Management Plugin for SCOM/SCCM

User's Guide

Revision 1.1.0

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Manual Revision: 1.1.0

Release Date: Feb 24, 2017

Software Revision History

Date	Rev	Description
2017/02/24	1.1.0	1. Added the function of deleting hosts from SSM. 2. Added the function of discovering hosts (AgentManaged, IPMI and Agentless) for SSM. 3. Added task to display System Information. 4. Added the rule of collecting Power Consumption Trend. 5. Adopted the customized dashboard component for improved UI display. 6. Added the new management pack to extend SCOM's capabilities to discovering IPMI devices. 7. Added IPMI device view in Operations Manager Console 8. Added IPMI group diagram in Operations Manager Console 9. Added the function of collecting the version information from IPMI devices. 10. Added the function of collecting the ACPI status from IPMI devices. 11. Added the function of collecting the LAN information from IPMI devices. 12. Added the function of collecting the FRU information from IPMI devices. 13. Added the function of collecting the Fan mode information from IPMI devices. 14. Added the function of monitoring the health state of IPMI devices. 15. Added the function of monitoring health state for sensors on IPMI devices. 16. Added the BMC reset function for IPMI devices. 17. Added the power control (On/Off/Reset/Soft Shutdown) functions for IPMI devices.
2017/07/22	1.0.0	Initial version.

Document Revision History

Date	Rev	Description
2017/02/24	1.1.0	Updated this document for 1.1.0 release
2017/08/30	1.0.0	Created this document.

Contents

1 Overview

Data Centers use Microsoft SCOM as a single point of system management. The management plugin for SCOM/SCCM integrates with the current SCOM interface, providing extended capability of SCOM to collect information from SSM and management functions.

1.1 Features

Using SCOM, you should see the Supermicro server hosts and the following information:

- Inventory
  - Host List
  - Services List
- Health
  - Monitor Host Status
  - Monitor Service Status
- IPMI ping info
  - Host View (Status Information)
- License info
  - Service View (Status Information)
- Performance
  - System Utilization
- Power management
  - pminfo (Power supply monitor)
- Asset info
- KVM/IPMI WebUI
- Firmware management
  - BIOS FW update and configuration
  - BMC FW update and configuration
- LDAP/AD
  - LDAP/AD support for SSM
- Mount/unmount ISO images

1.2 Components

The management plugin for SCOM/SCCM include the following components:

- **Supermicro Management Packs**
  - Supermicro.Core : Core Management Pack
  - Supermicro.SSM: Management Pack for Supermicro Server Manager(SSM)
  - Supermicro.IPMI: Management Pack for Supermicro IPMI Devices
- **Supermicro Connector Services**
  - Supermicro SSM Connector: Windows service for SCOM to integrate Supermicro Server Manager(SSM)
  - Supermicro IPMI Connector: Windows service for SCOM to integrate Supermicro IPMI devices
- **Supermicro SMCIPMITool**
  - A utility for user to interface with SuperBlade systems and IPMI devices

2 Prerequisites and Installation

2.1 Supported Operating System

- Windows Server 2012 R2

2.2 System Requirements

- Windows Server 2012 R2 (Roles and Features are added)
  - Server Roles: (required items listed in Table 2-1)

Item	Sub Items		
Application Server	.Net Framework 4.5		
Web Server (IIS)	Web Server	Common HTTP Features	Default Document
			Directory Browsing
			HTTP Errors
			Static Content
		Health and Diagnostics	HTTP Logging
			Request Monitor
		Performance	Static Content Compression
		Security	Request Filtering
			Windows Authentication
		Application Development	.Net Extensibility 3.5
			.Net Extensibility 4.5
			ASP.NET 3.5
			ASP.NET 4.5
			ISAPI Extensions
			ISAPI Filters
	Management Tools	IIS Management Console	
		IIS 6 Management Compatibility	IIS 6 Metabase Compatibility

Table 2-1

  - Features: (required items listed in Table 2-2)

Item	Sub Items	
.NET Framework 3.5 Features	.NET Framework 3.5	
.NET Framework 4.5 Features	.NET Framework 4.5	
	ASP .NET 4.5	
	WCF Service	HTTP Activation
Windows Process Activation Service	Process Model	
	Configuration APIs	

Table 2-2

- SQL Server 2012 SP1 (required items listed in Table 2-3)

Item	Sub Items	
Instance Features	Database Engine Services	SQL Server Replication
		Full-Text and Semantic Extractions for Search
	Analysis Services	
	Reporting Services	
Shared Features	Management Tools	Management Tools

Table 2-3

- System Center 2012 R2 Operations Manager

2.3 Installing Management Plugin for SCOM

1. This software must be installed on a Management Server (MS) in SCOM resource pool.
2. Log in to Management Server as the administrator.
3. Run **Supermicro_SCOM_SCCM_Management_Plugin_<VER>_build.<BUILD>_Installer.exe** with the Administrator privilege to start the installation.
4. Click **Browse** to select an installation target folder, and then click **Install** to continue.

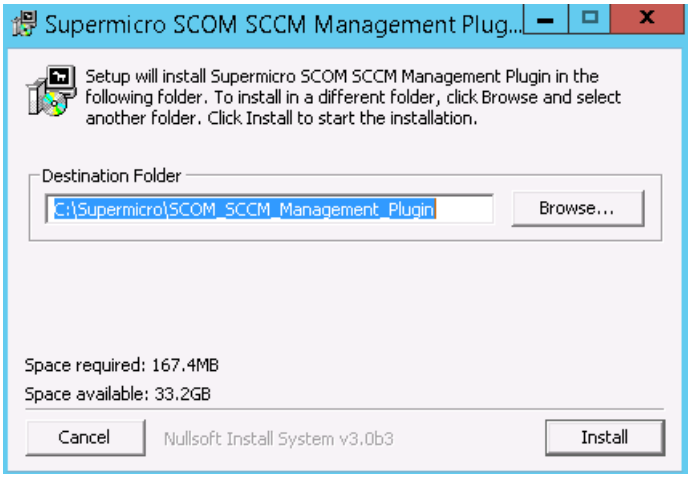


Figure 2-1

5. When the installation is complete, click **Close** to finish.

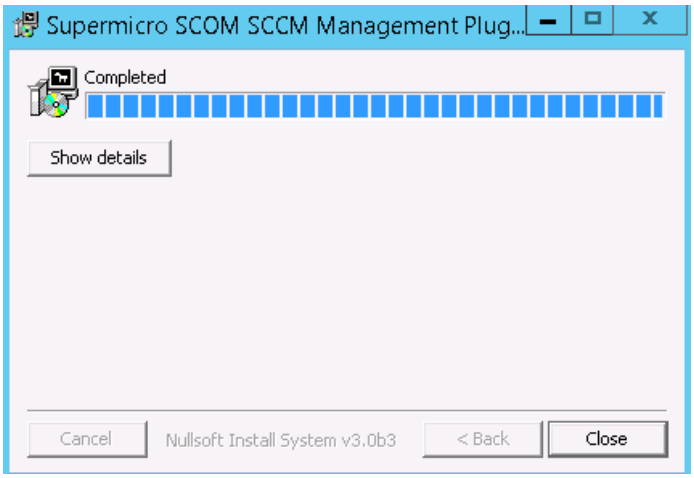


Figure 2-2

2.4 Starting Operations Manager Console

The management plugin for SCOM/SCCM is integrated in Operations Manager Console. The extended features and monitoring services will start automatically after installation and configuration. For details on configurations, see *Chapter 4 Discovering*. To start the Operations Manager Console, follow the steps below. (If you do not log in via remote desktop, please skip steps 1 and 2.)

1. Connect to the SCOM host via Remote Desktop. (For example: mstsc /v:10.136.176.153:3389)
2. Log in with Username & Password.

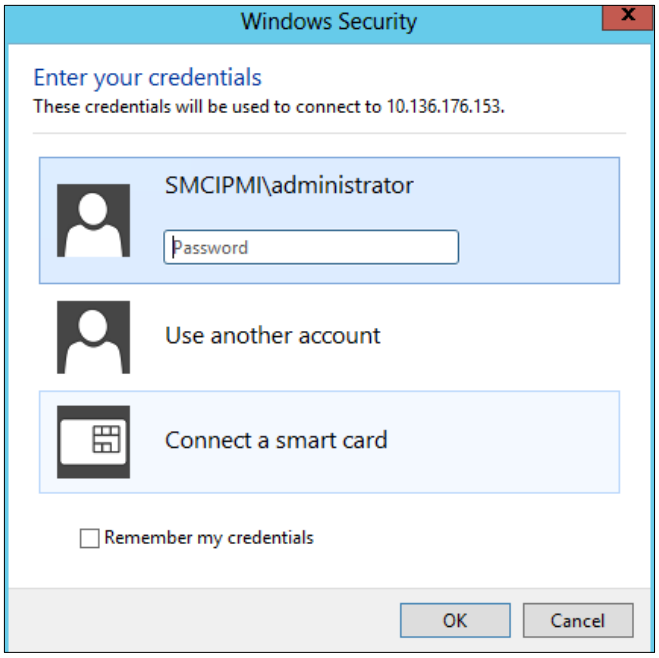


Figure 2-3

3. Click **Operations Console** in the Start menu.

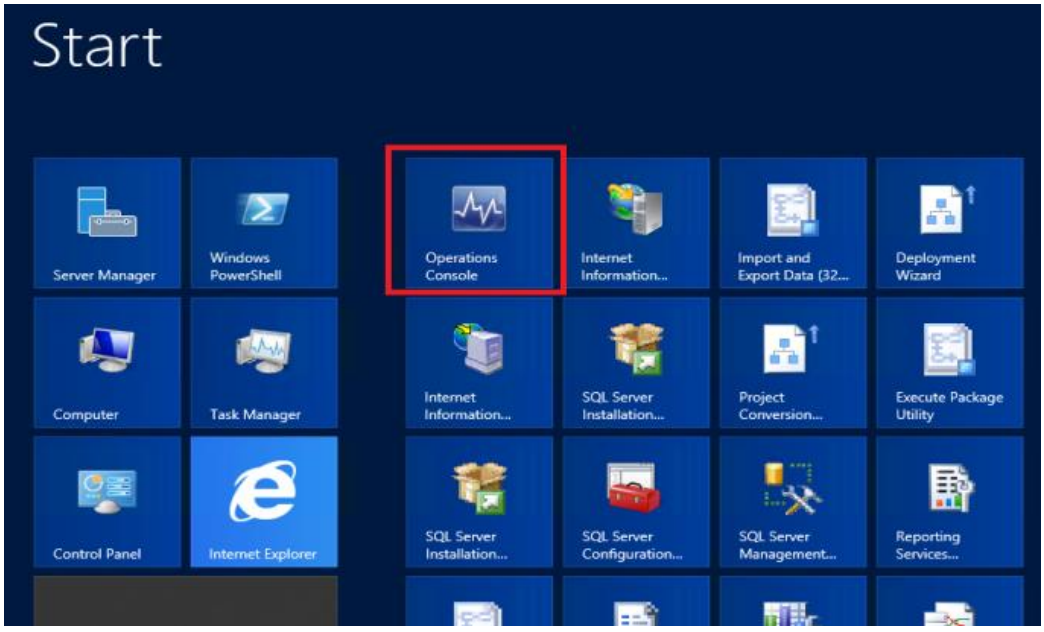


Figure 2-4

4. After that, you shall see the Operations Manager Console as following figure. Please also refer to *Appendix A* for working areas layout.

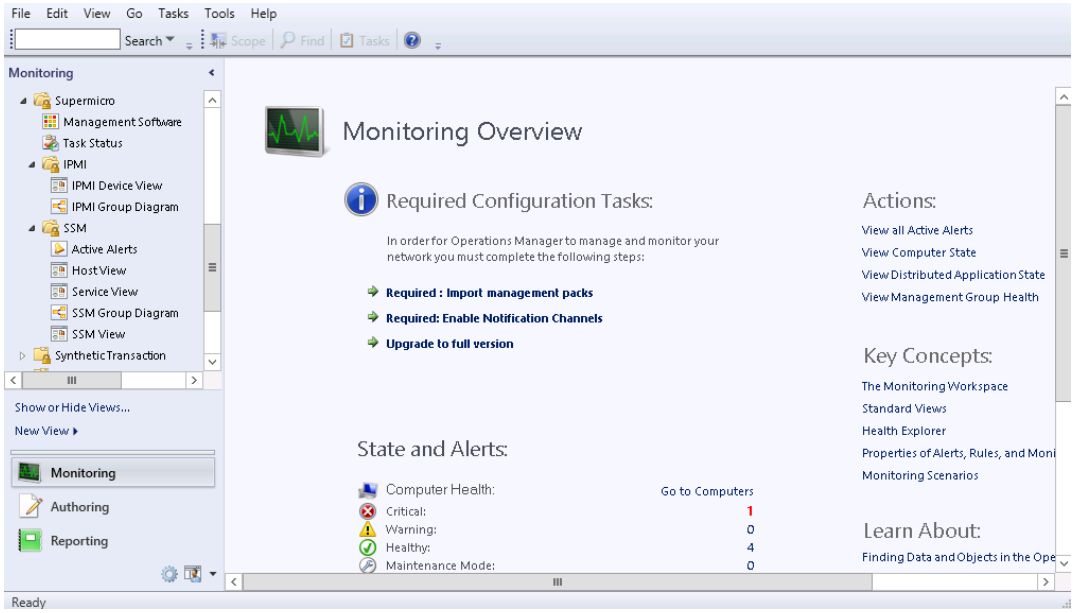


Figure 2-5

3 Using Supermicro Connector Services

Supermicro connector services are Windows services that will collect information from Supermicro's software system or hardware products. It will also run as client software to communicate with SCOM server by Operations Manager Connector Framework (OMCF).

The management plugin for SCOM/SCCM includes the following connector services:

- **Supermicro SSM Connector**: Collects information from Supermicro Server Manager (SSM) and communicate with SCOM server.
- **Supermicro IPMI Connector**: Collects information from Supermicro IPMI Devices and communicates with SCOM server.

You can find these connector services in Windows Services Manager.

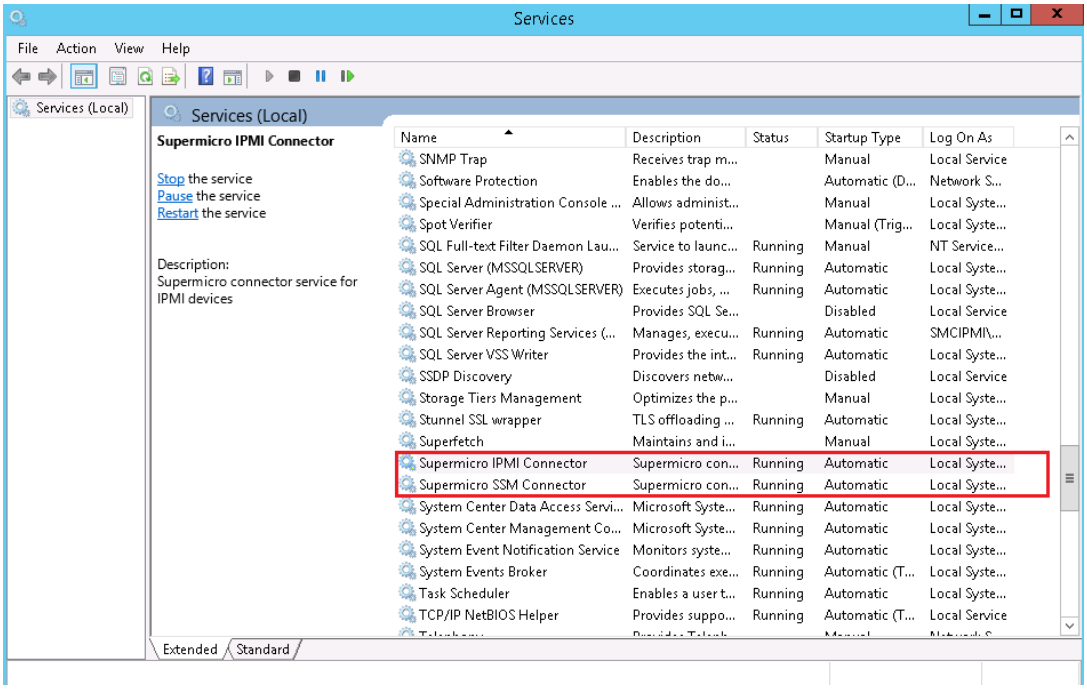


Figure 3-1

The connector service running status can be controlled and monitored in Operations Manager Console. Please refer to *5.2.1.2 Management Software View* and Supermicro Core MP\Tasks in *5.2.2 Tasks*.

3.1 Supermicro SSM Connector

The Supermicro SSM Connector is for SCOM to communicate with SSM. It will collect information of hosts/services from SSM by using SSM REST API.

3.1.1 Supermicro Server Manager (SSM)

SSM (Supermicro Server Manager) is a server management system designed for optimizing the management of servers designed by Super Micro Computer, Inc. (“Supermicro”).

Supermicro SSM Connector supports SSM Server version 2.2.0 build 679 or later.

3.1.2 SSM Monitored Hosts

SSM Server can monitor the following types of **host**.

Monitored Host Type	Description
AgentManaged Hosts	Computers installed with SuperDoctor 5
Agentless Hosts	Computers or devices without SuperDoctor 5 installed
Agentless Hosts	Computers or devices with IPMI capability

Table 3-1

Note: The SuperDoctor 5 is a service that runs on the monitored hosts to provide local system health information.

3.1.3 SSM Monitored Services

SSM Server can monitor the following built-in **services**.

Monitored Host Type	Built-in Services
AgentManaged Hosts	Agent and its plug-ins versions, Built-in Sensor Health, Execute a script, Memory Health, Storage Health, System Information, Check HTTP, Check FTP, Check SMTP
Agentless Hosts	Check HTTP, Check FTP, Check SMTP
Agentless Hosts	IPMI Sensor Health, IPMI Power Consumption, IPMI SEL Health, Check SUM Support, IPMI System Information

Table 3-2

3.1.4 SSM Connector Architecture

The following figure shows how the Supermicro SSM Connector interacts with related components.

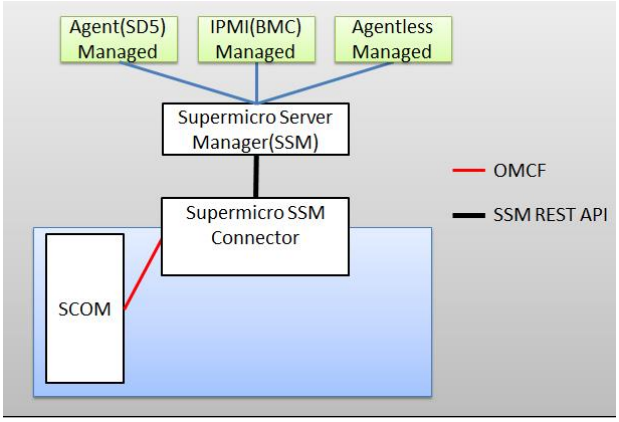


Figure 3-2

3.1.5 Using SSM Connector

SSM connector will collect information from SSM Servers discovered by Operations Manager Console. To configure the SSM Servers list please refer to *4.1 Discovering SSM Servers*.

The collecting repeats every 120 seconds (default). You can change the interval setting by editing the configuration file at <Installation Folder>\SSCS.ini. Adjust the key value of SSMInterval to a proper value between 120 and 3600 seconds.

```
[Config]
IPMIInterval = 120
SSMInterval = 120
```

3.2 Supermicro IPMI Connector

The Supermicro IPMI Connector is for SCOM to communicate with Supermicro's IPMI devices. It will utilize SMCIPMITool (see *1.2 Components*) to collect health state, sensor status or board information from IPMI devices.

3.2.1 Intelligent Platform Management Interface

IPMI (Intelligent Platform Management Interface) is a standard to allow a user to interface with a computer system to monitor the health of and manage the system.

3.2.2 SMCIPMITool

The SMCIPMITool is a Supermicro utility that allows a user to interface with SuperBlade systems and IPMI devices via a CLI (Command Line Interface).

3.2.3 IPMI Connector Architecture

The following figure shows how the Supermicro IPMI Connector interacts with related components.

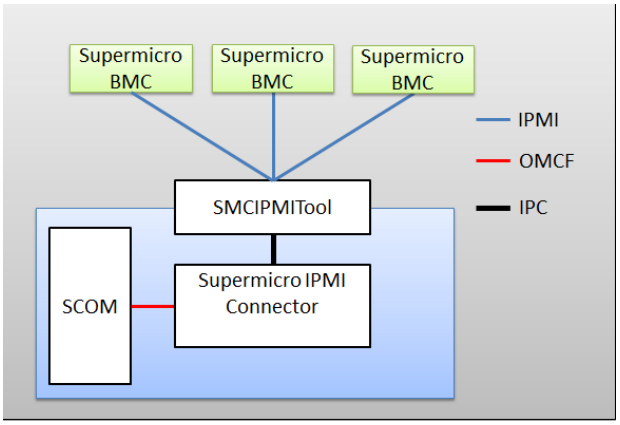


Figure 3-3

3.2.4 Using IPMI Connector

IPMI connector will collect information from IPMI devices which are discovered by Operations Manager Console. To configure the IPMI devices list please refer to *4.2 Discovering IPMI Devices*.

The collecting repeats every 120 seconds by default. You can change the interval setting by editing the configuration file at <Installation Folder>\SSCS.ini. Adjust the key value of IPMIInterval to be between 120 and 3600 seconds.

```
[Config]
IPMIInterval = 120
SSMInterval = 120
```

4 Discovering

Follow the steps in this chapter to configure the discovering settings.

- Discovering SSM Servers
- Discovering IPMI Devices

Please also refer to *Appendix A* for the layout of working areas.

4.1 Discovering SSM Servers

Follow these steps to discover the existing SSM server and add it into monitoring list.

1. Start Operations Manager Console, and click the Monitoring dashboard.

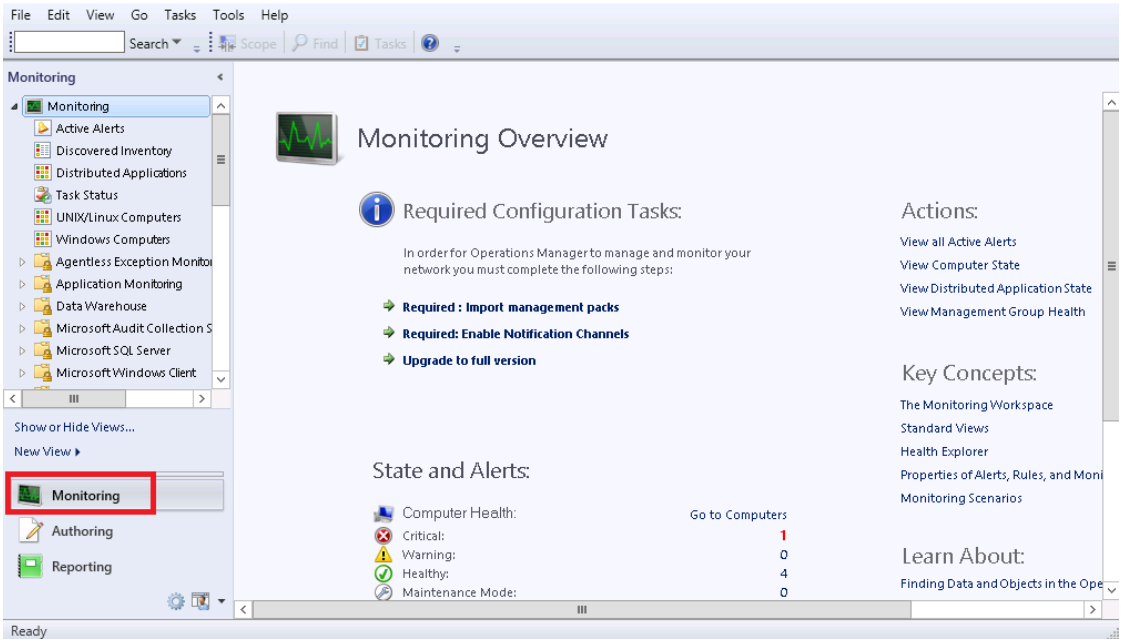


Figure 4-1

2. In Navigation Pane, select **Supermicro\Management Software**.

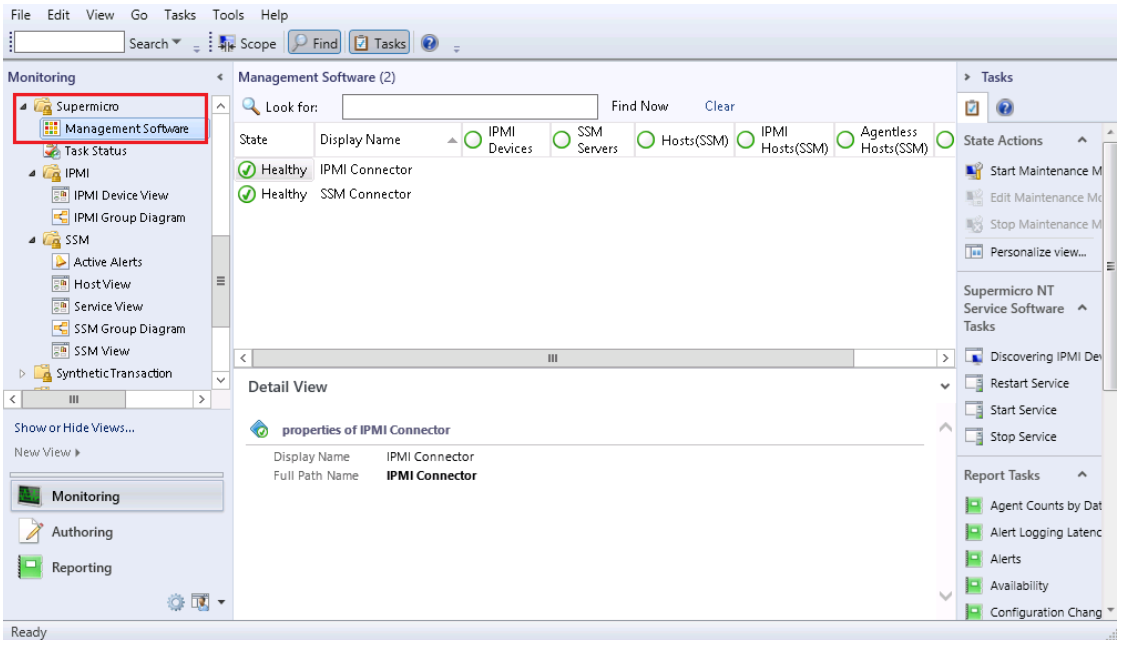


Figure 4-2

3. In Result Pane, select **SSM Connector**, and then click **Discovering SSM Servers** from Tasks Pane.

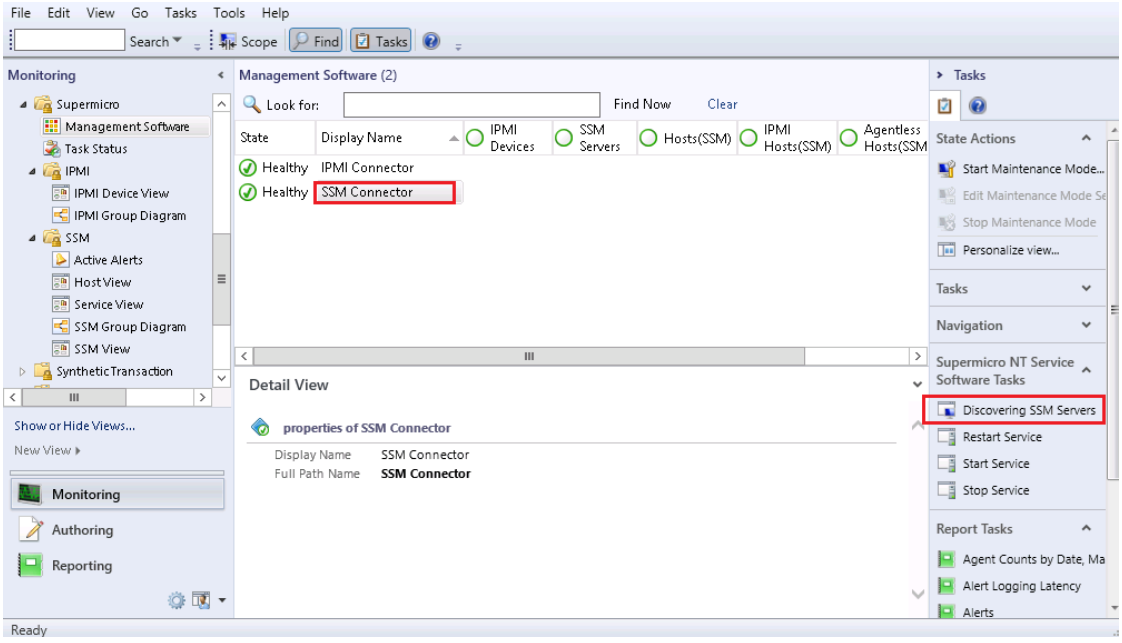


Figure 4-3

4. In the Discovering SSM Servers dialog box, specify the IP address and then click **Scan** to search for the existing SSM servers. (See *5.4.2.1* for parameters definitions.)

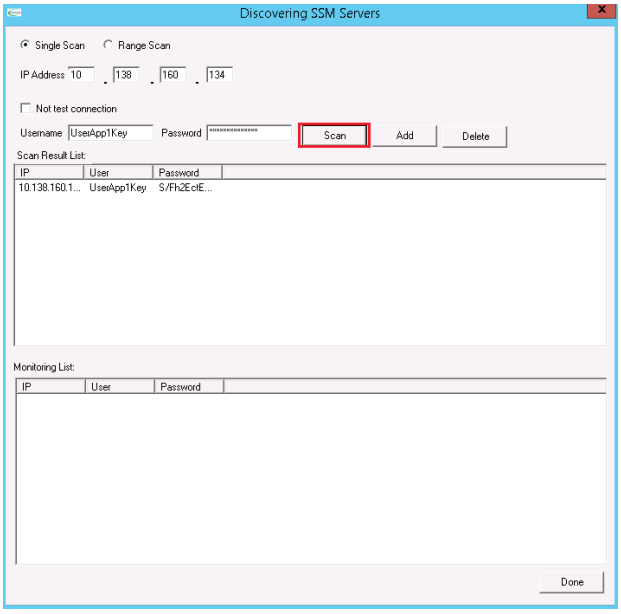


Figure 4-4

5. Select the SSM Server items from Scan Result List, click **Add** to add them to the Monitoring List, and then click **Done**.

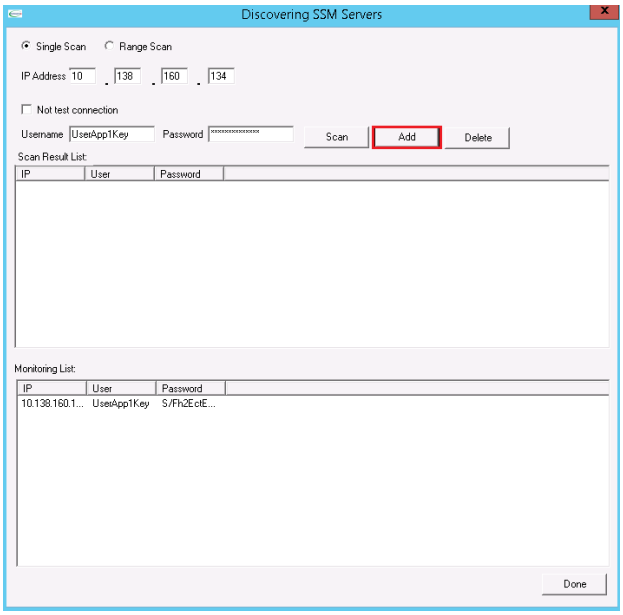


Figure 4-5

6. Wait a few minutes for the connection service to collect data from SSM server. Press the <F5> key to refresh the Result Pane. Make sure the SSM server is discovered in the Result Pane.

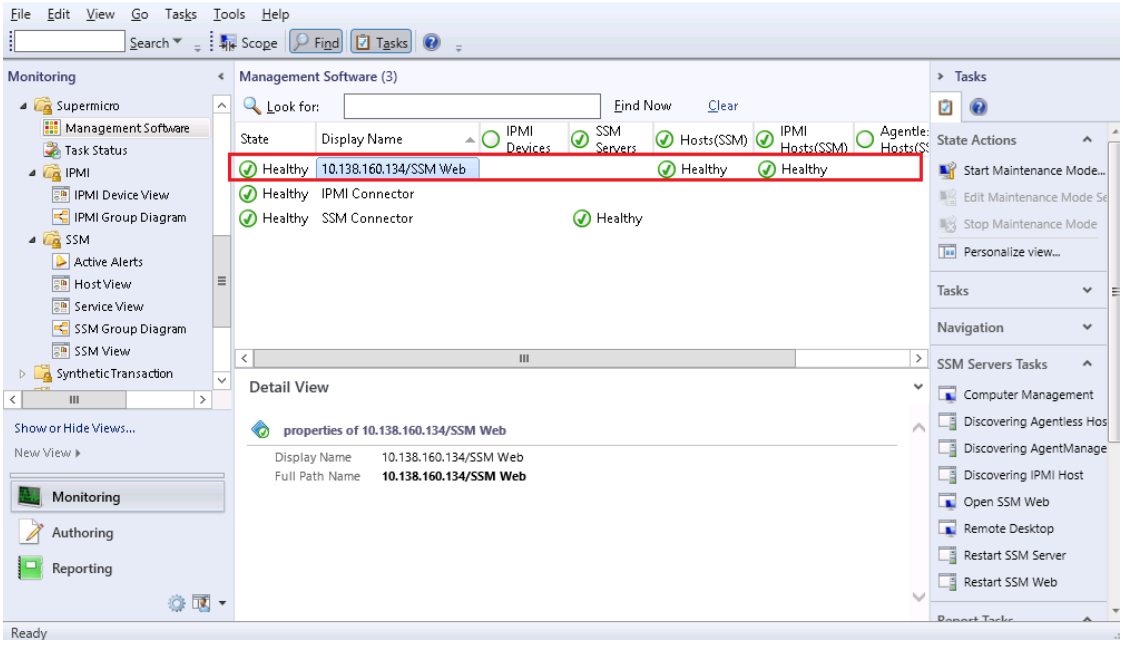


Figure 4-6

7. You can also select the **Supermicro\SSM\SSM View** to see the monitored SSM servers list.

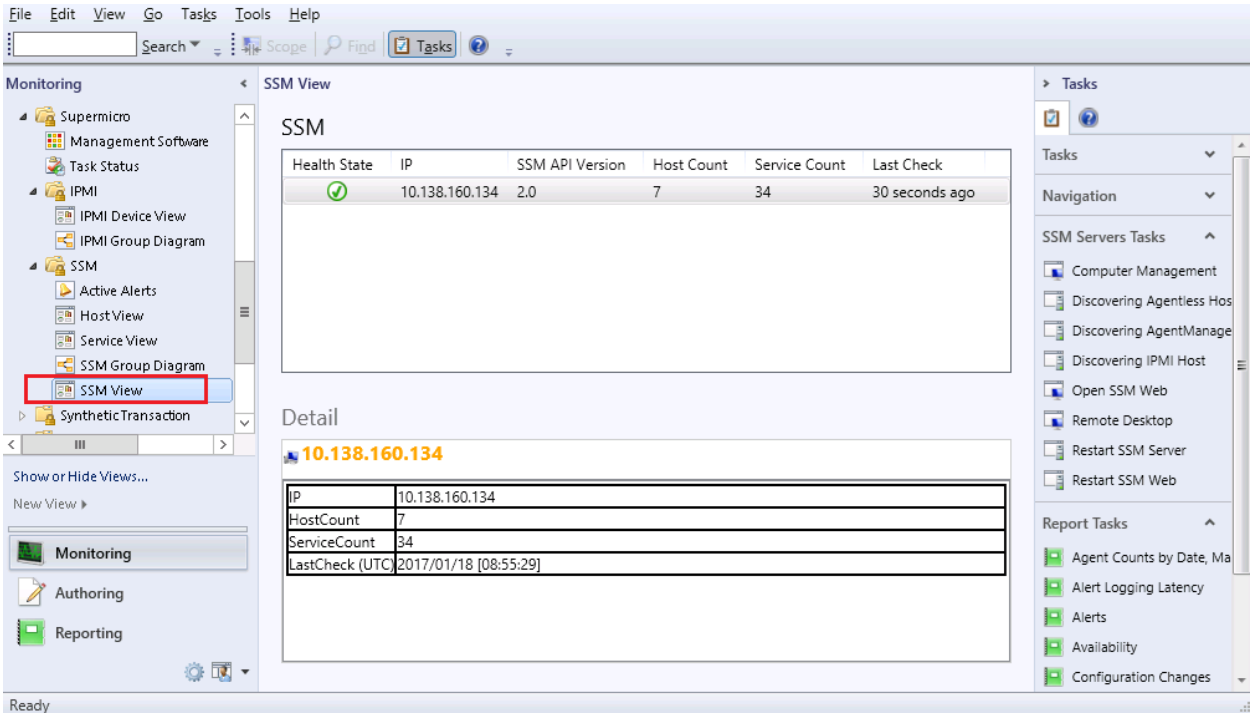


Figure 4-7

4.2 Discovering IPMI Devices

Follow the steps to discover IPMI devices and add it to the monitoring list.

1. Start Operations Manager Console. Click Monitoring dashboard.

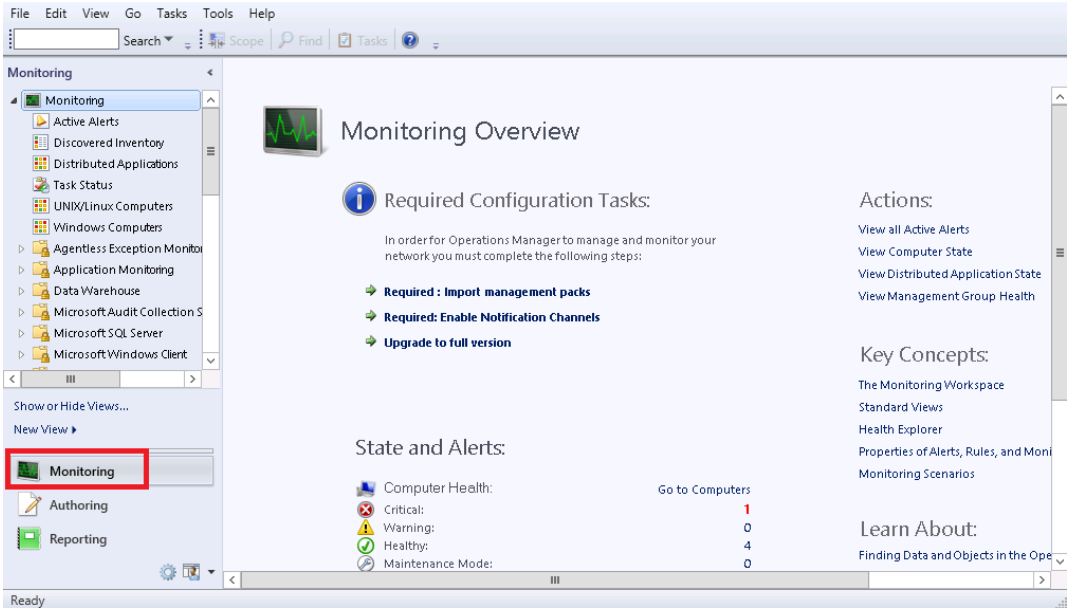


Figure 4-8

2. In Navigation Pane, select **Supermicro\Management Software**.

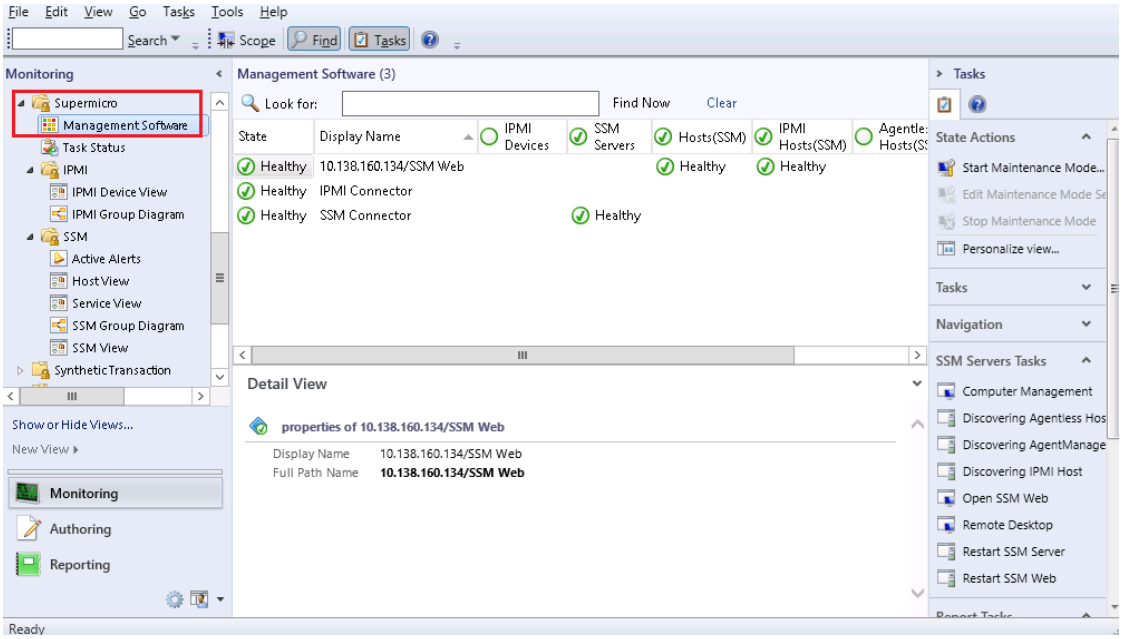


Figure 4-9

3. In Result Pane, select **IPMI Connector**, and then click **Discovering IPMI Devices** from Tasks Pane.

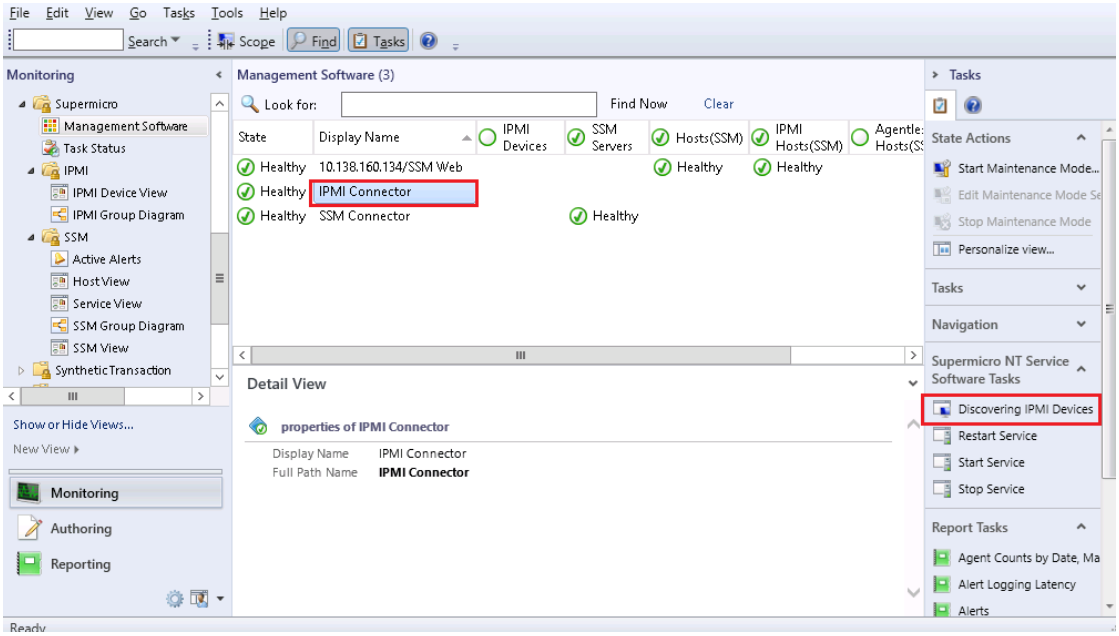


Figure 4-10

4. In the Discovering IPMI Devices dialog box, specify the IP address, and then click **Scan** button to search IPMI devices. (See [5.3.2.1](#) for parameter definitions)

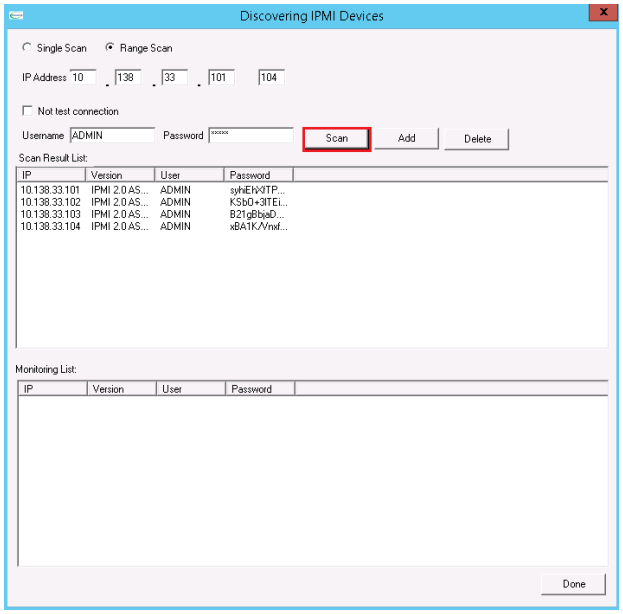


Figure 4-11

5. Select the IPMI device items from Scan Result List, click **Add** to add them to the Monitoring List, and then click **Done**.

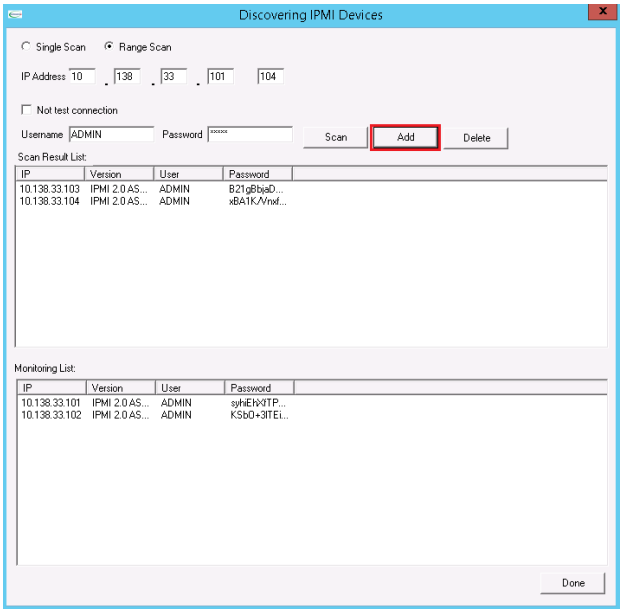


Figure 4-12

6. Wait a few minutes for the connection service to collect data from IPMI devices. Press <F5> the key to refresh the Result Pane. Selecting the **IPMI Connector\IPMI Devices** column will display a list of discovered IPMI devices in Detail Pane.

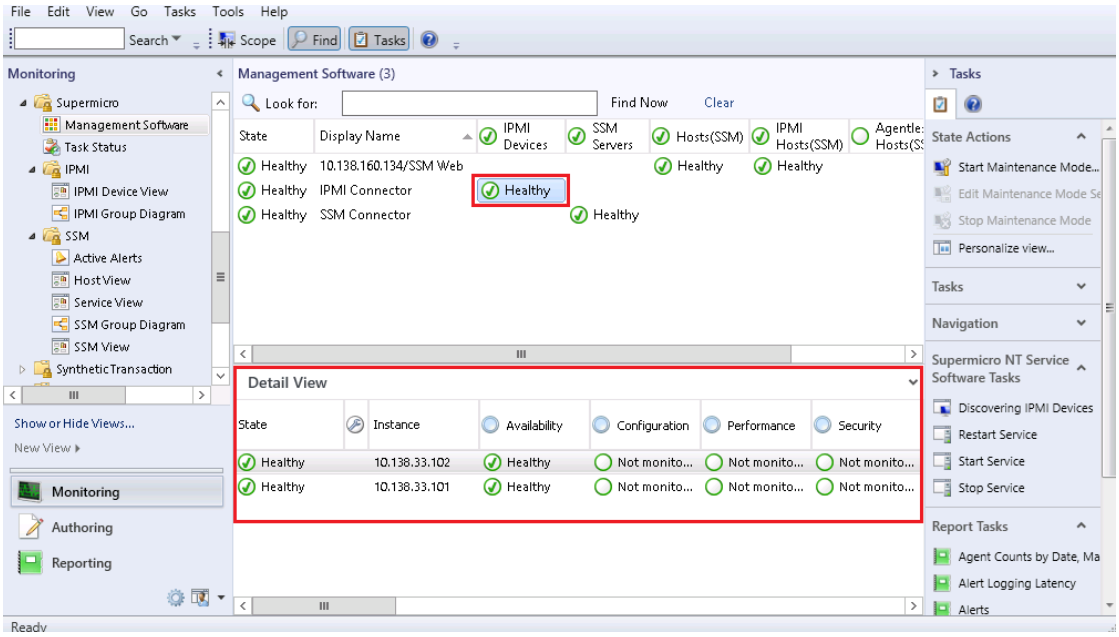


Figure 4-13

7. You can also select **Supermicro\IPMI\IPMI Device View** to see the monitored IPMI devices list.

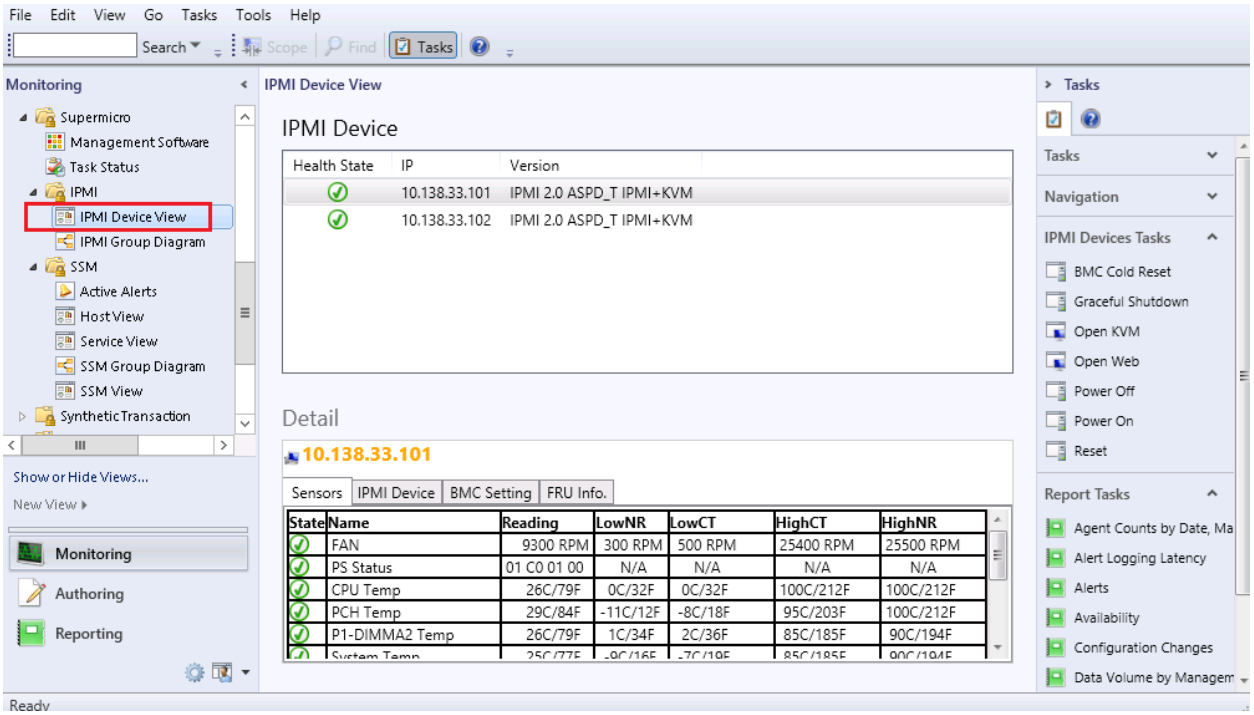


Figure 4-14

5 Using Supermicro Management Packs

Supermicro Management Packs contain class definition, monitoring settings, views and tasks for Supermicro's hardware devices or software systems. It will extend the capability of Operations Manager Console to discover, monitoring and operating with Supermicro's products.

The management plugin for SCOM/SCCM contain the following management packs.

- Supermicro.Core: Supermicro Core MP
- Supermicro.SSM: Supermicro SSM MP
- Supermicro.IPMI: Supermicro IPMI MP

5.1 Management Pack Architecture

The following table is the dependency of Supermicro management packs.

Supermicro IPMI MP		**Supermicro SSM MP**	
Supermicro.IPMI	1.1.0.224	Supermicro.SSM	1.1.0.224
Supermicro Core MP			
Supermicro.Core		1.1.0.224	

Table 5-1

5.2 Supermicro Core MP

The Supermicro Core Library MP defines base classes and basic functionalities. It is also the core reference for other management packs.

5.2.1 Folders and Views

The Supermicro Core Library MP contains following folders and views. All folders and views in this management pack are located in the **Navigation Pane** of **Monitoring dashboard**.

Name	Type	Description
Supermicro	Folder	The root folder consists of all views and all other Supermicro Management Packs.
Management Software	View	This view displays Supermicro Connector Services and SSM Servers. It also provides task functions for configure discovering settings.
Task Status	View	This view contains all running status of agent tasks.

Table 5-1

5.2.1.1 Supermicro Folder

This folder contains the views of Management Software and Task Status. It is the root folder that will contain all folders defined in other Supermicro management packs.

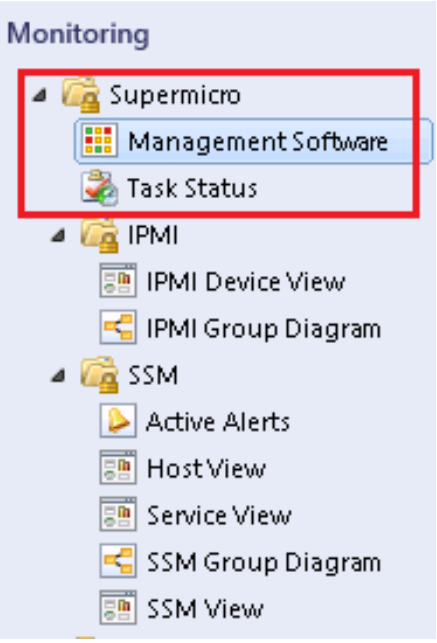


Figure 5-1

5.2.1.2 Management Software View

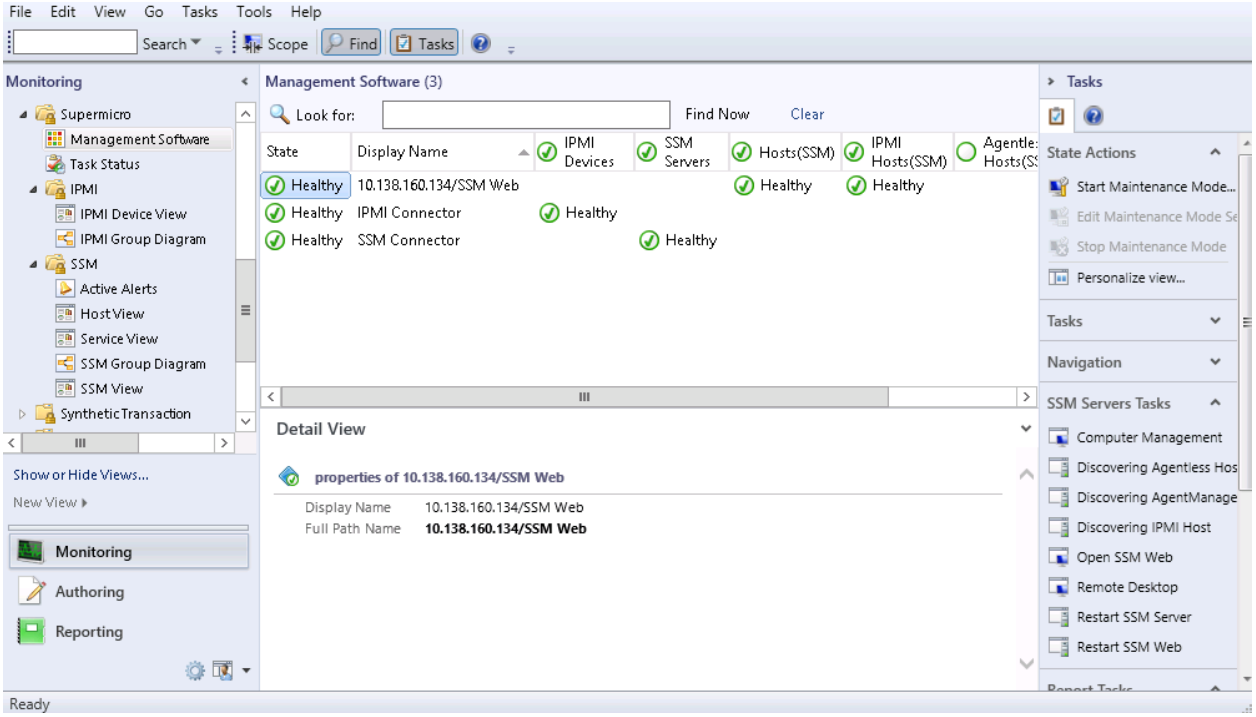


Figure 5-2

This view displayw instances for the following classes.

- Supermicro Connector Services (Ex: IPMI Connector or SSM Connector)
- SSM Servers.

Describe columns as following.

Column	Description
State	The Health State of following monitored objects. • Connector Service Health Monitor • SSM Server Health Monitor
Display Name	The display name of the monitored object.
IPMI Devices	A rollup (worst of) health state of monitored IPMI devices.
SSM Servers	A rollup (worst of) health state of monitored SSM Servers.
Hosts (SSM)	A rollup (worst of) health state of SSM monitored Hosts. The hosts

	including • AgentManaged Hosts • IPMI Hosts • Agentless Hosts.
IPMI Hosts (SSM)	A rollup (worst of) health state of SSM monitored IPMI hosts.
Agentless Hosts (SSM)	A rollup (worst of) health state of SSM monitored Agentless hosts.
AgentManaged Hosts (SSM)	A rollup (worst of) health state of SSM monitored AgentManaged hosts.

You can choose columns to display, please refer to Personalize View.

5.2.1.3 Task Status View

This view contains instances for agent tasks defined in Supermicro Management Packs.

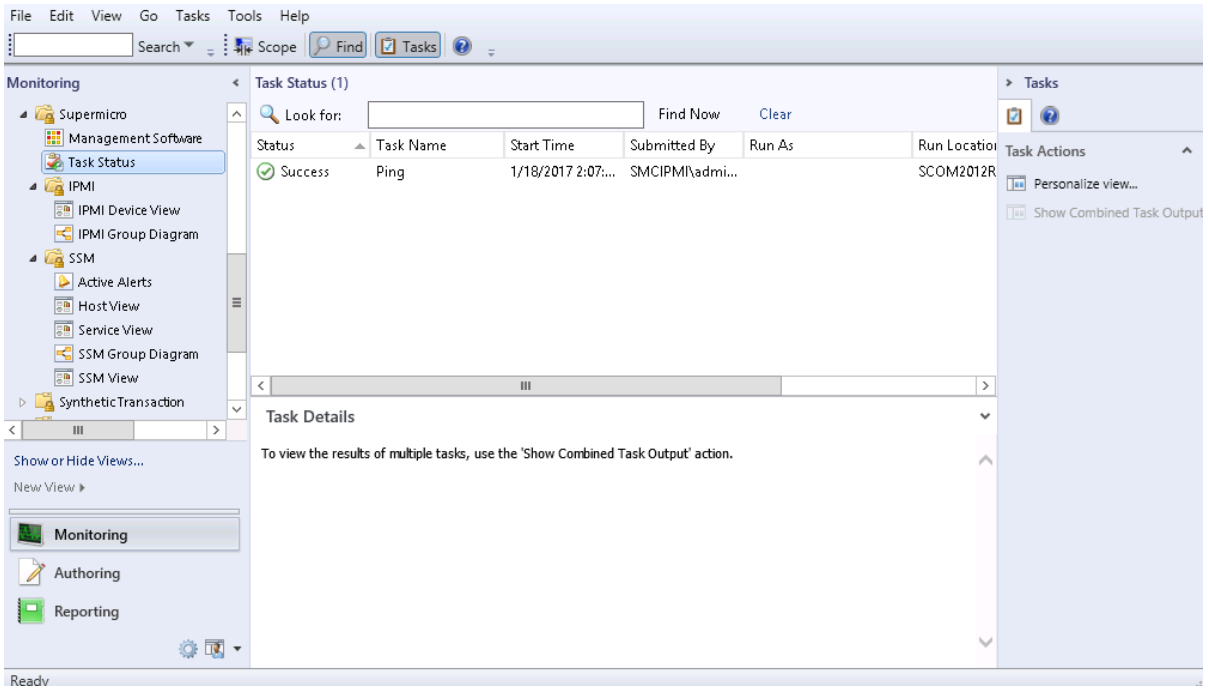


Figure 5-3

Column	Description
Status	The state return by task. Valid values are **Scheduled**, **Started**, **Succeeded** and **Failed**.
Task Names	Name of the task.
Schedule Time	The time that task was scheduled.
Submitted by	The User's Name that submitted the task.
Run Location	The Computer Name that the task was run on.

In Detail Pane you can also find the task resultant output. Click **Result** for response messages.

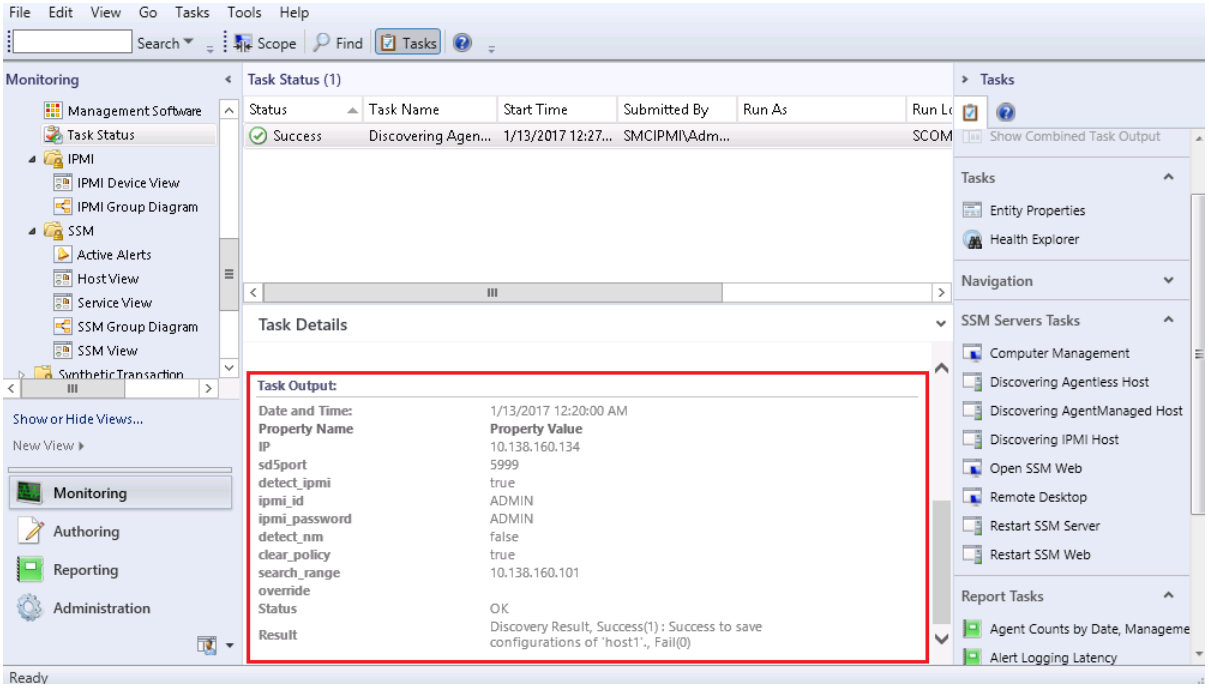


Figure 5-4

5.2.2 Tasks

The Supermicro Core MP provides following tasks.

Name	Type	Target	Description
Start Service	Agent	Supermicro Connector Services	Starts the selected Connector Services
Stop Service	Agent	Supermicro Connector Services	Stops the selected Connector Services
Restart Service	Agent	Supermicro Connector Services	Restarts the selected Connector Services

Table 5-2

5.2.2.1 Start Service

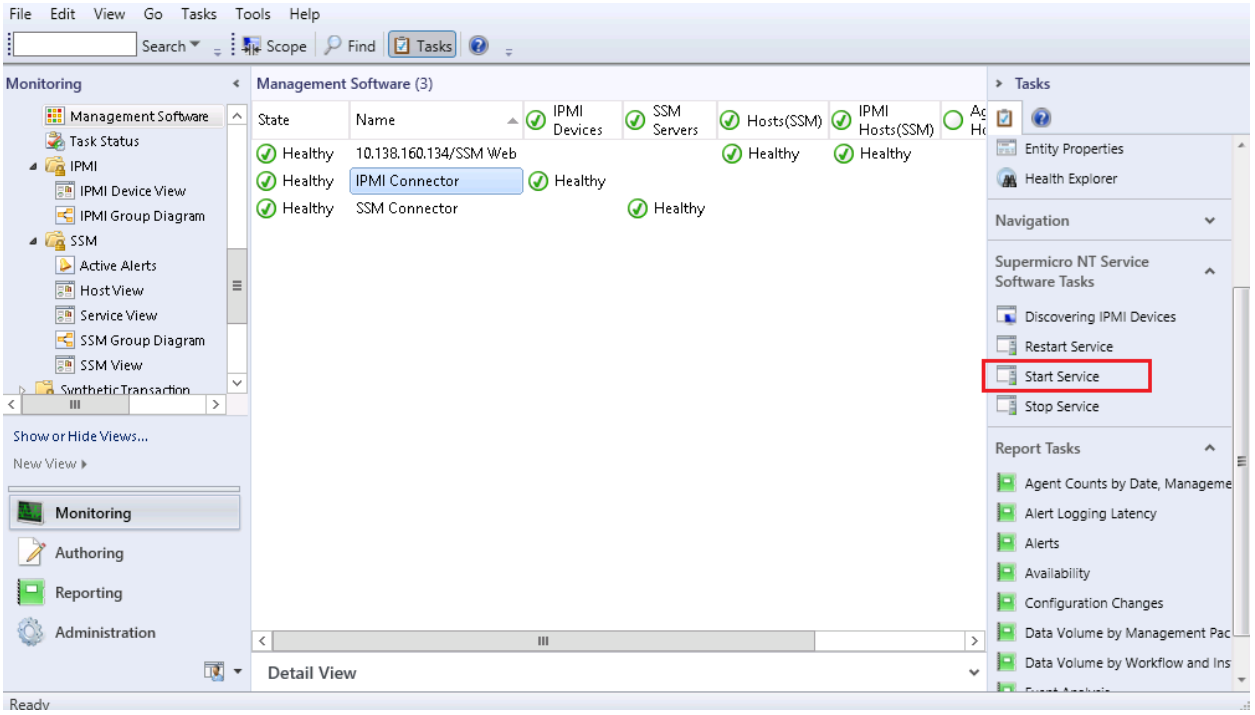


Figure 5-5

- **Task Type**: This is an agent task associated with Supermicro Connector Services.
- **Description:** Running this task will start the selected connector services.
- **Parameter:** No parameter is required for this task.

5.2.2.2 Stopping Service

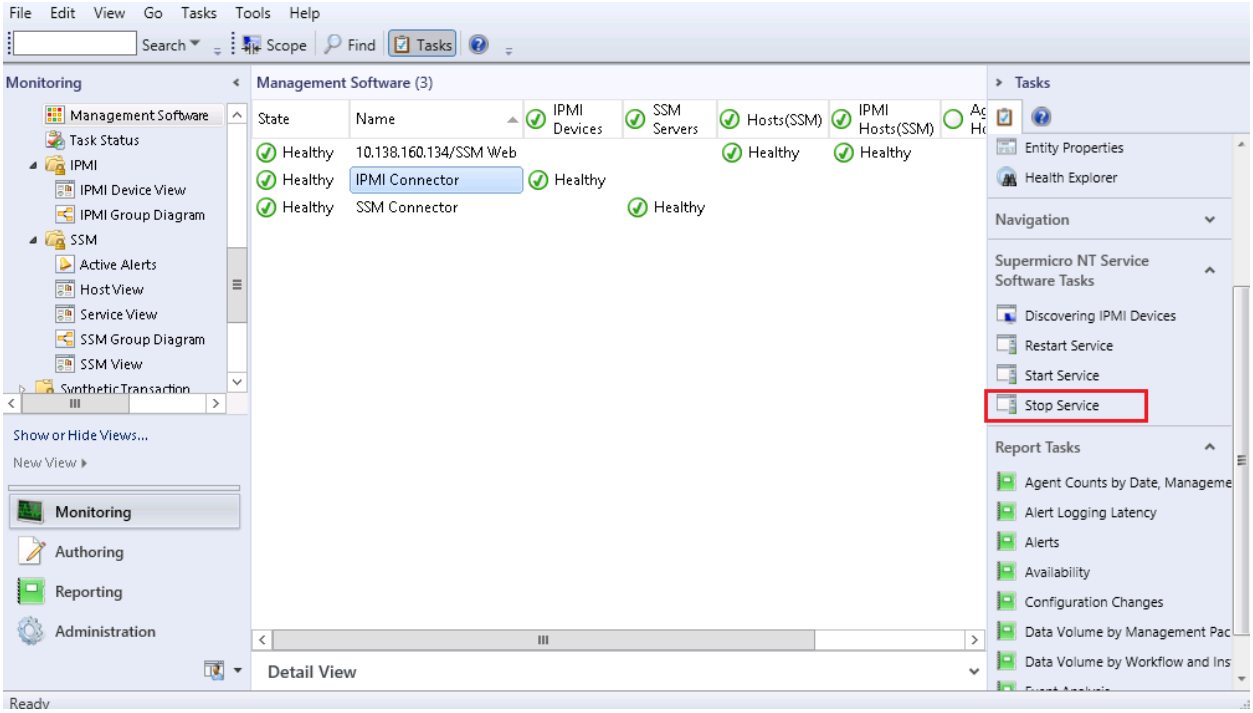


Figure 5-6

- **Task Type**: This is an agent task associated with Supermicro Connector Services.
- **Description**: Running this task will stop the selected connector services.
- **Parameter:** No parameter is required for this task.

5.2.2.3 Restarting Service

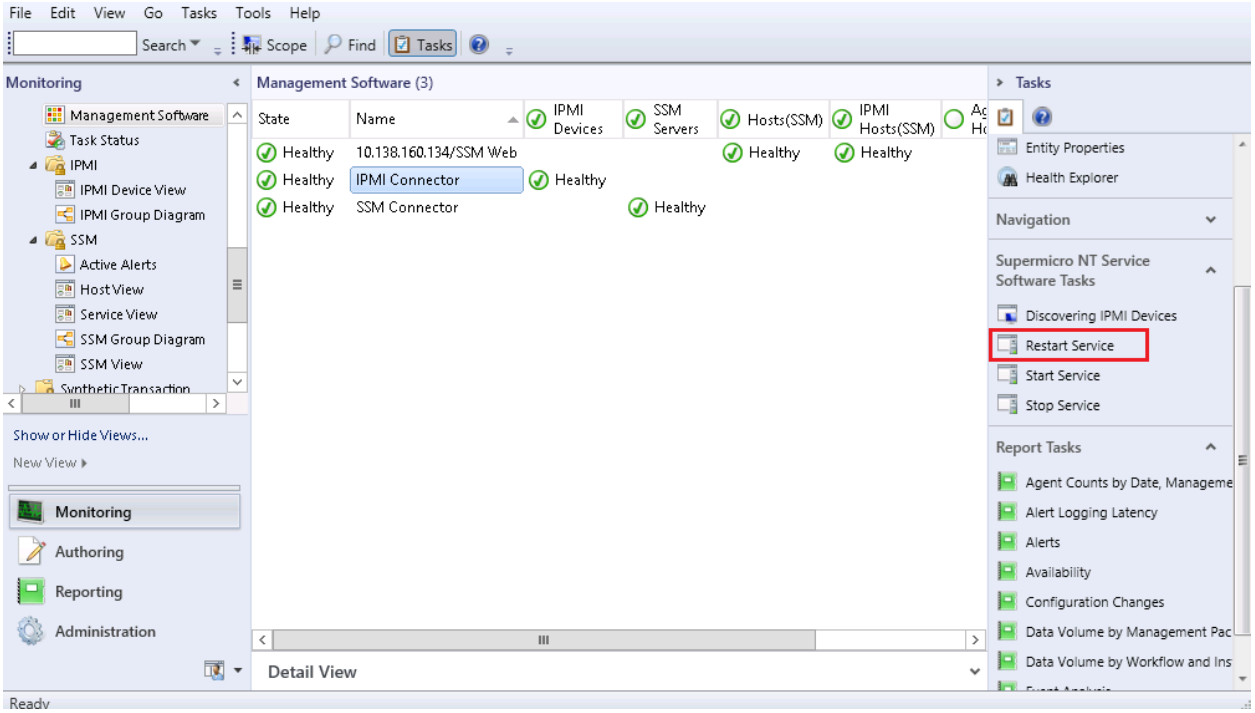


Figure 5-7

- **Task Type**: This is an agent task associated with Supermicro Connector Services.
- **Description:** Running this task will restart the selected connector services.
- **Parameter:** No parameter is required for this task.

5.2.3 Groups

This management pack contains the following groups.

Name	Description
Supermicro All Instance Group	A root group that contains all Supermicro entities and subgroups

Table 5-3

5.2.4 Monitors

This management pack will monitor the health of managed objects listed in the table.

Name	Target	States	Description
Connector Service Health Monitor	Supermicro Connector Services	Healthy	The Service is running.
		Warning	The Service is not running.

Table 5-4

5.3 Supermicro IPMI MP

This management pack extends Operations Manager Console to be able to discover and monitor the health state of IPMI devices. It also provides tasks for management.

5.3.1 Folders and Views

The Supermicro IPMI MP contains the following folders and views.

Name	Type	Description
IPMI	Folder	The main folder for the views in this management pack. This folder is contained under the root folder “Supermicro”.
IPMI Device View	View	A composite dashboard view displays IPMI device list and detailed information.
IPMI Group Diagram	View	A group diagram view displays the hierarchy of IPMI devices.

Table 5-5

5.3.1.1 IPMI Folder

This folder contains the views of IPMI Device and IPMI Group Diagram. It is the main folder of this management pack.

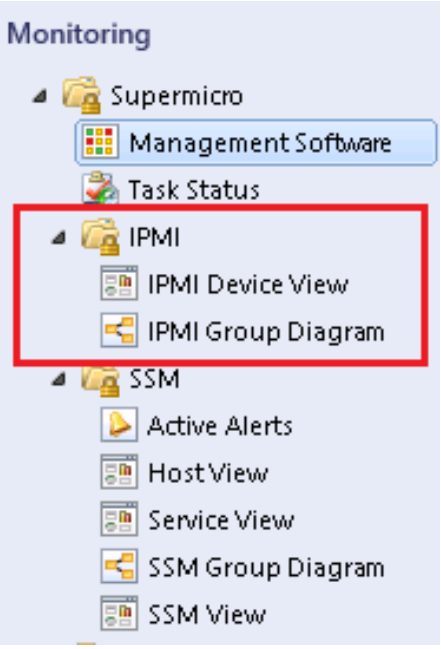


Figure 5-8

5.3.1.2 IPMI Device View

This view display instances for IPMI device class.

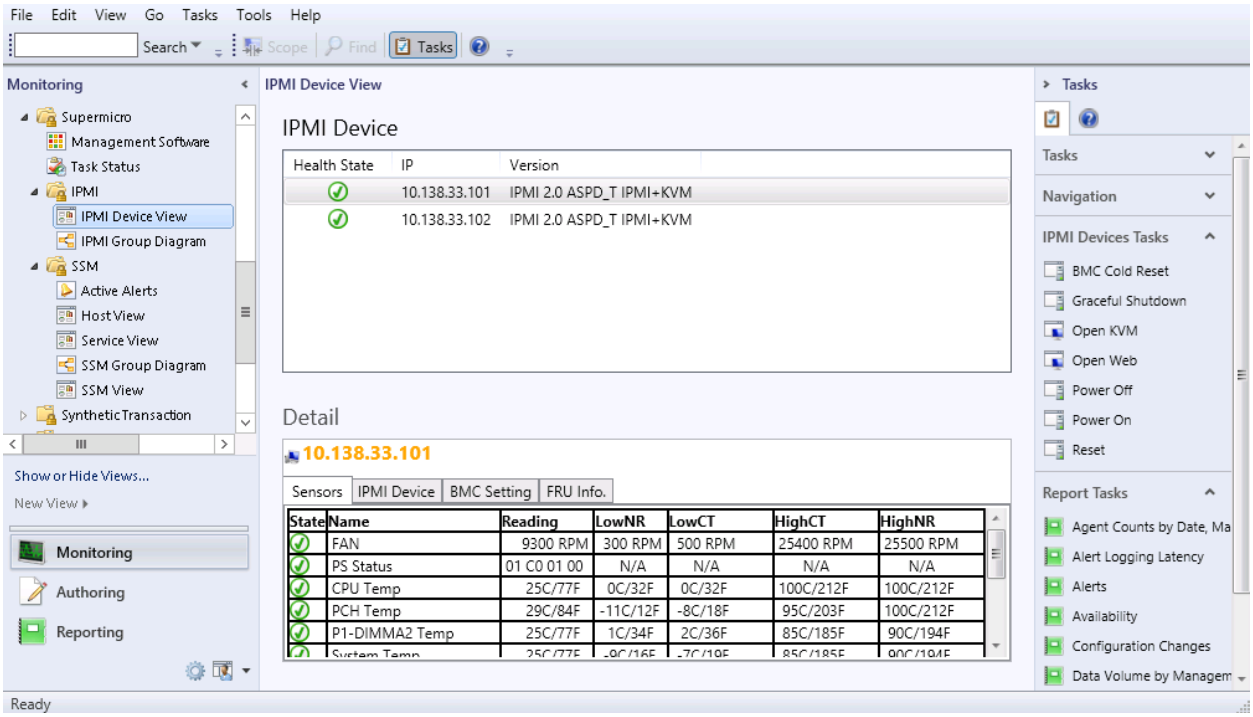
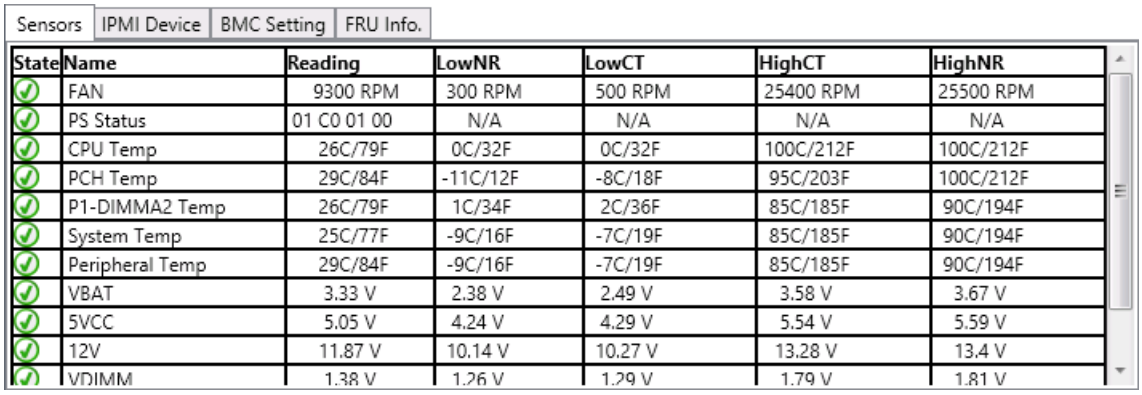


Figure 5-9

Column	Description
Health State	Health State of the IPMI device. See IPMI Device Health Monitor.
IP	IP Address of the IPMI device.
Version	IPMI device version.

In Detail Pane, the tabs provide additional information for the selected device.

- **Sensors Page:** Displays the state of sensors installed on the device.



State	Name	Reading	LowNR	LowCT	HighCT	HighNR
✓	FAN	9300 RPM	300 RPM	500 RPM	25400 RPM	25500 RPM
✓	PS Status	01 C0 01 00	N/A	N/A	N/A	N/A
✓	CPU Temp	26C/79F	0C/32F	0C/32F	100C/212F	100C/212F
✓	PCH Temp	29C/84F	-11C/12F	-8C/18F	95C/203F	100C/212F
✓	P1-DIMMA2 Temp	26C/79F	1C/34F	2C/36F	85C/185F	90C/194F
✓	System Temp	25C/77F	-9C/16F	-7C/19F	85C/185F	90C/194F
✓	Peripheral Temp	29C/84F	-9C/16F	-7C/19F	85C/185F	90C/194F
✓	VBAT	3.33 V	2.38 V	2.49 V	3.58 V	3.67 V
✓	5VCC	5.05 V	4.24 V	4.29 V	5.54 V	5.59 V
✓	12V	11.87 V	10.14 V	10.27 V	13.28 V	13.4 V
✓	VDIMM	1.38 V	1.26 V	1.29 V	1.79 V	1.81 V

Figure 5-10

- **IPMI Device Page:** Displays the information of the BMC firmware installed in the device.

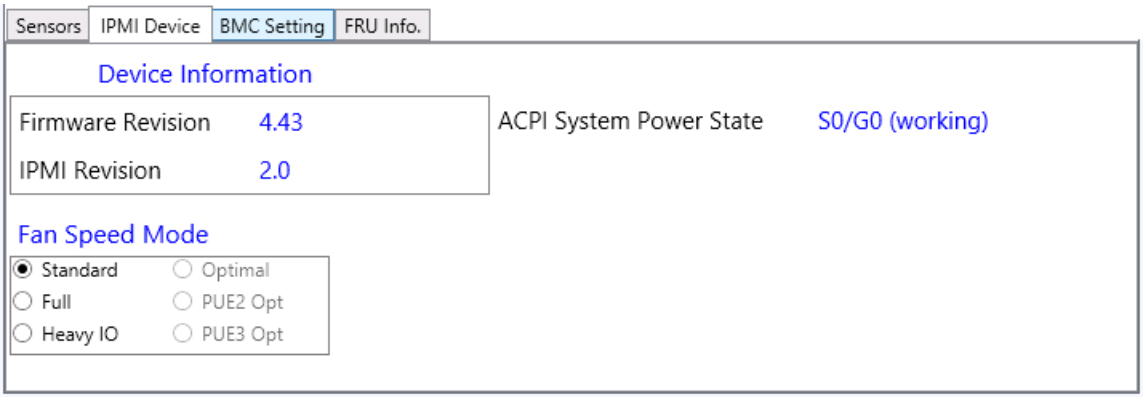


Figure 5-11

- **BMC Setting Page**: Displays the detailed information on the BMC LAN Configuration.

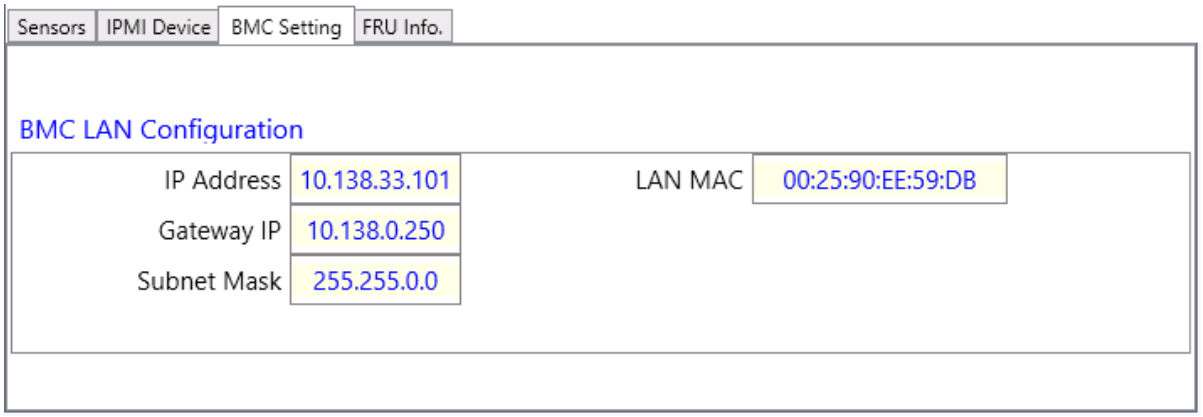


Figure 5-12

- **FRU Info. Page:** Provides useful information on the board and the product.

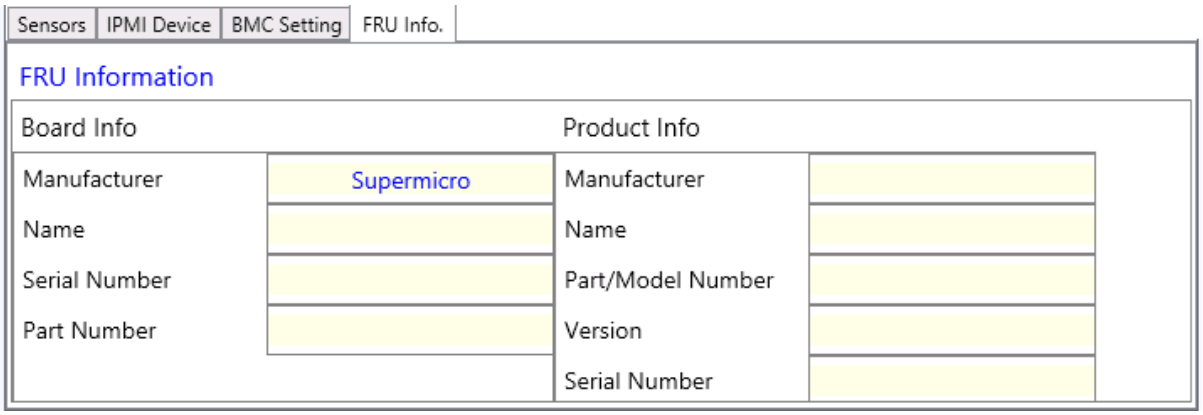


Figure 5-13

5.3.1.3 IPMI Group Diagram View

This view displays the IPMI Group and its monitored IPMI devices in a hierarchy structure.

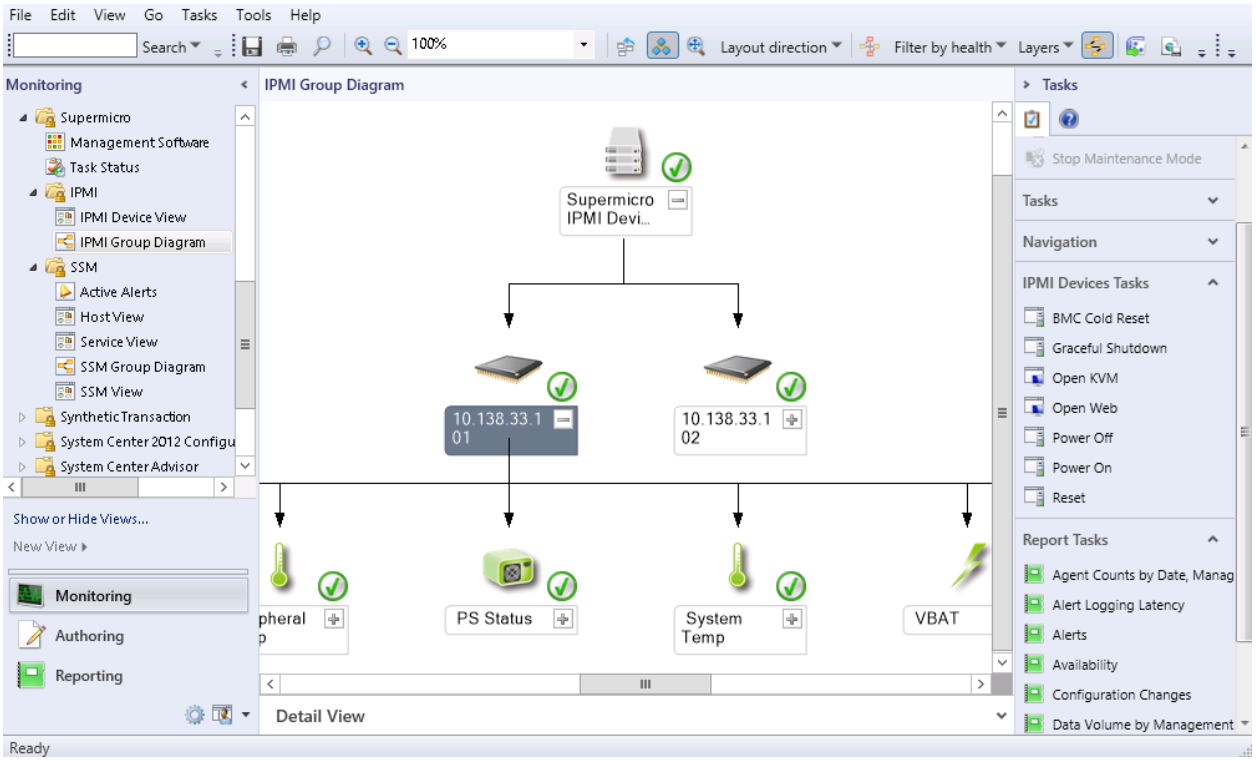


Figure 5-14

5.3.2 Tasks

The Supermicro Core MP provides following tasks.

Name	Type	Target	Description
Discovering IPMI Devices	Console	Supermicro IPMI Connector	Edits configurations of discovered IPMI devices.
BMC Cold Reset	Agent	IPMI Devices	Resets IPMI device.
Power On	Agent	IPMI Devices	Powers up the system.
Power Off	Agent	IPMI Devices	Powers down the system.
Reset	Agent	IPMI Devices	Resets the system.
.Graceful Shutdown	Agent	IPMI Devices	Initiates a soft shutdown of the system.
Open KVM	Console	IPMI Devices	Launches the KVM window console.
Open Web	Console	IPMI Devices	Launches an IE browser and navigates to theIPMI web page.

Table 5-6

5.3.2.1 Discovering IPMI Devices

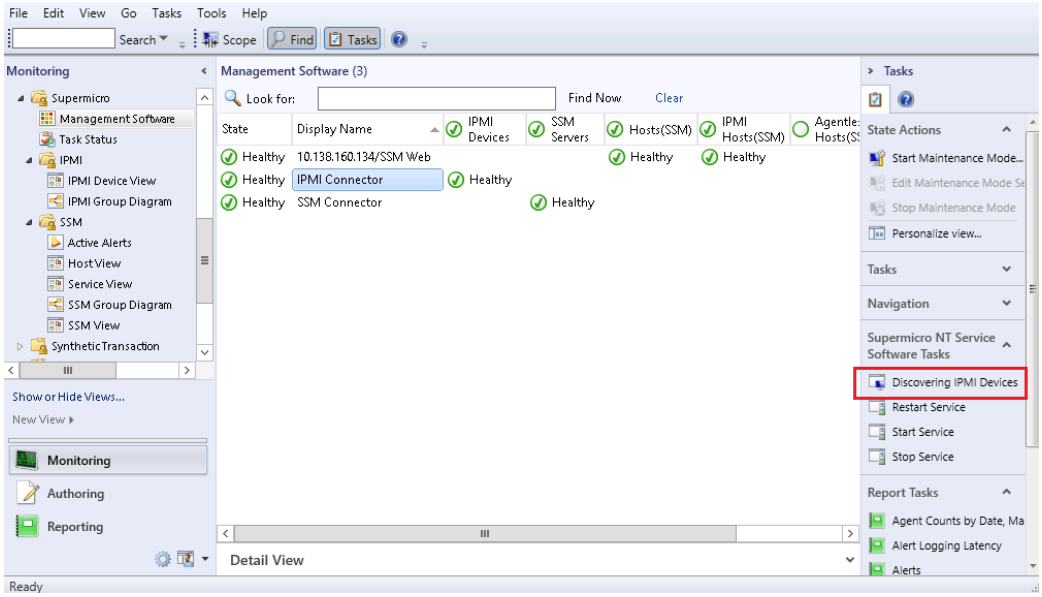


Figure 5-15

- **Task Type:** This is a console task associated with Supermicro IPMI Connector.
- **Description:** Running this task will open a Discovering IPMI devices dialog box. The dialog box provides functions for scan IPMI devices, and edit monitoring list. The IPMI devices in the monitoring list will be discovered and monitored in Operations Manager Console. Please refer to Discovering IPMI Devices.
- **Parameter:**

Parameter	Description	Required	Option
IP Address	IP Address for scan IPMI devices • Single Scan (IP address) IP Address 10 . 134 . 14 . 110 • Rage Scan (IP Range) IP Address 10 . 134 . 14 . 110 150	Yes	
Username	The IPMI device(BMC) login username	Yes	
Password	The IPMI device(BMC) login password	Yes	

5.3.2.2 BMC Cold Reset

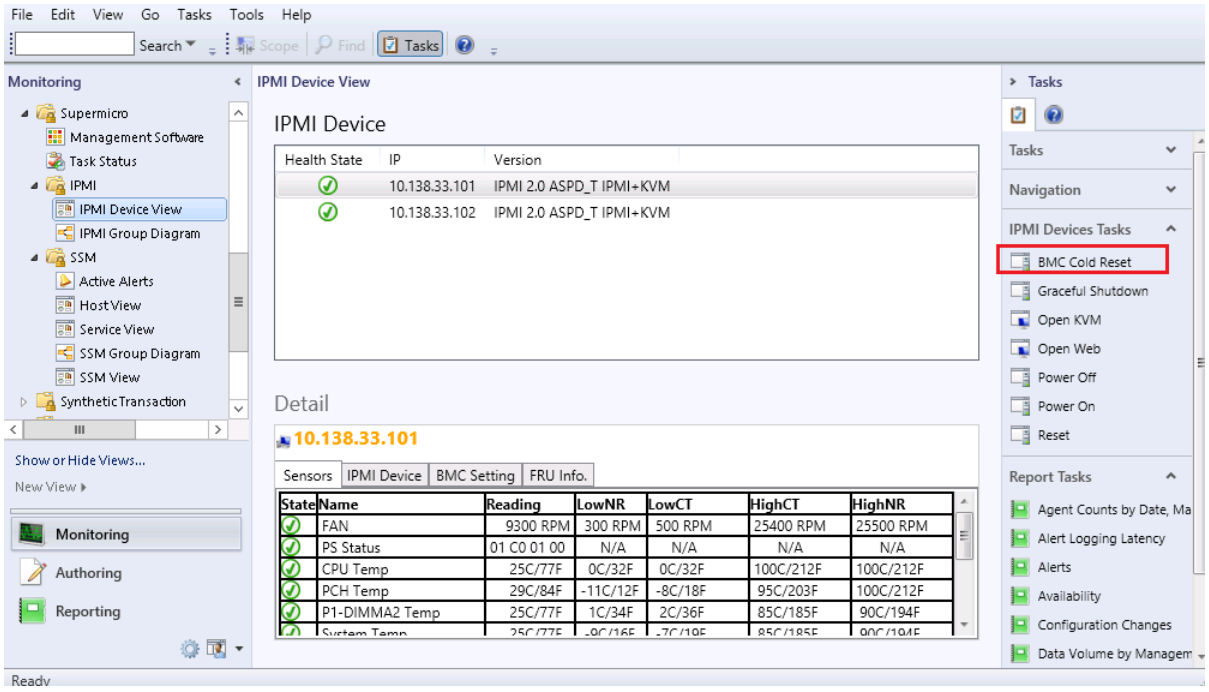


Figure 5-16

- **Task Type**: This is an agent task associated with IPMI devices.
- **Description**: Running this task will reset the selected IPMI devices.
- **Parameter:** No parameter is required for this task.

5.3.2.3 Power On

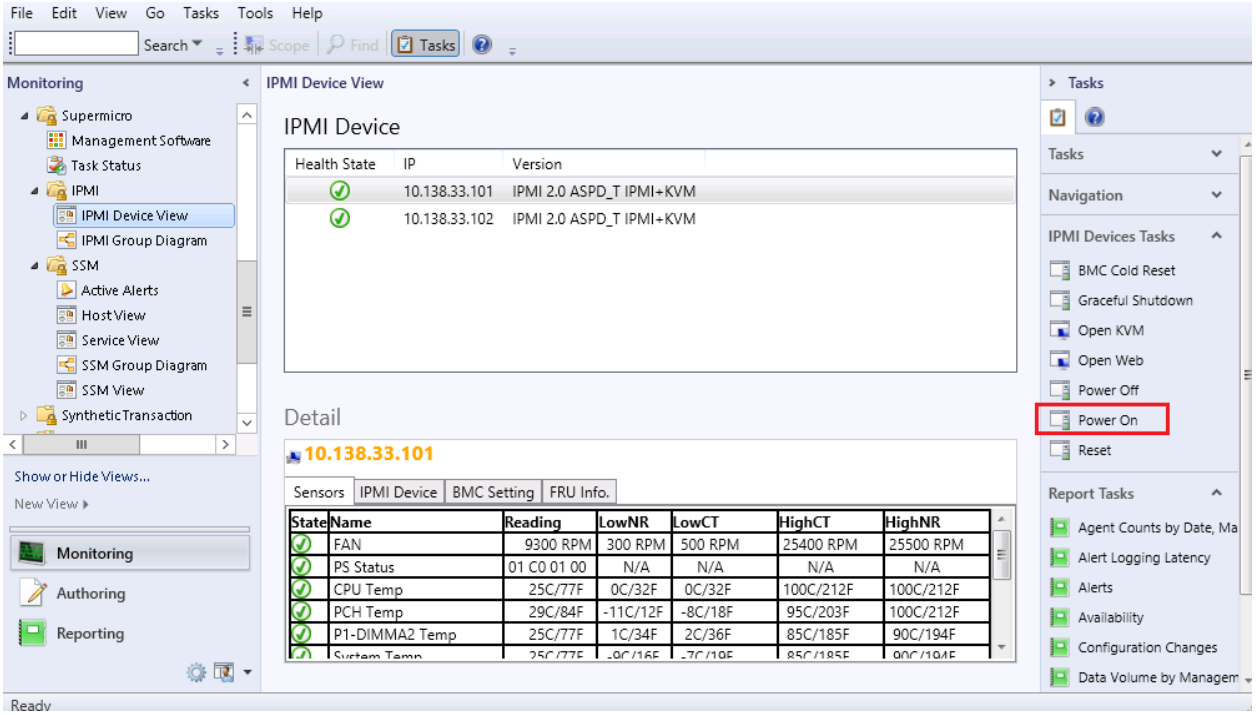


Figure 5-17

- **Task Type**: This is an agent task associated with IPMI devices.
- **Description:** Running this task will initiate power up of the system for selected IPMI devices.
- **Parameter:** No parameter is required for this task.

5.3.2.4 Power Off

- **Task Type**: This is an agent task associated with IPMI devices.
- **Description:** Running this task will initiate power down of the system for selected IPMI devices.
- **Parameter:** No parameter is required for this task.

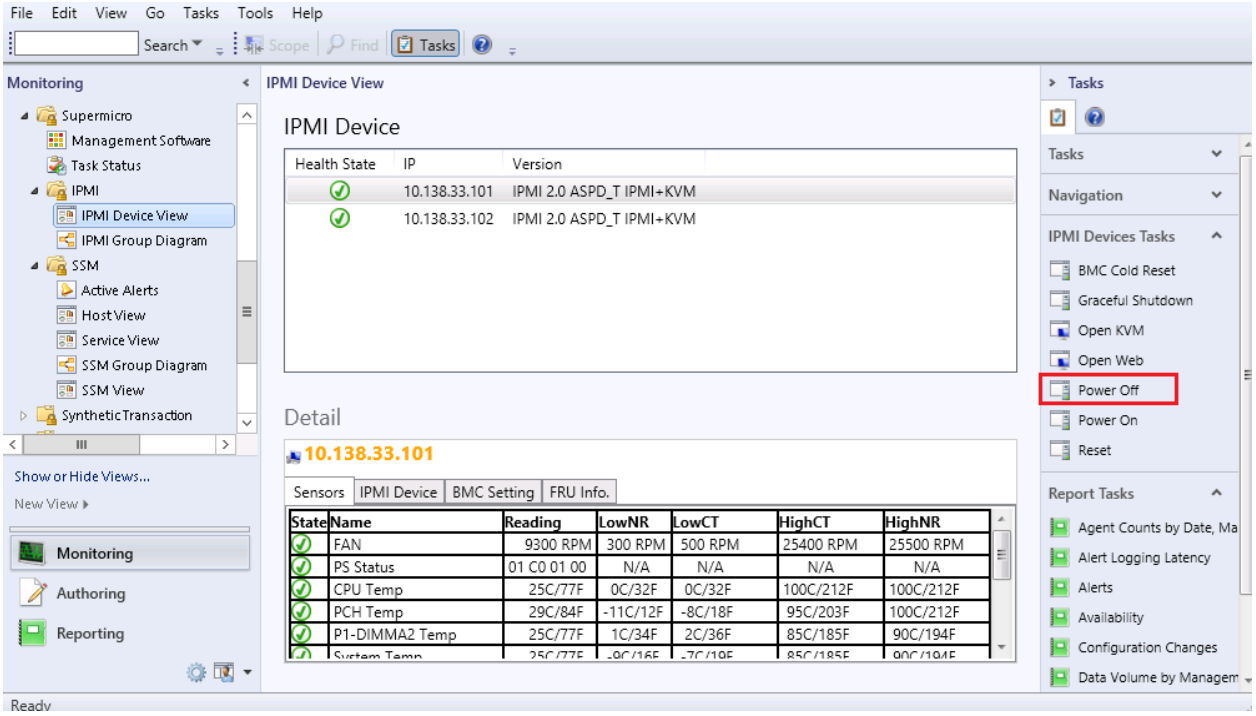


Figure 5-18

5.3.2.5 Reset

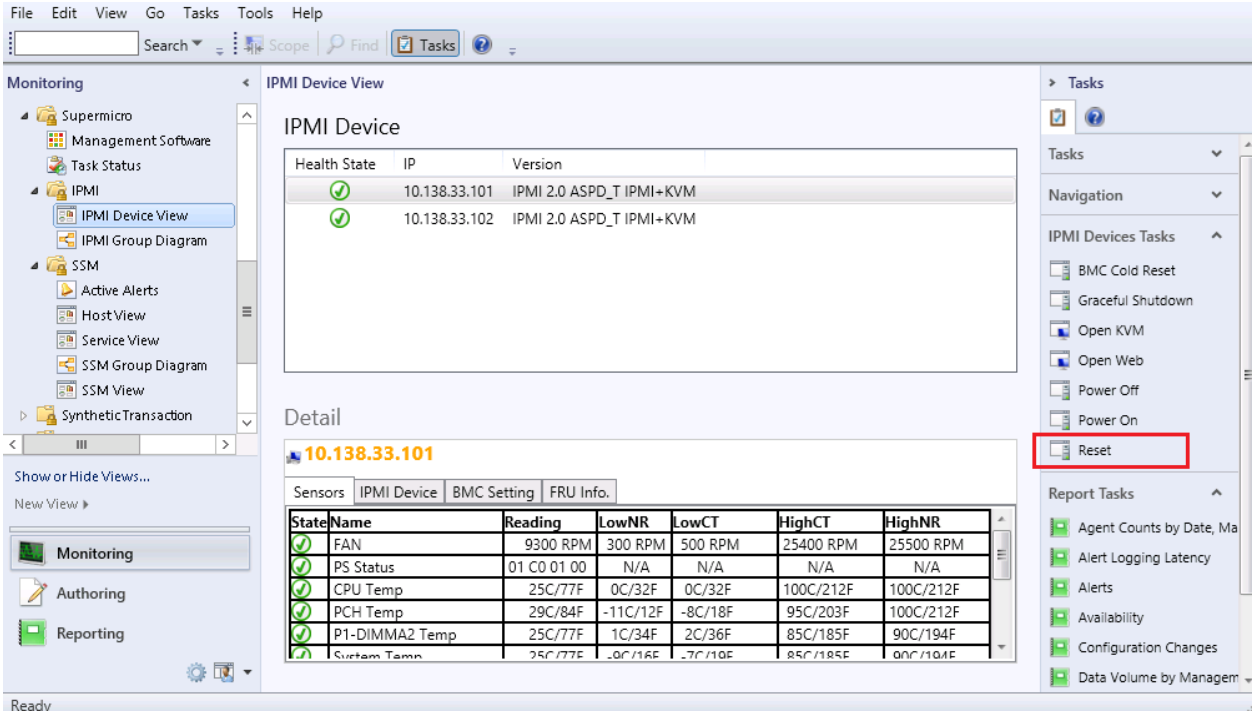


Figure 5-19

- **Task Type**: This is an agent task associated with IPMI devices.
- **Description:** Running this task will reset the system for the selected IPMI devices.
- **Parameter:** No parameter is required for this task.

5.3.2.6 Graceful Shutdown

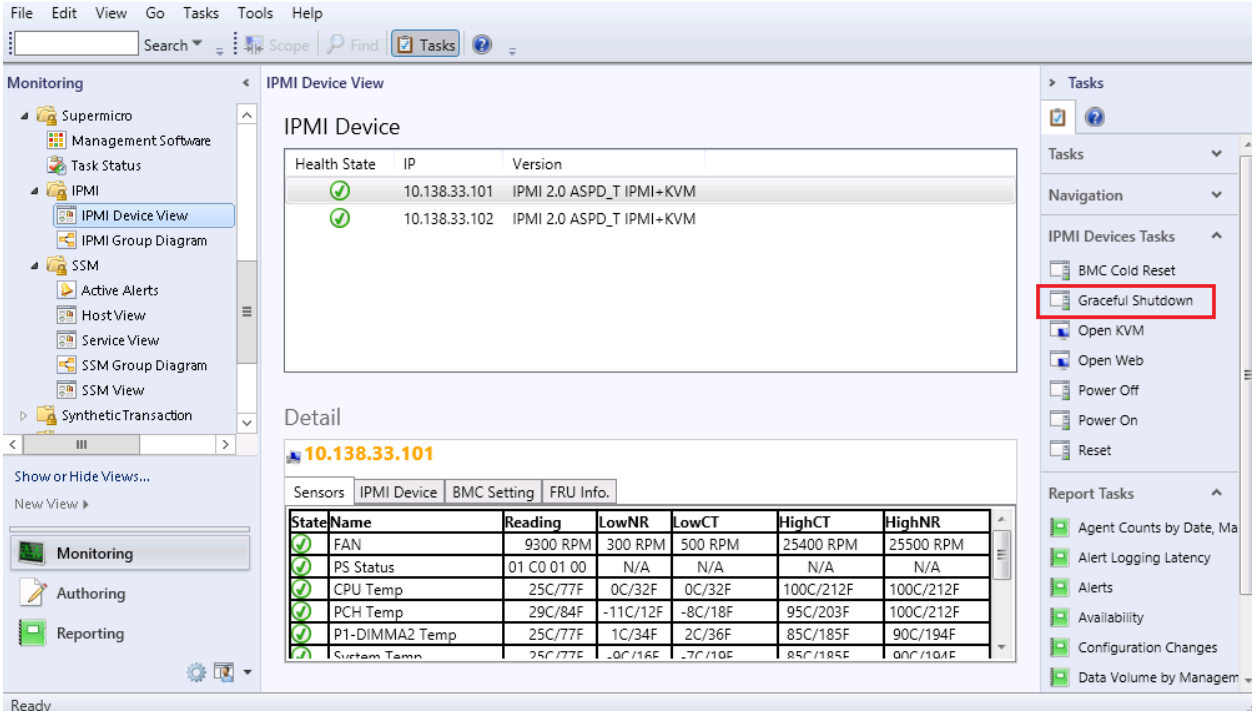


Figure 5-20

- **Task Type**: This is an agent task associated with IPMI devices.
- **Description:** Running this task will initiate soft shutdown of the system for the selected IPMI devices.
- **Parameter:** No parameter is required for this task.

5.3.2.7 Open KVM

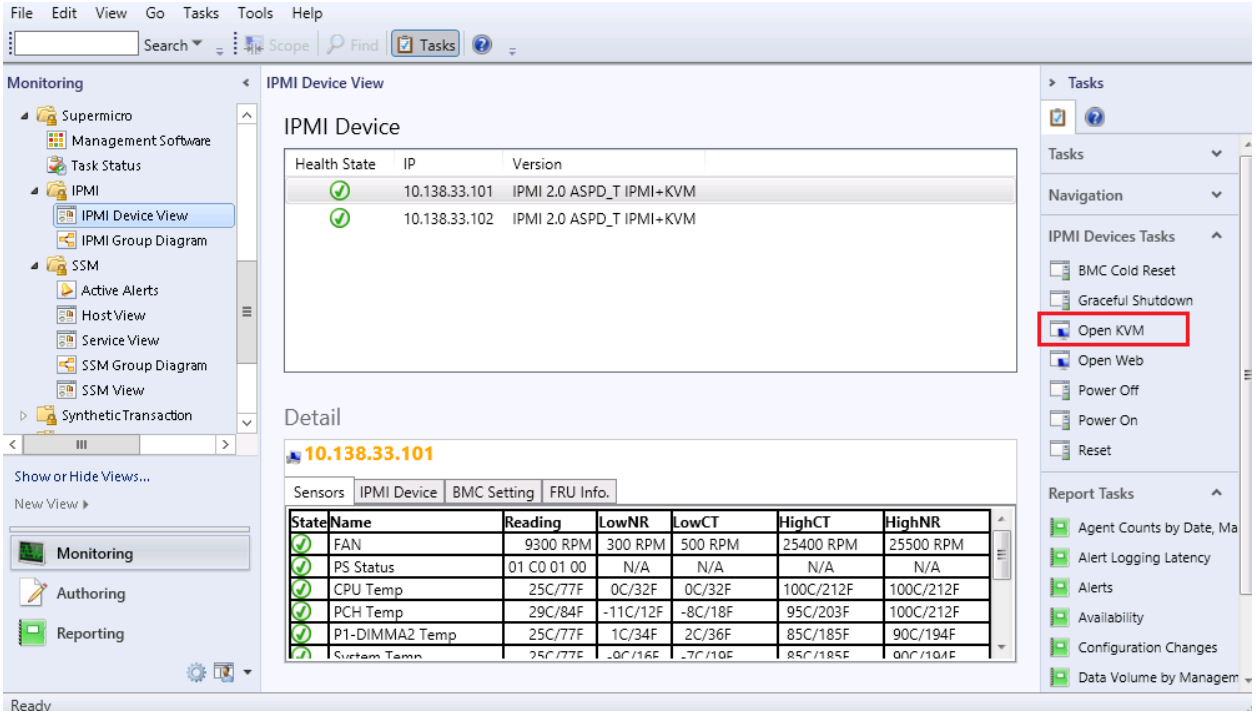


Figure 5-21

- **Task Type**: This is a console task associated with IPMI devices.
- **Description:** Running this task will open KVM window of the selected IPMI device.
- **Parameter:** No parameter is required for this task.

Parameter	Description	Required	Option
Username	The username for login IPMI device (BMC)	Yes	ADMIN
Password	The password for login IPMI device (BMC)	Yes	ADMIN

5.3.2.8 Open Web

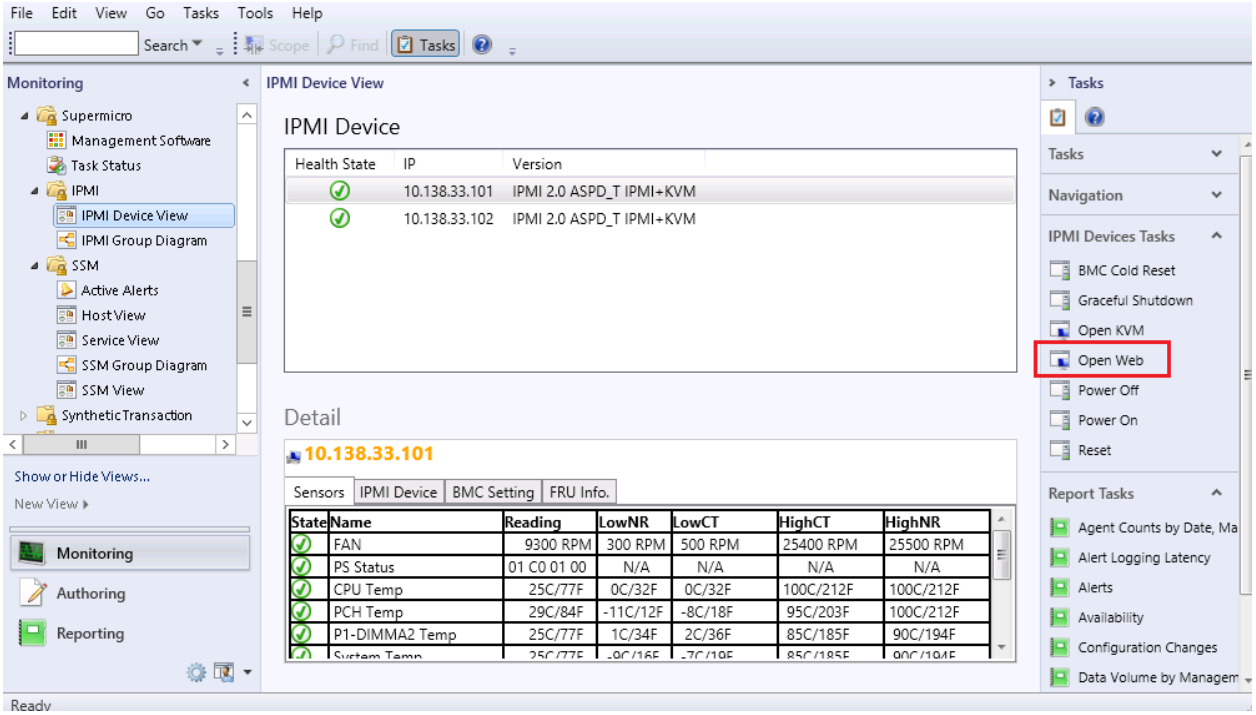


Figure 5-22

- **Task Type**: This is a console task associated with IPMI devices.
- **Description:** Running this task will open an Internet Explorer browser and navigate to IPMI web page of the selected IPMI device.
- **Parameter:** No parameter is required for this task.

5.3.3 Groups

This management pack contains the following groups.

Name	Description
Supermicro IPMI Devices Group	Consists all Supermicro IPMI devices.

Table 5-7

5.3.4 Monitors

This management pack will measure the health of managed objects listed in following table.

Name	Target	State	Description
IPMI Device Health Monitor	IPMI Devices	Success	The IPMI device is nn.
		Error	The IPMI device is off.
General Sensor Health Monitor	General Sensor Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
Temperature Sensor Health Monitor	Temperature Sensor Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
Voltage Sensor Health Monitor	Voltage Sensor Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
Fan Sensor Health Monitor	Fan Sensor Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
Power Supply Sensor Health Monitor	Power Supply Sensor Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
Node Key State Monitor	Node Key Entities	Success	The sensor state is ok.
		Error	The sensor state is not ok.
IPMI Devices Group Health Monitor	IPMI Devices Group	Rollup (Worst Of)	This rollup state is from the worst case of IPMI Devices.

Table 5-8

5.4 Supermicro SSM MP

This management pack extends Operations Manager Console to be able to discover and monitor health state of SSM Servers. It also provides tasks for management.

5.4.1 Folders and Views

The Supermicro SSM MP contains following folders and views.

Name	Type	Description
SSM	Folder	The main folder for the views in this management pack. This folder is contained under the root folder Supermicro.
Active Alerts	View	A composite dashboard view displays IPMI device list and detailed information.
Host View	View	A composite dashboard view displays discovered Hosts list the monitored by SSM Servers. The Host types include AgentManaged, IPMI and Agentless Hosts.
Service View	View	A composite dashboard view displays Services list that monitored by SSM Servers.
SSM Group Diagram	View	A group diagram view displays SSM Server objects hierarchy.
SSM View	View	A composite dashboard view displays the discovered SSM servers and detailed information.

Table 5-9

5.4.1.1 SSM Folder

This folder contains the following views. It is the main folder of this management pack.

- Active Alerts
- Host View
- Service View
- SSM Group Diagram
- SSM View

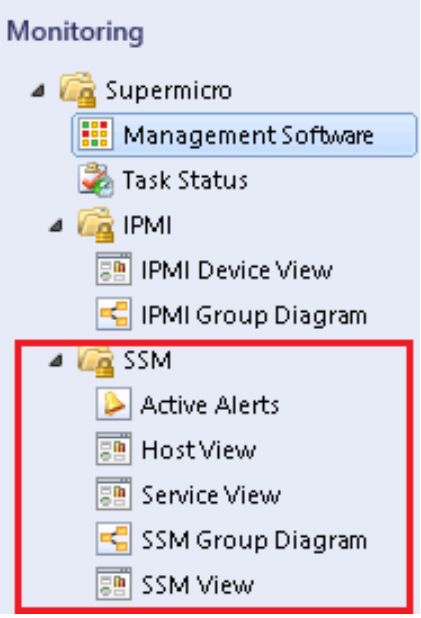


Figure 5-23

5.4.1.2 Active Alerts View

This view displays alert messages defined in this management pack.

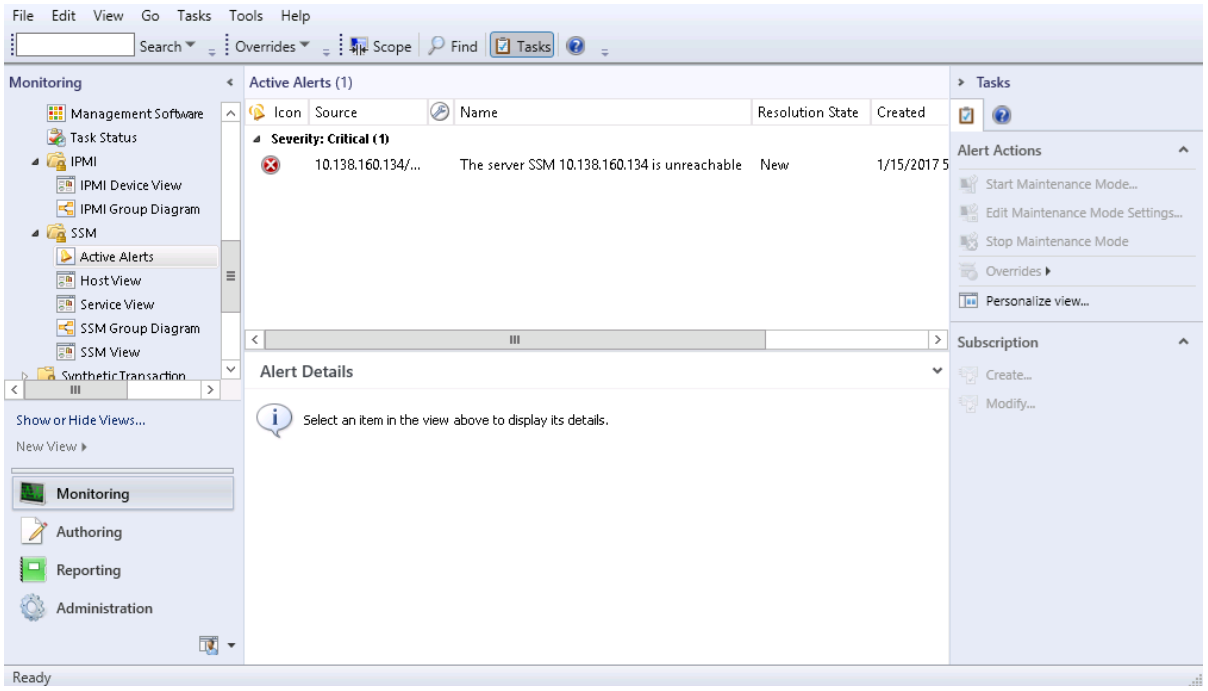


Figure 5-24

Column	Description
Severity	Valid values are: Success, Warning, and Error.
Source	Shows the source that creates the alert.
Name	Shows the name of the alert.
Resolution State	Shows the current state of the alert.
Created	Shows the time when the alert was created.

5.4.1.3 Host View

This view contains instances for the SSM monitored hosts.

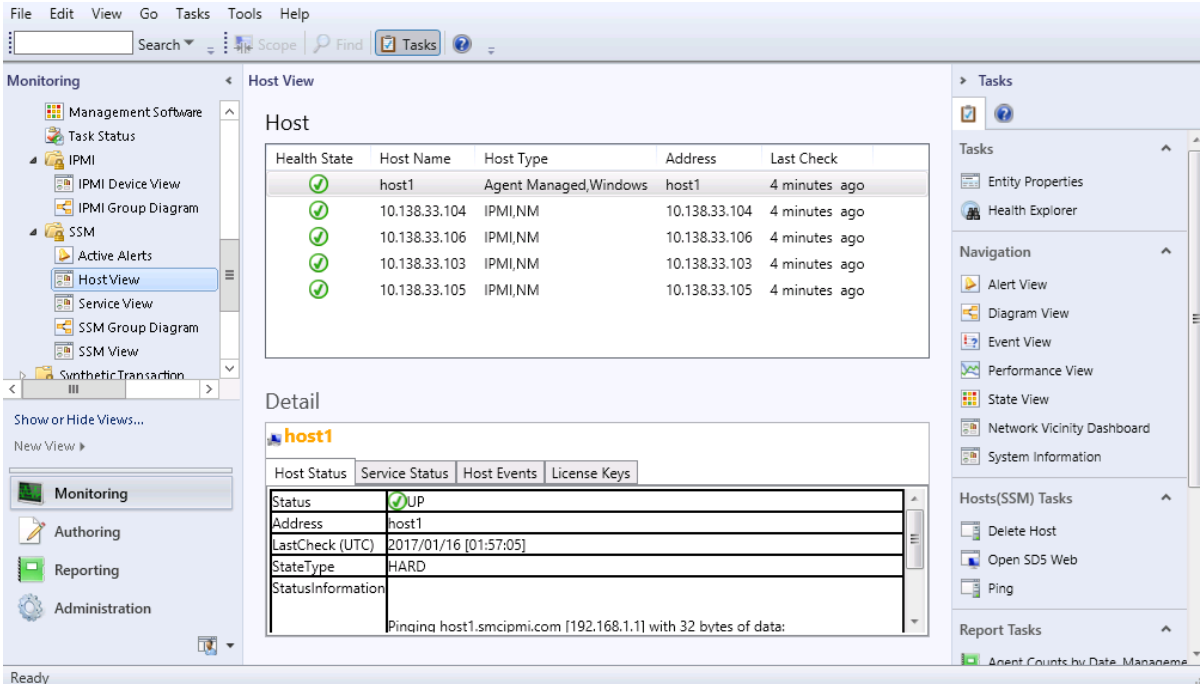


Figure 5-25

Column	Description
Health State	Health State of *SSM monitored hosts.* See *Host Health Monitor*.
Host Name	Name of the Host.
Version	IPMI device version.
Host Type	Host type. Valid values include Agent Managed, Agentless, IPMI, Linux, and Windows.
Address	Host IP Address or DNS name.
Last Check	Last Check Time.

The Detail Pane contains the following tab pages providing additional information for the selected host.

- **Host Status:** Displays additional information for the host.

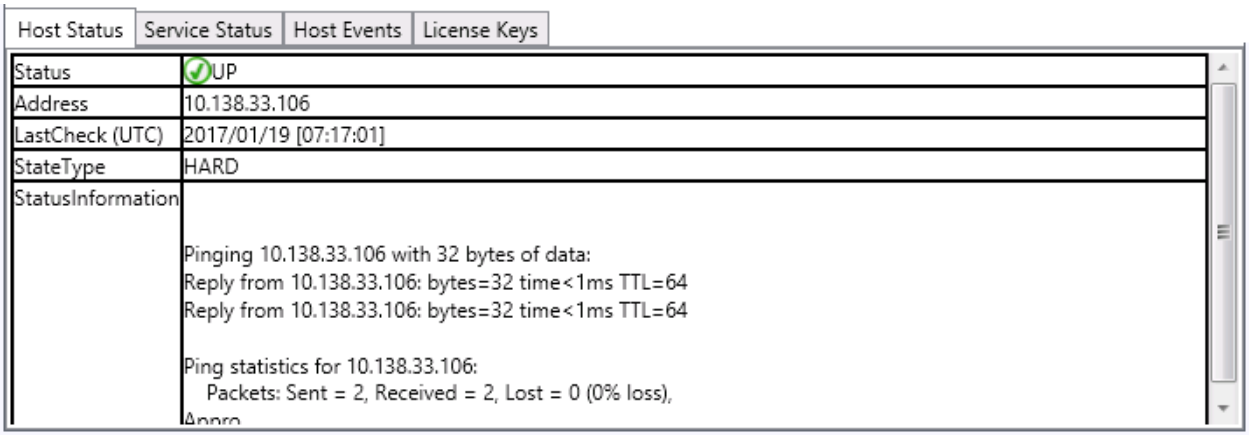


Figure 5-26

- **Service Status:** Displays monitored services on the host.

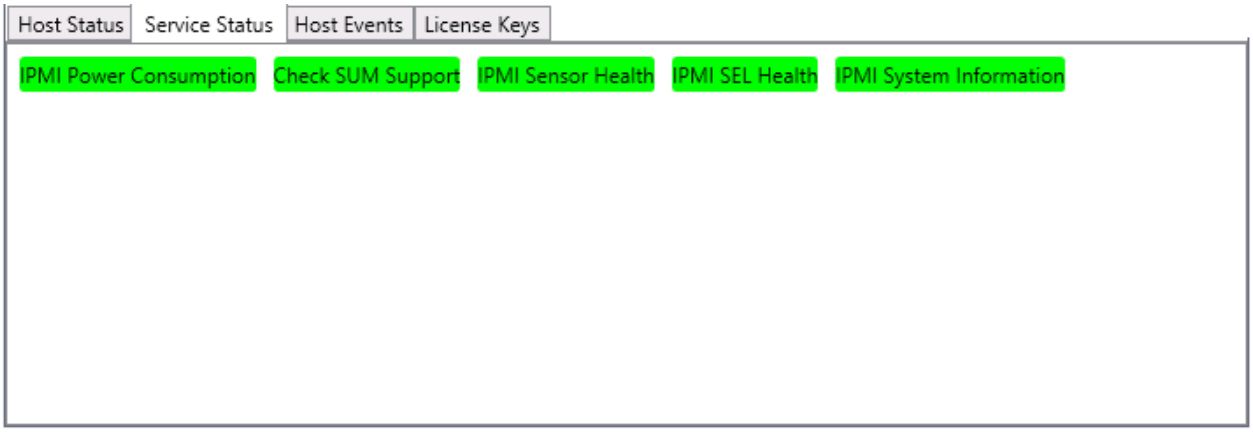


Figure 5-27

- **Host Events:** Displays events on the host.

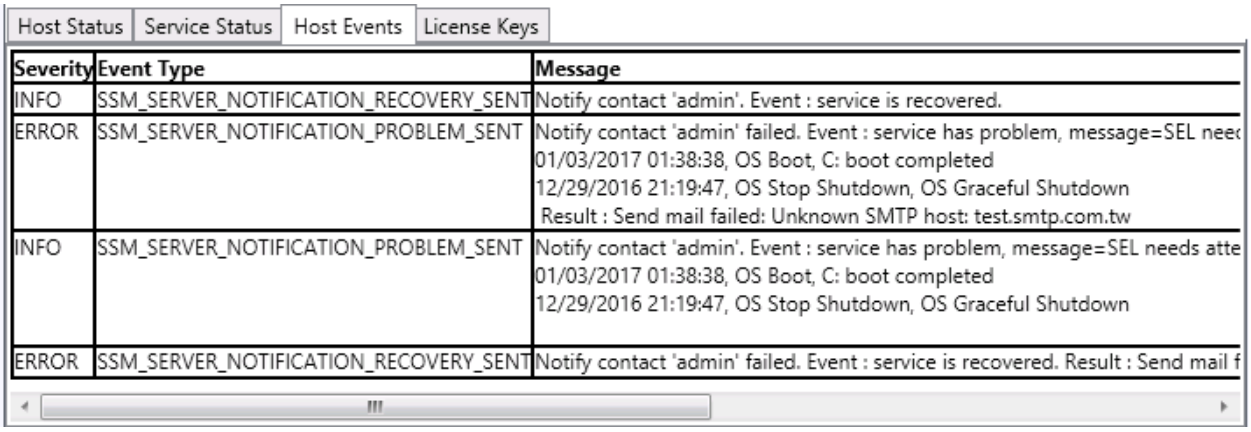


Figure 5-28

- **License Keys:** Displays the activated license keys on the host.

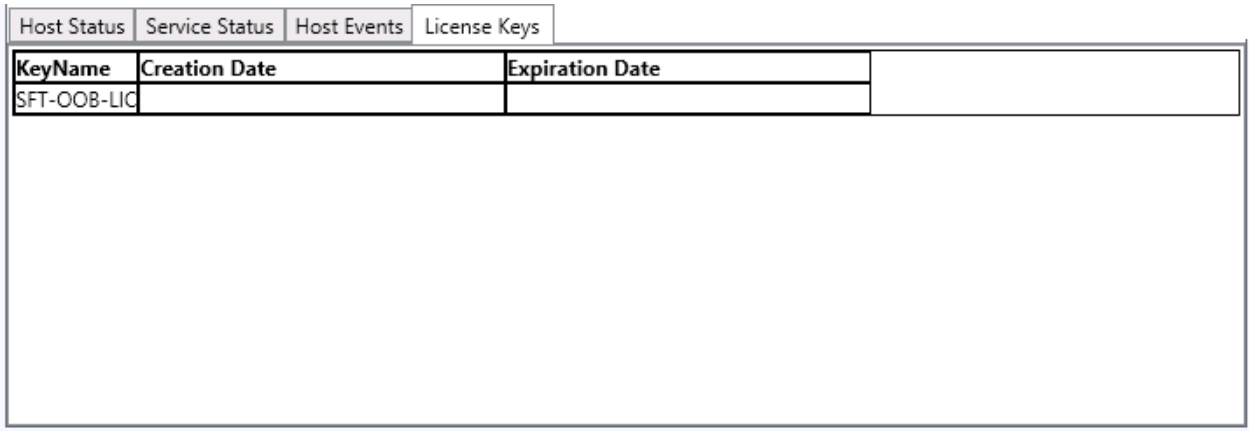


Figure 5-29

5.4.1.4 Service View

This view will contain instances for the SSM monitored services.

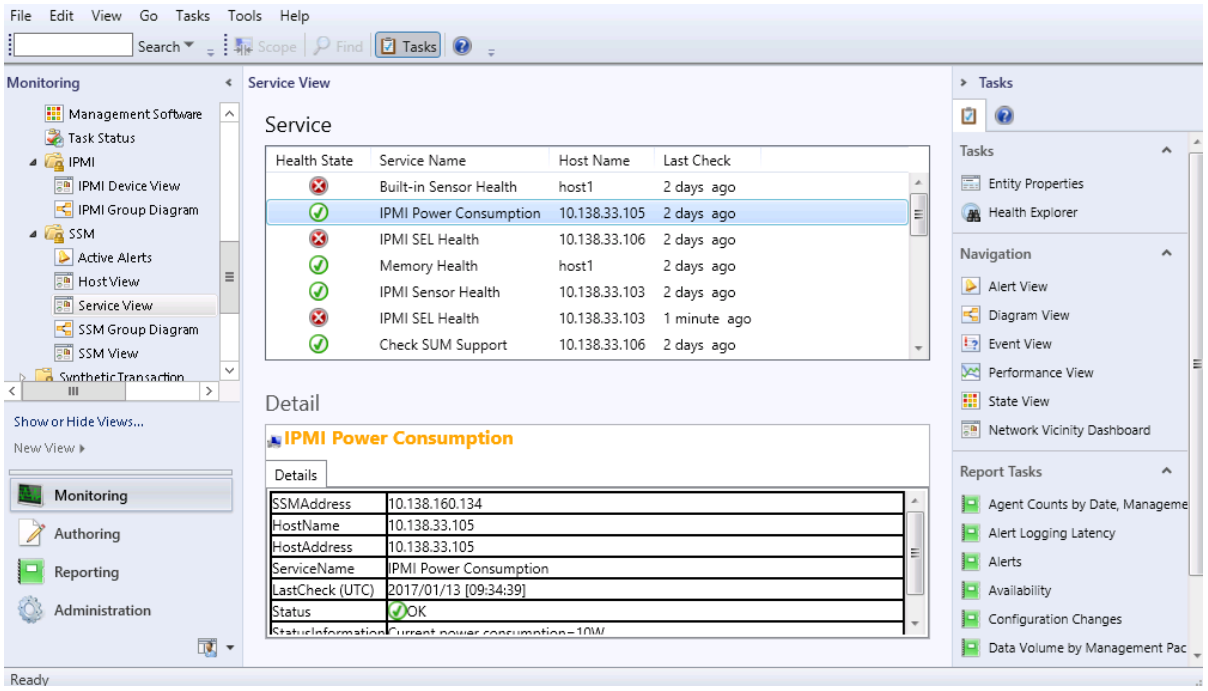


Figure 5-30

Column	Description
Health State	Health State of *SSM monitored services*. See *Service Health Monitor*.
Service Name	Service name.
Host Name	Host name.
Last Check	Last check time

5.4.1.5 SSM Group Diagram View

This view displays the SSM Group and its monitored SSM Servers in a hierarchy structure.

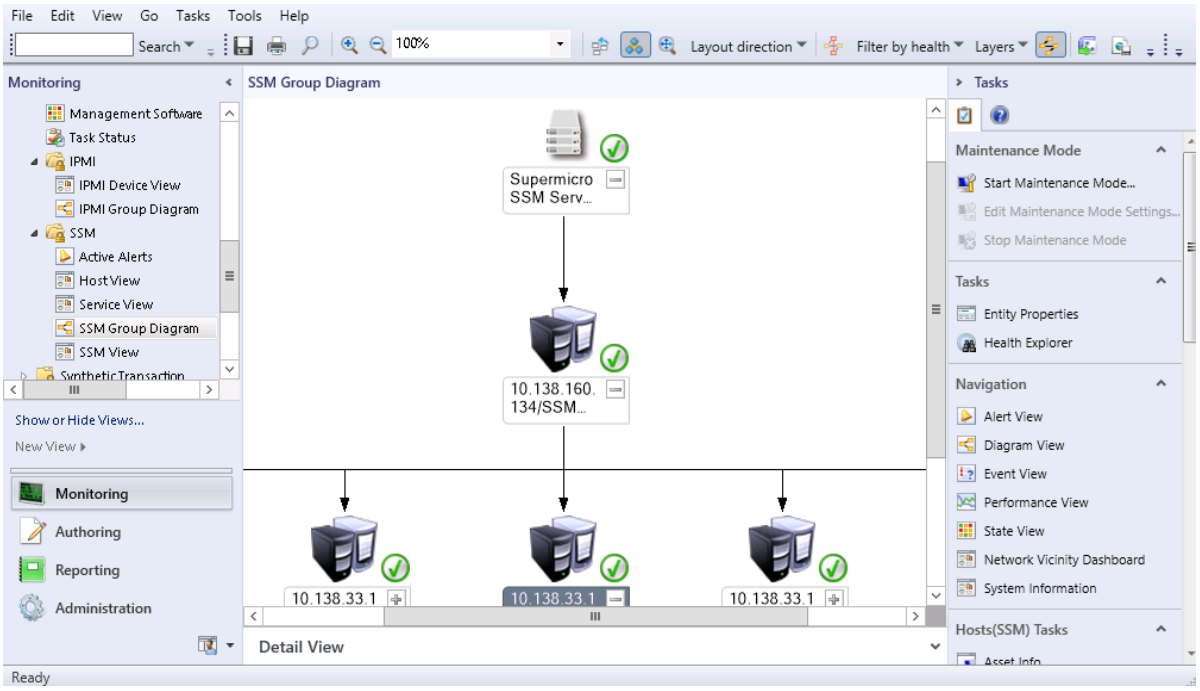


Figure 5-31

5.4.1.6 SSM View

This view contain instances for the SSM class.

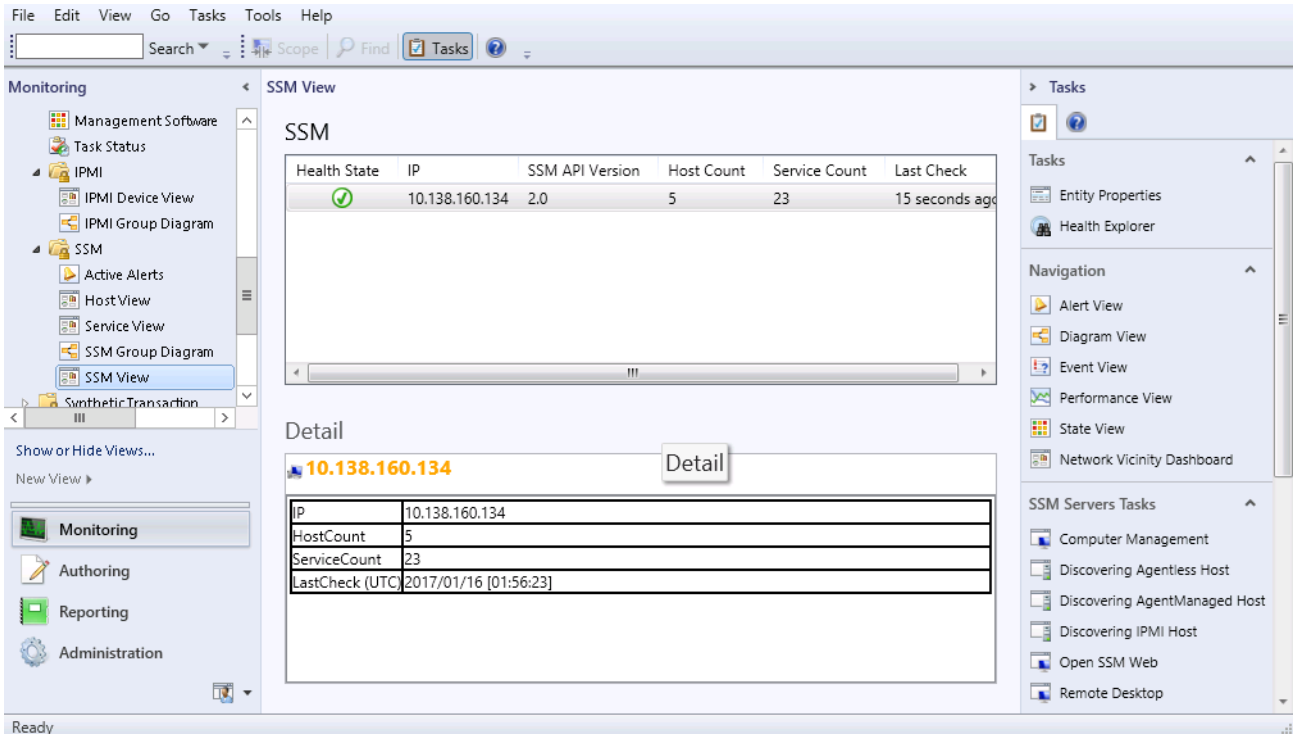


Figure 5-32

Column	Description
Health State	Health State of the SSM server. See *SSM Server Health Monitor*.
IP	IP Address of the SSM server.
SSM API Version	The SSM API version.
Host Count	Number of monitored hosts on this SSM server.
Service Count	Number of monitored services on this SSM server.
Last Check	Last check time.

5.4.2 Tasks

The Supermicro Core MP provides these tasks.

Name	Type	Target	Description
Discovering SSM Servers	Console	Supermicro SSM Connector	Edits configuration for discovering SSM Servers.
Restart SSM Web	Agent	SSM Servers	Restarts web service of the SSM server.
Restart SSM Server	Agent	SSM Servers	Restarts server service of the SSM server.
Discovering	Agent	SSM Servers	Requests the SSM server to discover the

AgentManaged Host			hosts installed with SuperDoctor5.
Discovering IPMI Host	Agent	SSM Servers	Requests the SSM server to discover the hosts or devices with IPMI capability.
Discovering Agentless Host	Agent	SSM Servers	Requests the SSM server to discover the hosts without SuperDoctor5 installed.
Open SSM Web	Console	SSM Servers	Opens an IE browser and navigates to the web page of SSM server.
Remote Desktop	Console	SSM Servers	Opens Windows remote desktop.
Computer Management	Console	SSM Servers	Opens Windows computer management console.
Ping	Agent	AgentManaged Hosts, IPMI Hosts, and Agentless Hosts	Initiates a ping to the hosts.
Open SD5 Web	Console	AgentManaged Hosts	Opens an IE browser and navigates to the web page of SuperDoctor5.
Update Firmware	Agent	IPMI Hosts	Requests the SSM server to update the BMC firmware for the hosts.
Update BIOS	Agent	IPMI Hosts	Requests the SSM server to update the BIOS image for the hosts.
Delete Host	Agent	IPMI Hosts	Requests the SSM server to delete the hosts.
System Utilization	Console	IPMI Hosts	Requests the SSM server to return the system utilization for the host.
Power Info	Console	IPMI Hosts	Displays information on the health of the PMBus for the host.
Open KVM	Console	IPMI Hosts	Launches the KVM window console for the host.
Asset Info	Console	IPMI Hosts	Requests the SSM server to return the asset information for the host.
Open Web	Console	IPMI Hosts	Opens an IE Browser and navigates to IPMI web page for the host.
Export BIOS Cfg	Console	IPMI Hosts	Requests the SSM server to return the BIOS configuration for the host.
Export BMC Cfg	Console	IPMI Hosts	Requests the SSM server to return the BMC configuration for the host.
Export DMI Info	Console	IPMI Hosts	Requests the SSM server to return the DMI information for the host.
Export BMC Log	Console	IPMI Hosts	Requests the SSM server to return the BMC event log for the host.
Import BIOS Cfg	Console	IPMI Hosts	Requests the SSM server to update the BIOS configuration for the host.
Import BMC Cfg	Console	IPMI Hosts	Requests the SSM server to update the BMC configuration for the host.
Import DMI Info	Console	IPMI Hosts	Requests the SSM server to update the DMI information for the host.
Clear BMC Log	Console	IPMI Hosts	Requests the SSM server to deletes the BMC event log for the host.
Mount ISO Image	Console	IPMI Hosts	Requests the SSM server to mount an ISO

			image as virtual media for the host.
Unmount ISO Image	Console	IPMI Hosts	Requests the SSM server to remove ISO image as virtual media for the host.
System Information	Dashboard	AgentManaged/IPMI Hosts	Displays the detailed view of the system

Table 5-10

5.4.2.1 Discovering SSM Servers

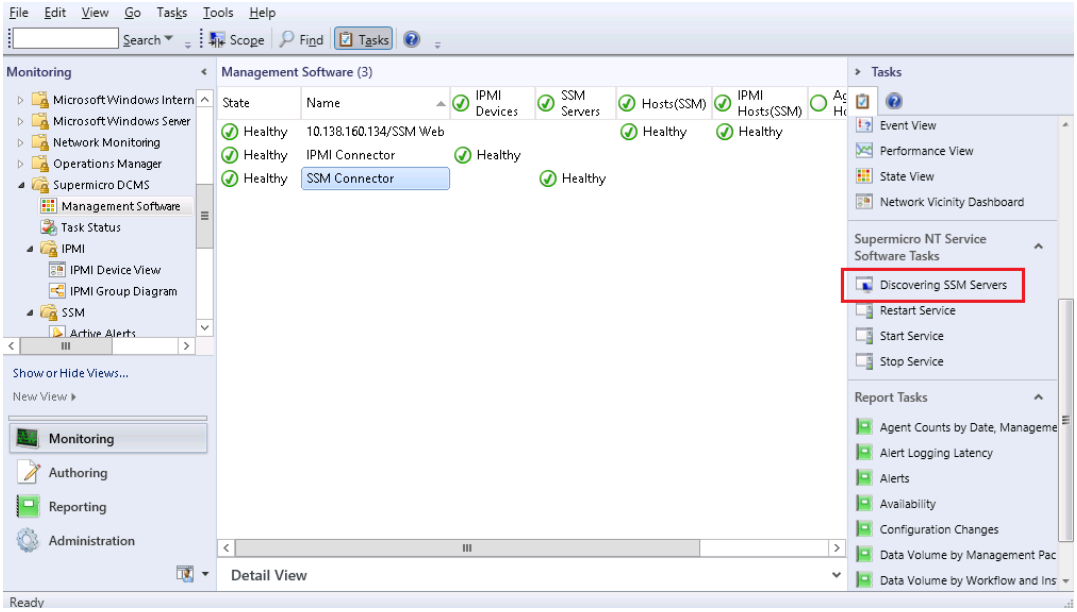


Figure 5-33

- **Task Type:** This is a console task associated with Supermicro SSM Connector.
- **Description:** Running this task will open a Discovering SSM Servers dialog box. In the dialog box you can scan SSM servers and edit monitoring list. The SSM Servers in the monitoring list will be discovered and monitored in Operations Manager Console. Please refer to *Discovering SSM Servers*.
- **Parameter:**

Parameter	Description	Required	Option
IP Address	IP Address for scan SSM servers Single Scan (IP address) IP Address 10 . 134 . 14 . 110 Rage Scan (IP Range) IP Address 10 . 134 . 14 . 110 150	Yes	
Username	The SSM API account username	Yes	
Password	The SSM API account password	Yes	

5.4.2.2 Restart SSM Web

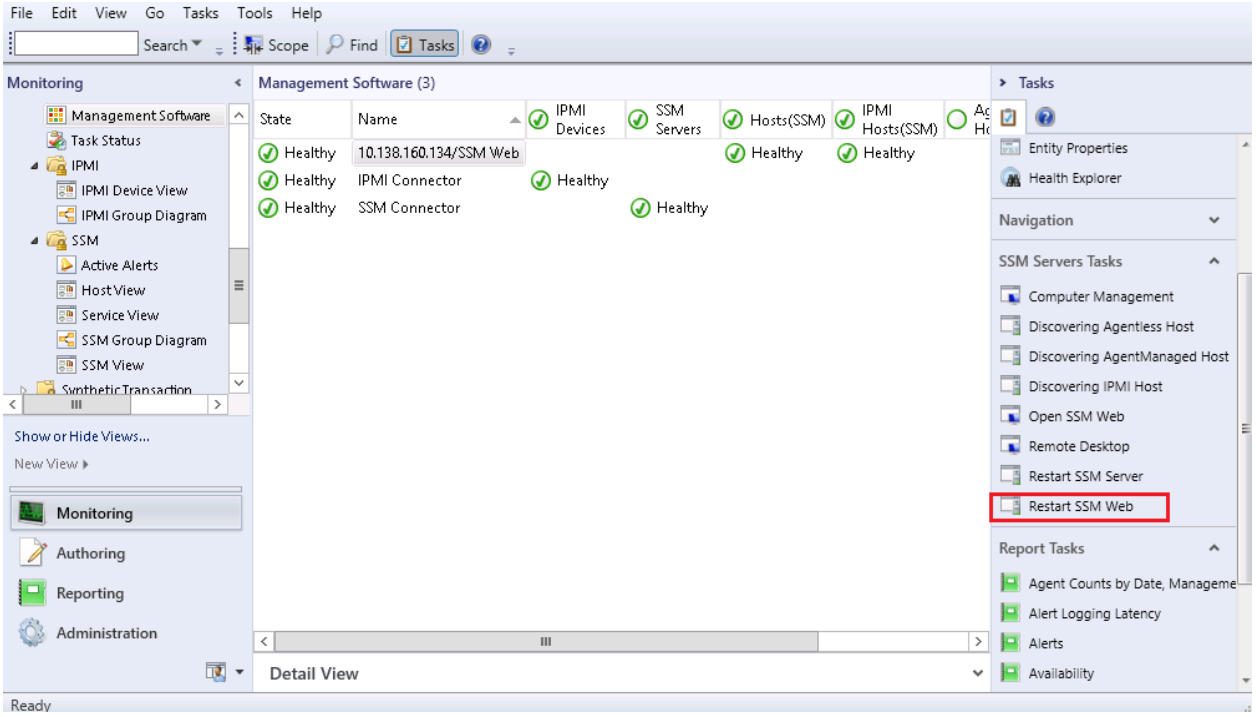


Figure 5-34

- **Task Type:** This is an agent task associated with SSM servers.
- **Description:** Running this task will remotely restart SSM Web Services of the selected SSM Server.
- **Requirements:**
  - This task only supports for SSM Servers that are installed on Windows.
    The user must be provided with credentials with sufficient permission to run servicecontrol.
- **Parameter:**-

Parameter	Description	Required	Option
TimeoutSeconds	The amount of time in seconds for doing this task.	No	30

The figure for input user credentials

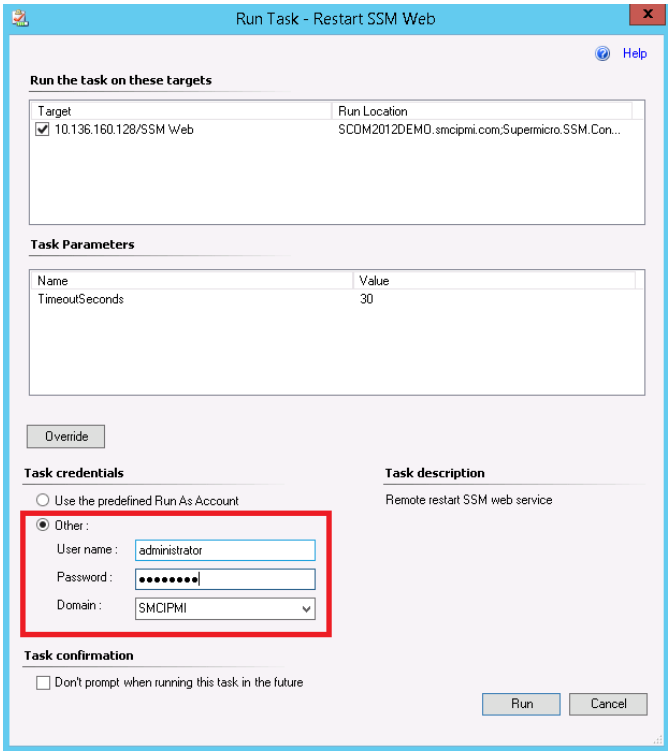


Figure 5-35

5.4.2.3 Restart SSM Server

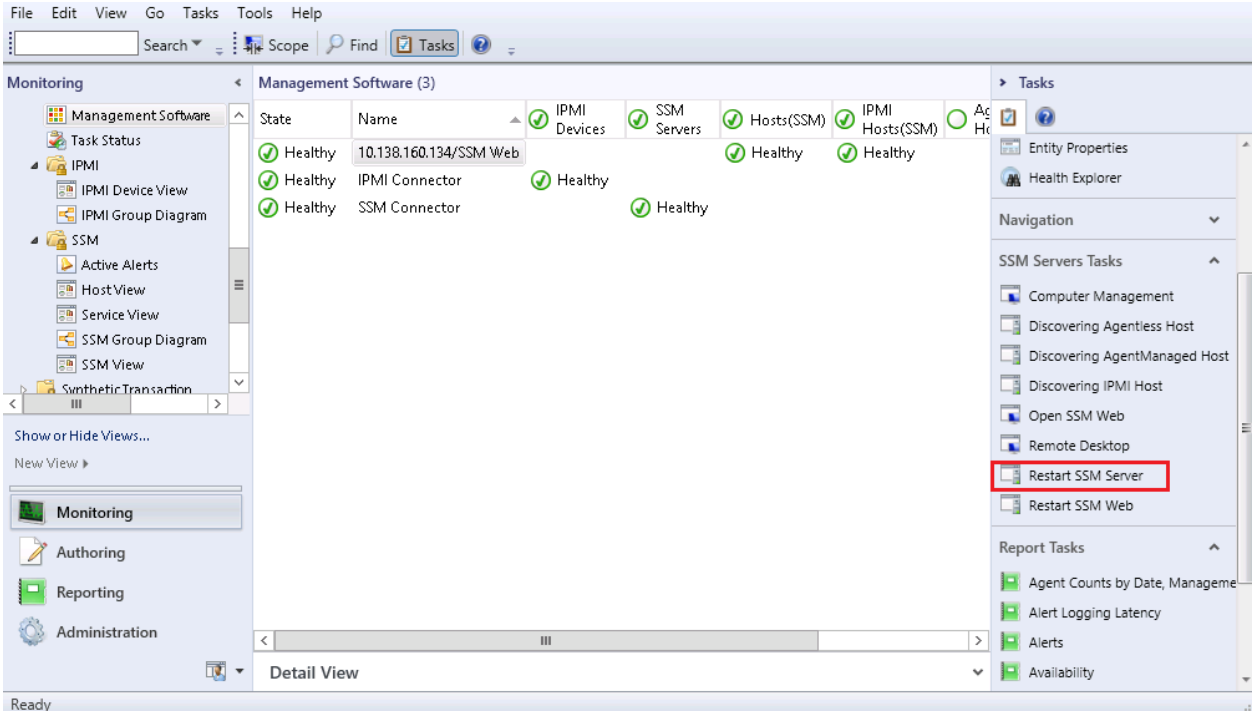


Figure 5-36

- **Task Type:** This is an agent task associated with SSM servers.
- **Description:** Running this task will remotely restart SSM Server Services of the selected SSM Server.
- **Requirements:**
  - This task only supports for SSM Servers that are installed on Windows.
  - The user must be provided with credentials with sufficient permission to run service control.
- **Parameter**:

Parameter	Description	Required	Option
TimeoutSeconds	The amount of time in seconds for doing this task.	No	30

The figure for input user credentials

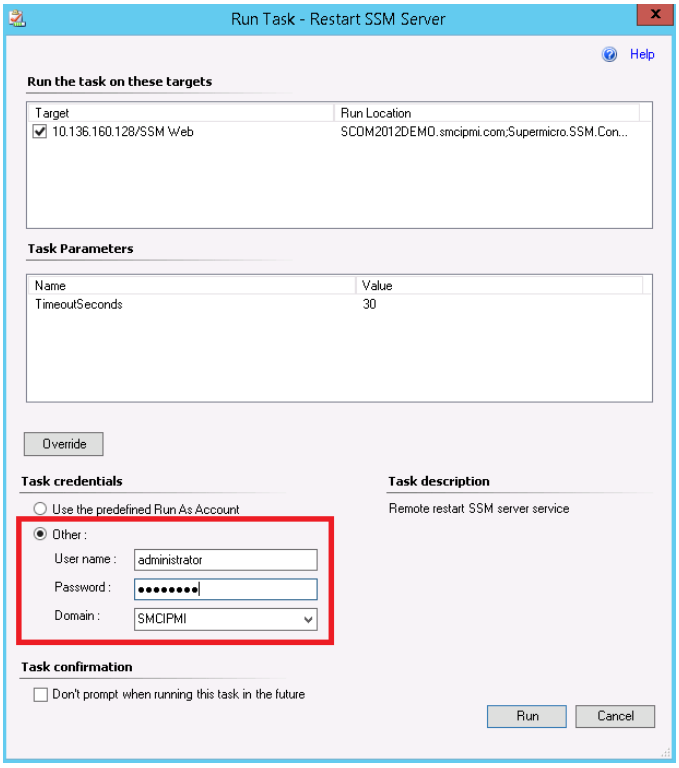


Figure 5-37

5.4.2.4 Discovering AgentManaged Host

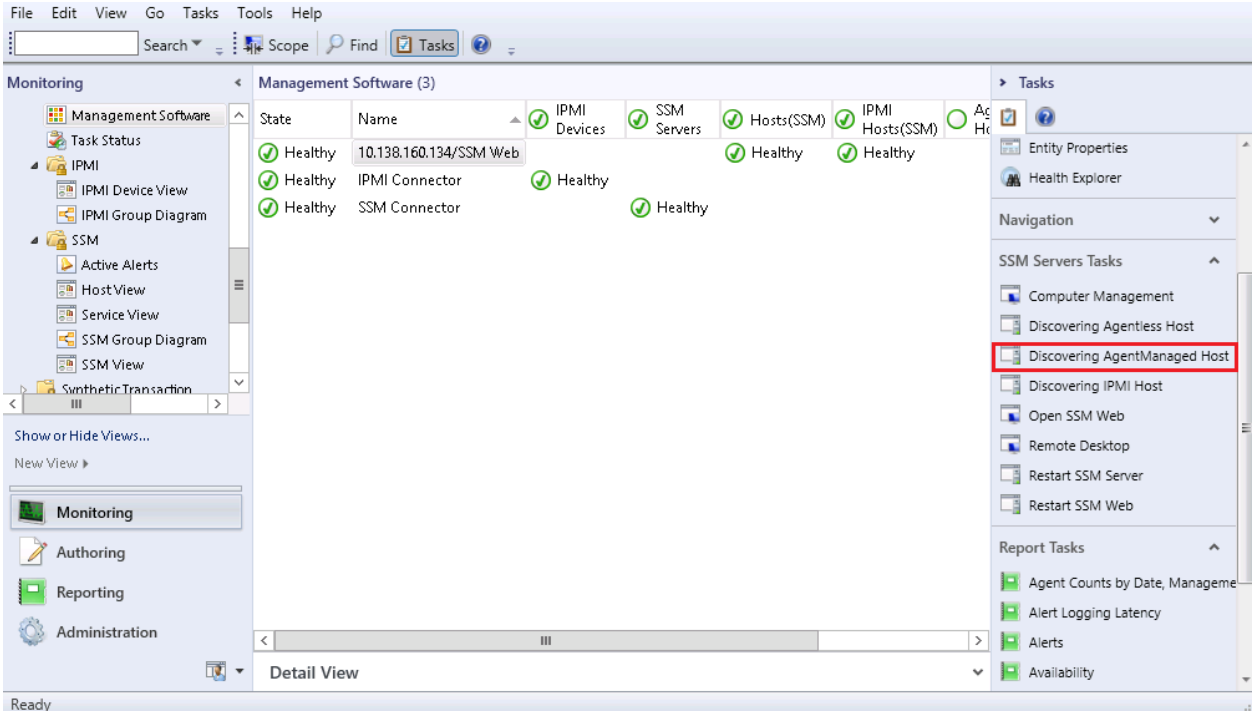


Figure 5-38

- **Task Type:** This is an agent task associated with SSM servers.
- **Description:** Running this task will request SSM Server to discover the hosts installed with SuperDoctor5.
- **Parameter:**

Parameter	Description	Required	Option
search_range	Four types of search mechanisms are supported: • an IP range e.g., 10.134.14.13-10.134.14.100 • an IP address e.g., 10.134.14.110 • a class C range e.g., 10.134.14.* • domain name or host name e.g., test.domain.com	Yes	
sd5port	The port number of SuperDoctor 5	No	5999
override	Forces the Discovery API to override the attributes of the discovered hosts override=<Attribute1>,<Value1>,<Attribute2>,<Value2>... e.g., override=check_interval,300,max_check_attempts,5	No	

	Three attributes may be overridden: • check_interval: Specifies the interval in seconds between the host checks and is executed to measure its status. • retry_interval: Specifies the interval in seconds between the checks of a host in soft state. • max_check_attempts: Defines the maximum retry counts of the host before a hard state change alert from an UP state to a non-UP state is triggered. More attributes are available to override if the NM enabled hosts are discovered (detect_nm=true) • derated_ac_power: Specifies the power supply's derated AC power of the host. • derated_dc_power: specifies the power supply's derated DC power of the host. • max_ps_output: Specifies the maximum output of the power supply of the host.		
ipmi_password	Defines the password to access IPMI BMC.	No	ADMIN
ipmi_id	Defines the user account to access IPMI BMC.	No	ADMIN
detect_nm	Directs the Discovery API to check if NM (Intel® Intelligent Power Node Manager) exists on the discovered hosts.	No	true|false
detect_ipmi	Directs the Discovery API to check if IPMI exists on the discovered hosts	No	true|false
clear_policy	Forces the Discovery API to clear all existing policies on the NM of the discovered hosts.	No	true|false

5.4.2.5 Discovering IPMI Host

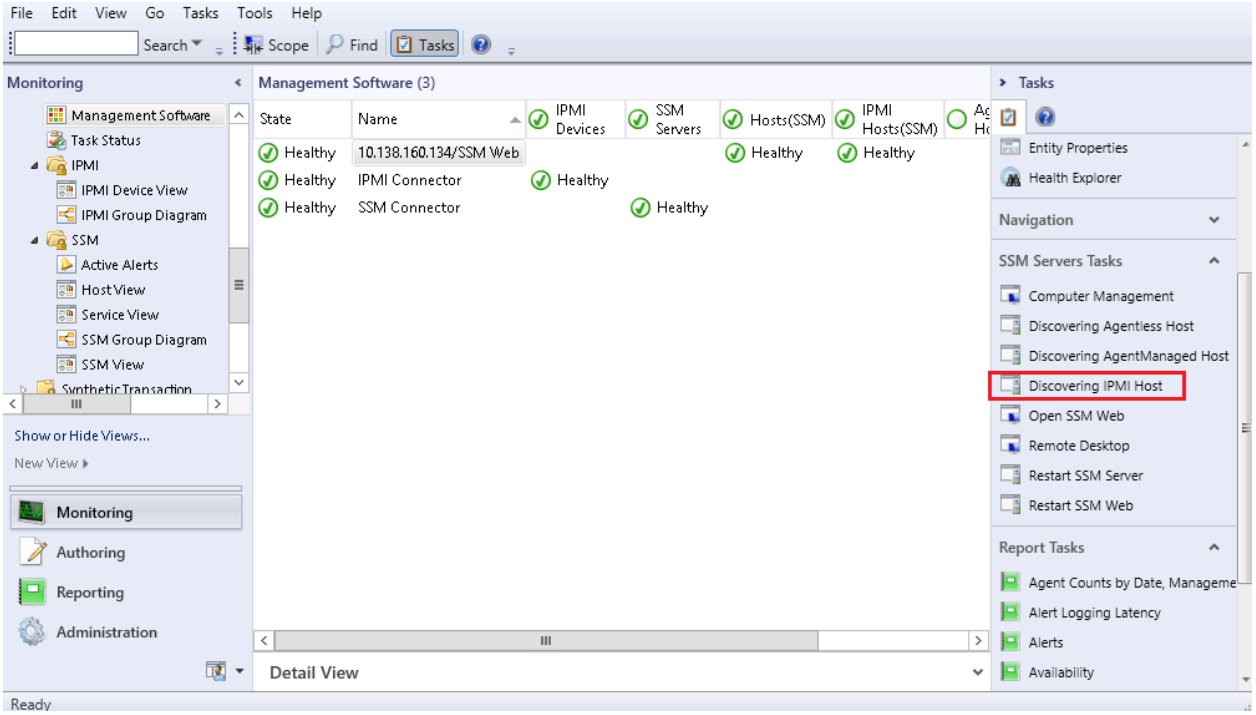


Figure 5-39

- **Task Type:** This is an agent task associated with SSM servers.
- **Description:** Running this task will request SSM Server to discover the hosts or devices with IPMI capability.
- **Parameter** - :

Parameter	Description	Required	Option
search_range	Four types of search mechanisms are supported: • an IP range e.g., 10.134.14.13-10.134.14.100 • an IP address e.g., 10.134.14.110 • a class C range e.g., 10.134.14.* • domain name or host name e.g., test.domain.com	Yes	
override	Forces the Discovery API to override the attributes of the discovered hosts override=<Attribute1>,<Value1>,<Attribute2>,<Value2>… e.g., override=check_interval,300,max_check_attempts,5	No	

	Three attributes may be overridden: • check_interval: Specifies the interval in seconds between the host checks and is executed to measure its status. • retry_interval: Specifies the interval in seconds between the checks of a host in soft state. • max_check_attempts: Defines the maximum retry counts of the host before a hard state change alert from an UP state to a non-UP state is triggered. More attributes are available to override if the NM enabled hosts are discovered (detect_nm=true) • derated_ac_power: Specifies the power supply's derated AC power of the host. • derated_dc_power: specifies the power supply's derated DC power of the host. • max_ps_output: Specifies the maximum output of the power supply of the host.		
ipmi_password	Defines the password to access IPMI BMC.	No	ADMIN
ipmi_id	Defines the user account to access IPMI BMC.	No	ADMIN
detect_nm	Directs the Discovery API to check if NM (Intel® Intelligent Power Node Manager) exists on the discovered hosts.	No	true|false
clear_policy	Forces the Discovery API to clear all existing policies on the NM of the discovered hosts.	No	true|false

5.4.2.6 Discovering Agentless Host

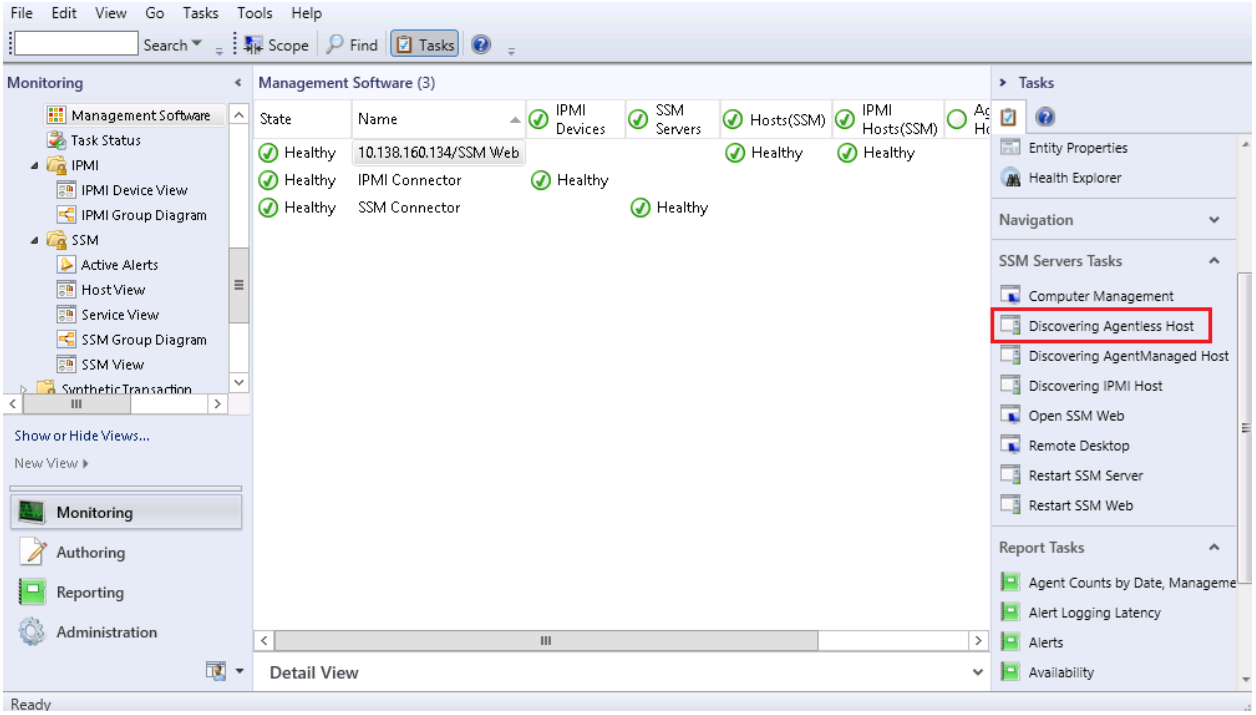


Figure 5-40

- **Task Type:** This is an agent task associated with SSM servers.
- **Description:** Running this task will request SSM Server to discover the hosts without SuperDoctor5 installed.
- **Parameter:**

Parameter	Description	Required	Option
search_range	Four types of search mechanisms are supported: • an IP range e.g., 10.134.14.13-10.134.14.100 • an IP address e.g., 10.134.14.110 • a class C range e.g., 10.134.14.* • domain name or host name e.g., test.domain.com	Yes	
override	Forces the Discovery API to override the attributes of the discovered hosts override=<Attribute1>,<Value1>,<Attribute2>,<Value2>… e.g., override=check_interval,300,max_check_attempts,5 Three attributes may be overridden:	No	

	• check_interval: Specifies the interval in seconds between the host checks and is executed to measure its status. • retry_interval: Specifies the interval in seconds between the checks of a host in soft state. • max_check_attempts: Defines the maximum retry counts of the host before a hard state change alert from an UP state to a non-UP state is triggered. More attributes are available to override if the NM enabled hosts are discovered (detect_nm=true) • derated_ac_power: Specifies the power supply's derated AC power of the host. • derated_dc_power: specifies the power supply's derated DC power of the host. • max_ps_output: Specifies the maximum output of the power supply of the host.		

5.4.2.7 Open SSM Web

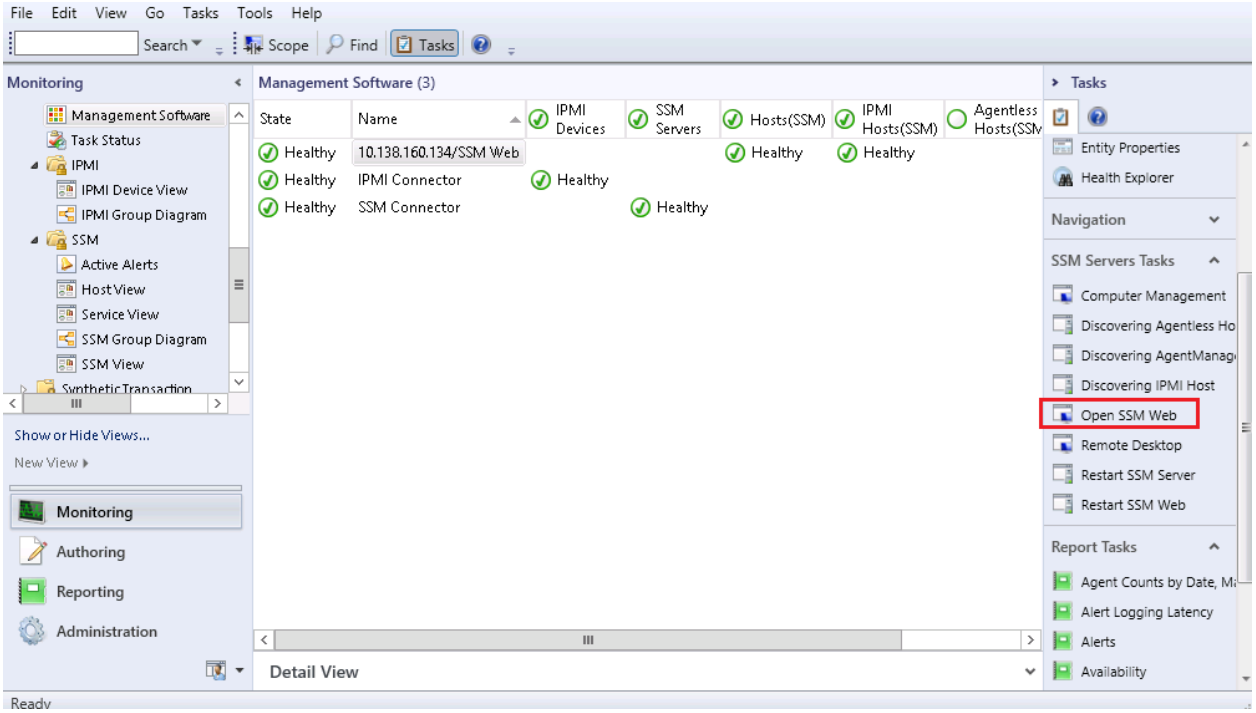


Figure 5-41

- **Task Type:** This is a console task associated with SSM servers.
- **Description:** Running this task will open an Internet Explorer browser and navigate to SSM web page of selected SSM server.
- **Parameter:** No parameter is required for this task.

5.4.2.8 Remote Desktop

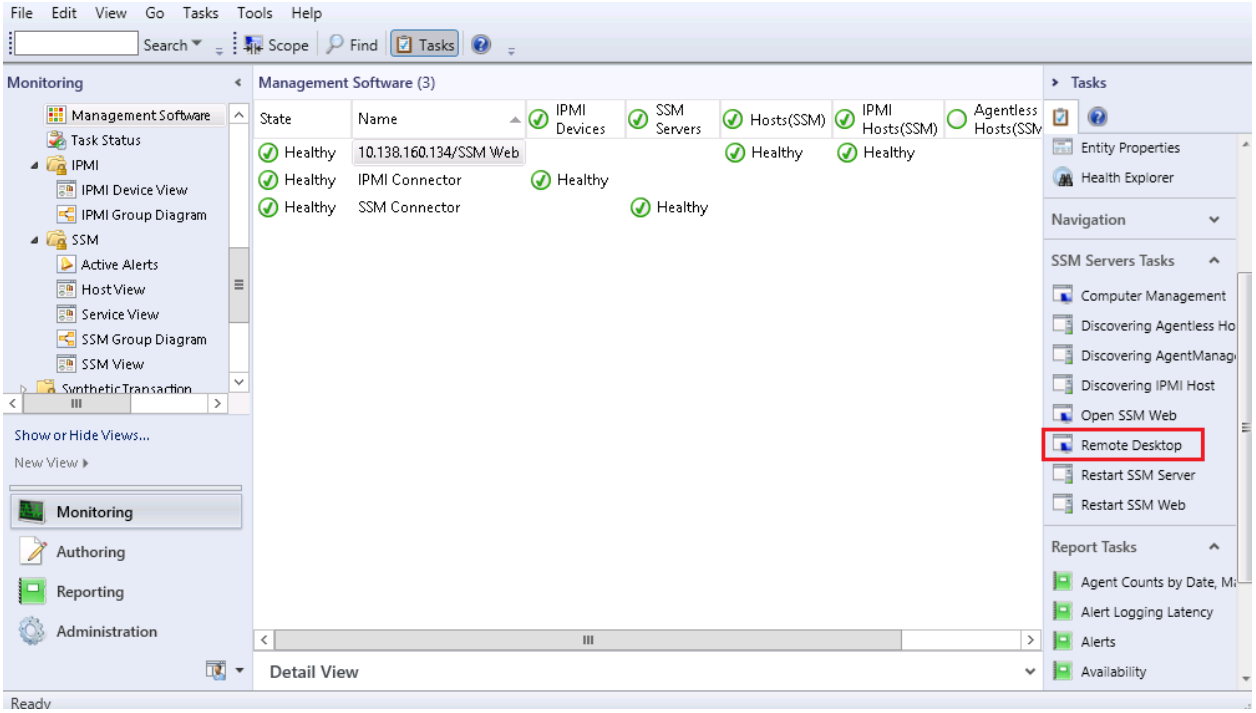


Figure 5-42

- **Task Type:** This is a console task associated with SSM servers.
- **Description:** Running this task will open Windows Remote Desktop to connect to the selected SSM Server.
- **Requirements:**
  - This task only supports for SSM Servers that are installed on Windows.
  - The SSM server must enable the remote desktop connection.
  - Login credential is required for remote desktop to establish connection to SSM server.
- **Parameter:** No parameter is required for this task.

The figure shows the dialog that is requesting login credential.

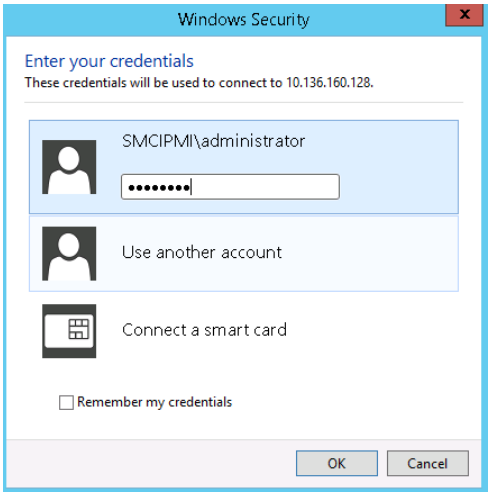


Figure 5-43

5.4.2.9 Computer Management

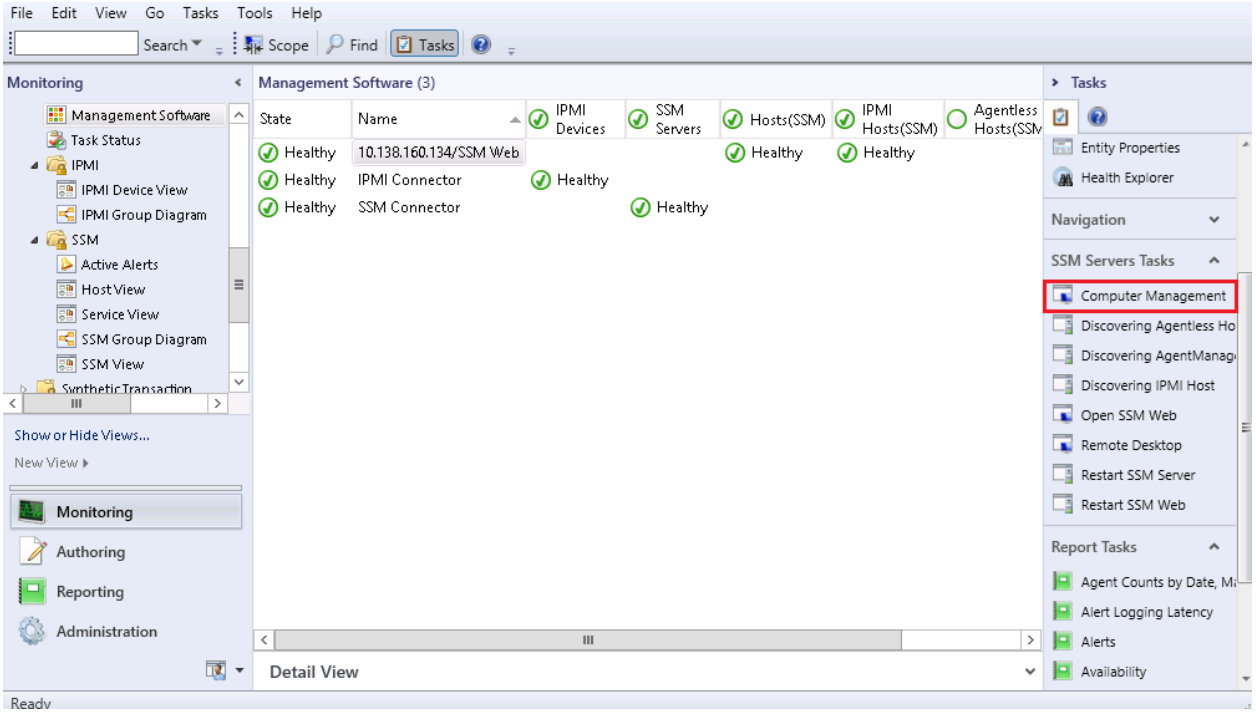


Figure 5-44

- **Task Type:** This is a console task associated with SSM servers.
- **Description:** Running this task will open windows computer management console and connect to selected SSM Server.
- **Requirements:**
  - This task only supports for SSM Servers that are installed on Windows systems.
  - The SSM server must be in the same domain.
  - Some operation in computer management require the current user to have addition rights.
- **Parameter:** No parameter is required for this task.

5.4.2.10 Ping

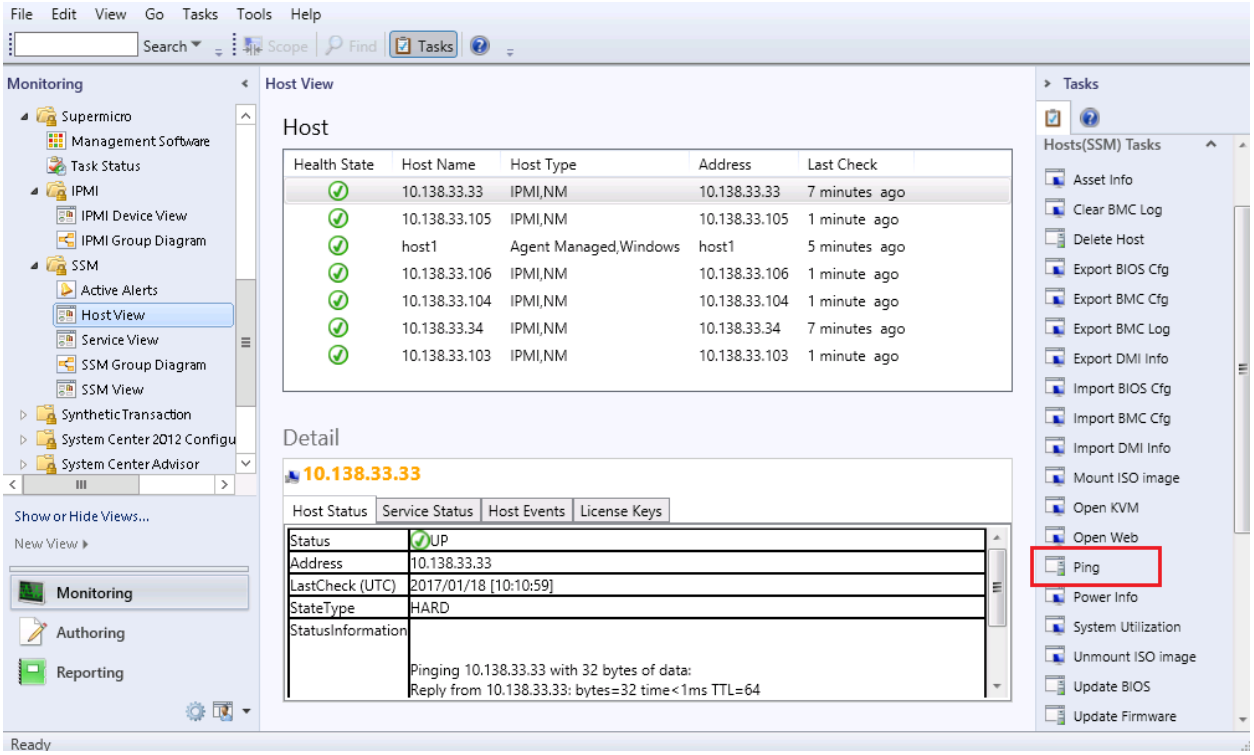


Figure 5-45

- **Task Type:** This is a console task associated with SSM monitored hosts.
- **Description:** Running this task will initiate ICMP Ping request to the selected hosts.
- **Parameter:**

Parameter	Description	Required	Option
Count	the number of ICMP Echo Request messages to send	NO	3

5.4.2.11 Open SD5 Web

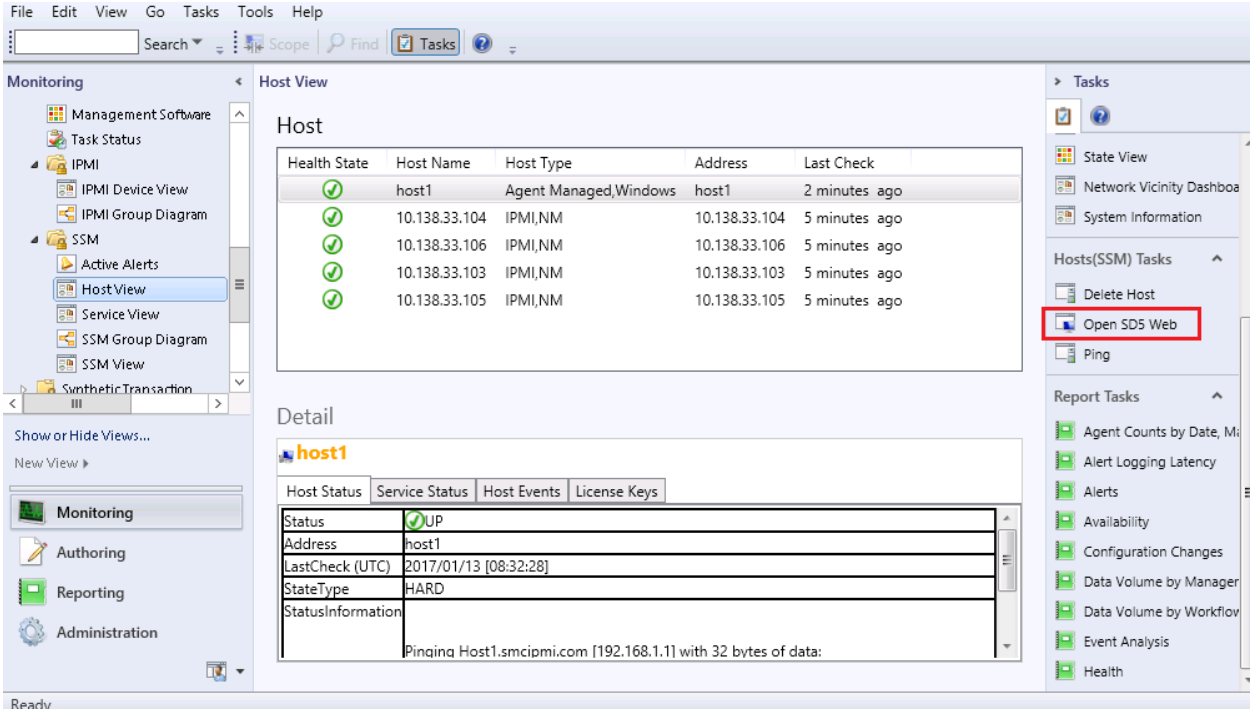


Figure 5-46

- **Task Type:** This is a console task which associated with AgentManaged hosts.
- **Description:** Running this task will open an Internet Explorer browser and navigate to SuperDoctor 5 web page of the selected host.
- **Parameter:** No parameter is required for this task.

5.4.2.12 Update Firmware

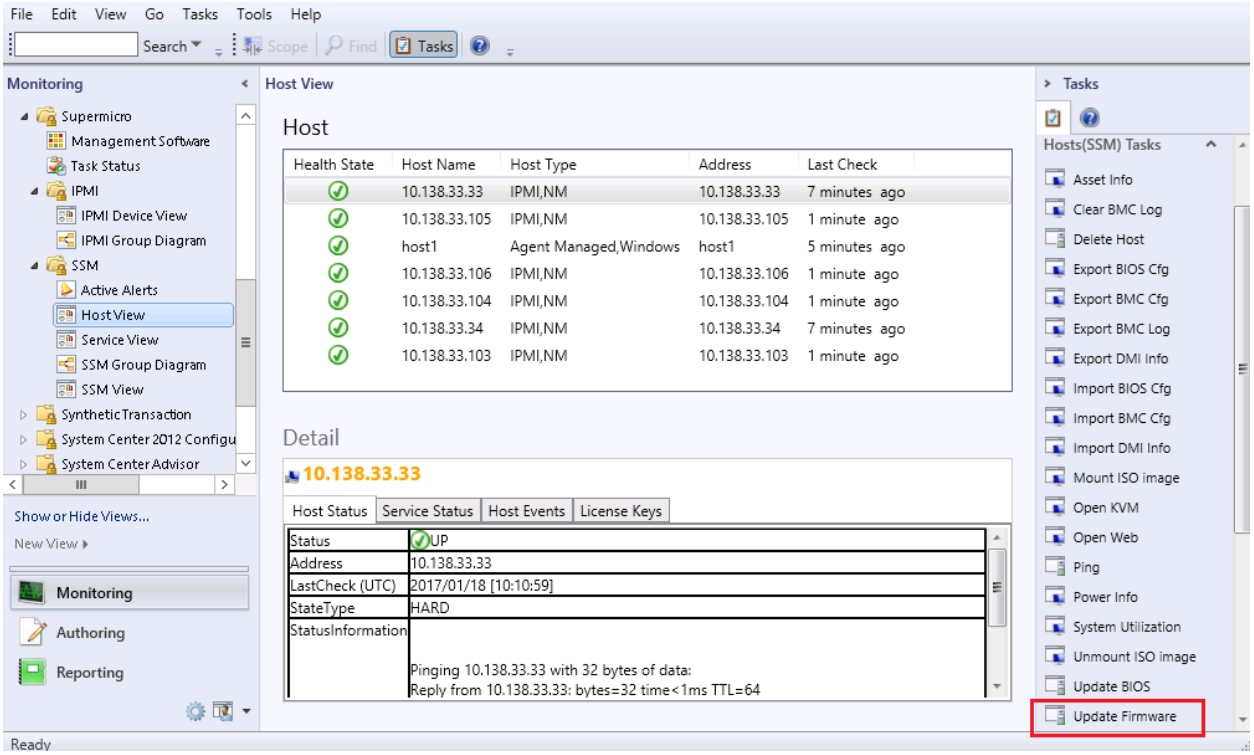


Figure 5-47

- **Task Type:** This is an agent task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to update BMC firmware for the selected hosts.
- **Parameter:**

Parameter	Description	Required	Option
Filename	Updates with the given BMC firmware file. (An absolute file path is required.)	Yes	

5.4.2.13 Update BIOS

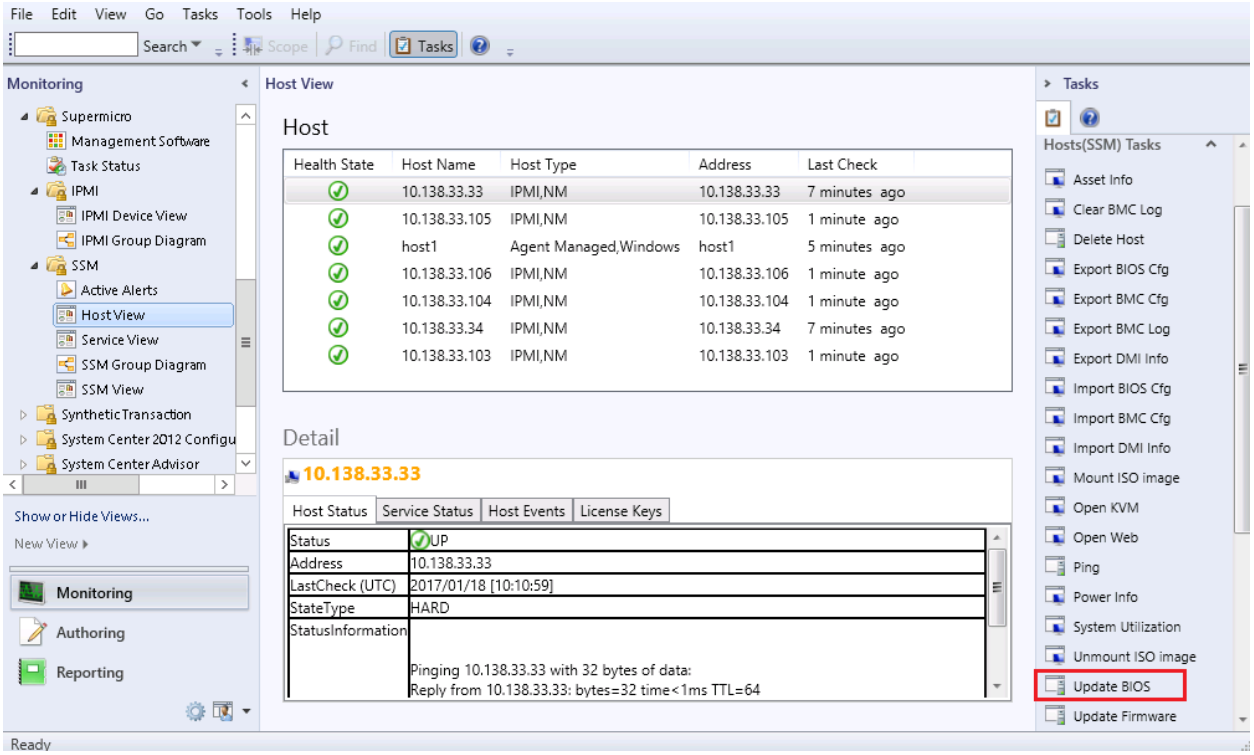


Figure 5-48

- **Task Type:** This is an agent task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to update BIOS image for the selected hosts.
- **Parameter:**

Parameter	Description	Required	Option
Filename	Updates with the given BIOS image file. (An absolute file path is required.)	Yes	

5.4.2.14 Delete Host

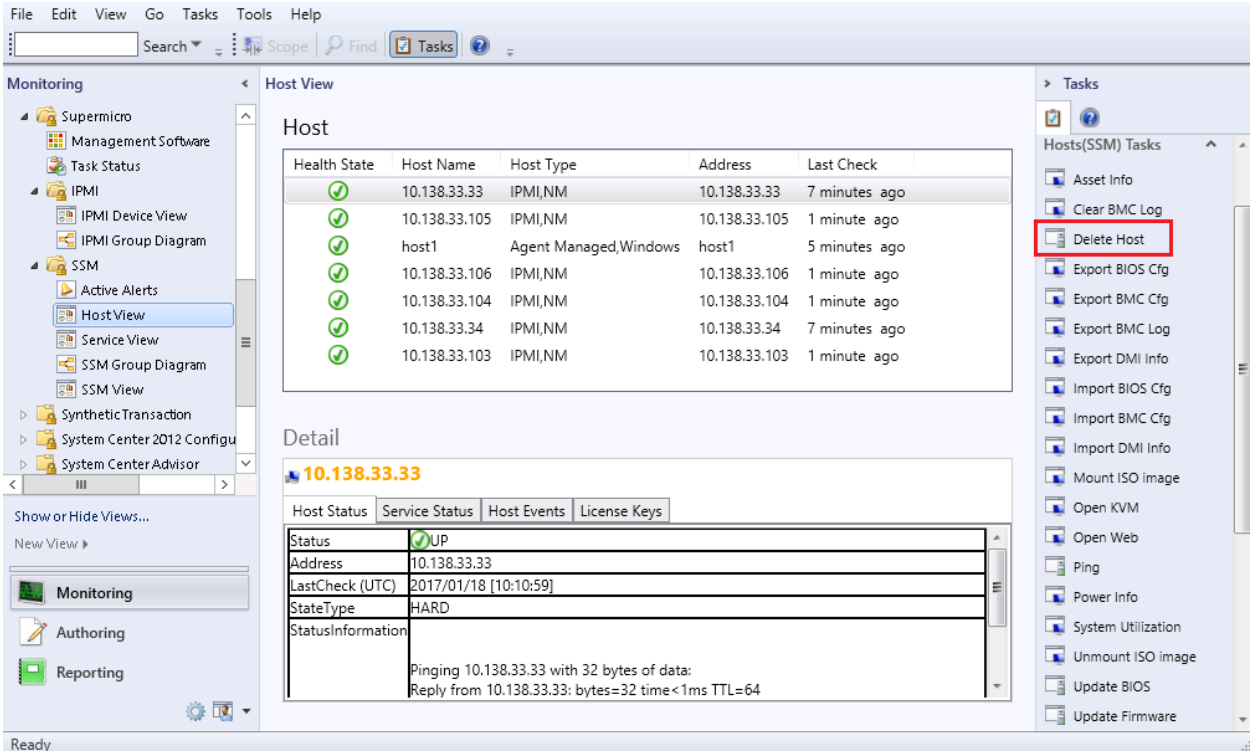


Figure 5-49

- **Task Type:** This is an agent task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to delete the selected hosts.
- **Parameter:** No parameter is required for this task.

5.4.2.15 System Utilization

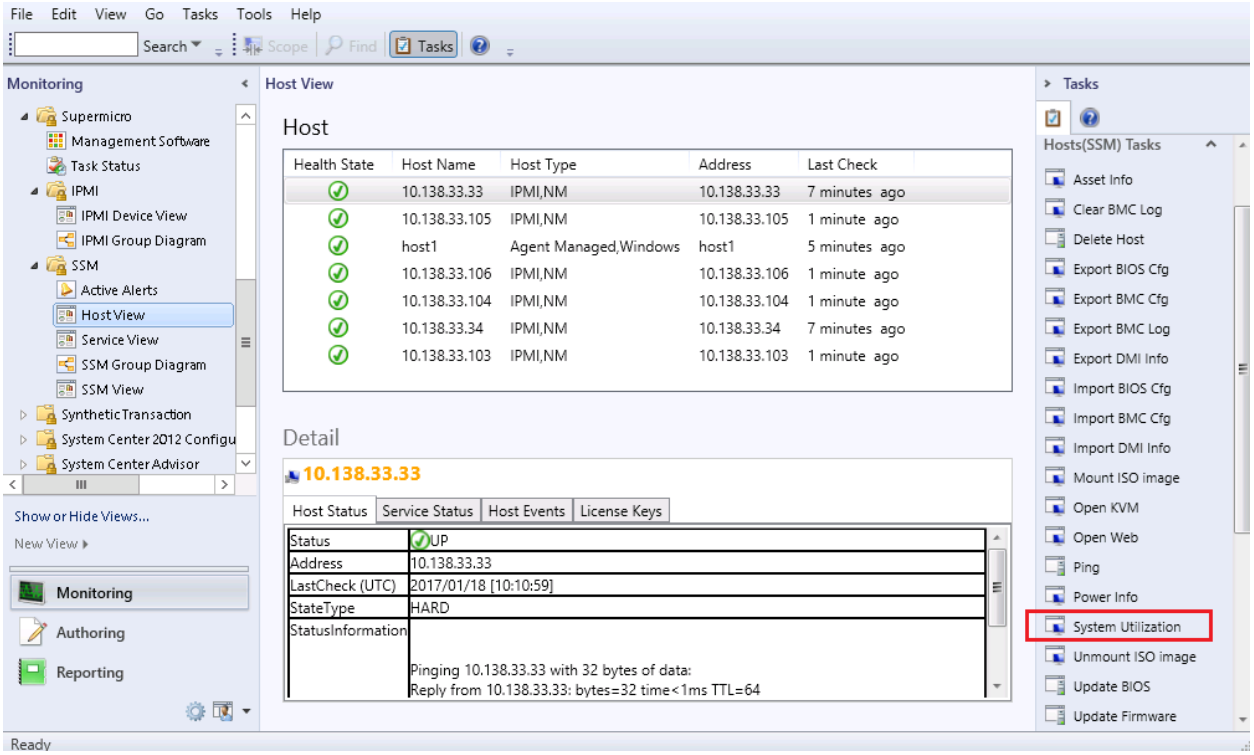


Figure 5-50

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return the system utilization of the selected host.
- **Requirements:**
  - The IPMI host must have Supermicro Thin-Agent-Service (TAS) installed on the system.
  - The service must in OK state.
- **Parameter:** No parameter is required for this task.

The figure shows sample resultant output.

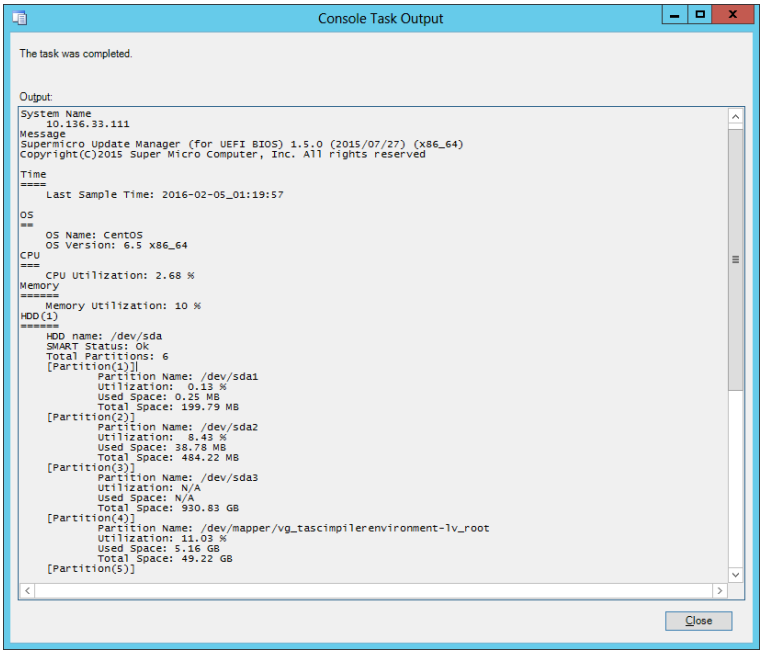


Figure 5-51

5.4.2.16 Power Info

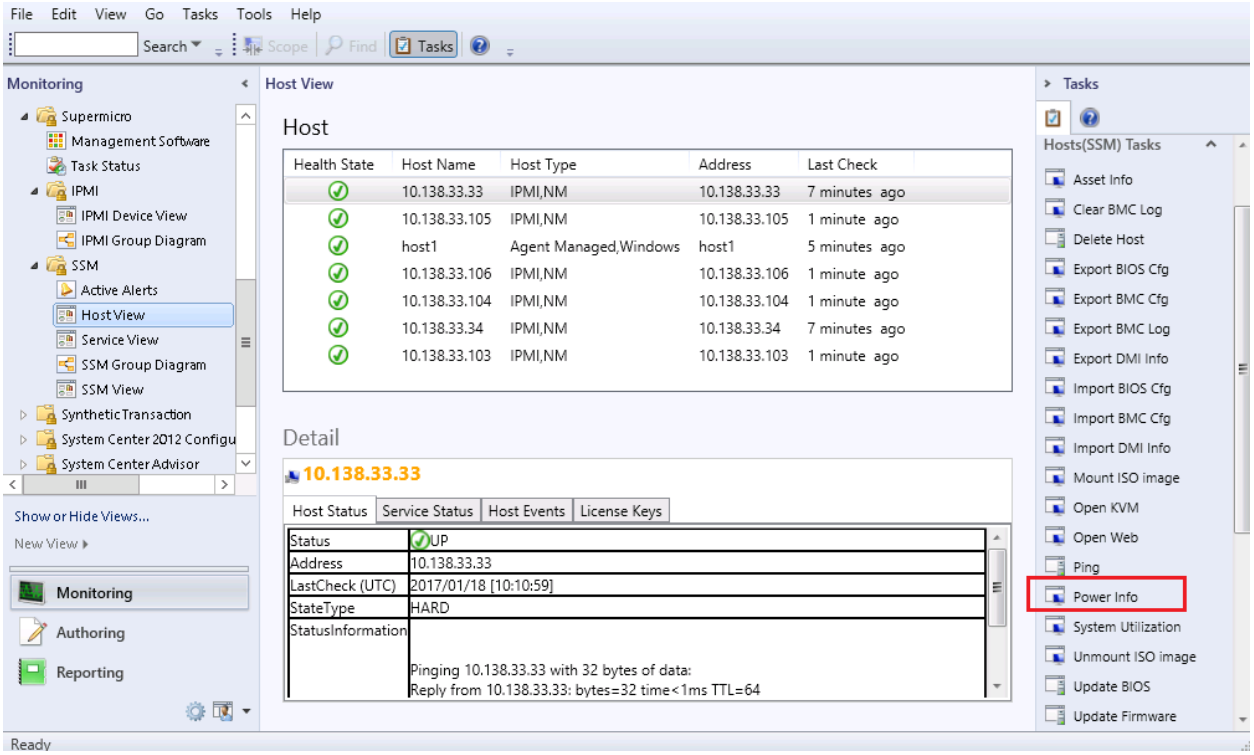


Figure 5-52

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will use SMCIPMITool to display information on the health of the PMBus of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
Username	Username for access IPMI BMC	Yes	ADMIN
Password	Password for access IPMI BMC	Yes	ADMIN

The figure shows the sample resultant output.

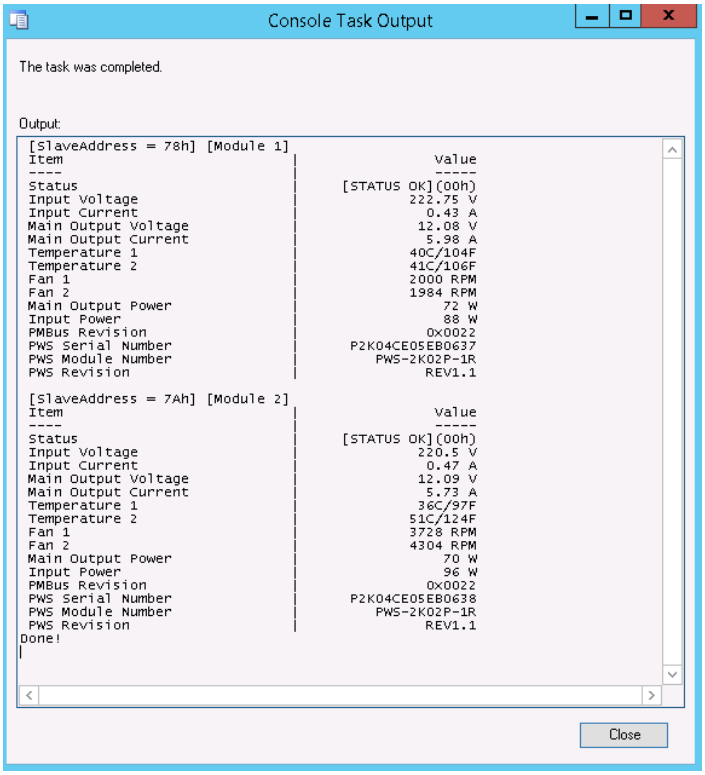


Figure 5-53

5.4.2.17 Asset Info

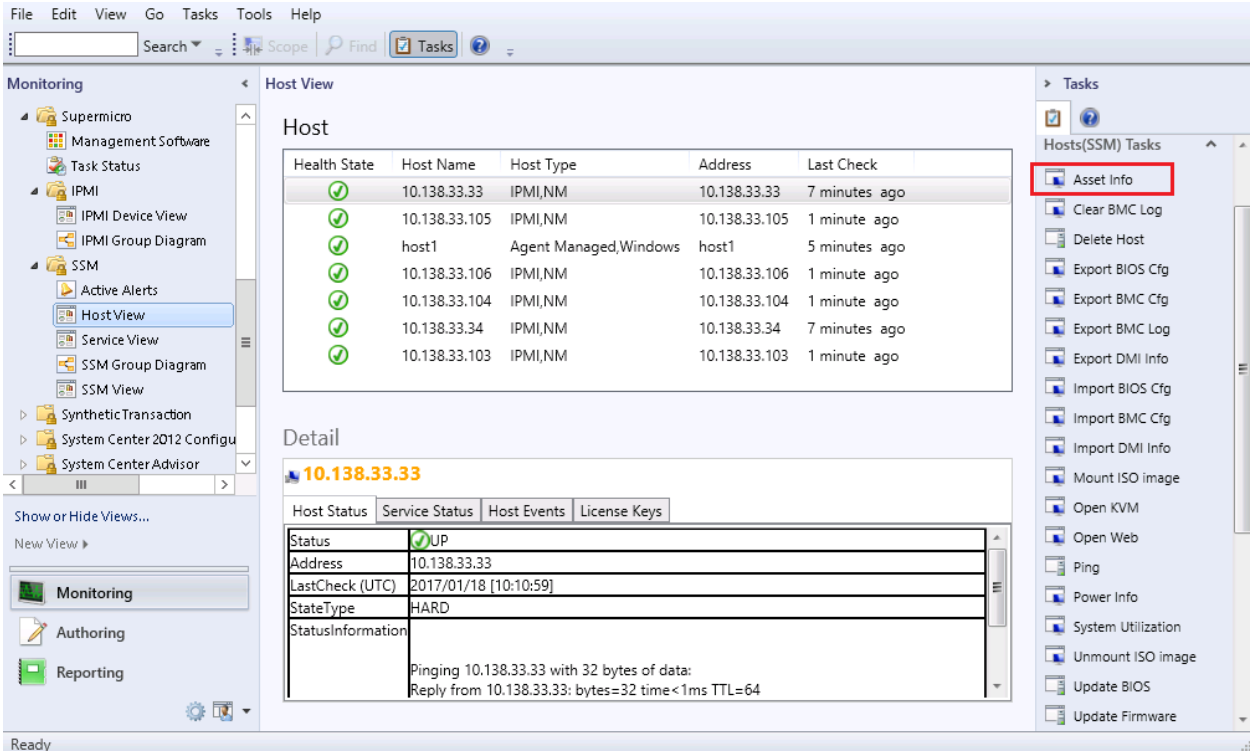


Figure 5-54

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return the asset information of the selected host.
- **Parameter:** No parameter is required for this task.

The figure shows sample resultant output.

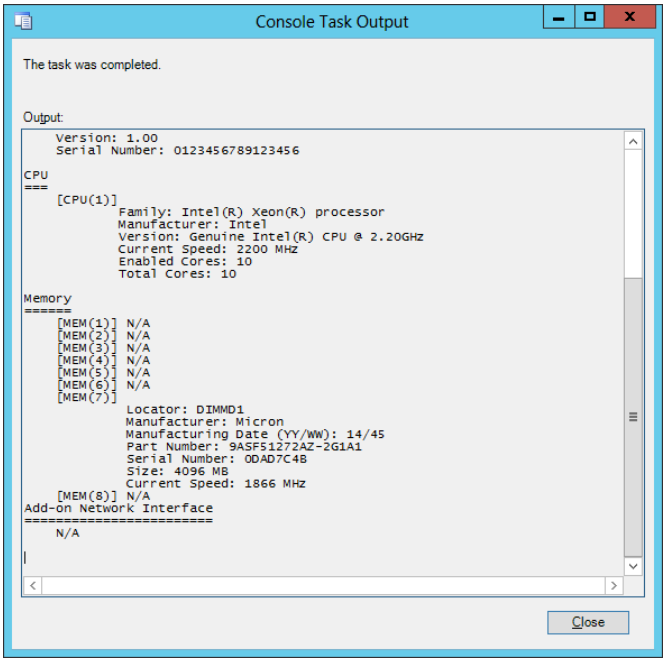


Figure 5-55

5.4.2.18 Open KVM

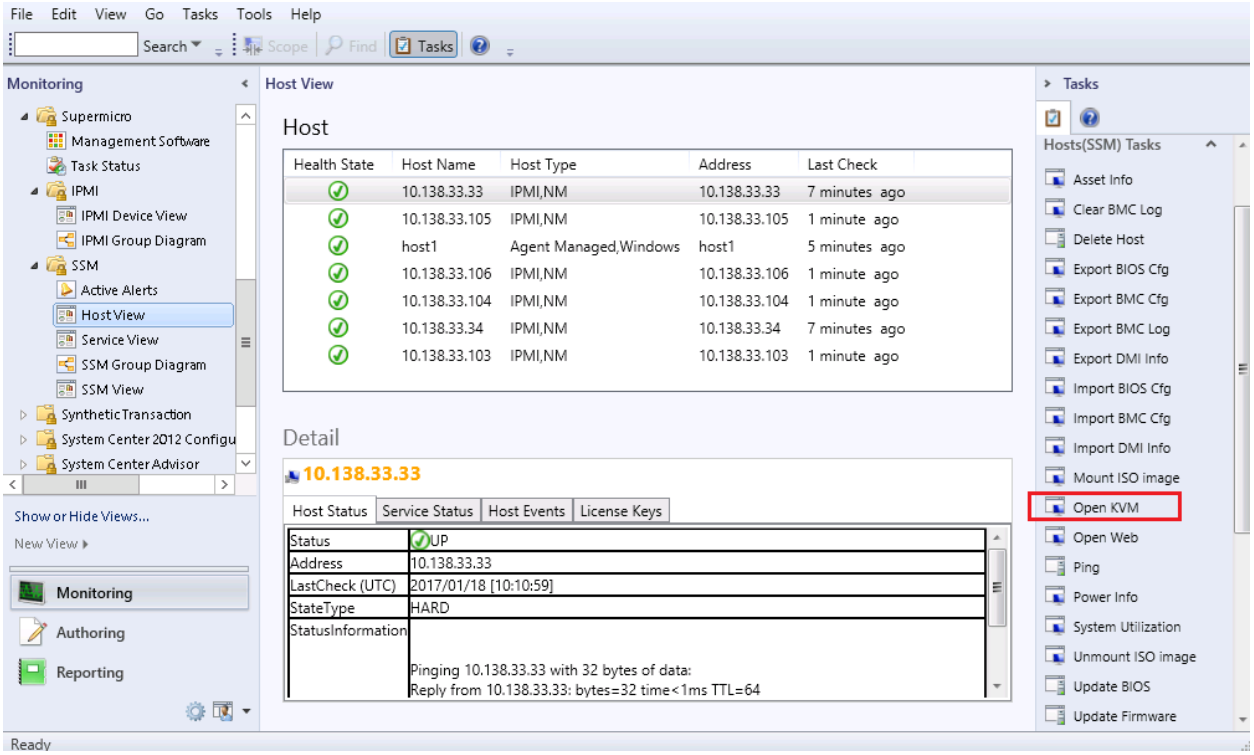


Figure 5-56

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will open KVM window of selected host.
- **Parameter:**

Parameter	Description	Required	Option
Username	Username for access IPMI BMC	Yes	ADMIN
Password	Password for access IPMI BMC	Yes	ADMIN

5.4.2.19 Open Web

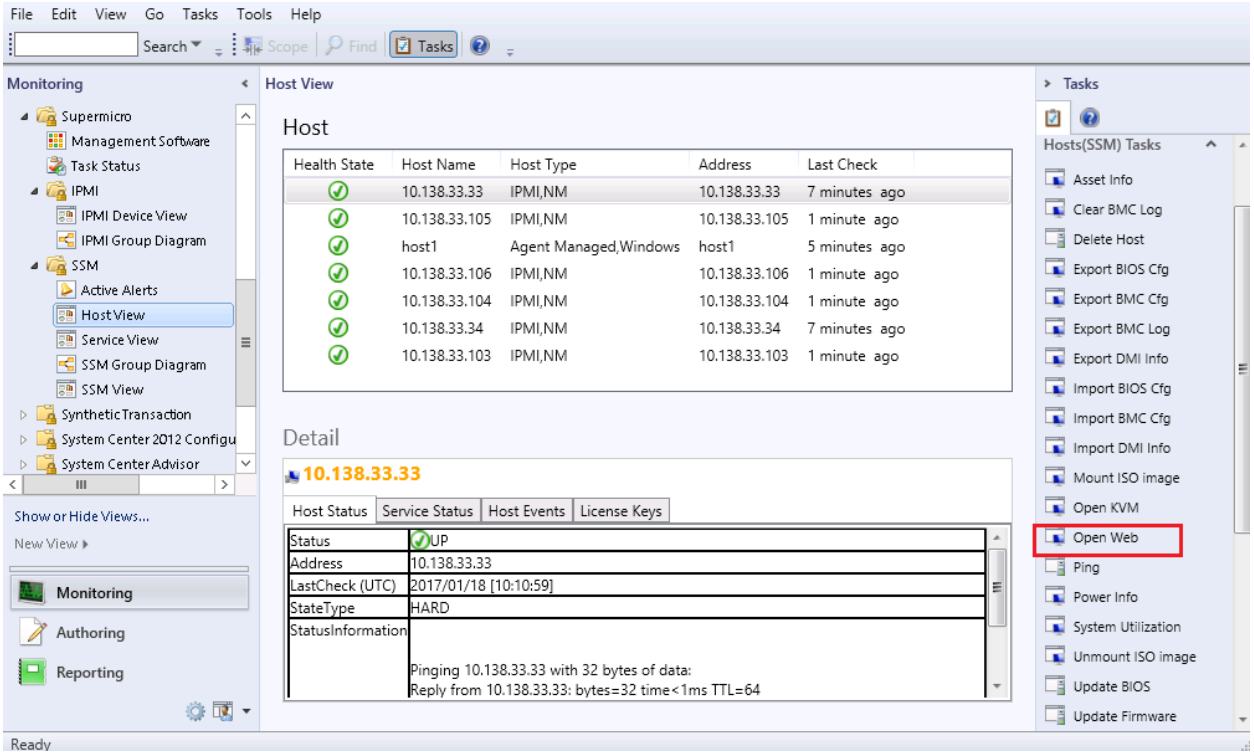


Figure 5-57

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will open an Internet Explorer browser and navigate to IPMI web page of selected host.
- **Parameter:** No parameter is required for this task.

5.4.2.20 Export BIOS Cfg

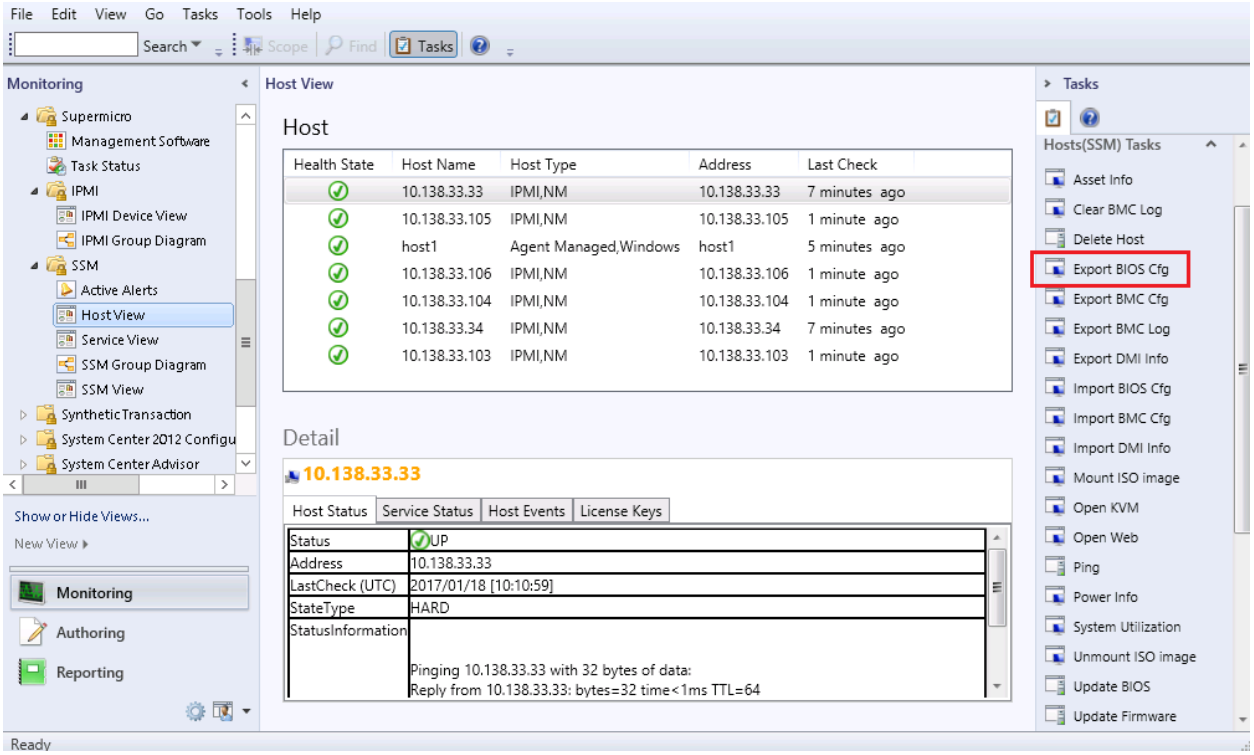


Figure 5-58

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return BIOS configuration of selected host.
- **Parameter:**

Parameter	Description	Required	Option
Save to	Specify a file path for saving the exported BIOS configuration. (Absolute file path is required)	Yes	

The figure shows the sample resultant output.

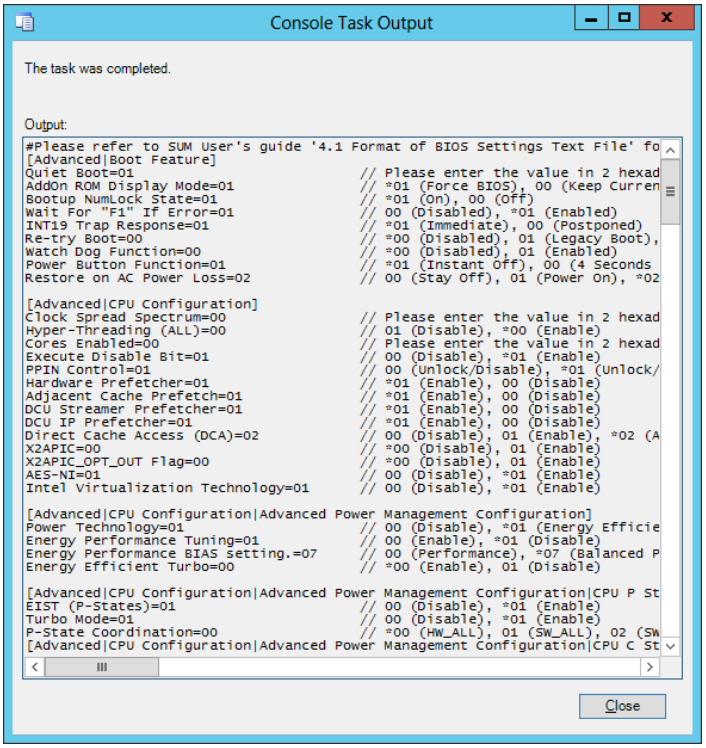

Console Task Output
The task was completed.
Output:
#Please refer to SUM User's guide '4.1 Format of BIOS Settings Text File' fo
[Advanced|Boot Feature]
Quiet Boot=01 // Please enter the value in 2 hexad
AddOn ROM Display Mode=01 // *01 (Force BIOS), 00 (Keep Curren
Bootup NumLock State=01 // *01 (On), 00 (Off)
Wait For "F1" If Error=01 // 00 (Disabled), *01 (Enabled)
INT19 Trap Response=01 // *01 (Immediate), 00 (Postponed)
Re-try Boot=00 // *00 (Disabled), 01 (Legacy Boot),
Watch Dog Function=00 // *00 (Disabled), 01 (Enabled)
Power Button Function=01 // *01 (Instant Off), 00 (4 Seconds
Restore on AC Power Loss=02 // 00 (Stay Off), 01 (Power On), *02
[Advanced|CPU Configuration]
Clock Spread Spectrum=00 // Please enter the value in 2 hexad
Hyper-Threading (ALL)=00 // 01 (Disable), *00 (Enable)
Cores Enabled=00 // Please enter the value in 2 hexad
Execute Disable Bit=01 // 00 (Disable), *01 (Enable)
PPIN Control=01 // 00 (Unlock/Disable), *01 (Unlock/
Hardware Prefetcher=01 // *01 (Enable), 00 (Disable)
Adjacent Cache Prefetch=01 // *01 (Enable), 00 (Disable)
DCU Streamer Prefetcher=01 // *01 (Enable), 00 (Disable)
DCU IP Prefetcher=01 // *01 (Enable), 00 (Disable)
Direct Cache Access (DCA)=02 // 00 (Disable), 01 (Enable), *02 (A
X2APIC=00 // *00 (Disable), 01 (Enable)
X2APIC_OPT_OUT Flag=00 // *00 (Disable), 01 (Enable)
AES-NI=01 // 00 (Disable), *01 (Enable)
Intel Virtualization Technology=01 // 00 (Disable), *01 (Enable)
[Advanced|CPU Configuration|Advanced Power Management Configuration]
Power Technology=01 // 00 (Disable), *01 (Energy Efficie
Energy Performance Tuning=01 // 00 (Enable), *01 (Disable)
Energy Performance BIAS Setting.=07 // 00 (Performance), *07 (Balanced P
Energy Efficient Turbo=00 // *00 (Enable), 01 (Disable)
[Advanced|CPU Configuration|Advanced Power Management Configuration|CPU P St
EIST (P-States)=01 // 00 (Disable), *01 (Enable)
Turbo Mode=01 // 00 (Disable), *01 (Enable)
P-State Coordination=00 // *00 (HW_ALL), 01 (SW_ALL), 02 (SW
[Advanced|CPU Configuration|Advanced Power Management Configuration|CPU C St
Close

Figure 5-59

5.4.2.21 Export BMC Cfg

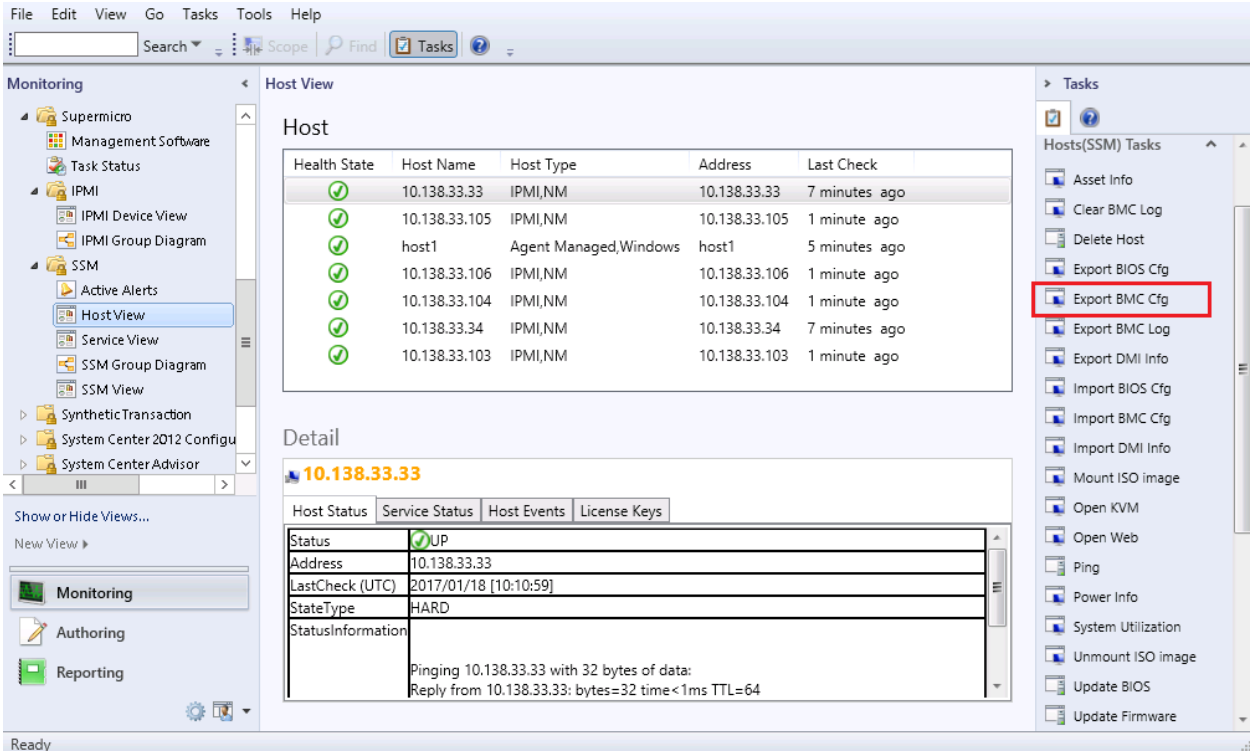


Figure 5-60

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return BMC configuration of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
Save to	Specifies a file path for saving the exported BMC configuration. (Absolute file path is required)	Yes	

The figure shows the sample resultant output.

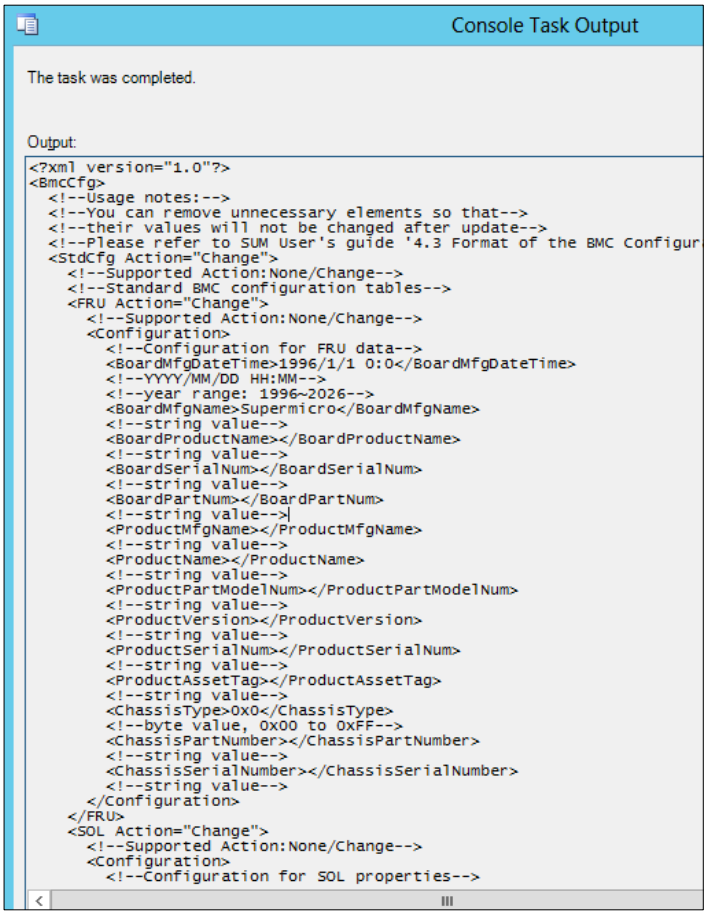


Figure 5-61

5.4.2.22 Export DMI Cfg

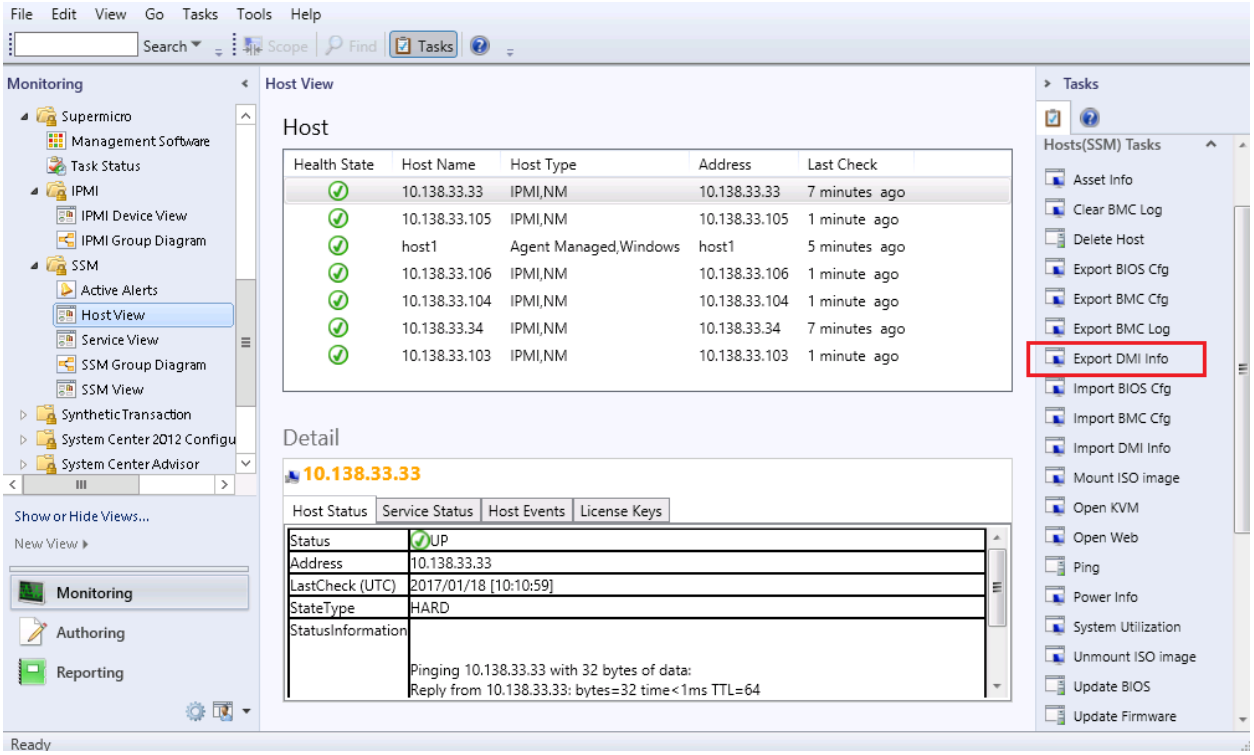


Figure 5-62

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return DMI information of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
Save to	Specifies a file path for saving the exported DMI information. (Absolute file path is required)	Yes	

The figure shows the sample resultant output.

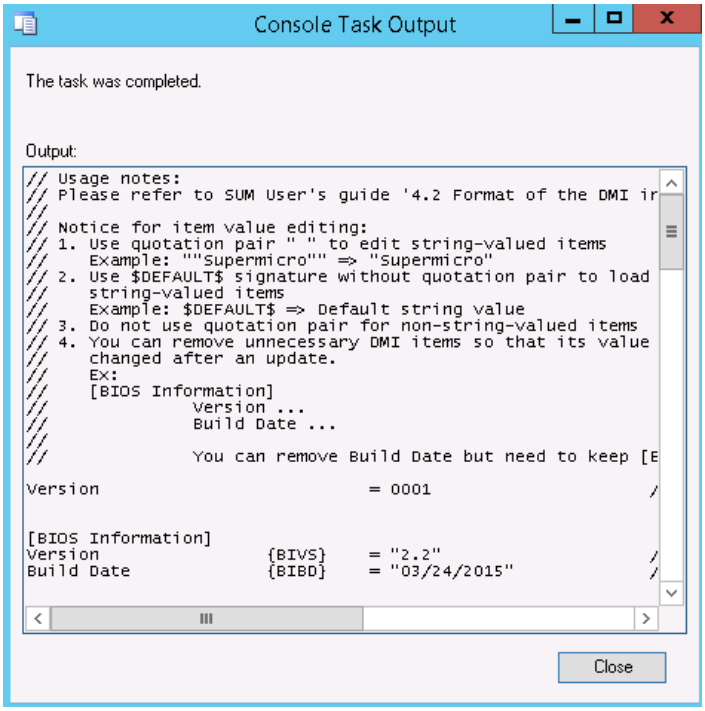


Figure 5-63

5.4.2.23 Export BMC Log

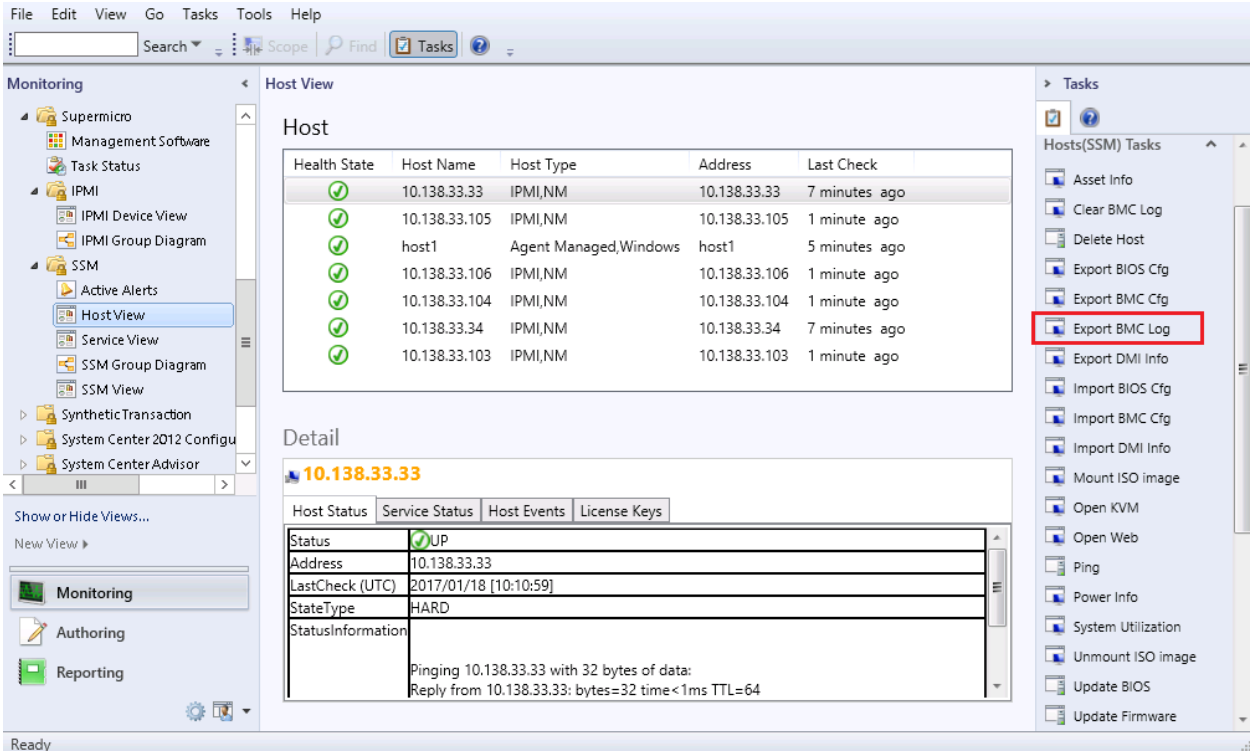


Figure 5-64

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to return BMC event log of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
Save to	Specifies a file path for saving the exported BMC event log. (Absolute file path is required)	Yes	

The figure shows the sample resultant output.

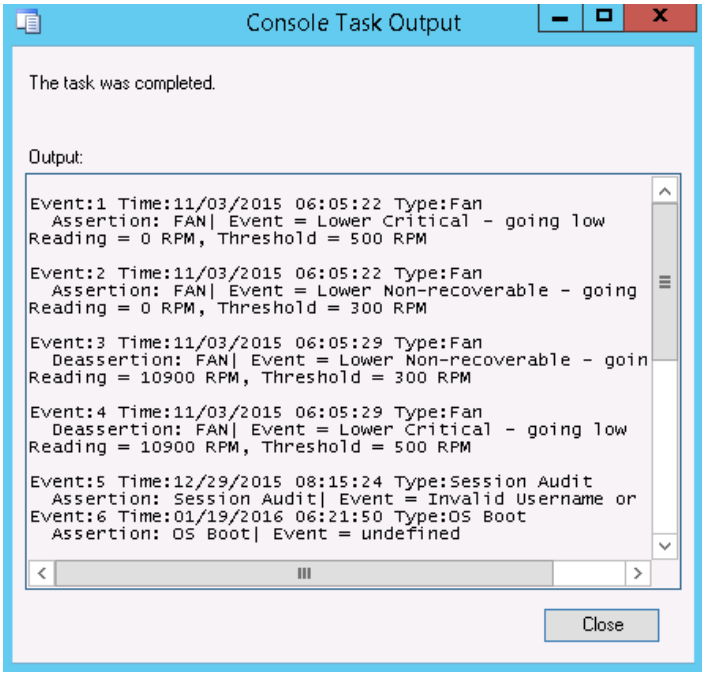


Figure 5-65

5.4.2.24 Import BIOS Cfg

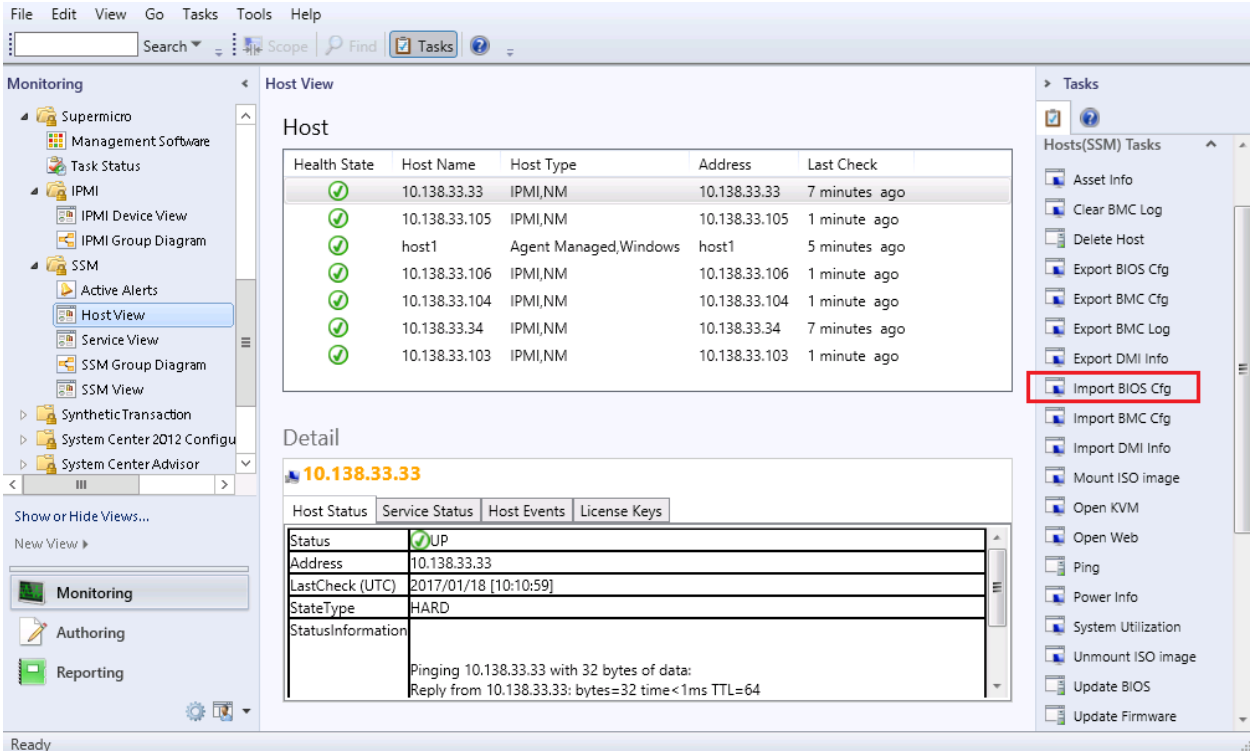


Figure 5-66

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to update BIOS configuration of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
BIOS Config	Updates with the given BIOS cfg file. (An absolute file path is required.)	Yes	

5.4.2.25 Import BMC Cfg

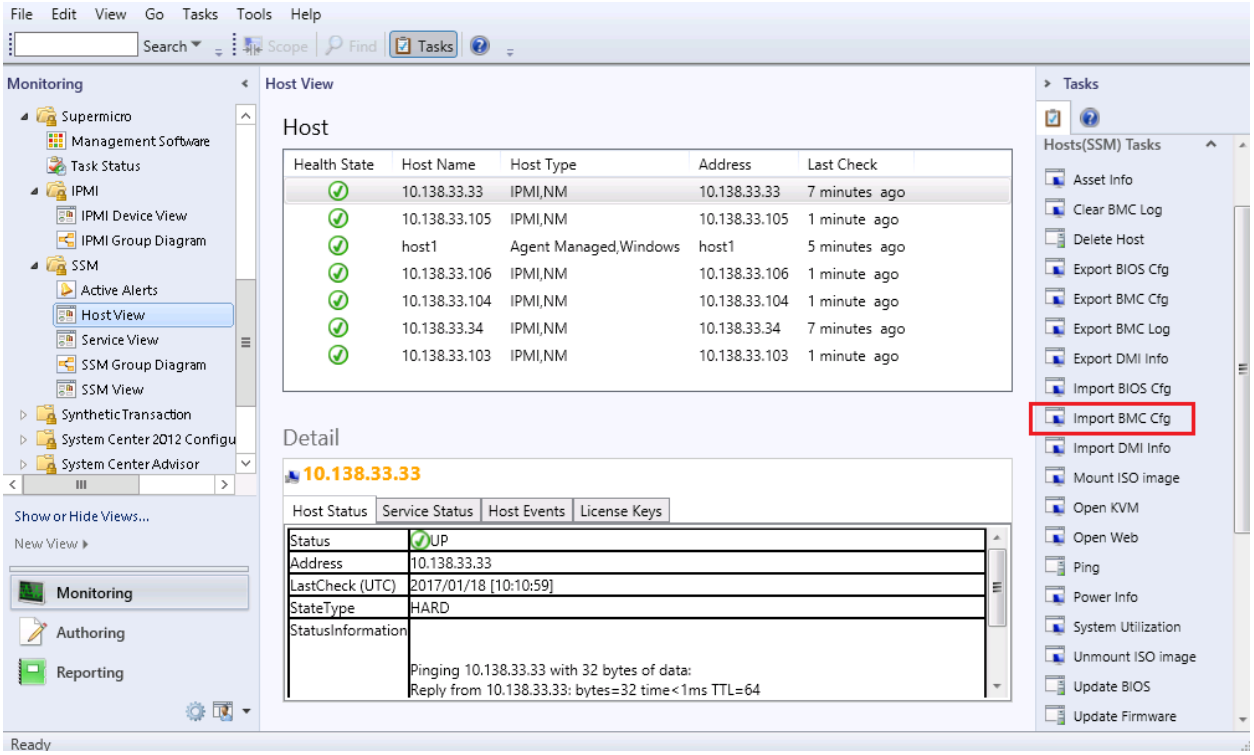


Figure 5-67

- **Task Type**: This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to update BMC configuration of the selected host.
- **Parameter:**

Parameter	Description	Required	Option
BMC Config	Updates with the given BMC configuration file. (An absolute file path is required.)	Yes	

5.4.2.26 Import DMI Info

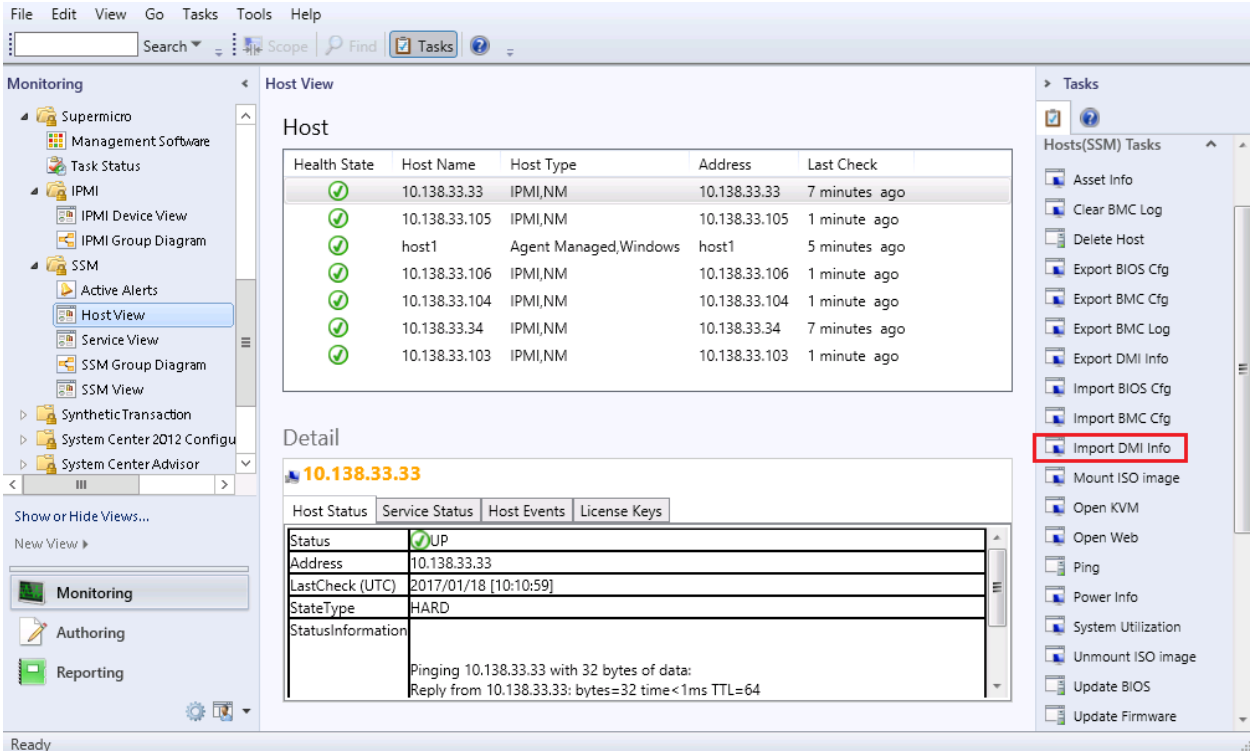


Figure 5-68

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to update DMI information of selected host.
- **Parameter:**

Parameter	Description	Required	Option
DMIInfo File	Updates with the given DMI Info file. (An absolute file path is required.)	Yes	

5.4.2.27 Clear BMC Log

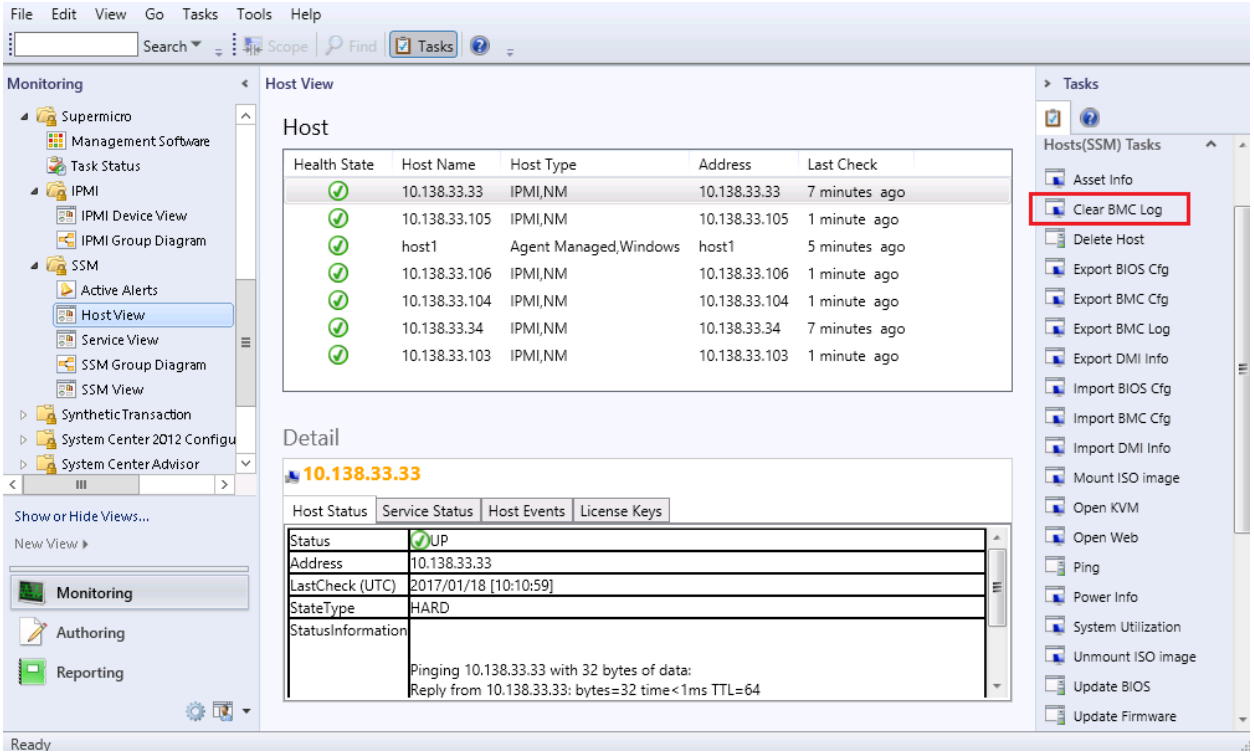


Figure 5-69

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to delete BMC event log of the selected host.
- **Parameter:** No parameter is required for this task.

The figure shows sample resultant output.

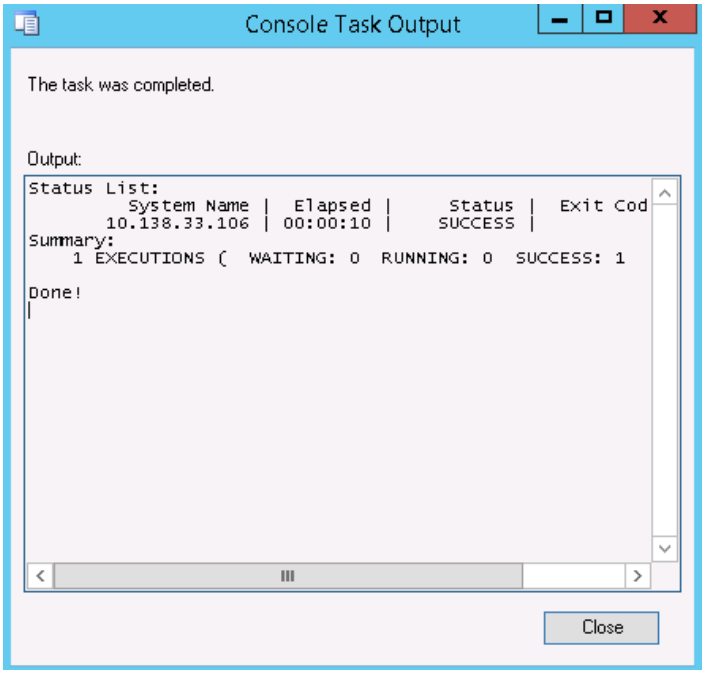


Figure 5-70

5.4.2.28 Mount ISO Image

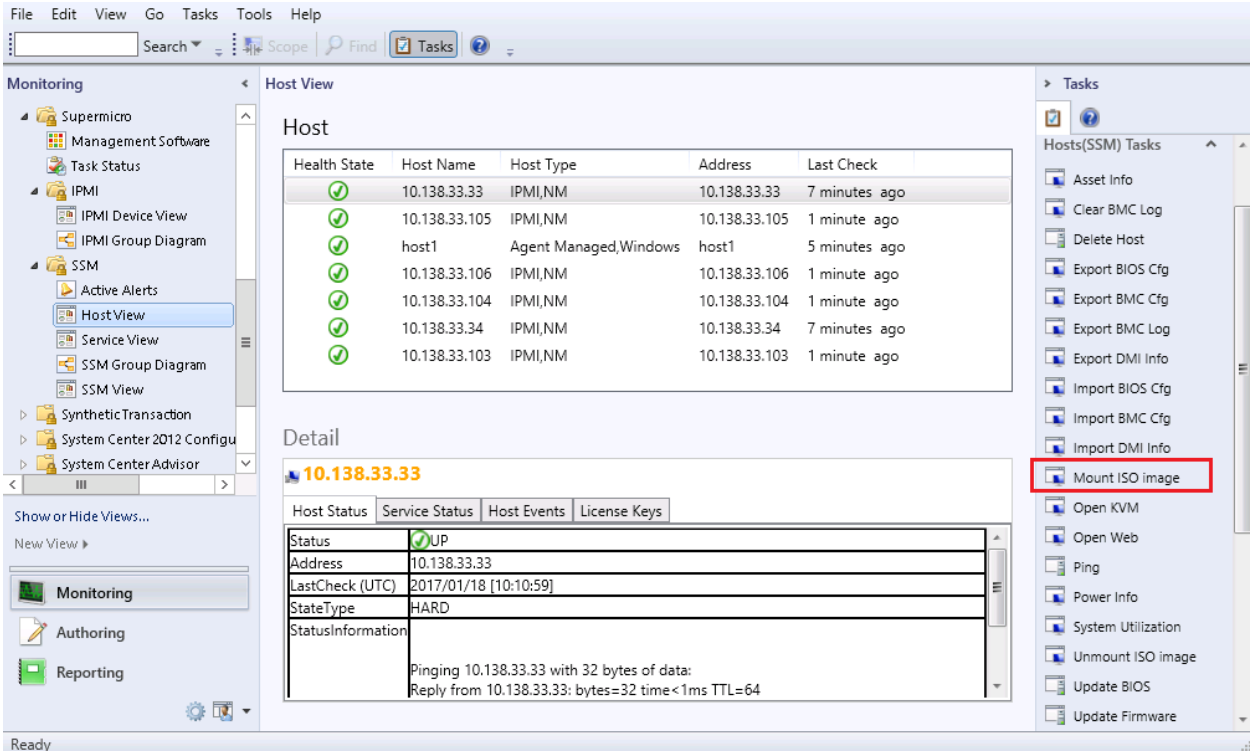


Figure 5-71

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to Mount ISO image as virtual media to the selected host.
- **Parameter:**

Parameter	Description	Required
ISO Image URL	The URL used to access the shared image file SAMBA URL: “smb://<host name or ip>/<shared point>/<file path>” SAMBA UNC: “\\<host name or ip>\<shared point>\<file path>” HTTP URL: “http://<host name or ip>/<shared point>/<file path>”	Yes
ID	The specified ID to access the shared file	No
Password	The specified password used to access the shared file	No

The figure shows sample resultant output.

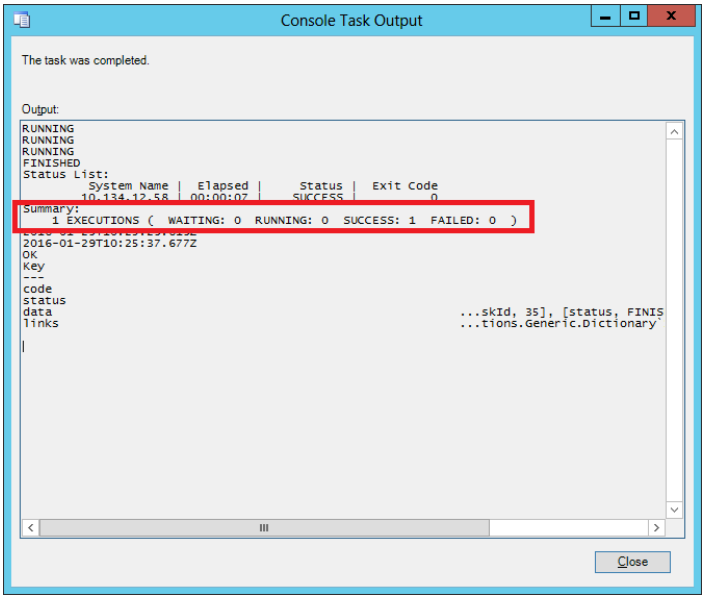


Figure 5-72

5.4.2.29 Unmount ISO Image

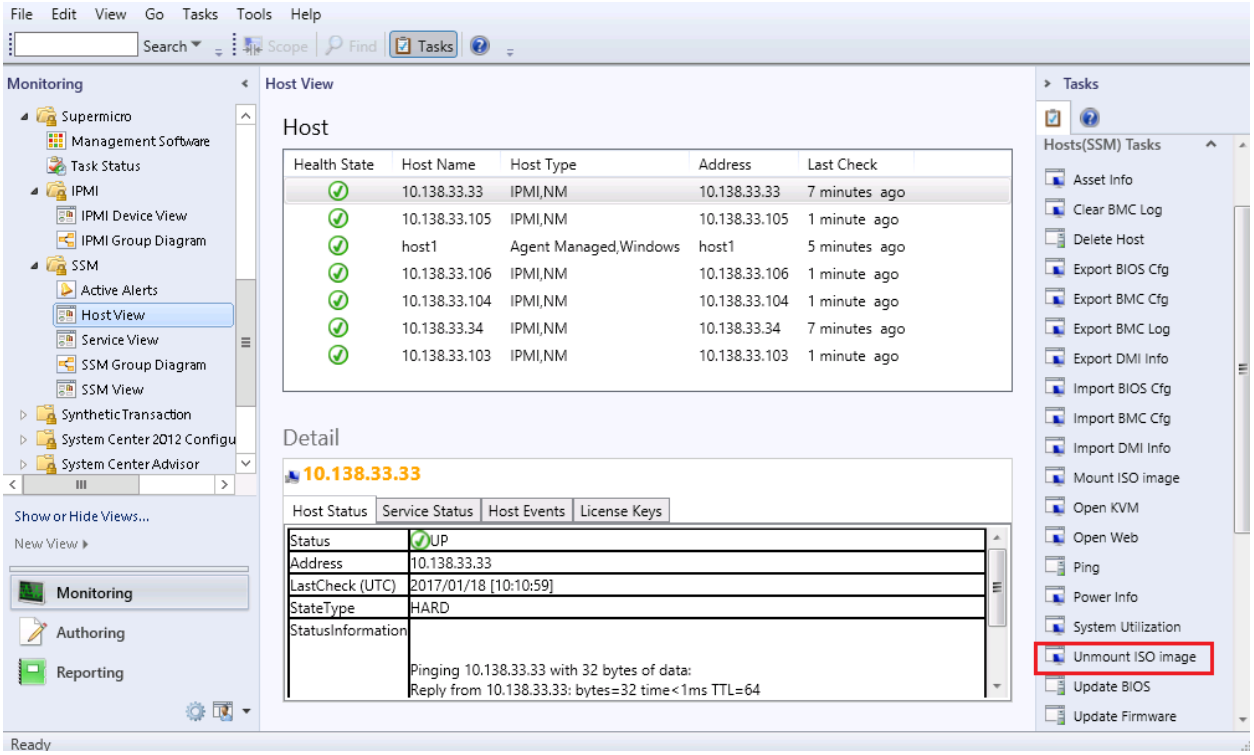


Figure 5-73

- **Task Type:** This is a console task associated with IPMI hosts.
- **Description:** Running this task will request SSM Server to remove ISO image as virtual media from the selected host.
- **Parameter:** No parameter is required for this task.

The figure shows sample resultant output.

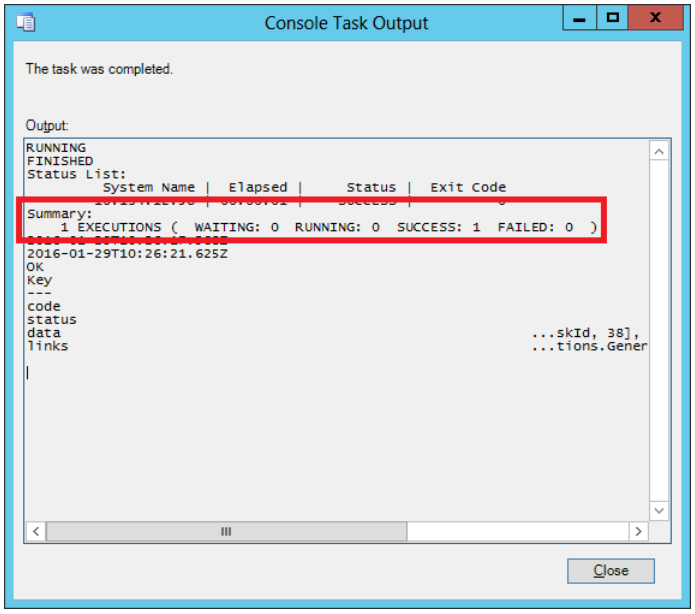


Figure 5-74

5.4.3 Groups

This management pack contains the following groups.

Name	Description
Supermicro SSM Servers Group	Contains all Supermicro SSM Servers.

Table 5-11

5.4.4 Monitors

This management pack monitors the health state of managed objects listed in following table.

Name	Target	States	Description
SSM Server Health Monitor	SSM Servers	Success	The SSM REST API has responses.
		Error	The SSM REST API has no responses.
Host Health Monitor(SSM)	SSM\Hosts (AgentManaged, IPMI and Agentless)	Success	The host state is UP
		Error	The host state is DOWN/UNREACHABLE.
Service Health Monitor(SSM)	SSM\Services	Success	The service state is OK.
		Error	The service state is CRITICAL/UNREACHABLE.
Host Node Key State Monitor (SSM)	SSM\Hosts\NodeKey	Success	The NodeKey is valid.
		Error	The NodeKey is not valid.
SSM Servers Group Health Monitor	SSM Servers Group	Rollup(WorstOf)	This rollup state is from the worst case of SSM Servers.

Table 5-12

5.4.5 System Information Dashboard

We have customized a dashboard to provide more detailed system information of the host.

The System Information contains the following pages. Note that some of the pages may not show at the same time, which depends on the amount of information collected from SSM server.

- BIOS
- Baseboard
- Computer System
- Disk Drive
- Memory
- Network
- Processor
- Operating System

The figure shows sample screenshot for open System Information Dashboard.

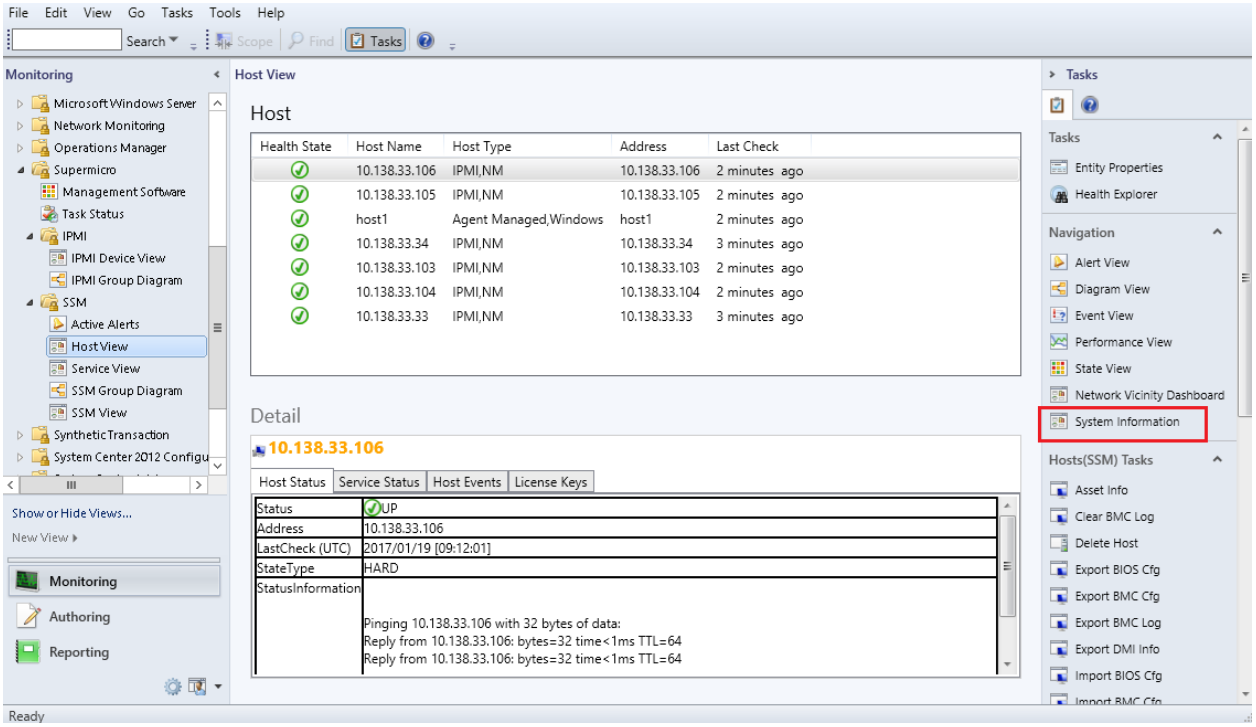


Figure 5-75

The figure shows sample screenshot for System Information Dashboard.

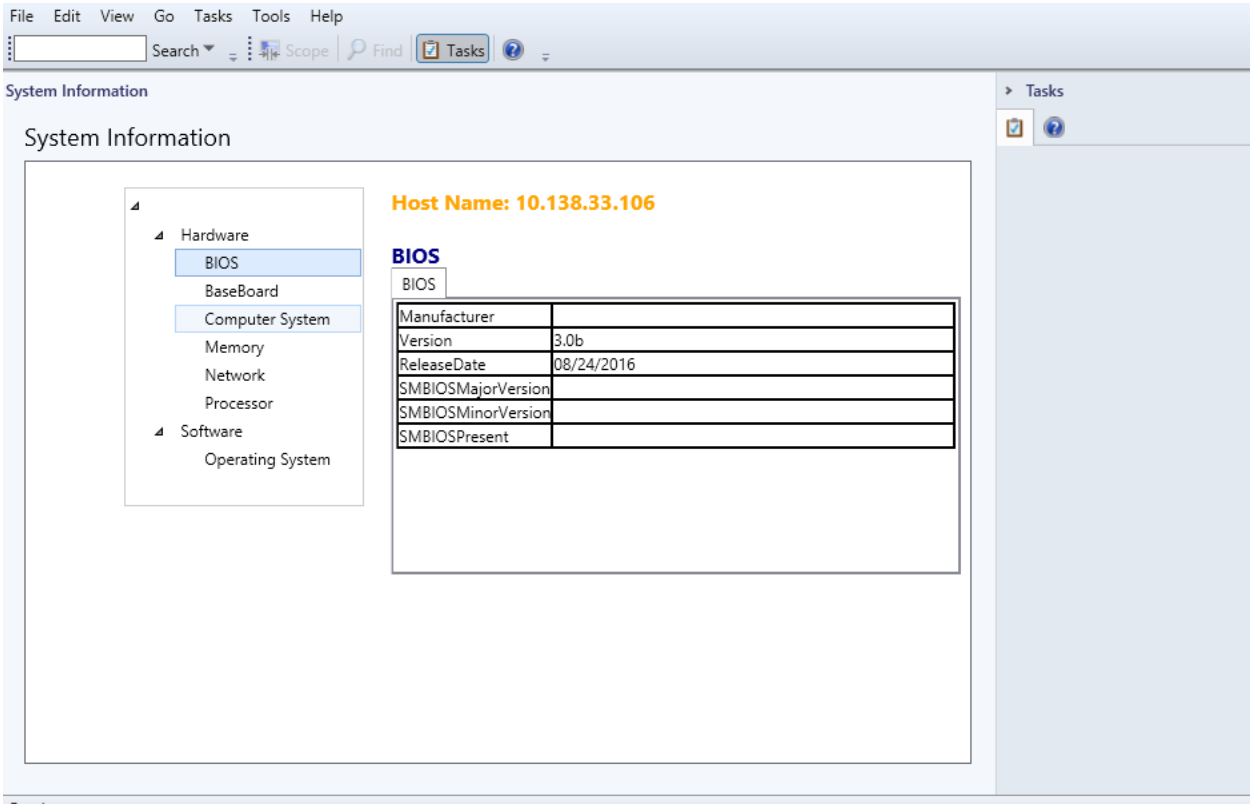


Figure 5-76

Appendix A Operations Manager Console

The following figure is Operations Manager Console. The UI working area consists of several blocks:

- Navigation Pane
- Dashboards (Including Monitoring, Authoring, Reporting, Administration and My workspace)
- Result Pane
- Detail Pane
- Tasks Pane

These block names will be used to describe the location in this document.

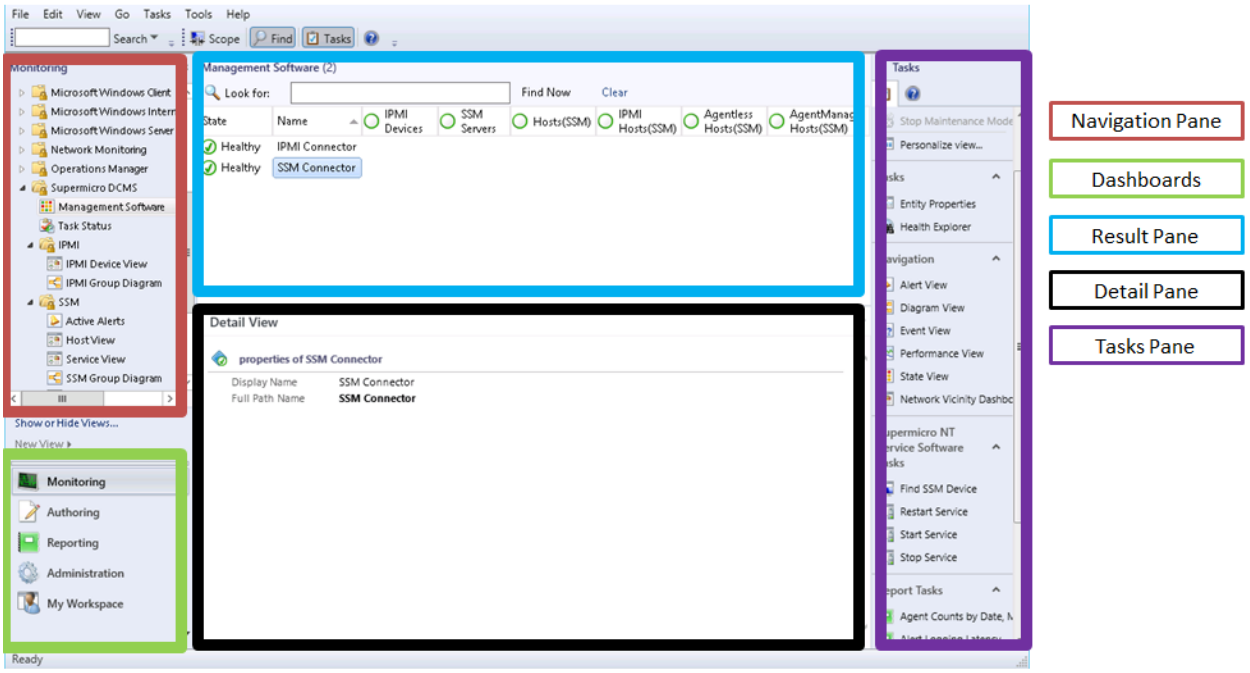


Figure A-1

Appendix B Configuring User Privileges

To create secure user roles and restrict the rights of users as operators, follow these steps.

1. Create a new operator user account in the domain controller and add it to the **Domain Users** group.

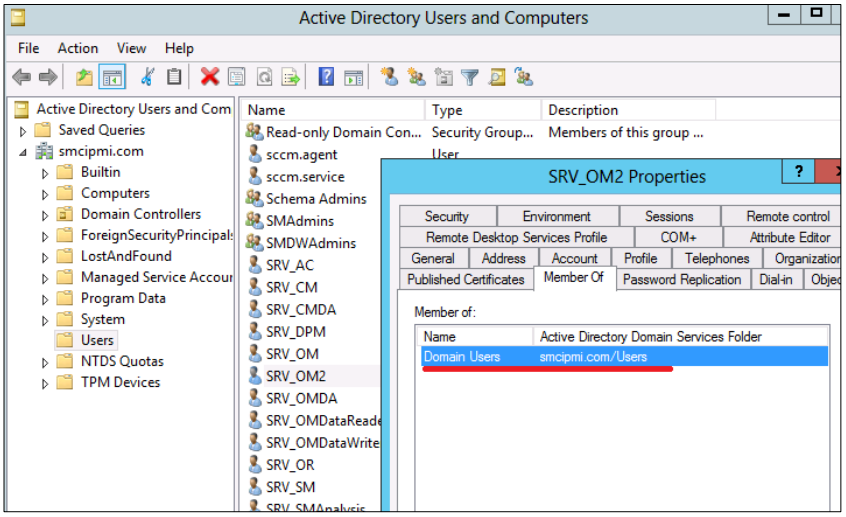


Figure B-1

2. In the Operations Manager console, switch to the **Administration** dashboard. In the navigation tree, right-click the **Security** node, select **User Roles**, select **New User Role** and then click **Operator …** .

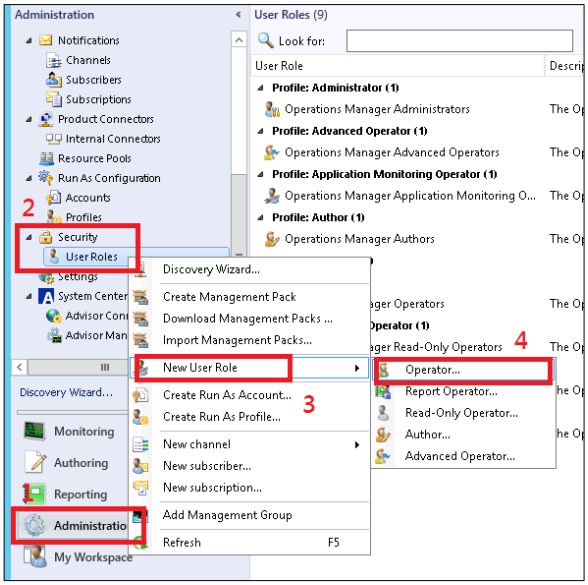


Figure B-2

3. On the General Properties page, name the User role, e.g. “SMC_Operator”. In the User role members, click the **Add** button to add users.

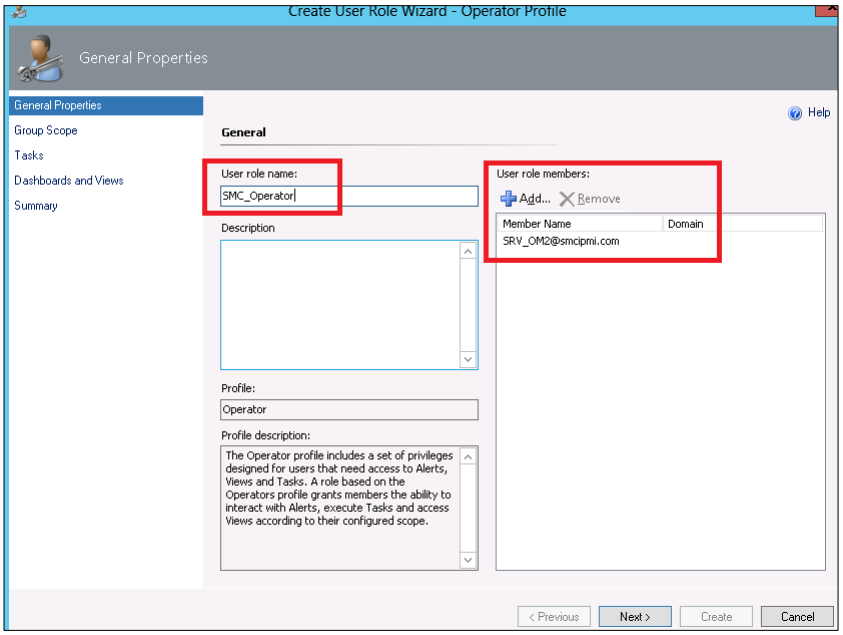


Figure B-3

4. On the Group Scope page, select groups that the operator has monitor rights.

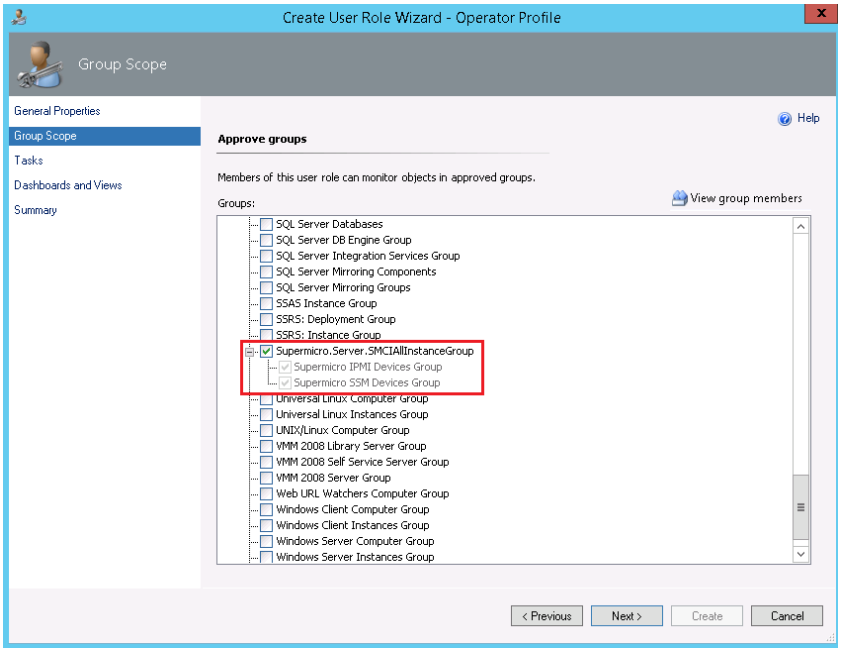


Figure B-4

5. On the Tasks page, change the option to **Only tasks explicitly added to the "Approved tasks' grid are approved"** and then manually add the tasks that can be used by operators.

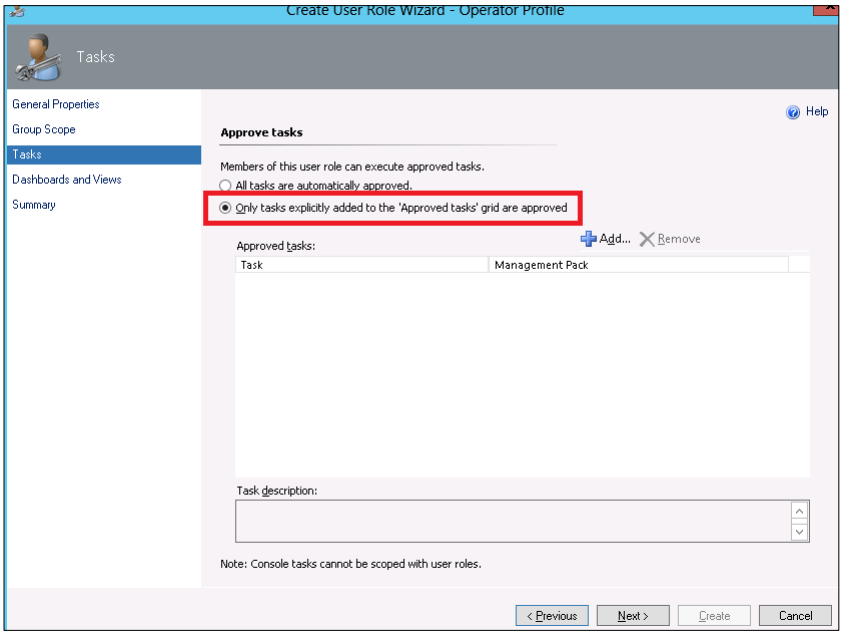


Figure B-5

6. On the Dashboard and Views page, change the option to "**Only the dashboards and views selected in each tab are approved"**, and manually select the views for the operators.

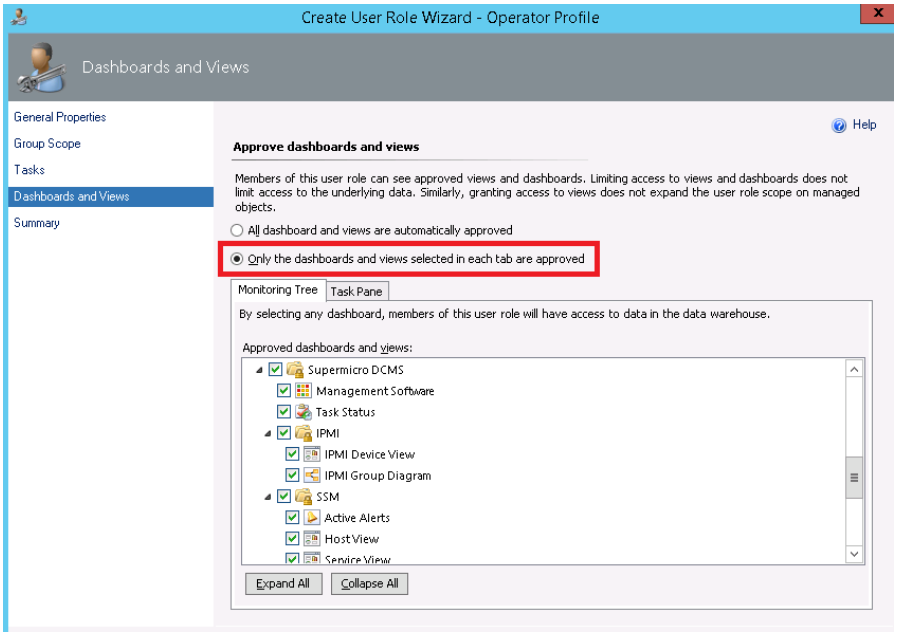


Figure B-6

7. On the Summary page, review the user role properties and click the **Create** button to finish.

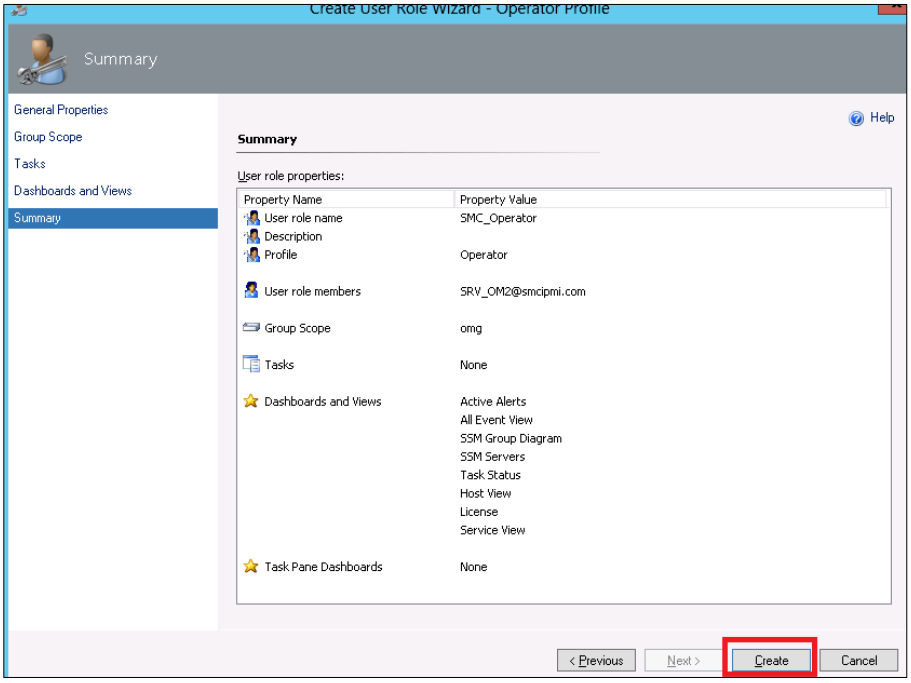


Figure B-7

Appendix C Health States Icons

In Operations Manager Console, the following icons are used to indicate specific state.

Icon	Meaning
	Unknown, unmonitored (blank)
	Success, health is OK (green)
	Warning (yellow)
	Critical (red)
	Maintenance mode (gray)
	Out of contact (gray)

Table C-1

(Source: *Using Health Explorer in Operations Manager* https://technet.microsoft.com/en-us/library/hh212697(v=sc.12).aspx)

Appendix D Tasks

Tasks in System Center 2012: Operations Manager can be run by the user on demand. Depending on the kind of task, the action may run either on the user's local workstation or on one or more specified agents.

- Console Tasks: Runs on the user's workstation using the current user's credentials.
- Agent Tasks: Rus on the agent computer using the credentials of the specified user profile.

(Source: *Tasks* *https://technet.microsoft.com/en-us/library/hh457605(v=sc.12).aspx*)

Appendix E Personalize View

In Operations Manager Console, the displayed columns of some views can be customized to meet your need. To customize the view, follow these steps:

1. Select a view, e.g. Management Software.

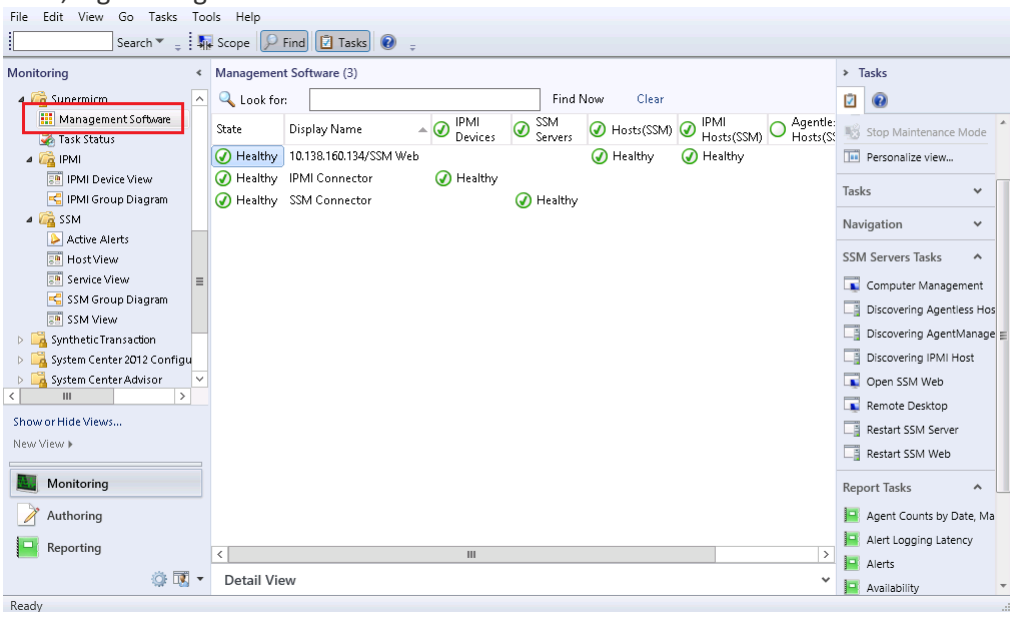


Figure E-1

2. In Tasks Pane, click **Personalize View…**.

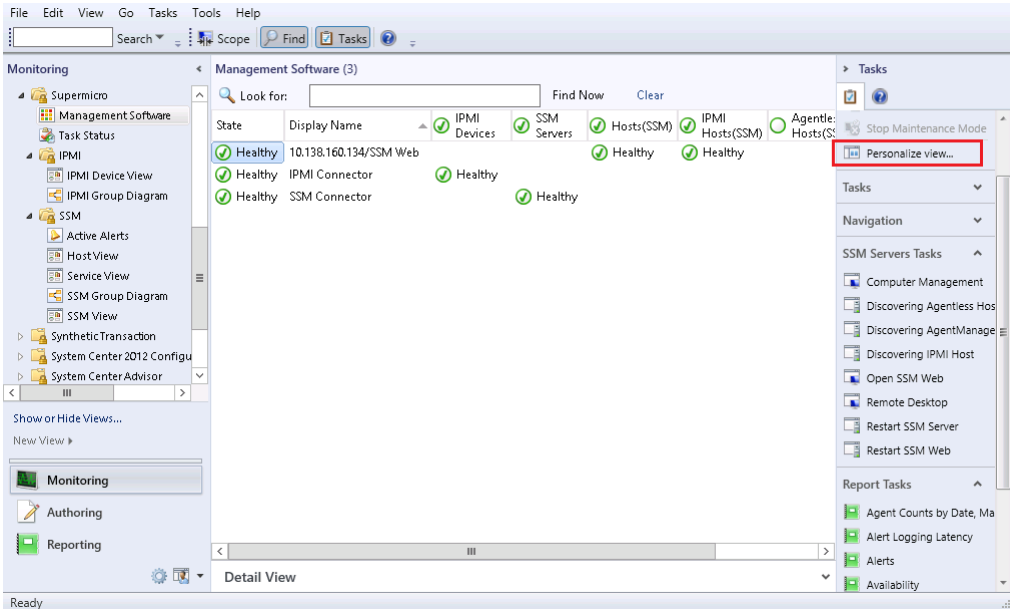


Figure E-2

3. Check the items in Columns to display

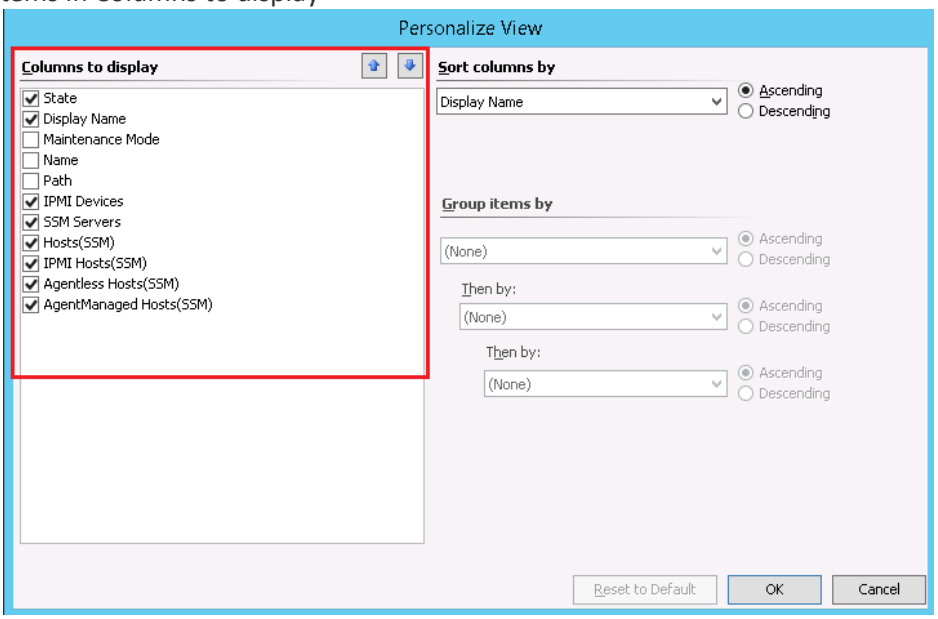


Figure E-3

4. Click **OK** to save the settings

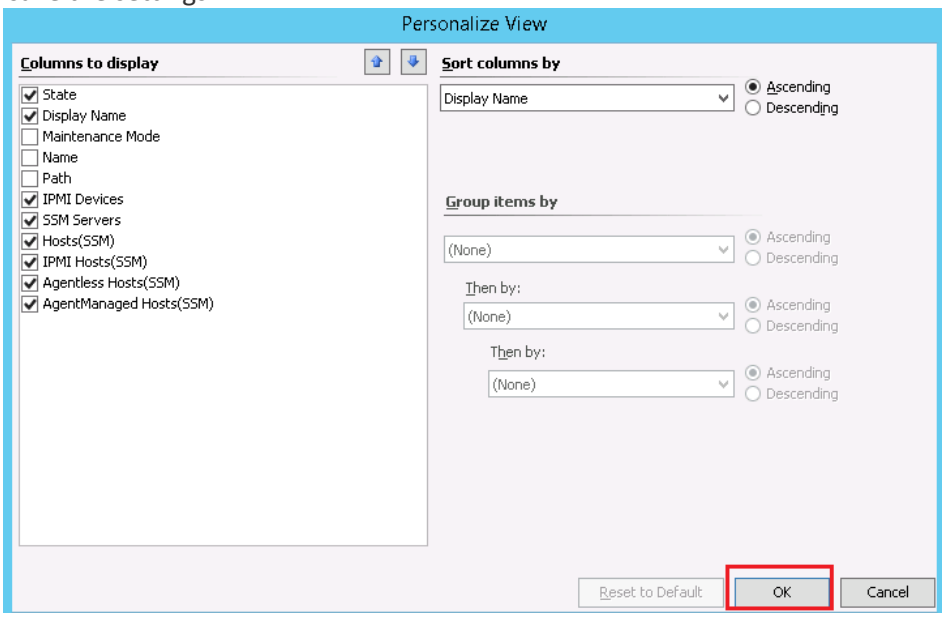


Figure E-4

Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc. 980 Rock Ave. San Jose, CA 95131 U.S.A.
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Fax:	+1 (408) 503-8008
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