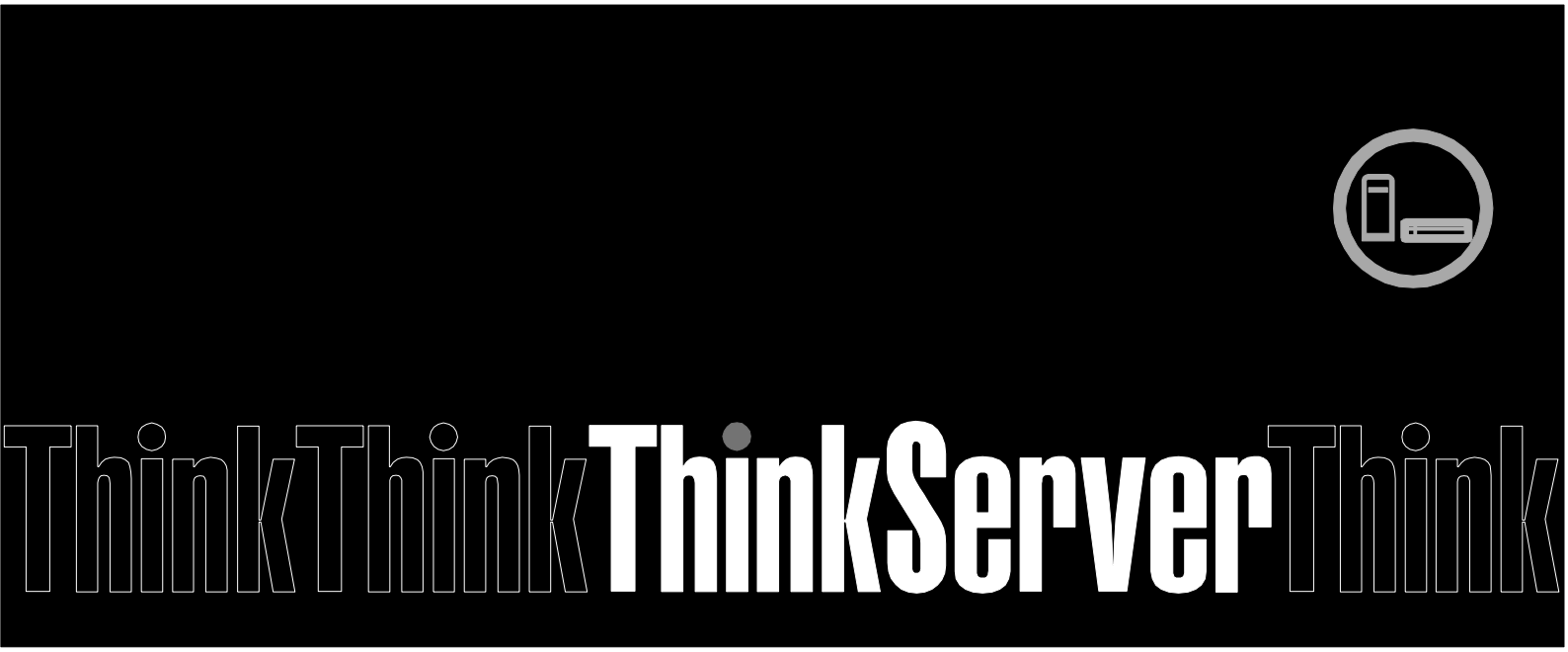
Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager User Guide



Note: Before using this information and the product it supports, ensure that you read and understand Appendix A “Notices in page32”.

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1 Introduction

The purpose of this guide is to explain the processes involved in monitoring and managing Lenovo servers through the Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager.

1.1 System Overview

The Lenovo Partner Pack for Microsoft System Center Operations Manager (SCOM) automatically discovers and provides a detailed system information about the Lenovo ThinkServer managed servers, including component inventory, and component and sensor status. The Partner Pack also enables additional tasks, such as restarting or powering off the ThinkServer and accessing the Remote Desktop Console via RDP and accessing the Lenovo ThinkServer System Manager interface. Implemented as a Management Pack for SCOM, the Partner Pack is integrated into SCOM by using the native Management Pack interface allowing IT administrators to manage ThinkServers by using familiar tools and "one pane of glass" management.

The Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager manages the Lenovo ThinkServer with only Intel® Xeon® processor E5-2600 v3 or Intel® Xeon® processor E5-2600 v2 product family and above.

Knowledge on other tools is not necessary to use the Lenovo ThinkServer Partner Pack.

1.2 Key Features and Benefits

The Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager provides the following features:

- Power-off and restart through in-band functionality.
- Directly launch the remote console of a selected host (Remote Desktop).
- Launch the Lenovo ThinkServer System Manager web page of the selected host by using the Link and Launch options.
- Launch the Host Console out of band.
- The Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager provides:
    - Detailed Server information of the Lenovo ThinkServer at the Host level from the **Hosts** view.
    - Information including the number of Virtual Machines and Operating System version from the **Server Information** view.
    - Inventory of the detailed Server information including Memory, Processors, Server Information. In addition to this, FAN, Temperature Sensor, FRU & PSU information is available out of band.
    - Details of the System board such Server model, Serial number and UUID.
    - SEL information of each monitored BMC.

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1.3 User Roles and Responsibilities

The Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager can be accessed through the SCOM console. By using the Lenovo ThinkServer Partner Pack, you can perform various operations based on your roles.

Role	Responsibilities
Administrator	• Runs the setup wizard, installs and exports the package. • Deletes and uninstalls the package. • Accesses Lenovo ThinkServer partner pack to view various components. • Uses the start and stop maintenance mode for the components through the Lenovo ThinkServer partner pack. • Restarts, shuts down or remotely connects to the servers through SCOM. • Configures Lenovo Hosts by Add/Edit the username and password for each BMC Lenovo ThinkServer System Manager IPv4. • Launches Lenovo Web Console. • Refresh Host Data for the selected server. • View, export and clear Extended SEL of each monitored BMC.
Read-only	• Launches Lenovo Web Console. • Views Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager
User	• Launches Lenovo Web Console. • Views Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager

Table 1: Roles and Responsibilities

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2 Installing Lenovo ThinkServer Partner Pack

Run the *LenovoThinkServerPartnerPack.EXE* installation file from the installation package and follow the prompts. This will extract the Lenovo Partner Pack for System Center Operations Manager into the directory you choose during the installation process. The default location is *C:\Program Files (x86)\LenovoThinkServerPartnerPack.* Later, this package can be imported through the SCOM console. For detailed information please refer to the Installation Guide.

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3 Working with Lenovo ThinkServer Partner Pack

This section explains the various functionalities of the Lenovo ThinkServer Partner Pack's user interface.

3.1 Monitoring Overview Screen

On the left pane, click the **Monitoring** tab to view the **Monitoring Overview** screen.

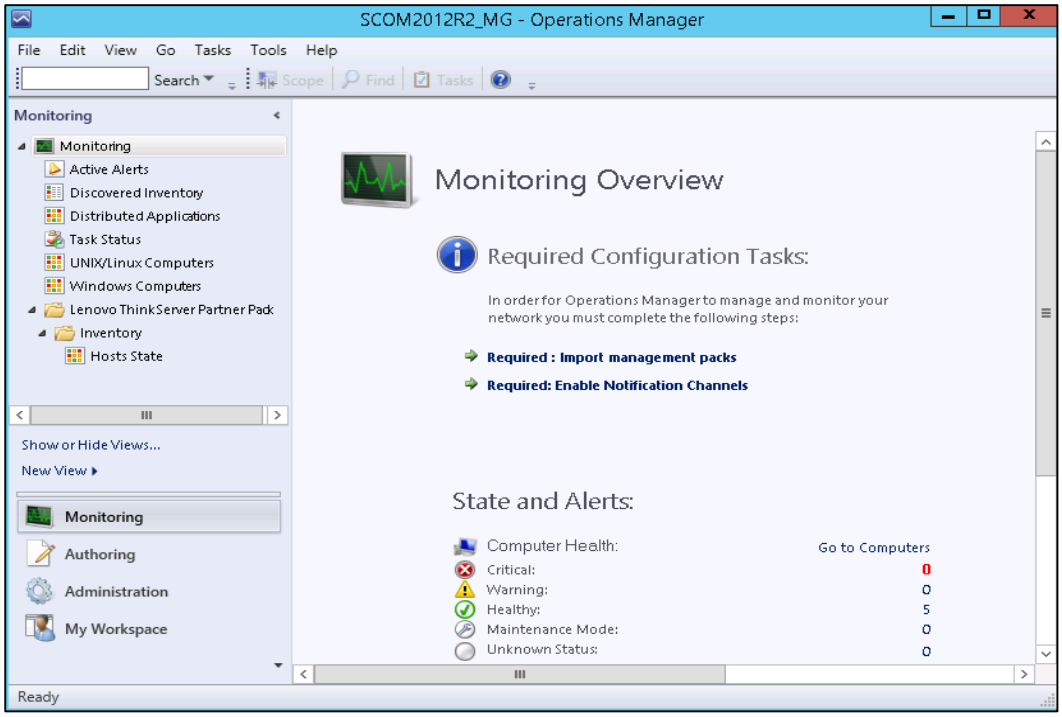

Figure 1: Monitoring Overview Screen

The **Monitoring Overview** screen displays the various sections such as: Required Configuration Tasks, Actions, State and Alerts, Key Concepts, Learn About and Online Resources.

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3.2 Accessing Hosts State

On the left pane, under the **Monitoring** folder, you can find the **Lenovo ThinkServer Partner Pack** folder once the Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager management pack is imported.

The **Inventory** folder is located under the **Lenovo ThinkServer Partner Pack** folder.The **Hosts State** folder is under the **Inventory** folder.

Click **Hosts State** to open the main screen.

The Main Screen displays **Hosts State**. The Hosts State section contains a list of hosts that are identified. Along with the host name, the path of the Host server and the overall status of each component are also displayed.

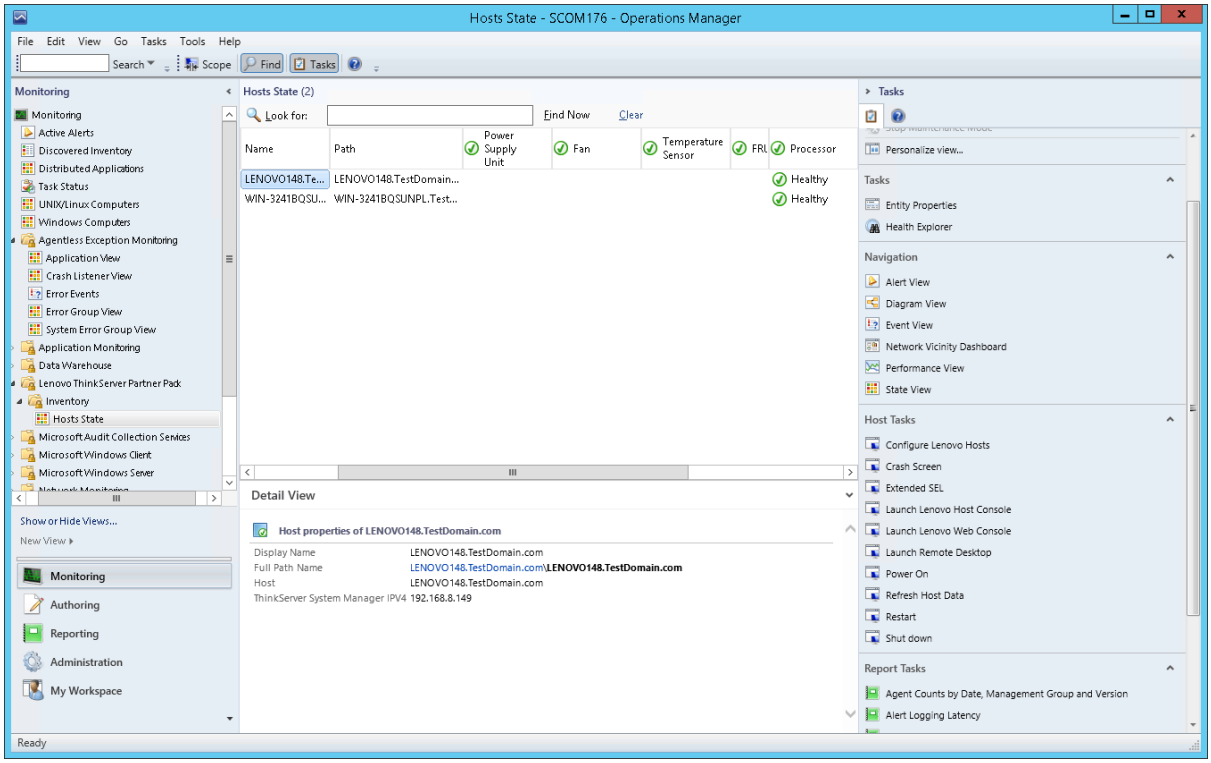

Figure 2: Main Screen Displaying Hosts State

The various components displayed include:

- Power Supply Unit
- Fan
- Temperature Sensor
- FRU
- Processor
- Memory
- System Board
- Server Information

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The status displayed for these components are **Healthy, Critical and Warning**.

Furthermore, on the right of the screen, on the **Task Pane**, the **Host Tasks** section contains the console tasks of Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager.

The various Host tasks include:

- Configure Lenovo Hosts
- Crash Screen
- Extended SEL
- Launch Lenovo Host Console
- Launch Lenovo Web Console
- Launch Remote Desktop
- Power On
- Refresh Host Data
- Restart
- Shut down

3.2.1 Hosts State-Detailed View

For each selected Host, along with the Name and Path, the following additional details for the SCOM server are displayed in the **Detail** view as shown in Figure 2:

- Display Name
- Full Path Name
- Host
- ThinkServer System Manager IPV4

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3.3 Monitoring Detailed Inventory Information

Detailed Inventory information is provided by double clicking the overall status of the following components:

- Power Supply Unit
- Fan
- Temperature Sensor
- FRU
- Processor
- Memory
- System Board
- Server Information

3.3.1 Power Supply Unit

To view the overall status of the Power Supply Unit (PSU), select the power supply overall status for the server. In the below image, the RD440.LAB2.com server is selected. Double-click the power supply unit for the overall status of the host server. In this image, the overall status is healthy.

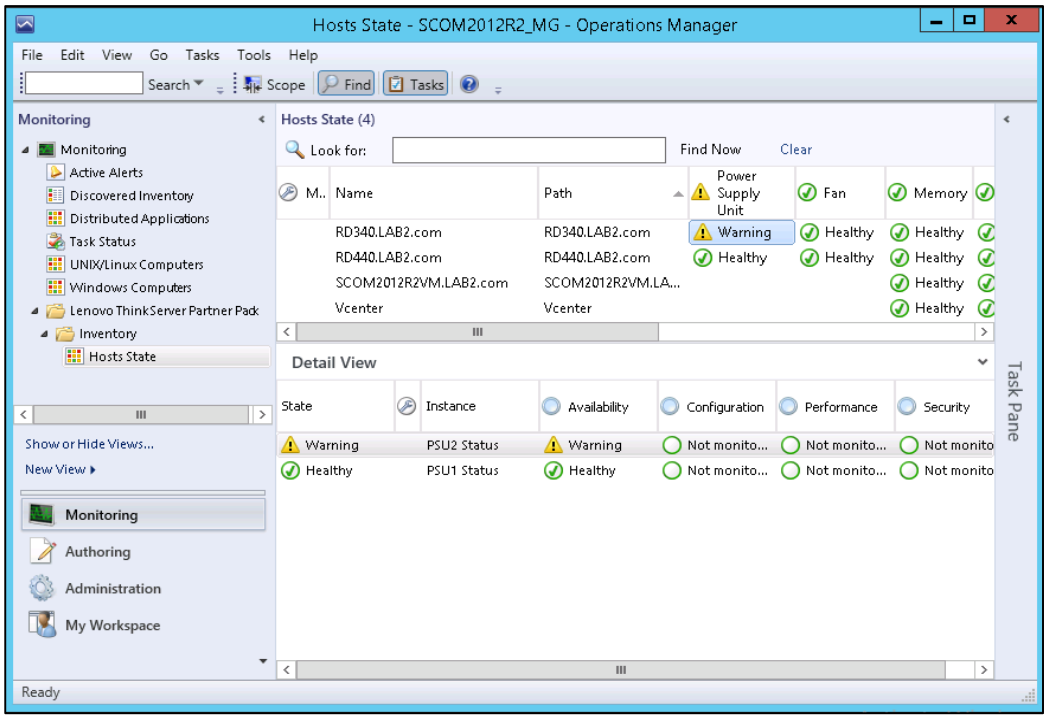

Figure 3: Power Supply Unit Status on the Hosts State Screen

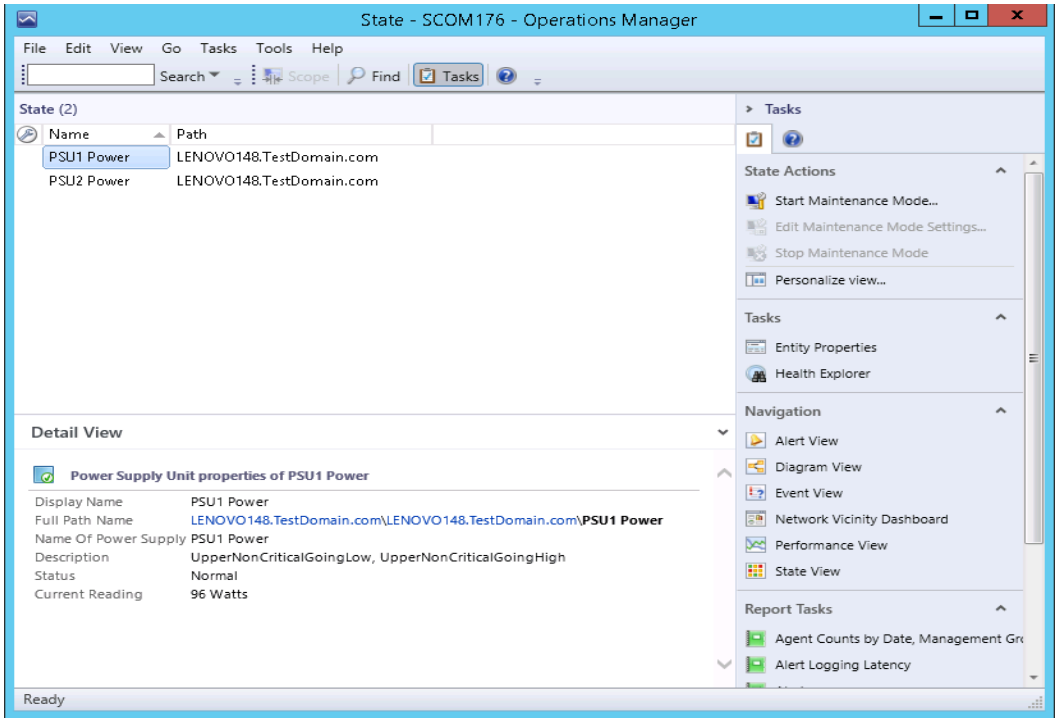

Figure 4: Power Supply Unit Details on the Grantley Hosts State Screen

Double-click the power supply overall status to display the detailed view.

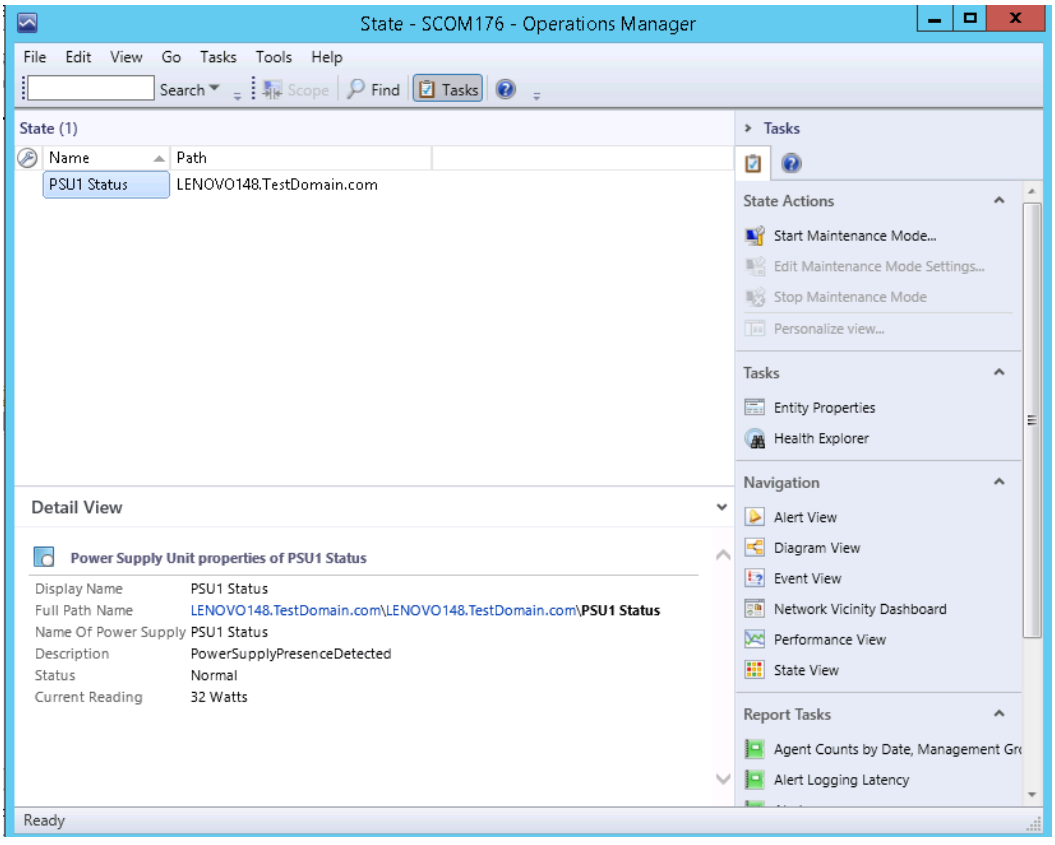

Figure 5: Power Supply Unit Details on the IVB Hosts State Screen

In the detail view, the Display name, full path name, name of power supply, description, status and current reading are displayed.

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3.3.2 Fan

The Fan view provides details such as Name, Path, Rotational Speed (RPM), Display Name, Full Path Name and Status of the fans used in the servers.

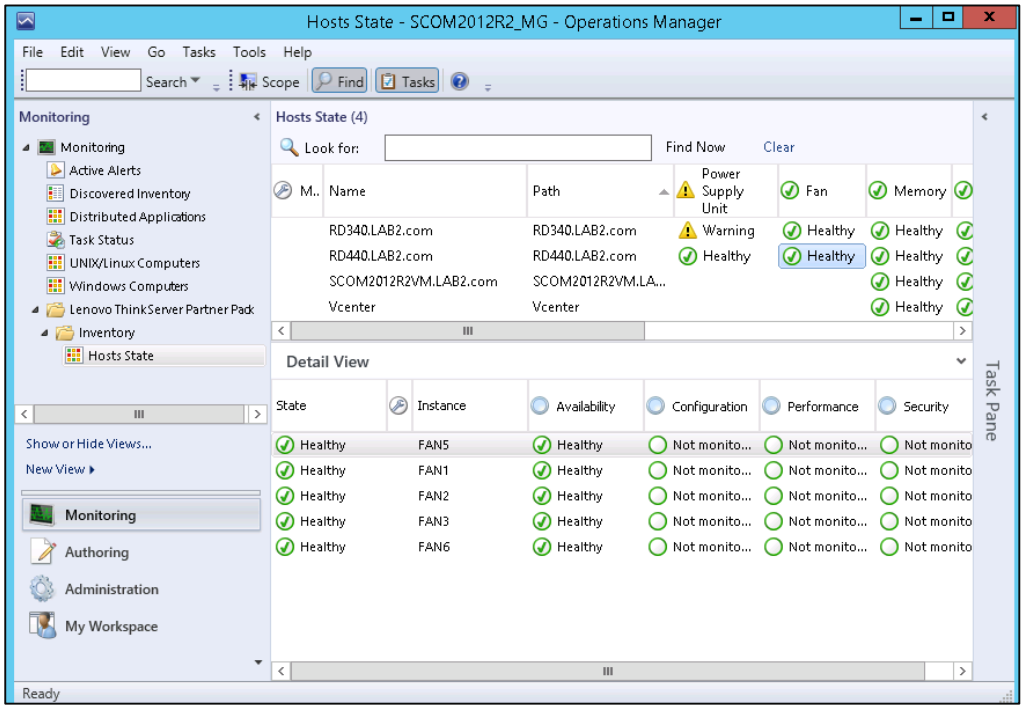

Figure 6: Fans Status on the Hosts State Screen

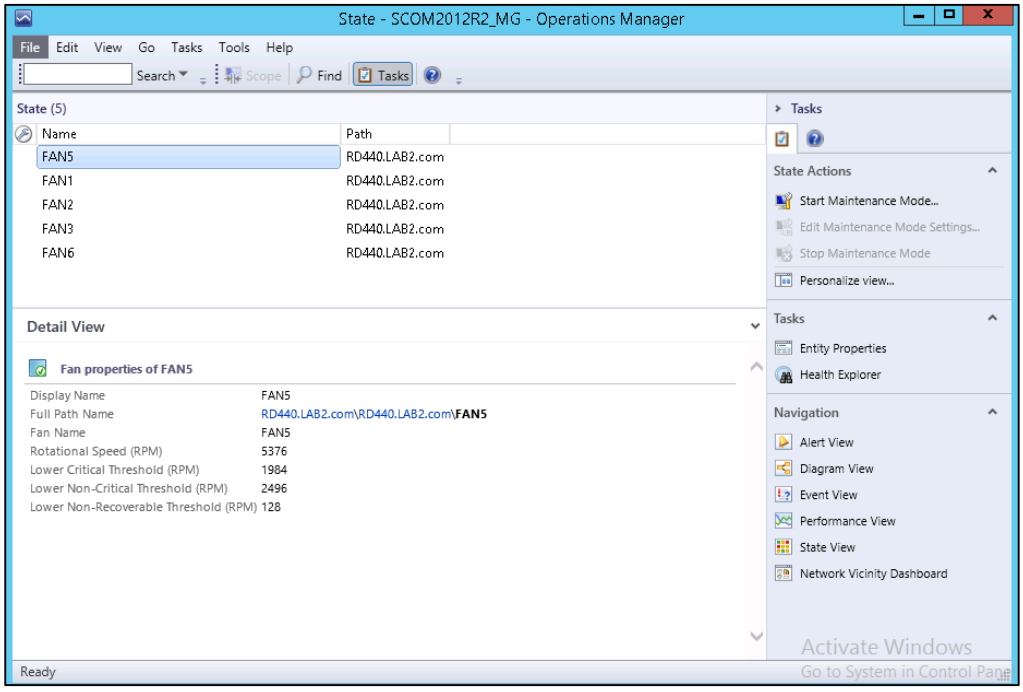

Figure 7: Fans Status—Detailed View

The Fan detail view provides details such as Name, Path, Display Name, Full Path Name, Fan Name, Rotational Speed (RPM), Lower Critical Threshold (RPM), Lower Non-Critical Threshold (RPM) and Lower Non-Recoverable Threshold (RPM).

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3.3.3 Temperature Sensors

The Temperature Sensor Detail view displays the Display Name, Full Path Name, Temperature Sensor Name, Current Temperature, Upper Threshold Critical Temperature, Upper Threshold Fatal Temperature, Upper Threshold Non Critical Temperature and status. The server's temperature is displayed in degree Celcius units.

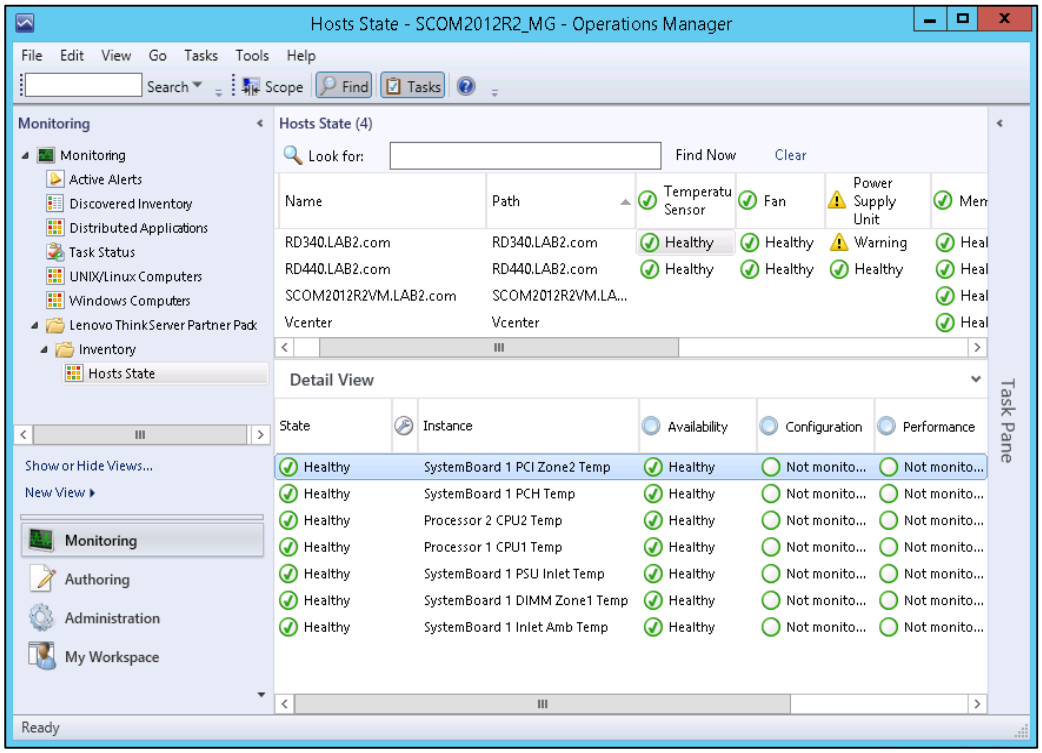

Figure 8: Temperature Sensor Status on the Hosts State Screen

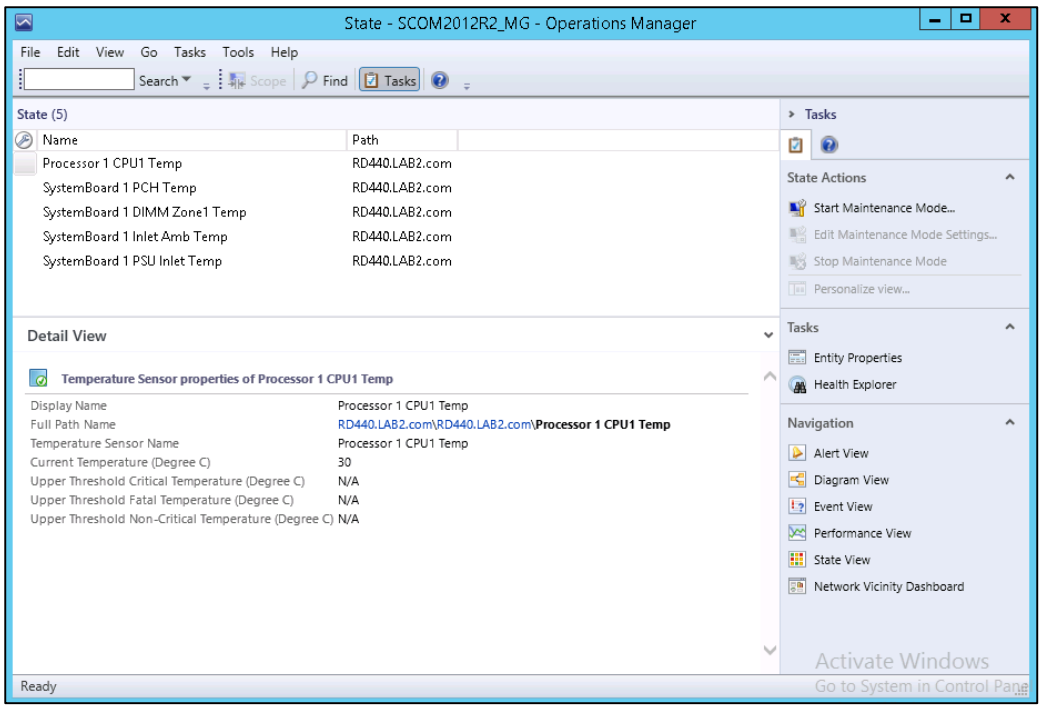

Figure 9: Temperature Sensor Status—Detailed View

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Note: The CPU DTS Margin reading is not an absolute temperature value in Celsius or Fahrenheit, but actually an offset from the maximum CPU junction temperature. In other words, CPU DTS Margin is the distance from the maximum operating temperature of the CPU.

3.3.4 FRU

The Field Replaceable Unit (FRU) Detail view displays the Display name, Full Path Name, Chassis Type, Chassis Part Number, Chassis Serial Number, Custom Chassis Info, Board Manufacturing Data, Board Manufacturer, Board Product Name, Board Serial Number, Board Part Number, Product Manufacturer Name, Product Name, Product Model Number, Product Version, and Product Serial Number.

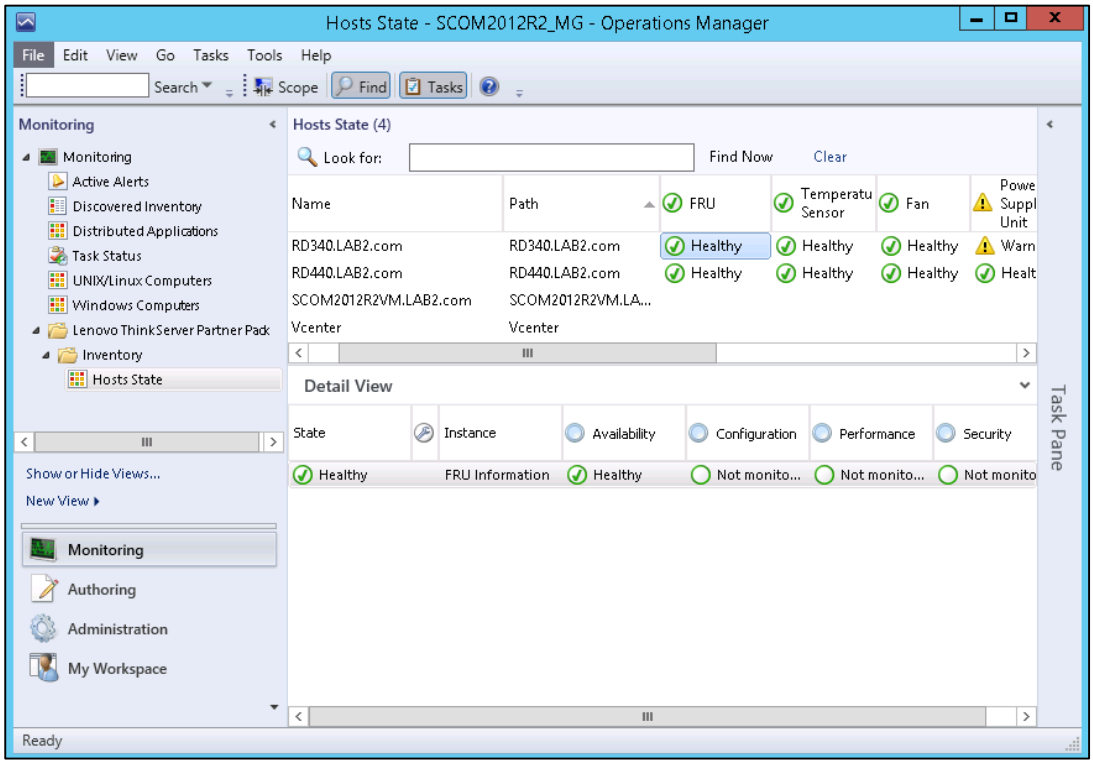

Figure 10: FRU Status on the Hosts State Screen

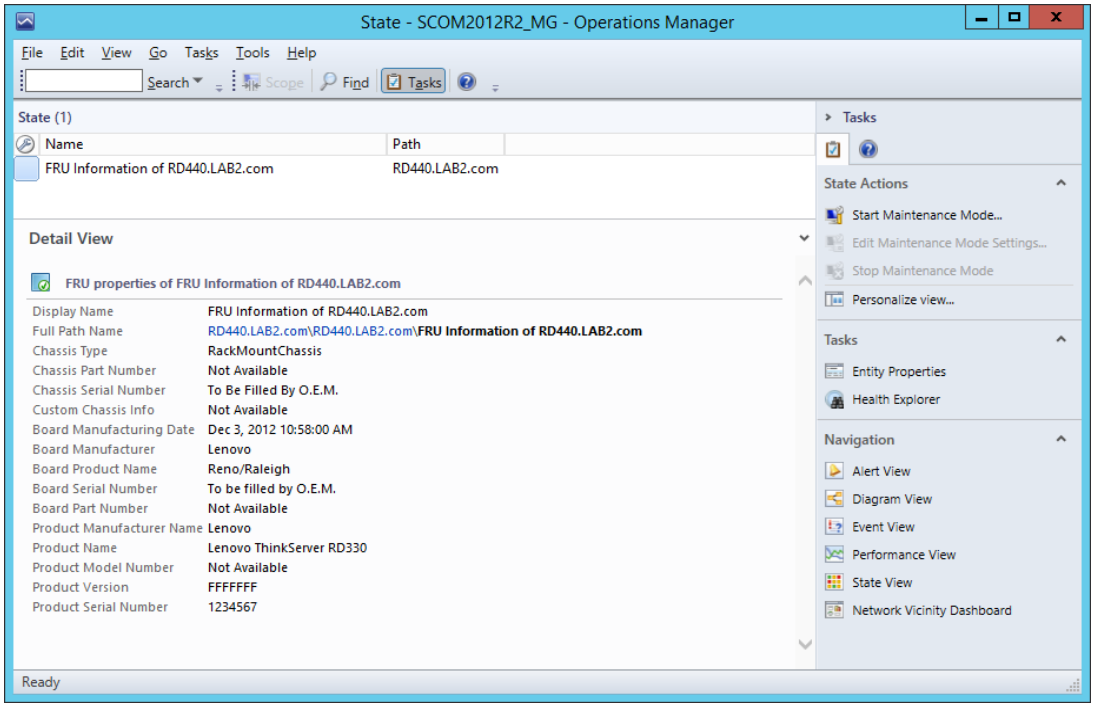

Figure 11: FRU-Detailed View

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3.3.5 Processors

The processor detail view displays the Display Name, Full Path Name, Processor Manufacturer, Model Name, Speed (MHz), Socket Number, Number of Logical Processors, Number of Cores, L2 Cache Size(KB), L3 Cache Sixe(KB) and Status.

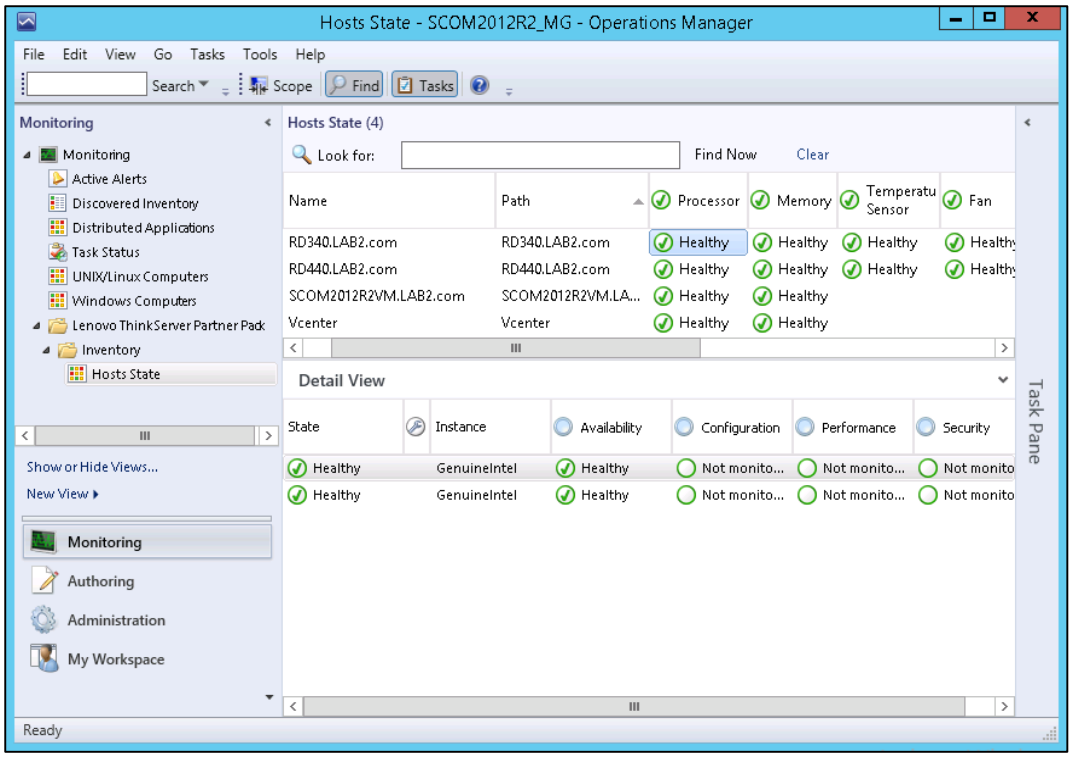

Figure 12: Processor Status on the Hosts State Screen

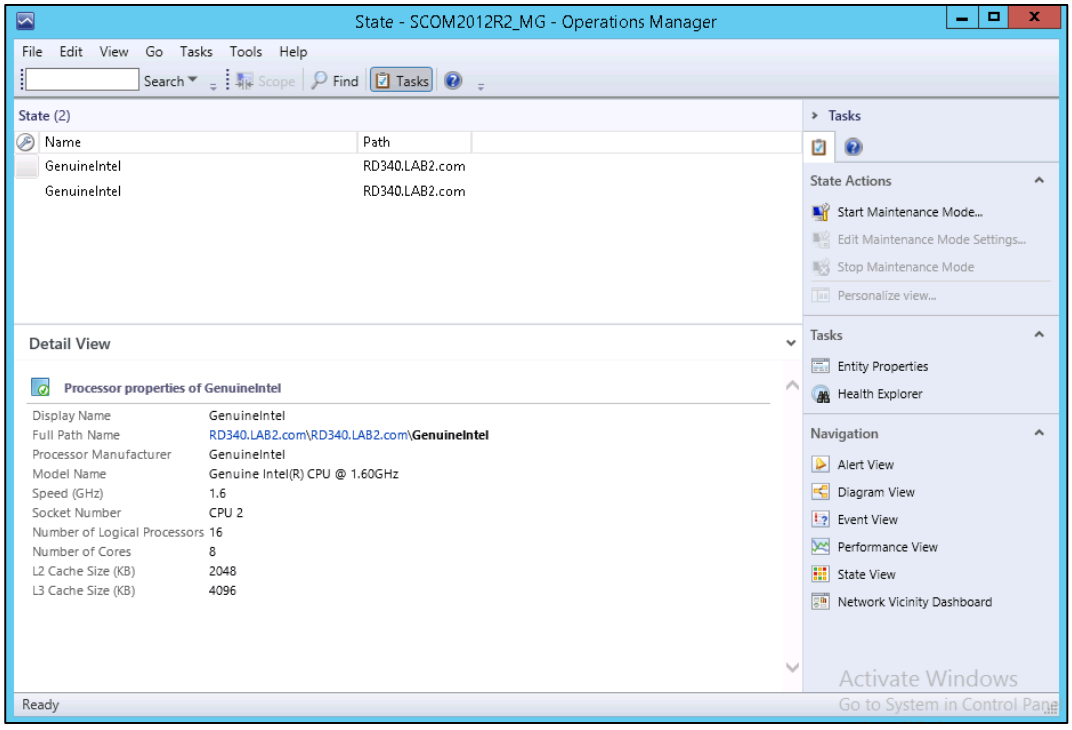

Figure 13: Processor Status-Detailed View

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3.3.6 Memory

The Memory detail view displays details such as Display Name, Full Path Name, Manufacturer of each DIMM, Type of each DIMM, Location of each DIMM, Capacity of each DIMM (MB), Serial Number for each DIMM, Part Number of each DIMM and Status.

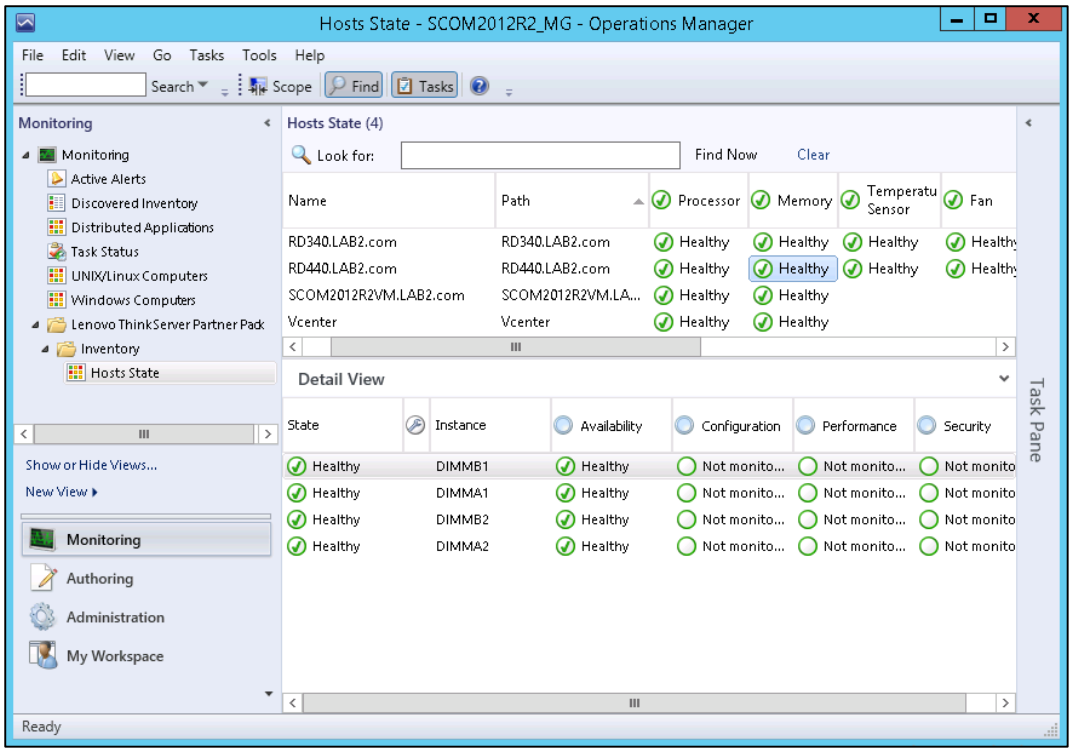

Figure 14: Memory Status on the Hosts State Screen

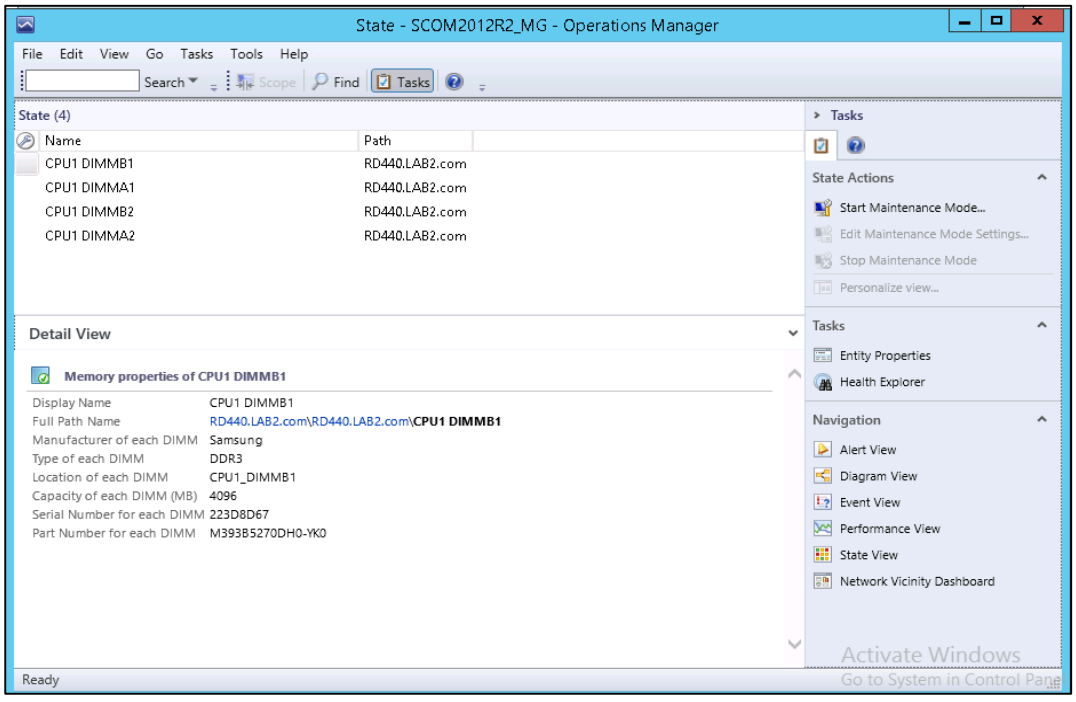

Figure 15 Memory Status-Detailed View

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3.3.7 System Board

The System Board detail view displays the Display Name, Full Path Name, System Board Manufacturer, Server Model, Serial Number and UUID.

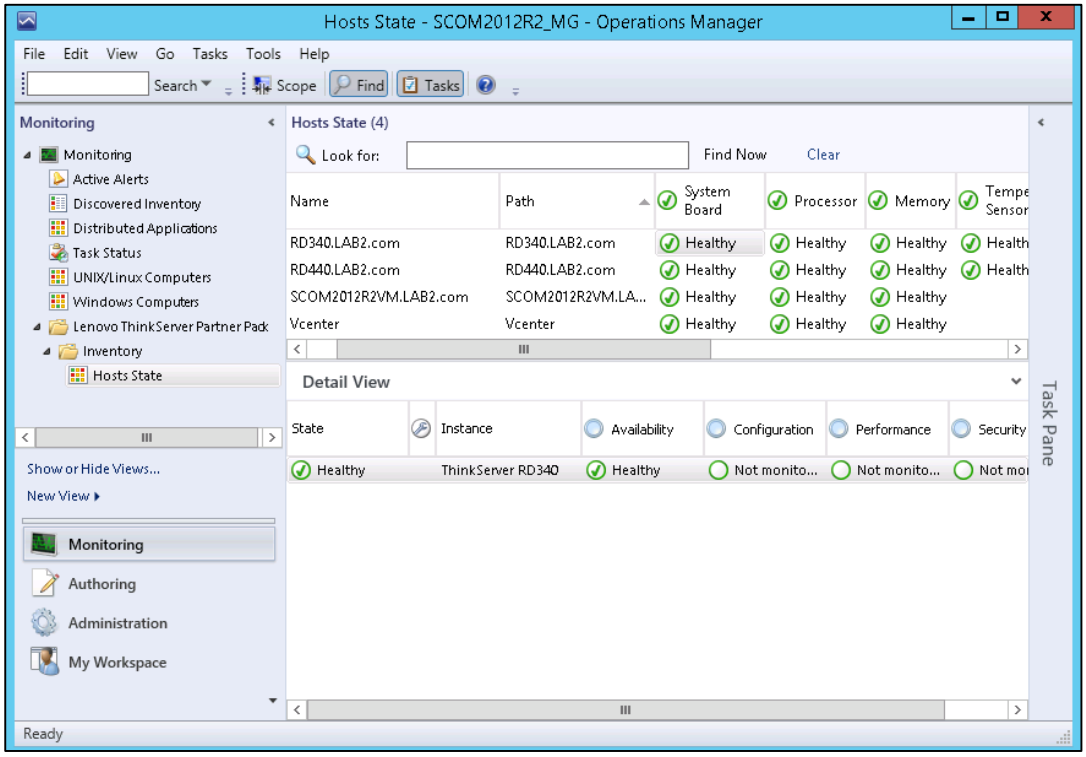

Figure 16: System Board Status on the Hosts State Screen

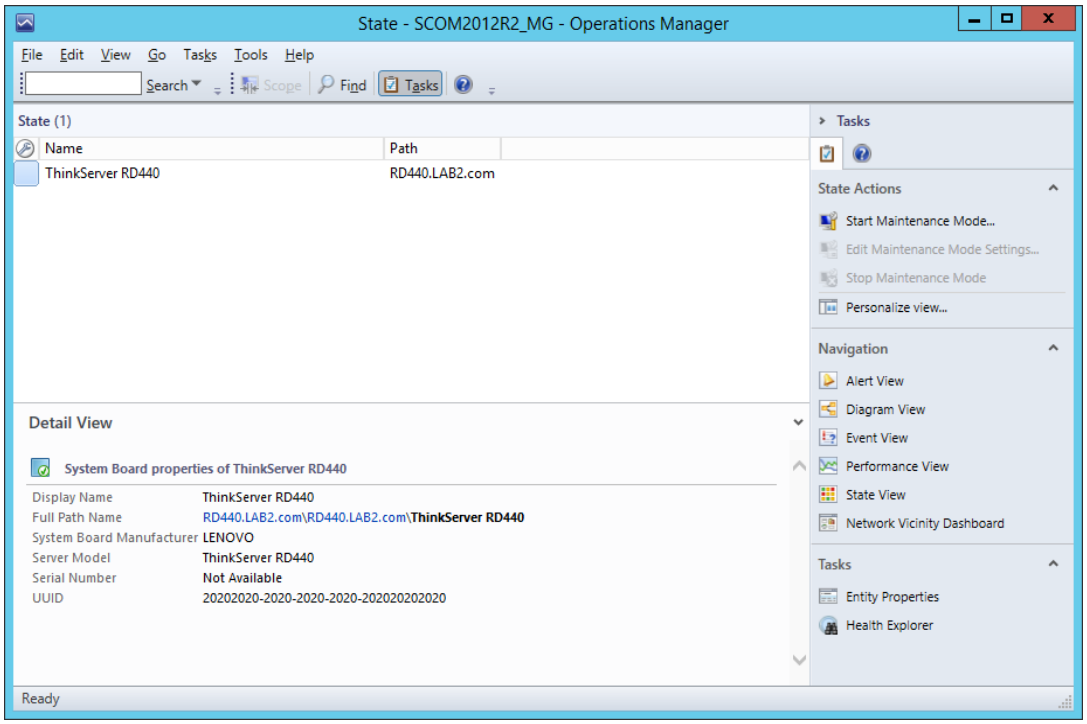

Figure 17: System Board Status—Detailed View

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3.3.8 Server Information

The Server Information detail view displays the Display Name, Full Path Name, OS Version, Number of VMs, BIOS Version, Number of Threads, Number of Processors and Number of Cores.

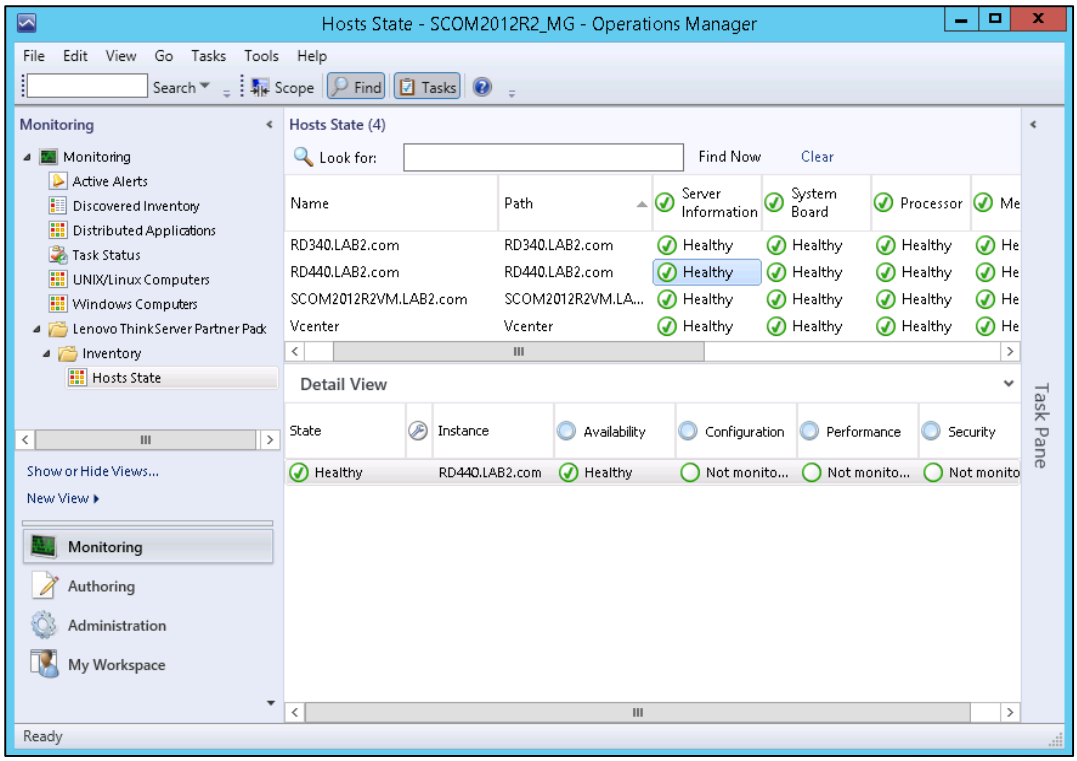

Figure 18: Server Information Status on the Hosts State Screen

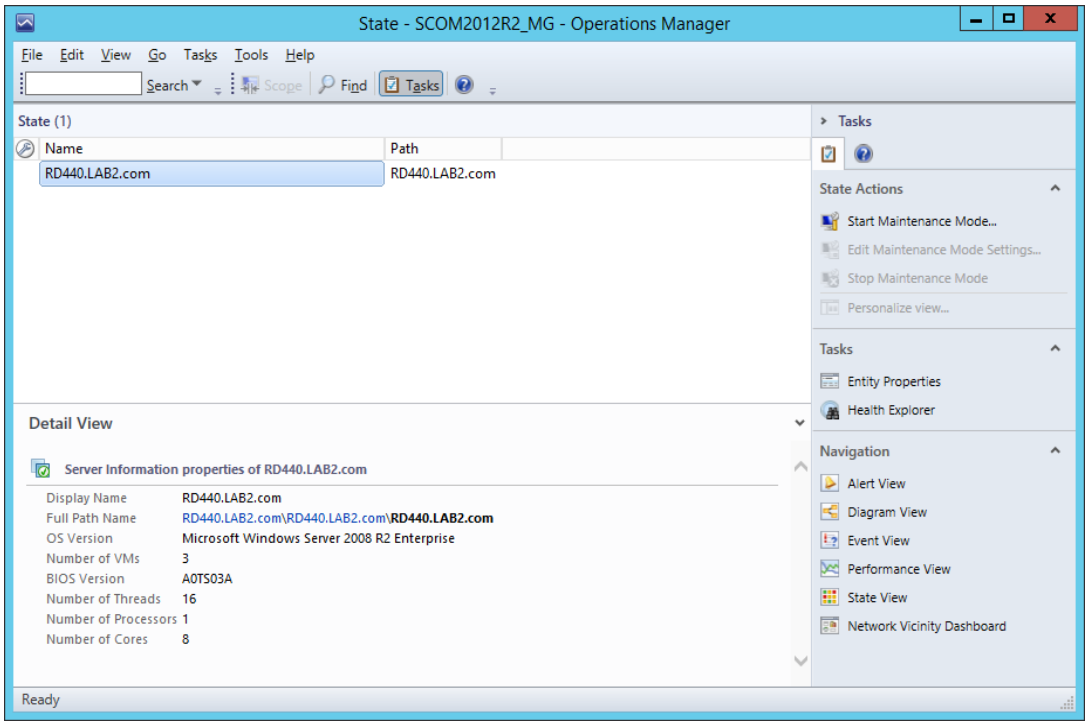

Figure 19: Server Information-Detailed View

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3.4 Operating Host Tasks

This section details the various Host tasks.

3.4.1 Configure Lenovo Hosts:

It provides an easy to use interface to enter and store the user name and password for the BMC Lenovo ThinkServer System Manager IPV4 data.

Notice:The password must be minimum 1 character long and maximum 16 characters long, and the password length doesn’t distinguish IVB or GRT devices.

3.4.2 Crash Screen:

The Crash Screen feature captures a screenshot of the most recent operating system crash, i.e., a Blue Screen of Death (BSOD). With the Crash Screen, users can identify that an issue happened in the operating system running on the host, even if the host restarted while no one was effectively checking the console or using the operating system the moment the crash happened.

The Crash Screen is only able to capture a screenshot of the last BSOD. Therefore, it only works for Windows operating systems. Also, since this feature depends on the Virtual Console, it must be available in ThinkServer System Manager and the user must have the 'KVM' privilege to use it.

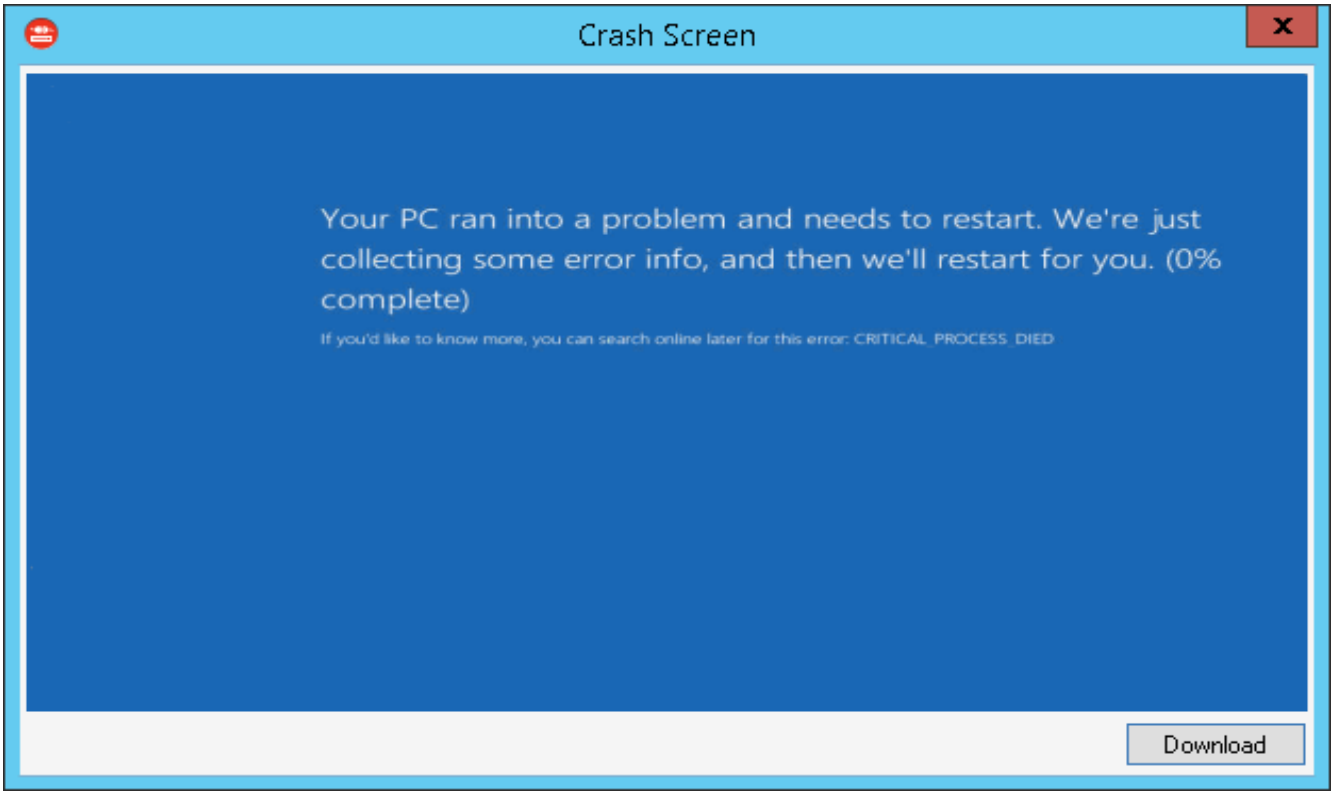

Figure 20: Crash Screen Window

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3.4.3 Extended SEL

It provides an easy user interface to view and export the Extended SEL of each BMC.

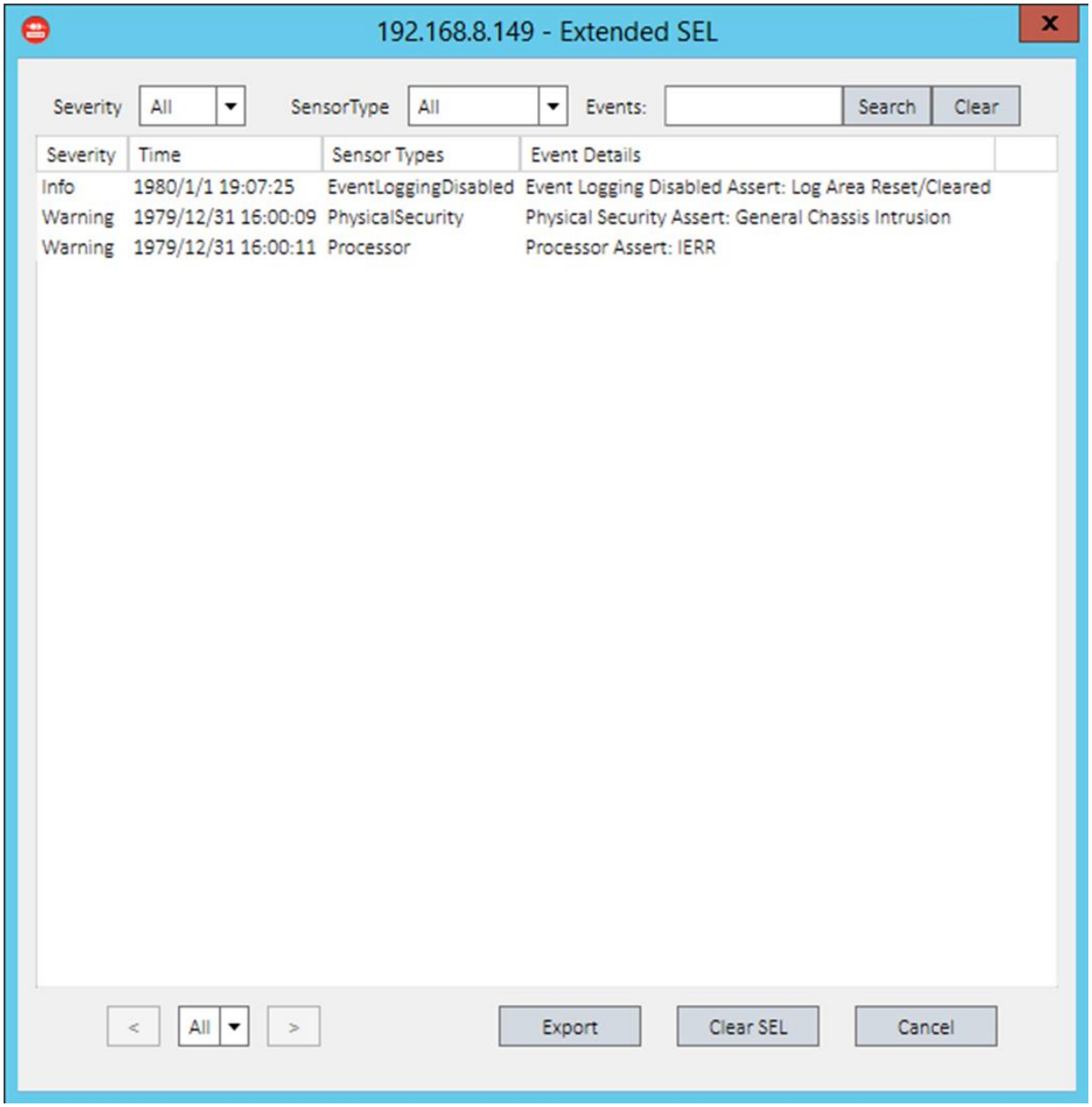

Figure 21: Extended SEL window

3.4.4 Launch Lenovo Host Console:

By using the **Launch Lenovo Host Console** task, you can remotely connect to the machine out of band. You can connect to the machine even if the Operating System is not up/panic state.

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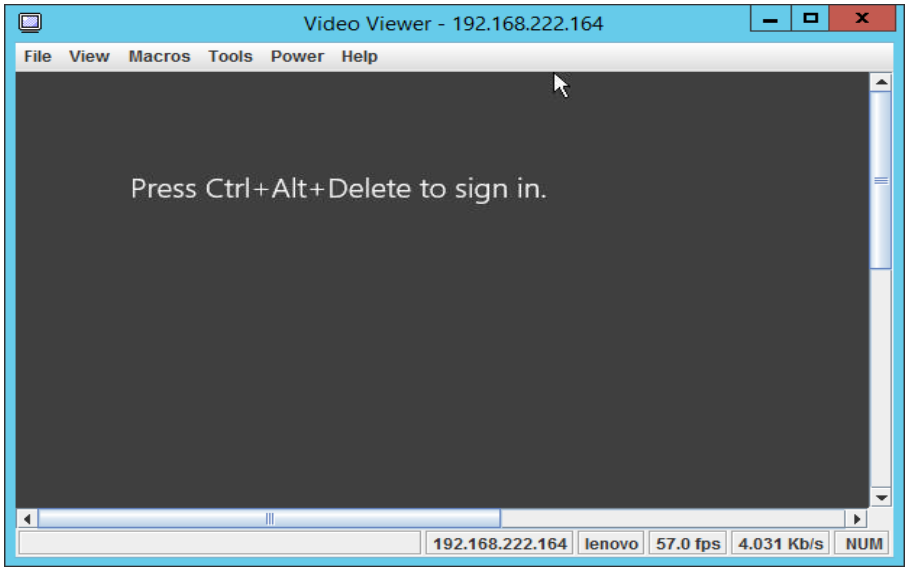

Figure 22: Video Viewer Screen

3.4.5 Launch Lenovo Web Console:

By using the **Launch Lenovo Web Console** task, which is above the RDP console, you can open the Lenovo ThinkServer System Manager(TSM) Website login screen. You need to enter the user name and password to log in.

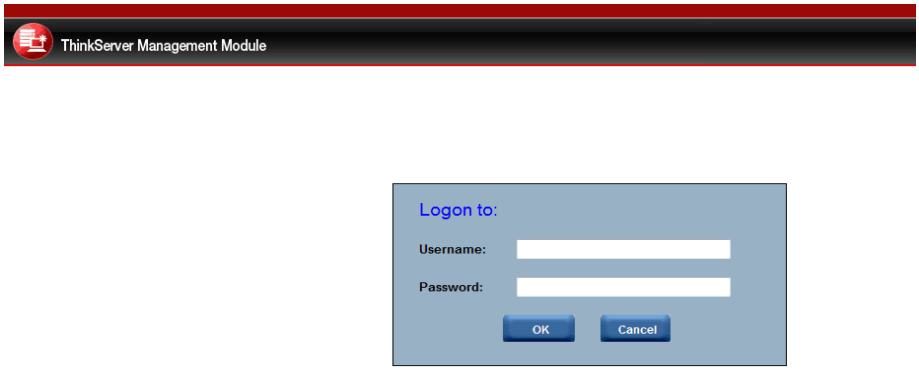

Figure 23: Remote Management Controller

3.4.6 Launch Remote Desktop:

By using the **Launch Remote Desktop task,** you can remotely connect to the servers. You need to enter the credentials to get the access.

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Figure 24: Remote Desktop Login Screen

3.4.7 Refresh Host Data

Select the host server from the Host State section and click on the **Refresh Host Data** console task. The **Refresh Host Data** console task fetches the latest inventory details for the selected host server and the refreshed data will be displayed on the console window for the selected host server.

3.4.8 Restart

Upon clicking the **Restart** link, the selected server will restart.

3.4.9 Shut down

Upon clicking the **Shut Down** link, the selected server will shutdown.

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3.5 Configure interval

3.5.1 Configure discovery interval

Select the Authoring navigation pane and navigate to Authoring → Management Pack Object → **Object discoveries** and search and select the inventory item.

Eg: Temperature sensor discovery as shown in the below screen shot.

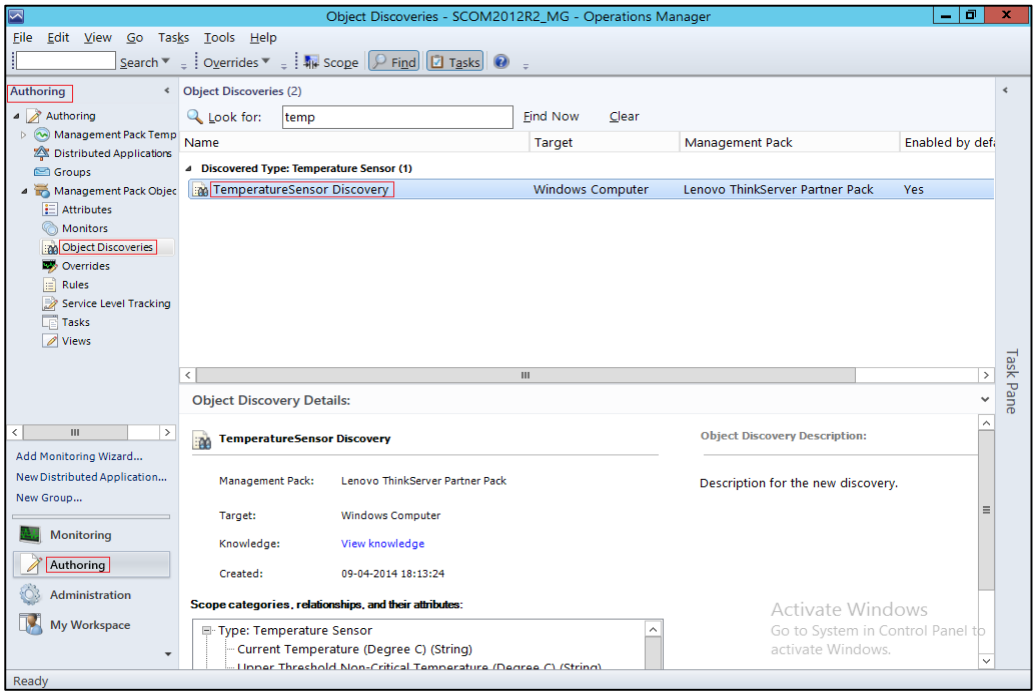

Figure 25: Object discoveries – Search Object

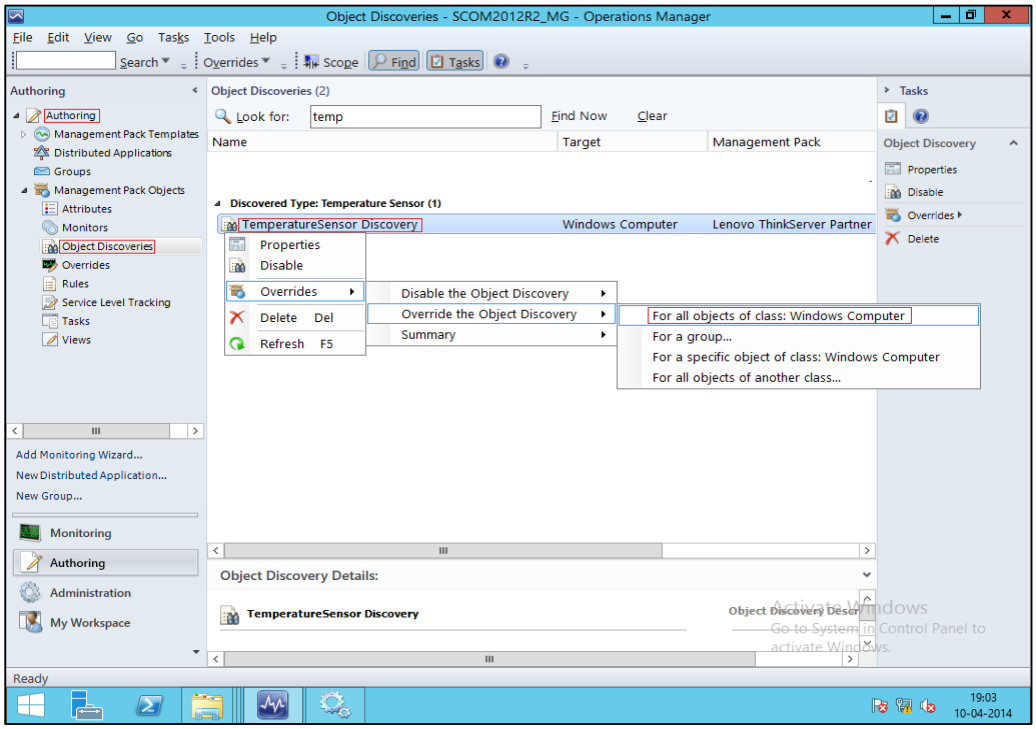

Figure 26: Object discoveries – Override the Object Discovery

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Right click the object to which the discovery interval will be set. Select Overrides → Override the Object Discovery → For all objects of class... from the displayed popup.

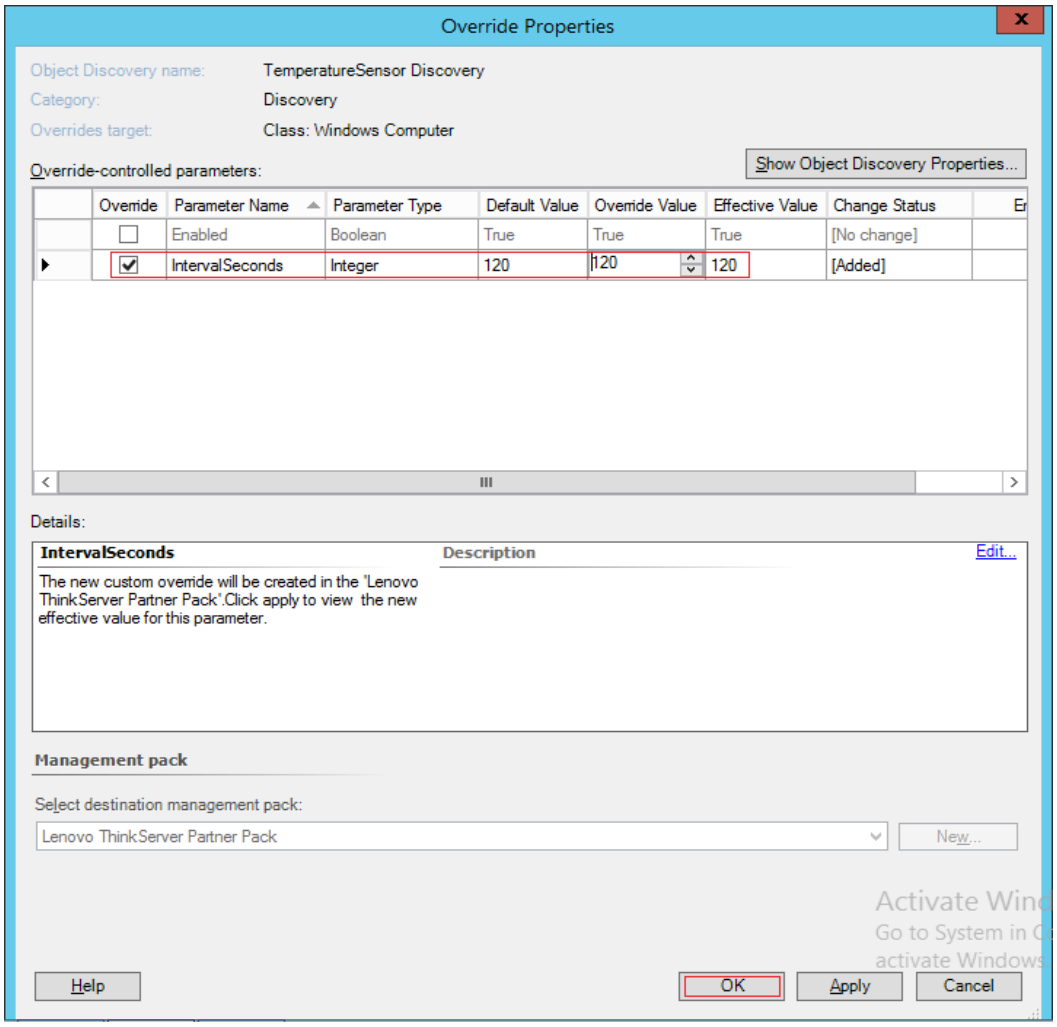

Figure 27: Object discoveries – Set interval

Set the interval value in the screen displayed above and click **OK**. These steps will set the interval value.

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3.5.2 Configure monitoring interval

Select the Authoring navigation pane and navigate to Authoring → Management Pack Object → Monitors and search and select the inventory item.

Eg: FAN unit monitor as shown in the below screen shot.

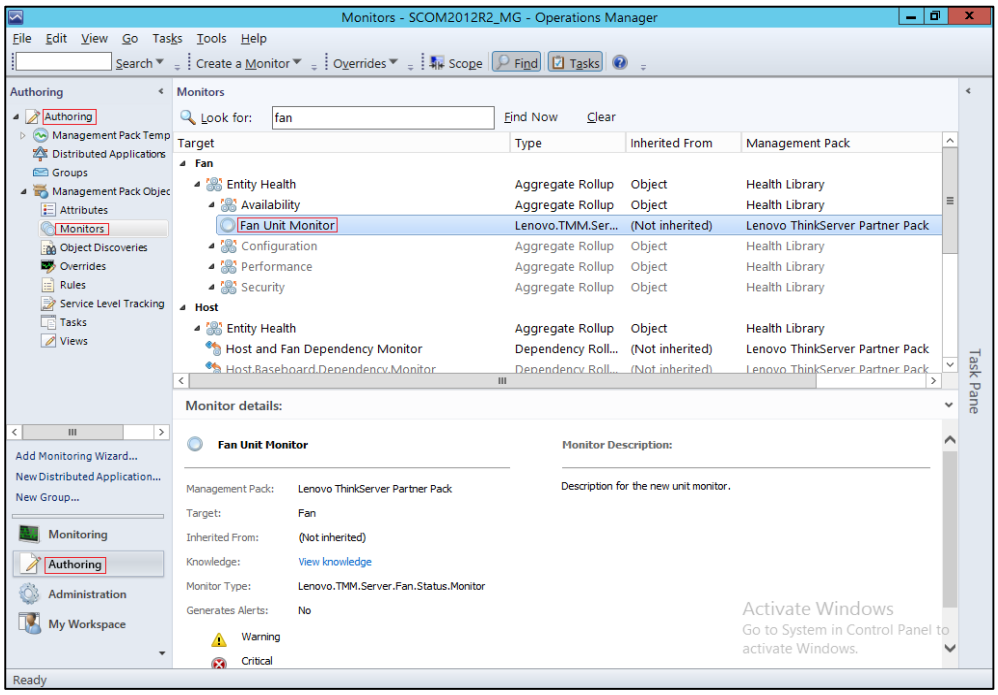

Figure 28: Monitors – Search

Right click on the unit monitor and select Overrides → Override the Monitor → For all objects of class from popup.

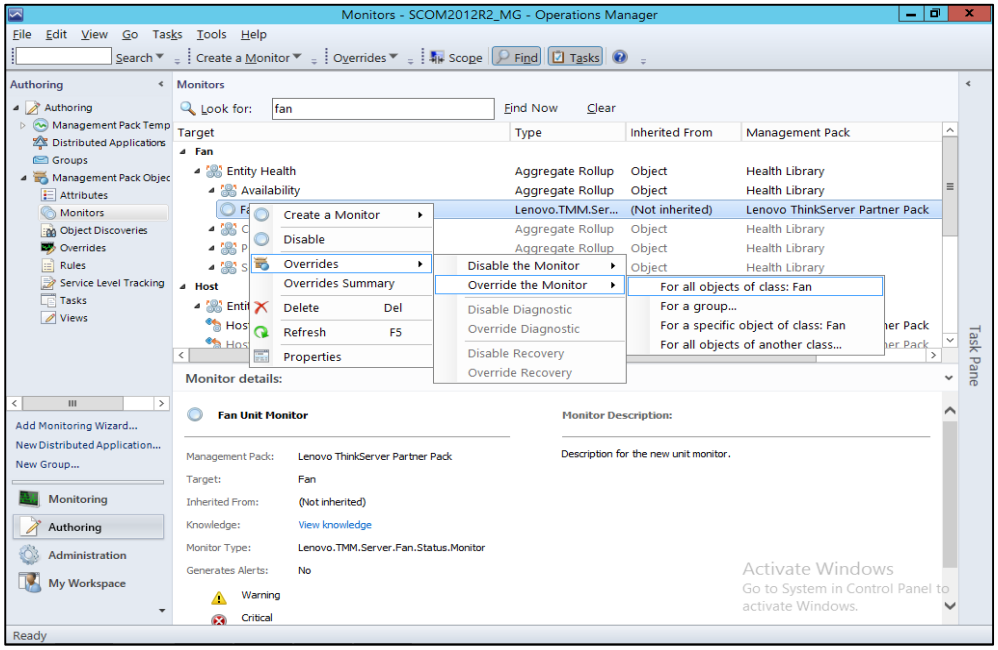

Figure 29: Monitors – Override the Monitor

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Set the interval as shown in below screen shot and press **OK**.

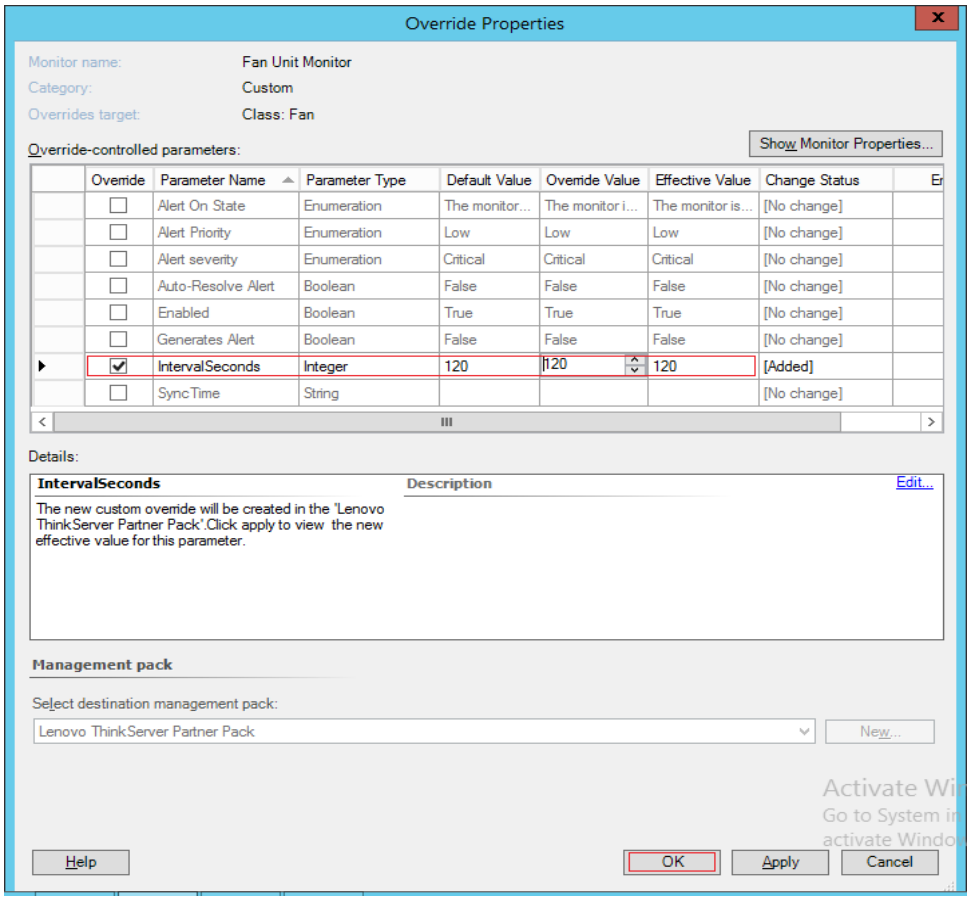

Figure 30: Monitors – Set interval

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4 Troubleshooting

4.1 Error messages

This table displays the common error messages and their resolutions.

Error Message	Resolution
SCOM - Importing a Management Pack failed.	Delete the old version of the management pack and import the new version of the management pack.
Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager is not displaying data after importing the pack.	Right-click the inventory folder and click **Refresh**. Please wait for few minutes, as the system will take some time to populate the data after importing it from the pack.
Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Manager is not displaying data.	Refer to the **Operations Manager** event log.

Table 2: Common error messages and their resolutions

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