

Lenovo ThinkServer Partner Pack for System Center User Guide



Note: Before using this information and the product it supports, ensure that you read and understand Appendix A "Notices in page 22".

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Table of Contents

1	Introduction	5
1.1	System Overview	5
1.2	Key Features and Benefits	5
1.3	User Roles and Responsibilities	5
2	Installing Lenovo ThinkServer Partner Pack	7
3	Working with Lenovo ThinkServer Partner Pack	
3.1	Monitoring Overview Screen	8
3.2	Accessing Hosts State	8
3.2.1	Hosts State-Detailed View	10
3.3	Monitoring Detailed Inventory Information	10
3.3.1	Power Supply Unit	10
3.3.2	Fan	12
3.3.3	Temperature Sensors	13
3.3.4	FRU	14
3.3.5	Processors	15
3.3.6	Memory	16
3.3.7	System Board	17
3.3.8	Server Information	
3.4	Operating Host Tasks	
3.4.1	Configure Lenovo Hosts:	19
3.4.2	Launch Lenovo Host Console:	19
3.4.3	Launch Lenovo Web Console:	19
3.4.4	Launch Remote Desktop:	20
3.4.5	Refresh Host Data	20
3.4.6	Restart	20
3.4.7	Shut down	20
4	Troubleshooting	
4.1	Error messages	21
5	Appendix A. Notices	
6	Trademarks	

List of Figures

Figure 1: Monitoring Overview Screen	8
Figure 2: Main Screen Displaying Hosts State	9
Figure 3: Power Supply Unit Status on the Hosts State Screen	11
Figure 4: Power Supply Unit—Detailed View	11
Figure 5: Fans Status on the Hosts State Screen	12
Figure 6: Fans Status—Detailed View	12
Figure 7: Temperature Sensor Status on the Hosts State Screen	13
Figure 8: Temperature Sensor Status—Detailed View	13
Figure 9: FRU Status on the Hosts State Screen	14
Figure 10: FRU-Detailed View	14
Figure 11: Processor Status on the Hosts State Screen	15
Figure 12: Processor Status-Detailed View	15
Figure 13: Memory Status on the Hosts State Screen	16
Figure 14 Memory Status-Detailed View	16
Figure 15: System Board Status on the Hosts State Screen	17
Figure 16: System Board Status—Detailed View	17
Figure 17: Server Information Status on the Hosts State Screen	
Figure 18: Server Information-Detailed View	
Figure 19: Video Viewer Screen	19
Figure 20: Remote Management Controller	19
Figure 21: Remote Desktop Login Screen	20

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 System Center.

1.1 System Overview

The Lenovo ThinkServer Partner Pack for Microsoft System Center Operations Management (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 ThinkServer Management Module (TMM) 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 System Center 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 System Center 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 ThinkServer Management Module (TMM) 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 System Center 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.
 - o Details of the System board such Server model, Serial number and UUID.

1.3 User Roles and Responsibilities

The Lenovo ThinkServer Partner Pack for System Center 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 TMM IPv4.
	Launches Lenovo Web Console.
	• Refreshes Host Data for the selected server.
Read-only	• Views Lenovo ThinkServer Partner Pack for System Center
User	Launches Lenovo Web Console.
	Views Lenovo ThinkServer Partner Pack for System Center

Table 1: Roles and Responsibilities

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 ThinkServer Partner Pack for System Center Operations Manager into the directory you choose during the installation process. The default location is C: \Program

*Files**LenovoThinkServerPartnerPack*. Later, this package can be imported through the SCOM console. For detailed information please refer to the Installation Guide.

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.

3.2 Accessing Hosts State

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

The **Inventory** folder is located under the **Lenovo ThinkServer** 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.

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	Show or Hide Views New View > Monitoring Authoring Authoring My Workspace	Full Path Name SCOM2012R2VML Host SCOM2012R2VML TMM IPV4 Not Available	AB2.com	ym	¢

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

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

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

The various Host tasks include:

- Configure Lenovo Hosts
- Launch Lenovo Host Console
- Launch Lenovo Web Console
- Launch Remote Desktop
- 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
- TMM IPV4

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.

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Administration My Workspace Parafe	Show or Hide Views New View > Monitoring Authoring Authoring Administration My Workspace		

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

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

State - SCOM2012R2_MG - Operations Manager	_ D X			
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Figure 4: Power Supply Unit-Detailed View

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

3.3.2 Fan

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

	Hosts State - SCOM2012R2_MG - Operations Manager	x
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Figure 5: Fans Status on the Hosts State Screen

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FAN2 of RD440.LAB2.com	RD440.LAB2.com		State Actions
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FAN3 of RD440.LAB2.com	RD440.LAB2.com		Edit Maintenance Mode Settings
FAN5 of RD440.LAB2.com	RD440.LAB2.com		Stop Maintenance Mode
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			Tasks ^
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Rotational Speed (RPM)	5376		Performance View
Lower Critical Threshold (RPM)	1984		III State View
Lower Non-Critical Threshold (RPM)	2496		Network Vicinity Dashboard
Lower Non-Recoverable Threshold (RPN	/1) 128		
		~	
Ready			

Figure 6: Fans Status—Detailed View

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

3.3.3 Temperature Sensors

The Temperature Sensor Detail view displays the Display Name, Full Path Name, Description, 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.

	Hosts State - SCOM2012R2_MG - Operations Manager	_ □	x
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Figure 7: Temperature Sensor Status on the Hosts State Screen

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State (4)		>	Tasks
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Processor 1 CPU1 Temp of RD440.LAB2.com	RD440.LAB2.com	Sta	ate Actions
SystemBoard 1 PSU Inlet Temp of RD440.LAB2.com	RD440.LAB2.com	1	Start Maintenance Mode
SystemBoard 1 PCH Temp of RD440.LAB2.com	RD440.LAB2.com	10	Edit Maintenance Mode Settings
-,		11.4	Stop Maintenance Mode
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		Tas	sks 🔨
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Detail View 🗸			Health Explorer
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RD4	40.LAB2.com	12	Event View
Temperature Sensor Name Syst	emBoard 1 PSU Inlet Temp of RD440.LAB2.com	Dec.	Performance View
Current Temperature (Degree C) 19			State View
Upper Threshold Critical Temperature (Degree C) 0			Sale new
Upper Threshold Fatal Temperature (Degree C) 0			Network Vicinity Dashboard
Upper Threshold Non-Critical Temperature (Degree C) 0		~	
Ready			

Figure 8: Temperature Sensor Status-Detailed View

3.3.4 FRU

The Field Replaceable Unit (FRU) Detail view displays the Display name, Full Path Name, Chassis Type, Chassis Part 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.

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Figure 9: FRU Status on the Hosts State Screen

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Chassis Type Chassis Part Number	RackMountChassis Not Available	6	Entity Properties		~
Chassis Serial Number Custom Chassis Info	To Be Filled By O.E.M. Not Available	(Health Explorer		
Board Manufacturing Date Board Manufacturer	Dec 3, 2012 10:58:00 AM Lenovo	ľ	Navigation		^
Board Product Name Renovaleign Board Serial Number To be filled by O.E.M. Board Part Number Not Available			Alert View Diagram View		
Product Manufacturer Name Lenovo Product Name Lenovo ThinkServer RD330			Event View		
Product Nodel Number Product Version	Not Available		Performance View State View		
Product Serial Number	1234567		Network Vicinity Da	shboard	
		~			
Ready					

Figure 10: FRU-Detailed View

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(MB), L3 Cache Sixe(MB) and Status.

	Hosts	State - SCOM20	12R2_MG - C	perations Mana	ager		_ □	x
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Active Alerts Discovered Inventory	🕢 Fan	Sensor	🕢 FRU	Processor	🕢 Memory		Server Information	
Distributed Applications						🕢 Healthy		
🗞 Task Status	Healthy	🕢 Healthy	🕢 Healthy	Healthy	Healthy	🕢 Healthy	Healthy	
UNIX/Linux Computers	🕢 Healthy	🕢 Healthy	🕢 Healthy	Healthy	Healthy	🕢 Healthy	Healthy	
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Figure 11: Processor Status on the Hosts State Screen

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Processor properties of C	GenuineIntel			^		Entity Properties			
Display Name	GenuineIntel	2 com\ConvineIntel				Health Explorer			
Processor Manufacturer	GenuineIntel	2.com/dentinenter			1000				
Model Name	Genuine Intel(R) CPU @ 1.60)GHz			Nav	vigation			^
Socket Number	CPU 1					Alert View			
Number of Logical Processors	16 8					Diagram View			
L2 Cache Size (KB)	2048				1	Event View			
L3 Cache Size (KB)	4096					Performance View			
						State view	shhaard		
					00	Network vicinity Da	Direodius		
				\sim					
Ready									

Figure 12: Processor Status-Detailed View

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.

	Hosts	State - SCOM20)12R2_MG - O	perations Mana	ager		_ □	x
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Monitoring <	Hosts State (3)							۲.
4 🔝 Monitoring	🔍 Look for:			<u>Find Now</u>	<u>C</u> lear			
Active Alerts Discovered Inventory		Sensor	🕢 FRU	Processor	Memory	System Board	Server Information	
mana				Healthy			Healthy	
💑 Task Status	· 🕢 Healthy	🕢 Healthy	🕢 Healthy	Healthy	Healthy	Healthy	Healthy	
UNIX/Linux Computers	Healthy	Healthy	🕢 Healthy	Healthy	Healthy	Healthy	Healthy	
Windows Computers	<				Ш		>	-
4 C Inventory	Detail View						~	
Hosts State	Chuka (C)	Tanhana	 		0.0.6			
	State	Instance	Availability	Configuration	Performance	Security		1
	🕢 Healthy	DIMMB2	🔵 Not monito	🔵 Not monito	. 🕢 Healthy	🔵 Not monito.	•	lsk
	Healthy	DIMMB1	Not monito	Not monito	. 🕢 Healthy	 Not monito. 		Pan
	Healthy	DIMMA2	Not monito	O Not monito	. 🕢 Healthy	O Not monito.		ō
	Itealthy	DIMMA1	O Not monito	O Not monito	. 🕢 Healthy	 Not monito. 		
Show or Hide Views								
New View P								
Monitoring								
Authoring								
Administration								
Wy Workspace								
•								
Ready								

Figure 13: Memory Status on the Hosts State Screen

Sta	te - SCOM2012R2_MG - Operations Manager		_ D X
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>G</u> o Tas <u>k</u> s <u>T</u> ools <u>H</u> elp			
Scope 👂 Find	🖸 Tasks 🕡 📮		
State (4)		>	Tasks
Name	Path	r	
DIMMB2	RD440.LAB2.com		
DIMMB1	RD440.LAB2.com	S	tate Actions
DIMMA2	RD440.LAB2.com		🖞 Start Maintenance Mode
DIMMA1	RD440.LAB2.com	1	Edit Maintenance Mode Settings
			Stop Maintenance Mode
			Personalize view
		Т	asks ^
		E	Entity Properties
		- 0	Health Explorer
Detail View		~	
		N	lavigation ^
Memory properties of DIMMB2			Alert View
Display Name DIMMB2 Euli Path Name PD440 LAB2 com\PD440 LAB	2 com/DIMMB2	-	🗧 Diagram View
Manufacturer of each DIMM Samsung			2 Event View
Type of each DIMM DDR3		5	Performance View
Location of each DIMM CPU1_DIMMB2			Chata Manu
Capacity of each DIMM (MB) 4096 Serial Number for each DIMM 223D8D69			State view
Part Number for each DIMM M393B5270DH0-YK0		100	Network Vicinity Dashboard
		\sim	
Ready			al

Figure 14 Memory Status-Detailed View

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 Details.

Hosts State - SCOM2012R2_MG - Operations Manager				
<u>File Edit View Go</u> Tas <u>k</u> s <u>Tools H</u> elp				
Search 👻 📮 🌆 Sco	oge 🔎 Fi <u>n</u> d 🖸 T <u>a</u> sks 🔞 🖕			
Monitoring «	Hosts State (3)			<
4 🔳 Monitoring	🔍 Look for:	Eind Now	Clear	
Active Alerts Discovered Inventory		r V FRU Processor (Memory System	Server Information
Distributed Applications			🕢 Healthy 🕜 Healthy 🔾	Healthy
🕉 Task Status	· 🕢 Healthy 🕢 Health	hy 🕢 Healthy 🕢 Healthy 🛛	🕢 Healthy 🛛 🕢 Healthy 💽	D Healthy
UNIX/Linux Computers		hy 🕢 Healthy 🕢 Healthy	🕢 Healthy 🕜 Healthy 🥥	Healthy
iii Windows Computers	<		III	>
Carl Lenovo Trinkserver Carl Inventory	Detail View			~
III Hosts State	State 🛞 Instance	O Availability O Configuration	Performance Security	-
	Healthy ThinkServer	RD 🕢 Healthy 🛛 🔿 Not monito	O Not monito O Not monito	ask
				Pan
				Ō
Show or Hide Views				
New View >				
Monitoring				
Authoring				
🚳 Administration				
My Workspace				
Ready				.4

Figure 15: System Board Status on the Hosts State Screen

State - SCOM2012R2_MG - Operations Manager	_ D X
Elle Edit View Go Tasks Iools Help	
:∑earch * _↓ : 4)⊯ scope ≫ ring [1 asks]	Tasks
Ø Name Path Till C PD440 PD400	
Thinkserver KU440 KU440.LAB2.com	State Actions
	Start Maintenance Mode Edit Maintenance Mode Settings
	Stop Maintenance Mode
	Personalize view
	Navigation ^
Detail View 🗸	Diagram View
System Board properties of ThinkServer RD440	Performance View
Display Name ThinkServer RD440 Full Path Name RD440.LAB2.com\RD440.LAB2.com\ThinkServer RD440 System Board Manufacturer LENOVO	State View
Server Model ThinkServer RD440 Serial Number Not Available	Tasks ^
UUID 20202020-2020-2020-2020-202002020	Entity Properties
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_
Ready	.il

Figure 16: System Board Status-Detailed View

#### 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.

	Hosts	s State - SCOM20	)12R2_MG - (	Operations Man	ager		_ □	x
<u>File Edit View G</u> o Tas <u>k</u> s <u>T</u> ools	Help							
<u>S</u> earch ▼ _→ I III Sco	oge 👂 Find 🔽 Ta	sks 🕜 🝦						
Monitoring «	Hosts State (3)							۲.
4 🔝 Monitoring	🔍 Look for:			<u>F</u> ind Now	<u>C</u> lear			
Active Alerts Discovered Inventory	🕢 Fan	Sensor	🕢 FRU	Processor	Memory	System Board	Server Information	
Distributed Applications				Healthy		🕢 Healthy	🕢 Healthy	
Task Status	· 🕢 Healthy	🕢 Healthy	🕢 Healthy	🕢 Healthy	🕢 Healthy	🕢 Healthy	🕢 Healthy	
UNIX/Linux Computers	🕢 Healthy	Healthy	🕢 Healthy	Healthy	Healthy	🕢 Healthy	🕢 Healthy	
Windows Computers	<				Ш		>	
Carl Lenovo Trinkserver     Carl Inventory	Detail View						~	
iii Hosts State	State @	Instance	Ausilability	Configuration	Derformance	Convitu		
	State	/ Instance	Availability	Comguration	Performance	Security		Та
	Itealthy	RD440.LAB2.com	🕢 Healthy	🔘 Not monito	. 🔘 Not monito	. 🔘 Not monit	0	skF
								ane
Show or Hide Views								
New View 🕨								
Monitoring								
Authoring								
Administration								
My Workspace								
•								
Ready								.4

Figure 17: Server Information Status on the Hosts State Screen

Sta	te - SCOM2012R2_MG - Operations Manager		_ <b>D</b> X
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>G</u> o Tas <u>k</u> s <u>T</u> ools <u>H</u> elp			
Search ▼ 📮 🔤 🐺 Scope	🖸 Tasks 🔞 🝦		
State (1)		>	Tasks
Name	Path	6	2 😡
RD440.LAB2.com	RD440.LAB2.com	s	tate Actions
			🖞 Start Maintenance Mode
		3	Edit Maintenance Mode Settings
		3	😸 Stop Maintenance Mode
			Personalize view
		т	asks ^
			Entity Properties
D - 111		-	Health Explorer
Detail View		× .	lavigation A
Server Information properties of RD440.LAB2.com			
Display Name RD440.LAB2.com			Alert view
Full Path Name RD440.LAB2.com\RD440.LAB2.com	NRD440.LAB2.com		S Diagram View
OS Version Microsoft Windows Server 2008 R	2 Enterprise	Ŀ	2 Event View
BIOS Version A0TS03A		Þ	Performance View
Number of Threads 16			II State View
Number of Processors 1		E	Network Vicinity Dashboard
Number of Cores 8			
		$\sim$	
Ready			

Figure 18: Server Information-Detailed View

#### 3.4 Operating Host Tasks

This section details the various Host tasks.

#### 3.4.1 Configure Lenovo Hosts:

It provides an easy use interface to enter and store the user name and password for the BMC TMM IPV4 data.

#### 3.4.2 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 or in panic state.



Figure 19: Video Viewer Screen

#### 3.4.3 Launch Lenovo Web Console:

By using the **Launch Lenovo Web Console** task, which is below the RDP console, you can open the TMM Website login screen. You need to enter the user name and password to log in.



Figure 20: Remote Management Controller

#### 3.4.4 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.

	Windows Security X					
Enter your These creden	r credentials tials will be used to connect to RD440.LAB2.com.					
	lab2\scomaction					
m	Password					
•	Use another account					
	Connect a smart card					
Rem	ember my credentials					
	OK Cancel					

Figure 21: Remote Desktop Login Screen

#### 3.4.5 Refresh Host Data

Select the host server from 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.

#### 3.4.6 Restart

On clicking the Restart link, the selected server gets restarted.

#### 3.4.7 Shut down

On clicking the Shut Down link, the selected server gets shutdown.

# 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 System Center is not displaying data after importing the pack.	Right-click the inventory folder and click <b>Refresh</b> . Please wait for a few minutes, as the system will take some time to populate the data after importing it from the pack.
Lenovo ThinkServer Partner Pack for System Center is not displaying data.	Refer to the <b>Operations Manager</b> event log.

Table 2: Common error messages and their resolutions

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