



# **Management Plugin for SCOM/SCCM**

## **User's Guide**

**Revision 1.0.0**

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## Software Revision History

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## Document Revision History

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2016/08/30	1.0.0	Created this document.

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# 1. Overview

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Data Centers use Microsoft SCOM as a single interface for system management. The management plugin for SCOM/SCCM should be integrated with the current SCOM interface.

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

## 2. Prerequisites and Installation

### 2.1 Supported Operation System

- Windows Server 2012 R2

### 2.2 System Requirements

- Windows Server 2012 R2 (Add Roles and Features)
  - Server Roles: (Required items list 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 list 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	HTTP Activation
Windows Process Activation Service	Process Model	
	Configuration APIs	

Table 2-2

- SQL Server 2012 SP1 (Required items list 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. Log in as the administrator.
2. Run **Supermicro\_DCMS\_SCOM\_ManagementPack\_<VER>.<BUILD>\_Installer.exe** with **Administrator** privilege to start the installation.
3. Click **Browse** to select an installation target folder and then click **Install** to continue.

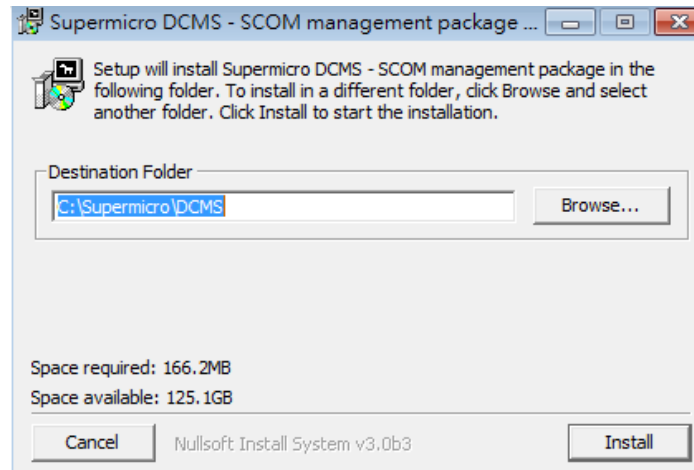


Figure 2-1

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

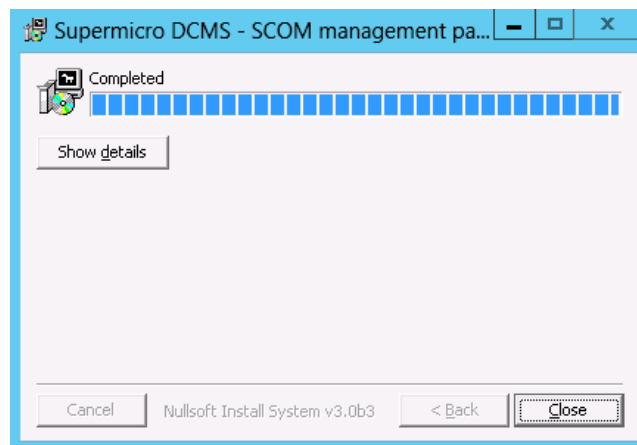


Figure 2-2



---

## 2.4 Starting the SCOM Console

The management plugin for SCOM/SCCM is integrated with the System Center 2012 R2 Operations manager and will start automatically after the plugin (\*.mpb) file is imported. To interact with the SCOM interface, follow the steps below. (If you're not login via remote desktop, please skip step 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.

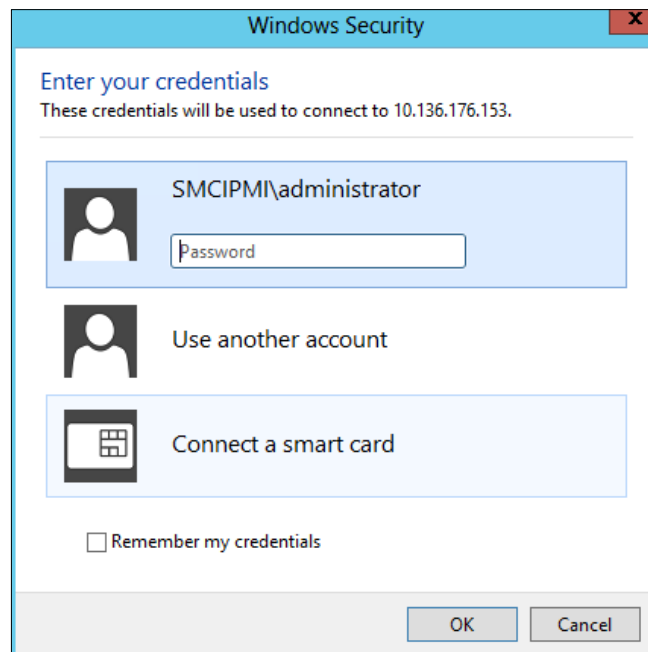


Figure 2-3

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

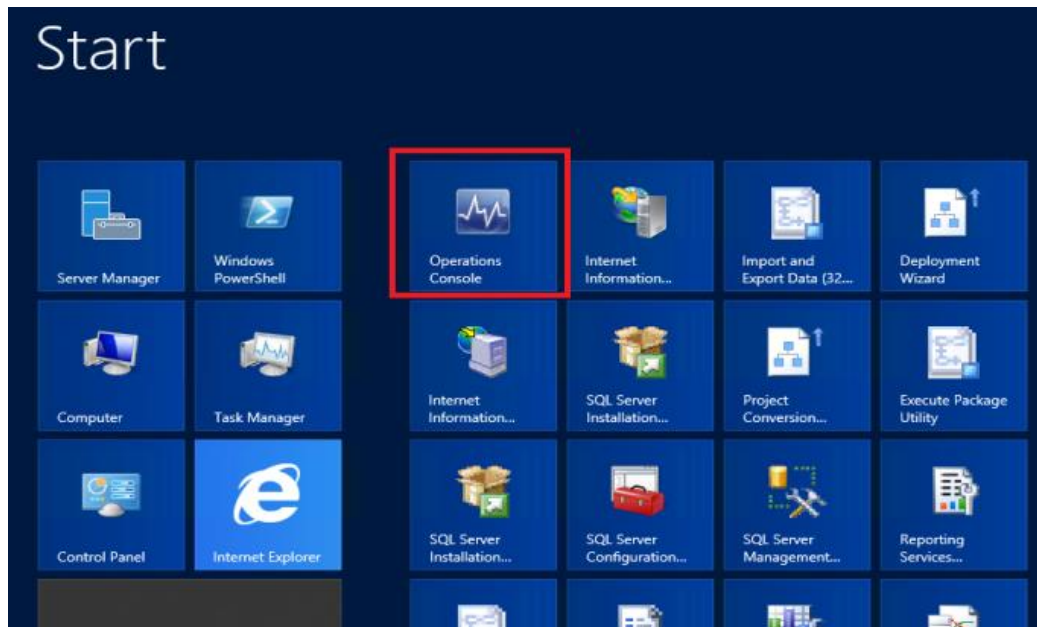


Figure 2-4

4. Click **Monitoring** in the left panel and locate the “Supernicro DCMS” folder to use.

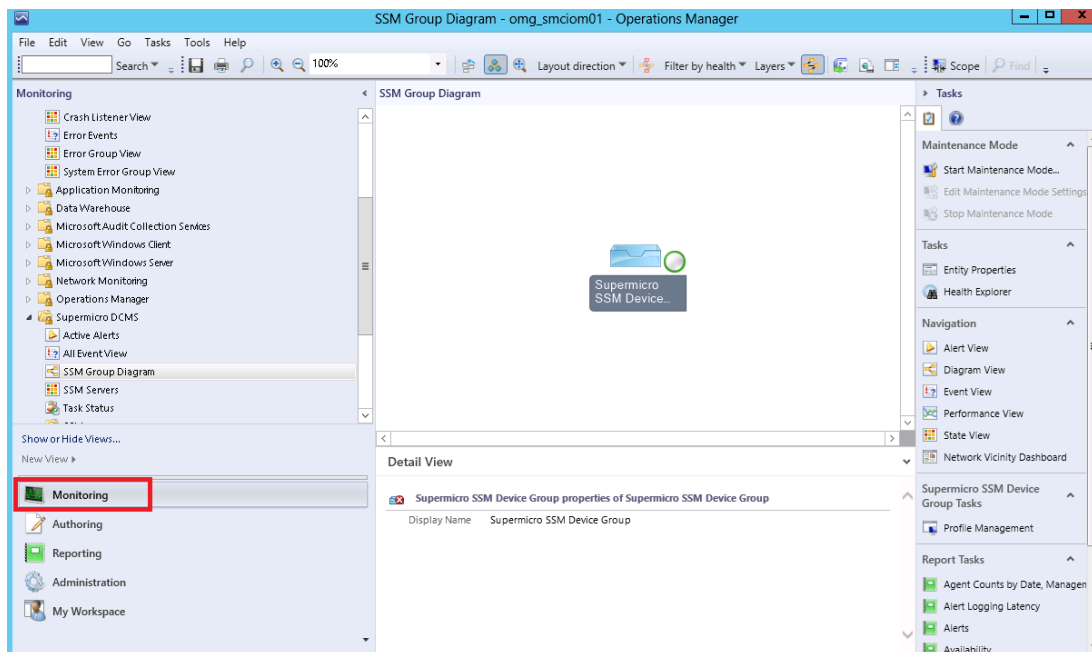


Figure 2-5

# 3. Settings and Configurations

## 3.1 Configuring the SSM Server List

- 1 Open the SCOM operations console\Monitoring dashboard.
- 2 Find the **Supermicro DCMS\SSM Group Diagram**.
- 3 In the diagram, select **Supermicro SSM Device Group**, and then click **Profile Management**.

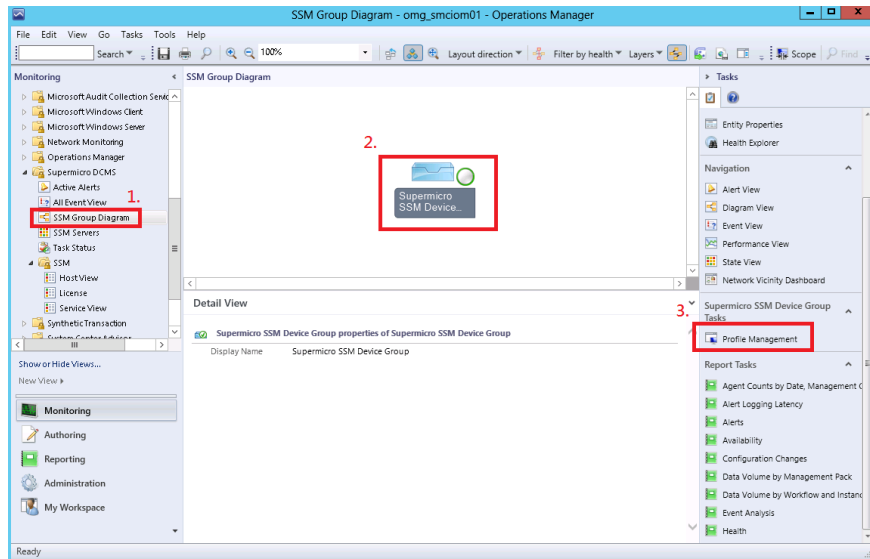


Figure 3-1

4. In the SSM Device Management dialog box, enter the information and click **Add** to add the SSM Servers to the **Monitoring List**.

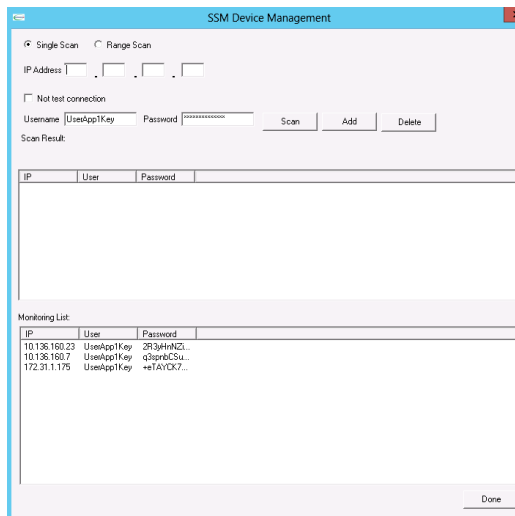


Figure 3-2

- Wait a few minutes and then refresh the SSM Group Diagram to make sure the SSM Servers have been discovered.

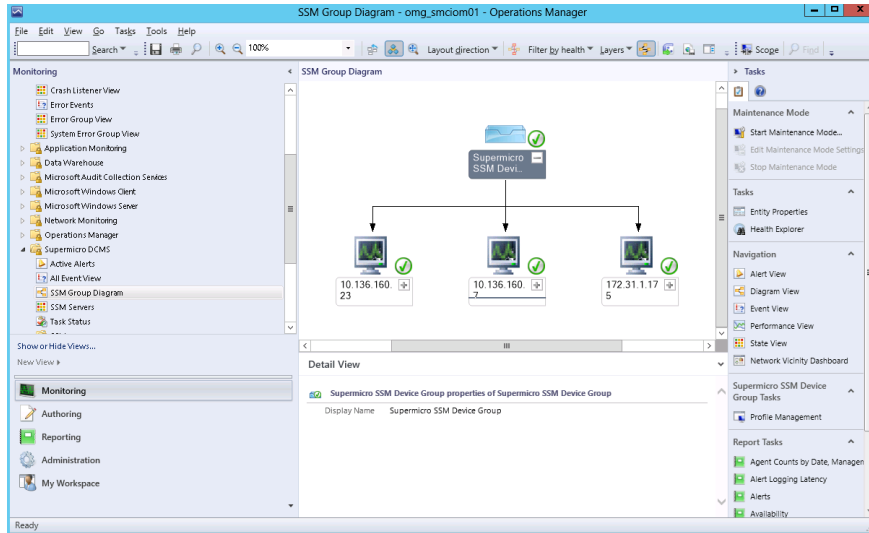


Figure 3-3

## 3.2 Configuring User Privileges

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

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

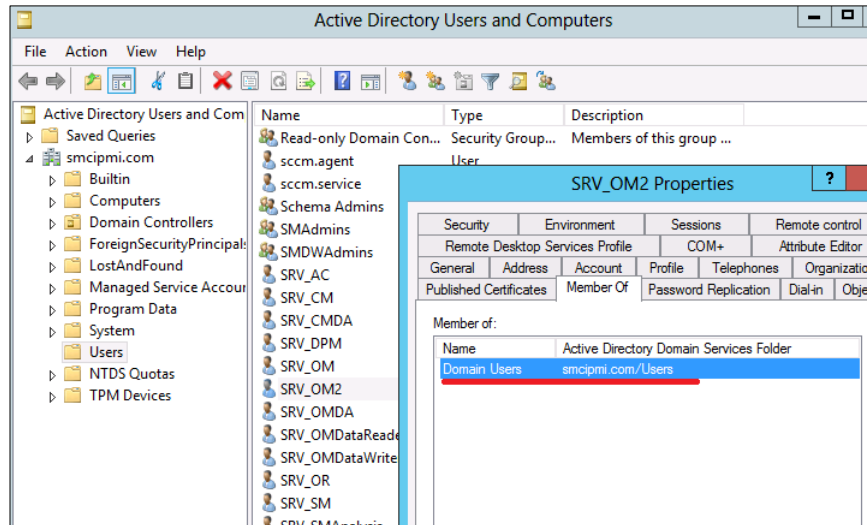


Figure 3-4

2. In the SCOM Operations 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 ...** .

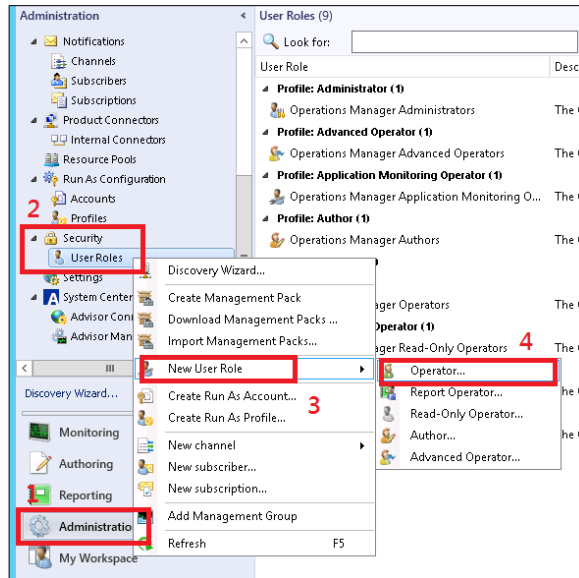


Figure 3-5

3. On the General Properties page, name the User role, e.g. **"SMC\_Operator"**. In the User role members field, click the **Add** button to add the new user.

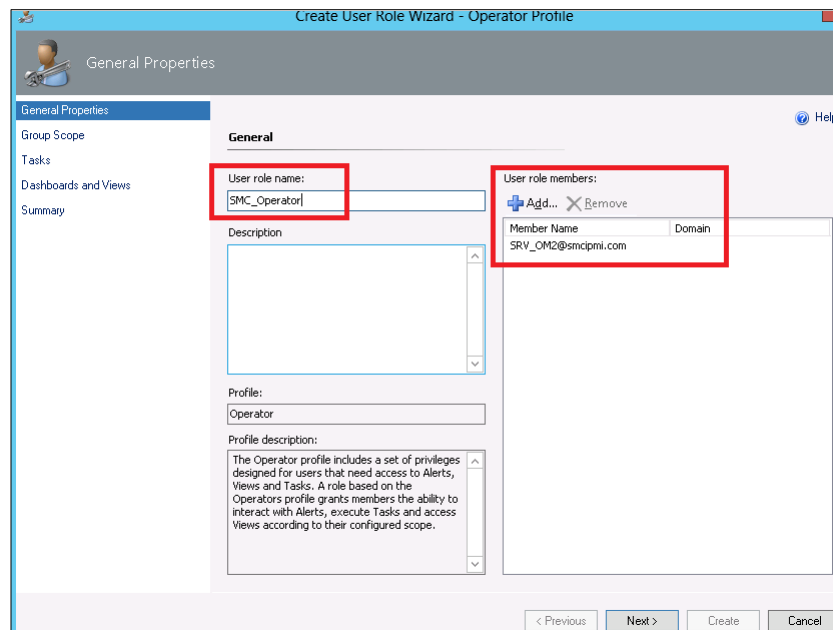


Figure 3-6

4. On the **Group Scope** page, select the groups that operators can access.

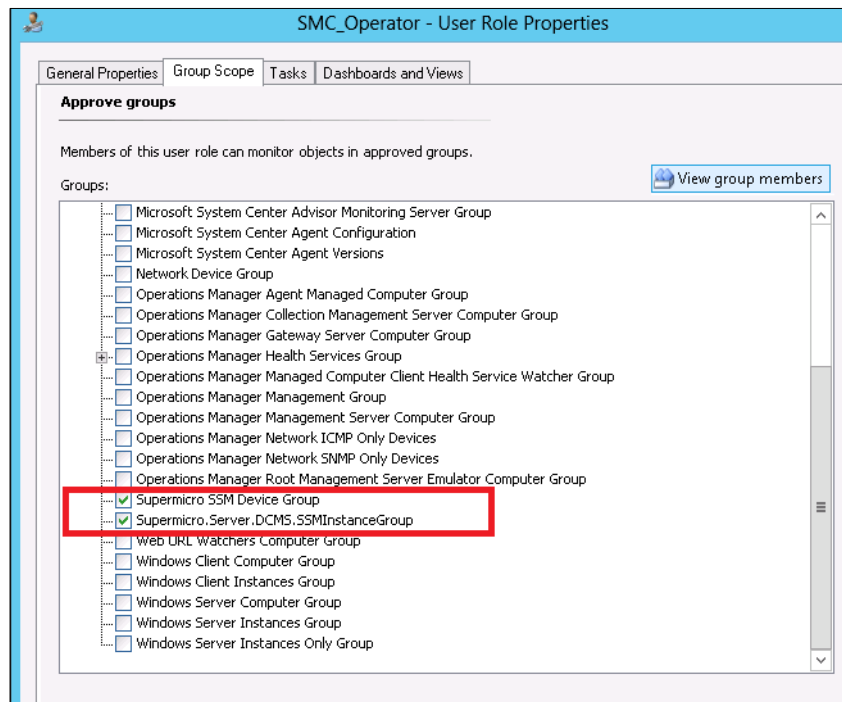


Figure 3-7

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.

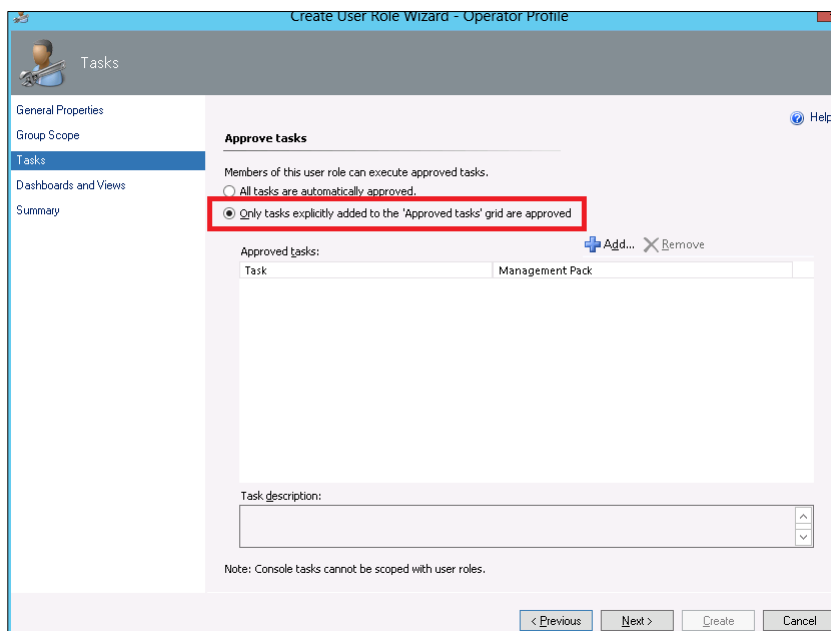


Figure 3-8

- 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.

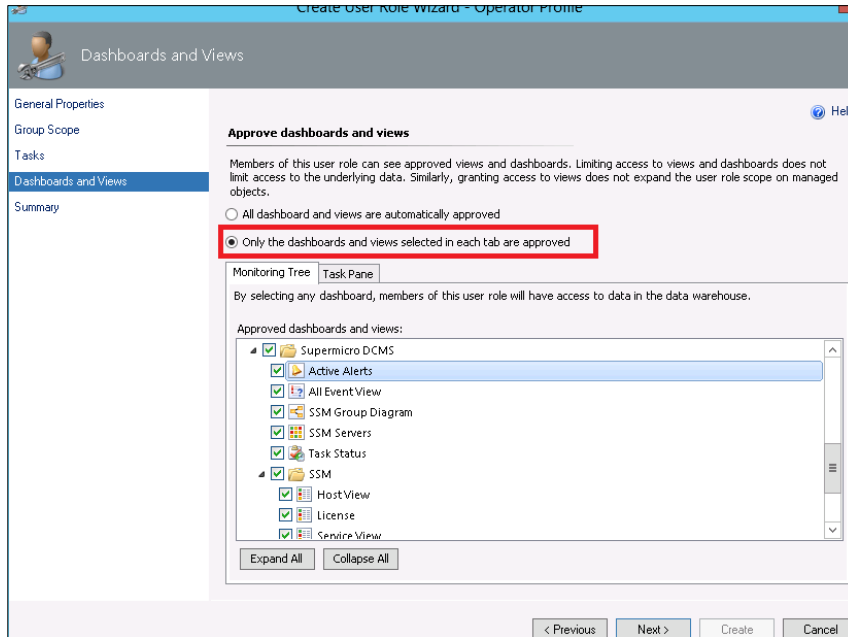


Figure 3-9

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

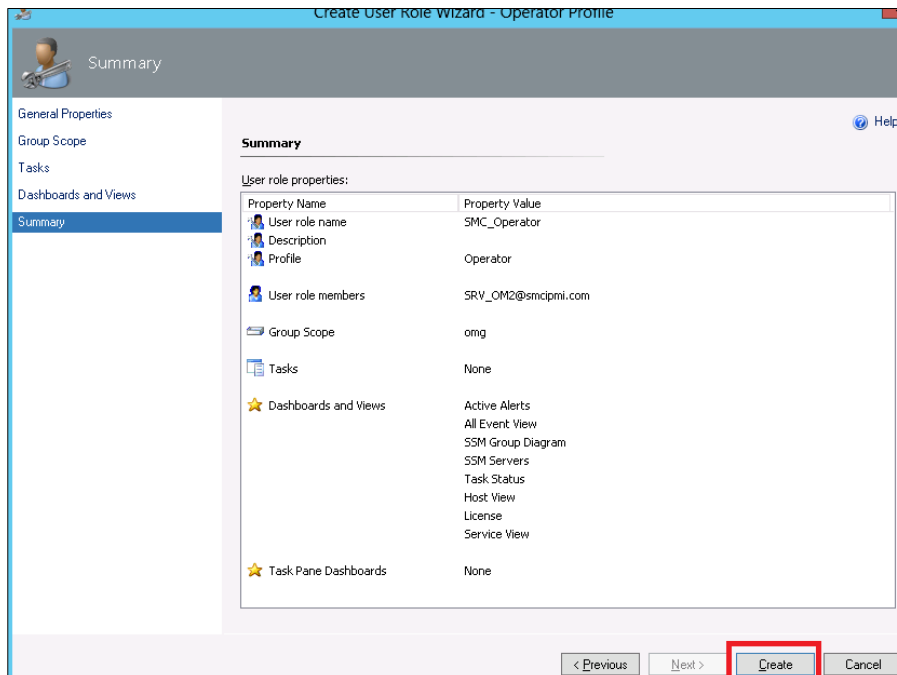


Figure 3-10

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## 4. Software Use

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A Management Plugin for SCOM/SCCM is integrated into the SCOM operation console, which allows SCOM to collect the monitoring data from SSM and provide management functions.

### 4.1 Function Views in SSM category

In this section, we will introduce the following functions in SSM category

- Inventory (Host/Service View)
- Health (Host/Service Status)
- IPMI Ping Info
- License Info
- Performance (System Utilization)
- Asset Info
- Mounting an ISO Image
- Unmounting an ISO Image
- Opening KVM
- Opening the IPMI WebUI
- Exporting a BIOS/BMC Config
- Changing a BIOS/BMC Config
- Updating Firmware and BIOS



## 4.1.1 Inventory (Host/Service View)

The Host View lists all managed hosts in a single state view.

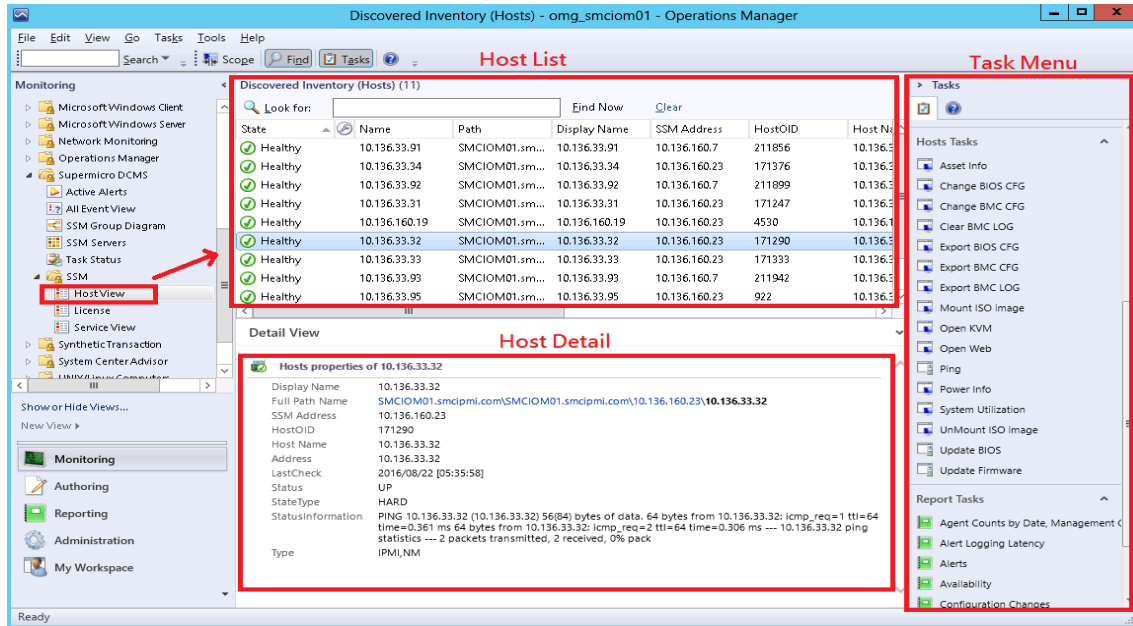


Figure 4-1

The Service View lists all service with managed hosts in a single state view.

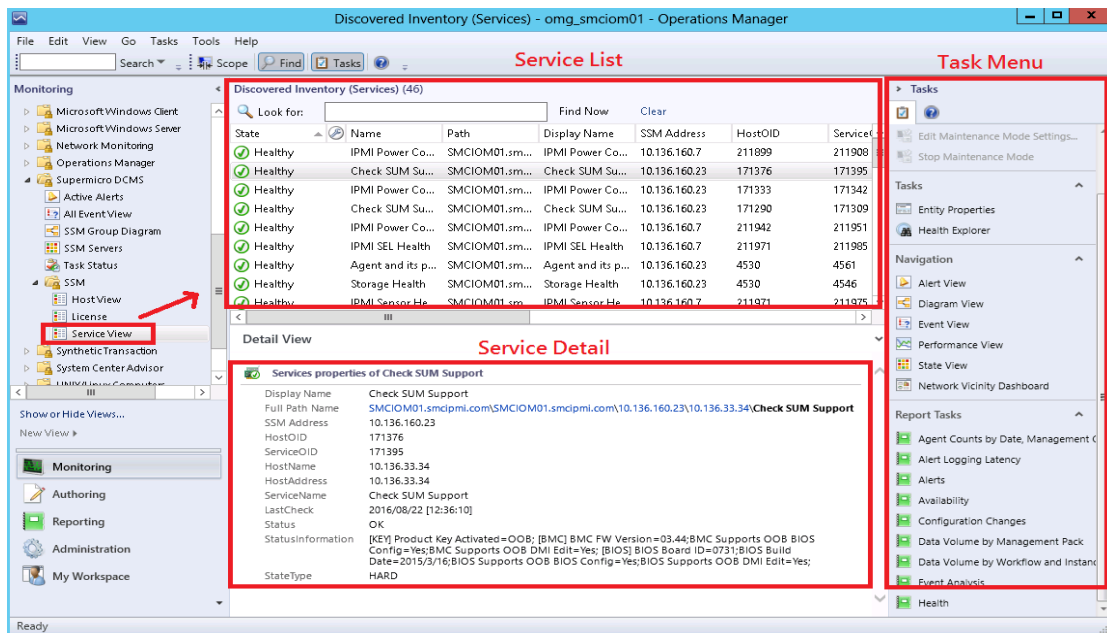








Figure 4-2

## 4.1.2 Health (Host/Service Status)

For the health monitoring, the icons used to indicate state are as follows:

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

In Host View, the health state of hosts can be monitored in State field.

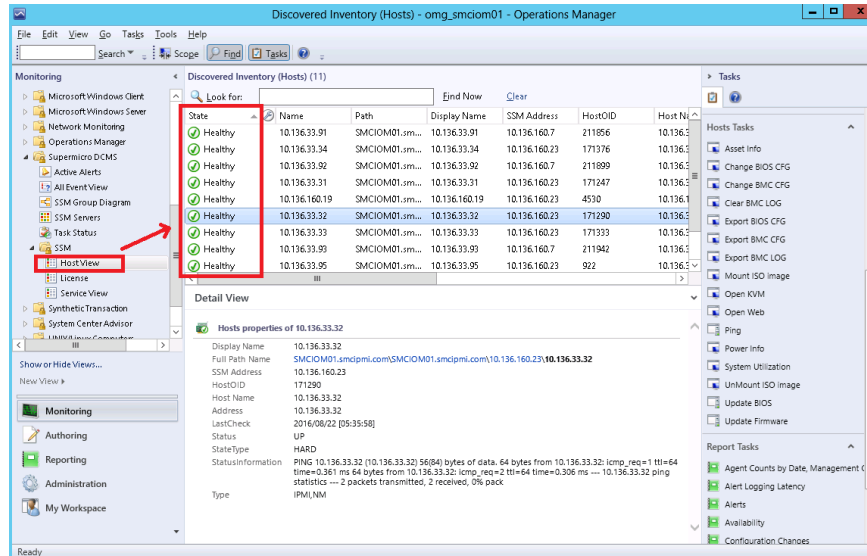


Figure 4-3

In Service View, the health state of the services can be monitored in State field.

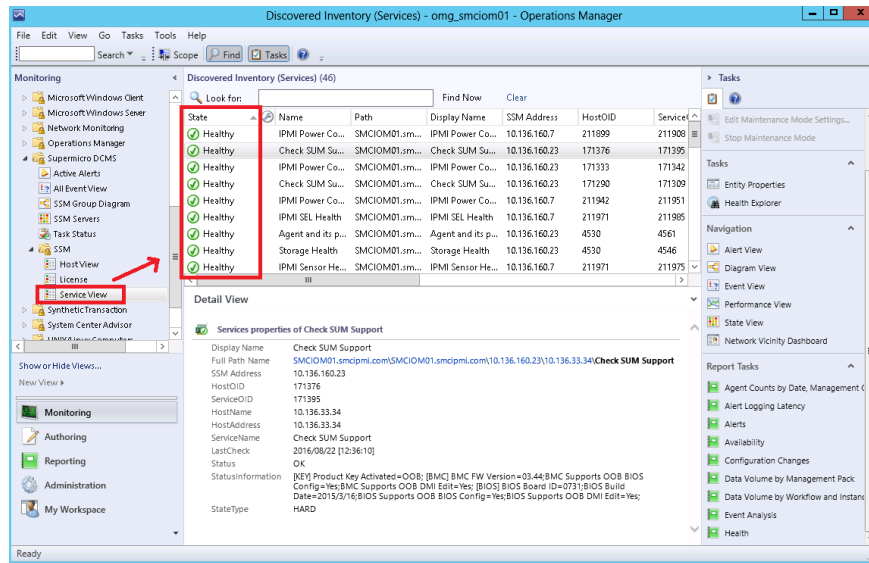


Figure 4-4

### 4.1.3 IPMI Ping Info

In Host View, select one of the items from Host List. The system ping information is shown in the Status Information of Host Detail.

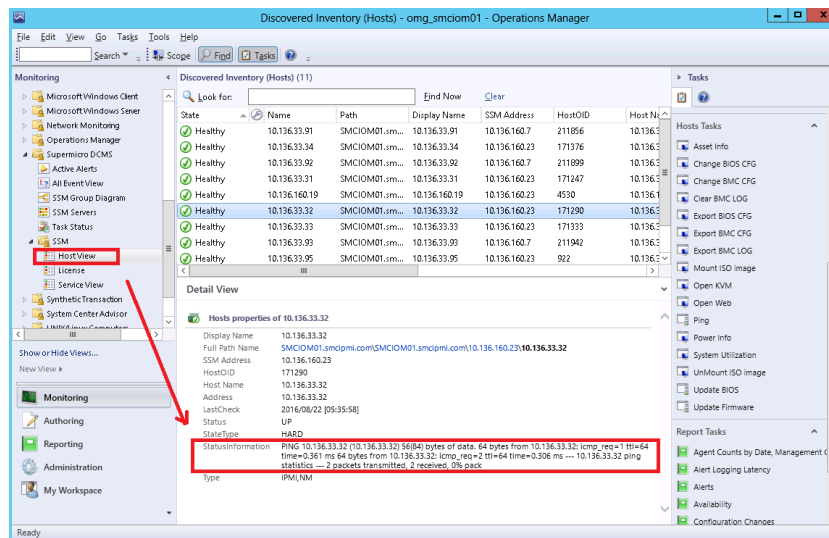


Figure 4-5

## 4.1.4 License Info

In the Service View, select item name “Check SUM Support” from Service List. The license information is shown in the Status Information of Service Detail.

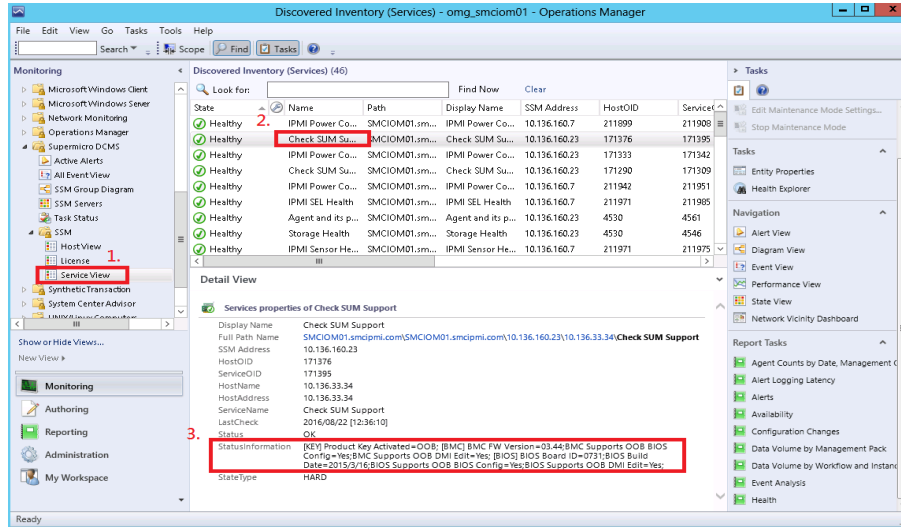


Figure 4-6

## 4.1.5 Performance (System Utilization)

In the Host View, select the desired host and click **System Utilization** from Tasks menu to get the information.

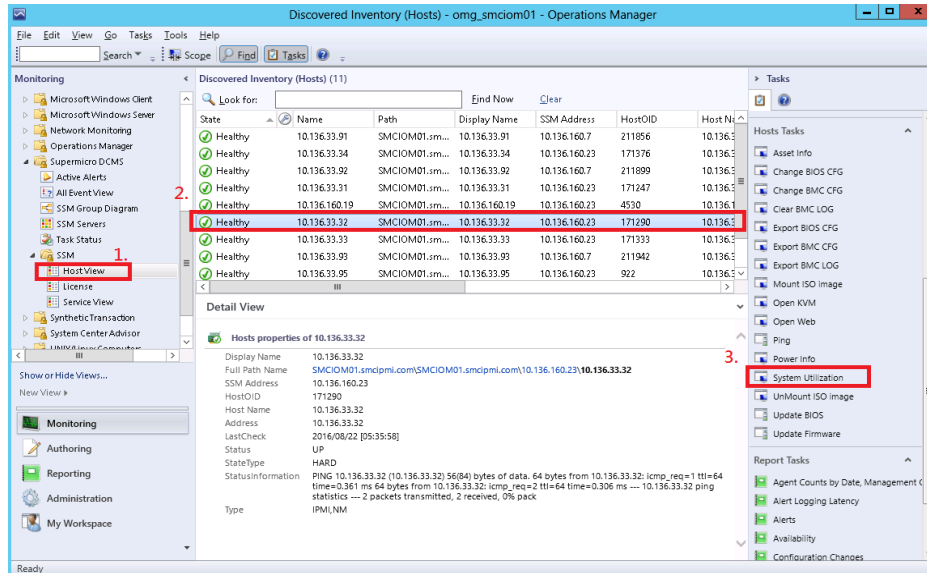


Figure 4-7

The figure shows the resultant output.

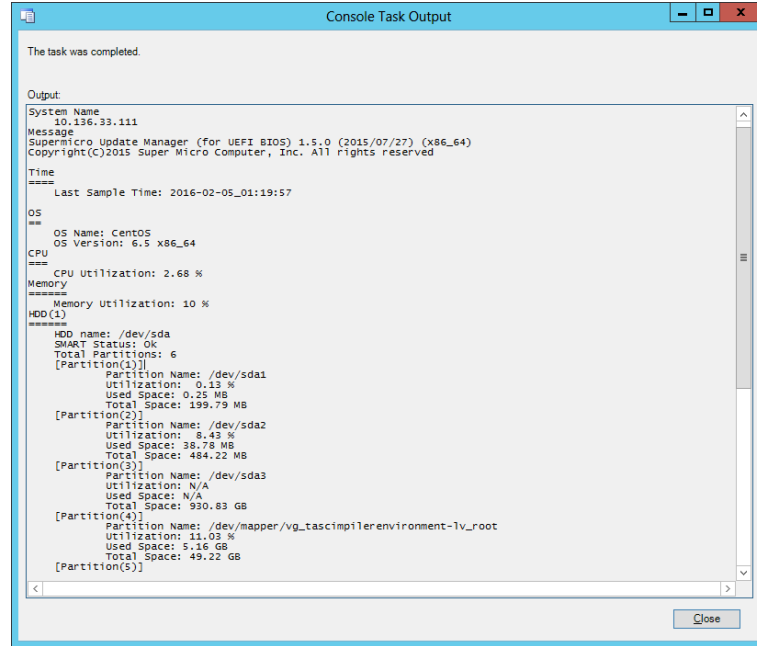


Figure 4-8

## 4.1.6 Asset Info

In the Host View, select a host and click **Asset Info** from Tasks menu to get the information.

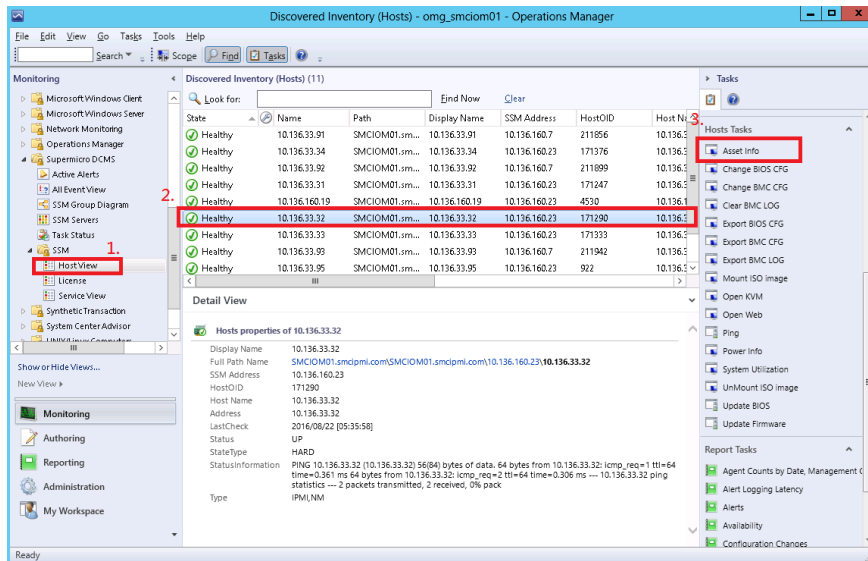


Figure 4-9

The figure shows the resultant output.

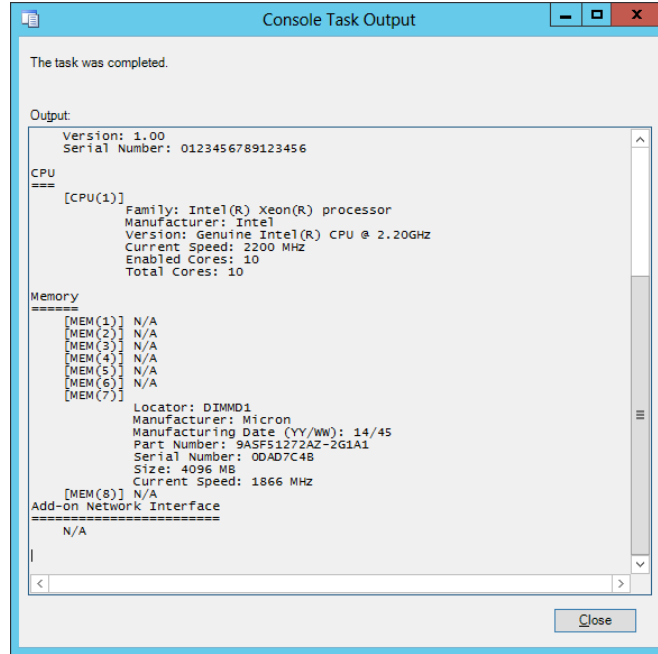


Figure 4-10

## 4.1.7 Mounting an ISO Image

In the Host View, select a host and click **Mount ISO image** from Tasks menu.

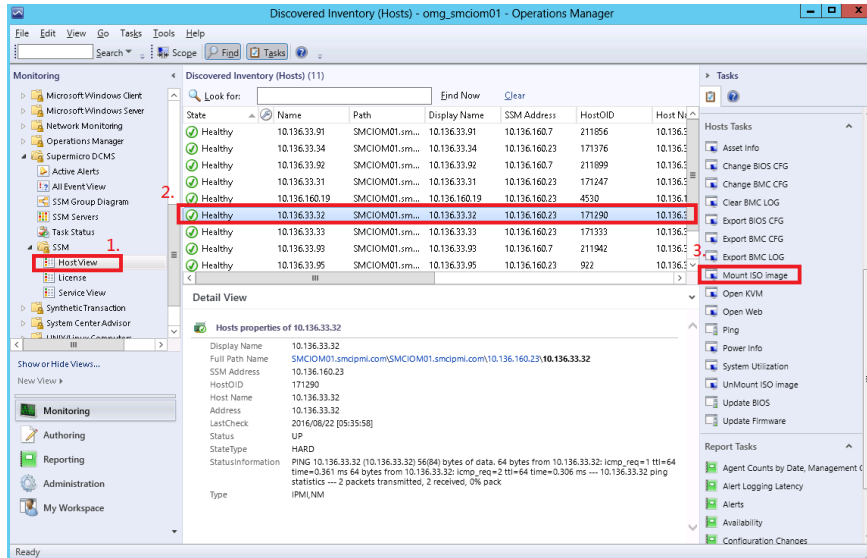
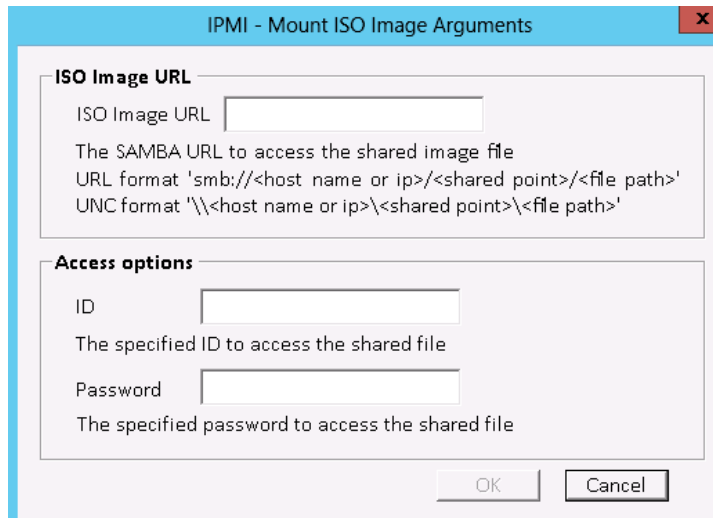


Figure 4-11

Enter the URL of the ISO link and the login information.



The dialog box is titled "IPMI - Mount ISO Image Arguments". It contains two main sections: "ISO Image URL" and "Access options".

**ISO Image URL**

ISO Image URL

The SAMBA URL to access the shared image file  
URL format 'smb://<host name or ip>/<shared point>/<file path>'  
UNC format '\\<host name or ip>\<shared point>\<file path>'

**Access options**

ID

The specified ID to access the shared file

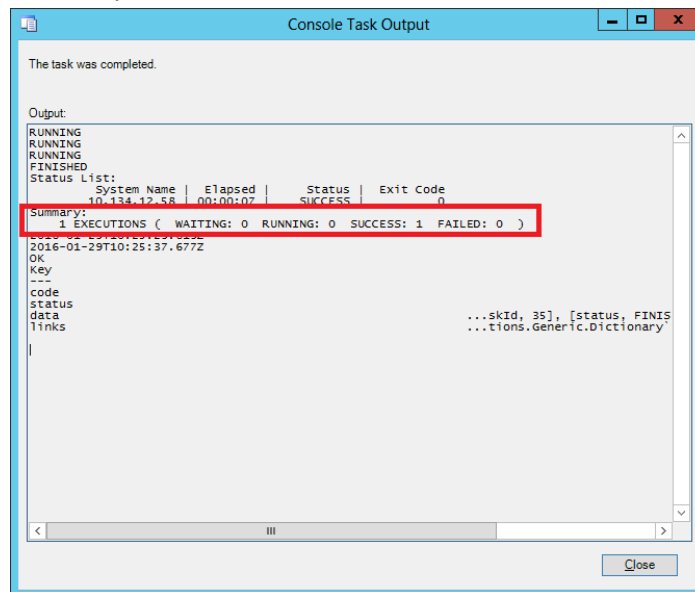
Password

The specified password to access the shared file

Buttons: OK, Cancel

Figure 4-12

The figure shows the resultant output.



The window is titled "Console Task Output". It displays the following text:

```
The task was completed.

Output:
RUNNING
RUNNING
RUNNING
FINISHED
Status List:
System Name | Elapsed | Status | Exit Code
10.134.12.58 | 00:00:07 | SUCCESS | 0
Summary:
1 EXECUTIONS ( WAITING: 0 RUNNING: 0 SUCCESS: 1 FAILED: 0 )
2016-01-29T10:25:37.677Z
OK
Key
---
code
status
data
links
...skId, 35], [status, FINIS
...tions.Generic.Dictionary
```

A red box highlights the summary line: "1 EXECUTIONS ( WAITING: 0 RUNNING: 0 SUCCESS: 1 FAILED: 0 )".

Buttons: Close

Figure 4-13

## 4.1.8 Unmounting an ISO Image

In the Host View, select a desired host and click **UnMount ISO image** from Tasks menu to unmount an ISO image.

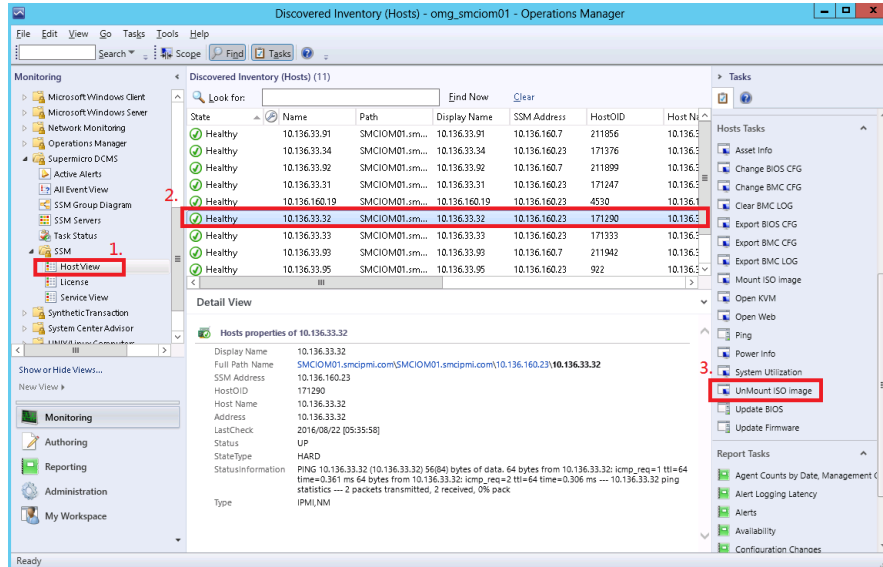


Figure 4-14

The figure shows the resultant output.

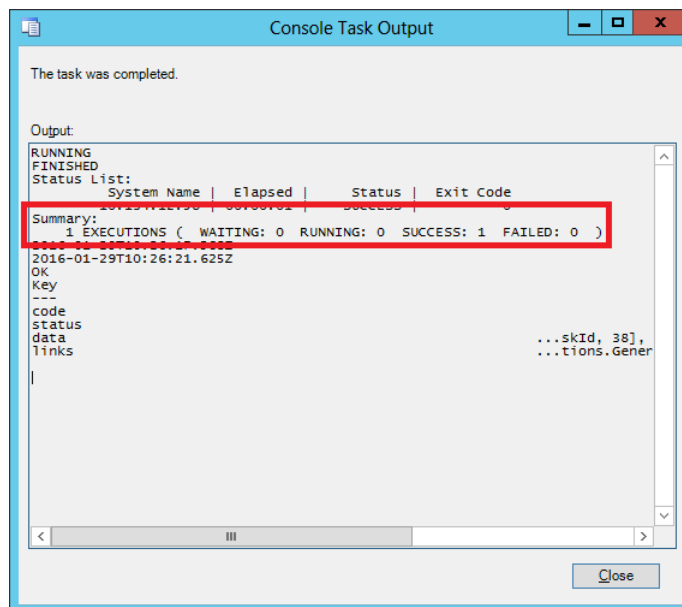


Figure 4-15



## 4.1.9 Opening KVM

In the Host View, click **Open KVM** from Tasks menu to invoke a KVM console connected to the host.

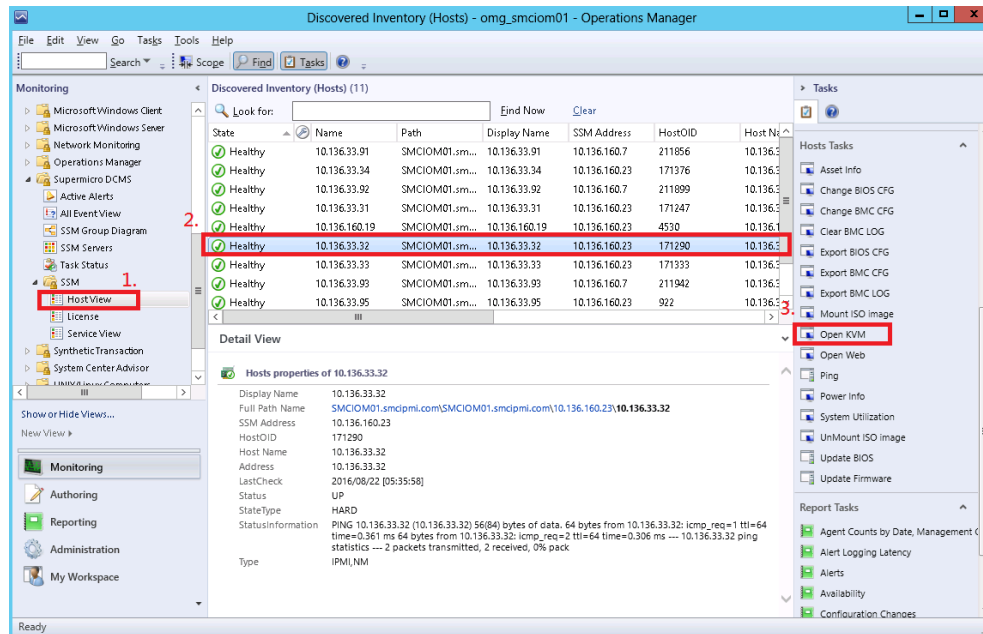


Figure 4-16

Enter the BMC login information.

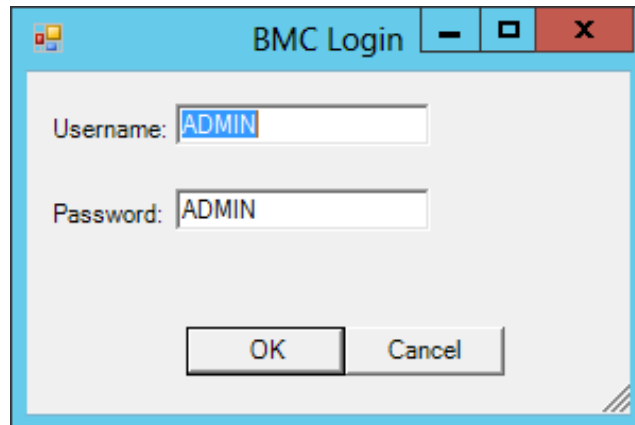


Figure 4-17

The figure shows the resultant output.

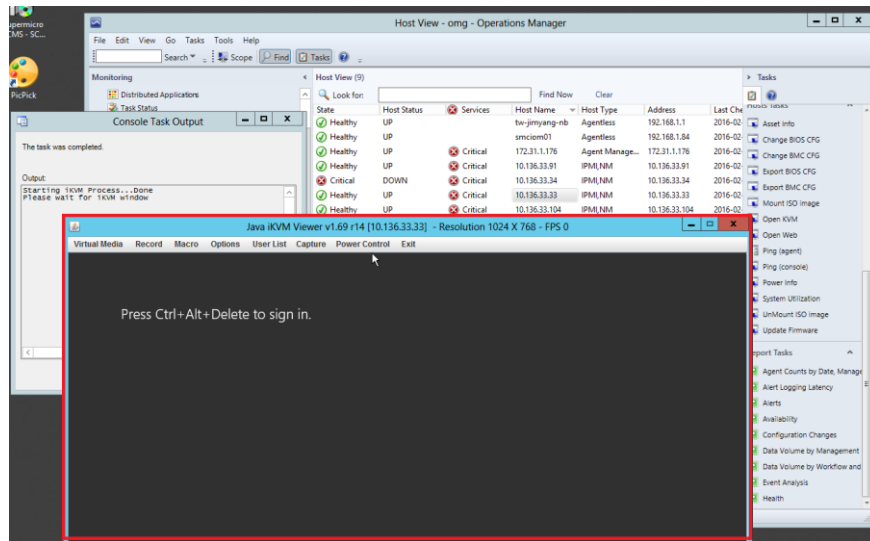


Figure 4-18

## 4.1.10 Opening the IPMI WebUI

In the Host View, click **Open Web** from Tasks menu to invoke the browser and locate the desired host.

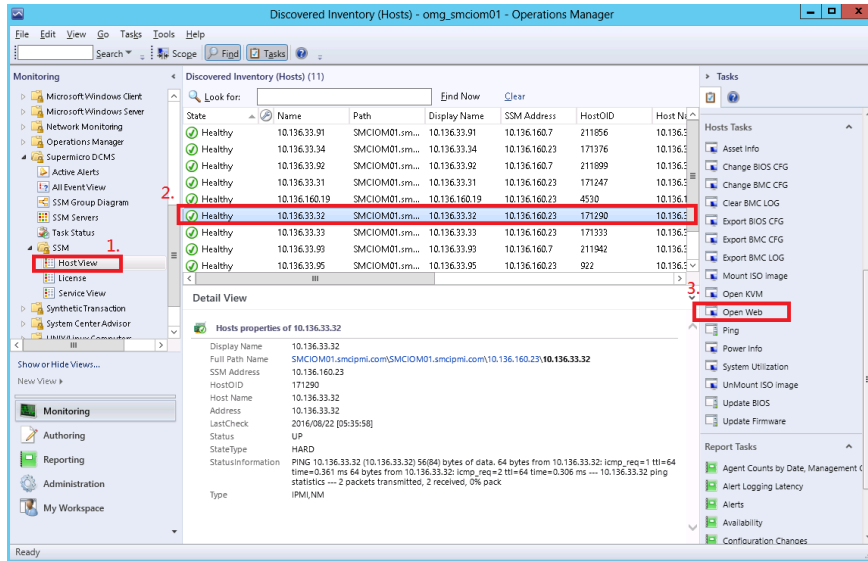


Figure 4-19

The figure shows the resultant output.

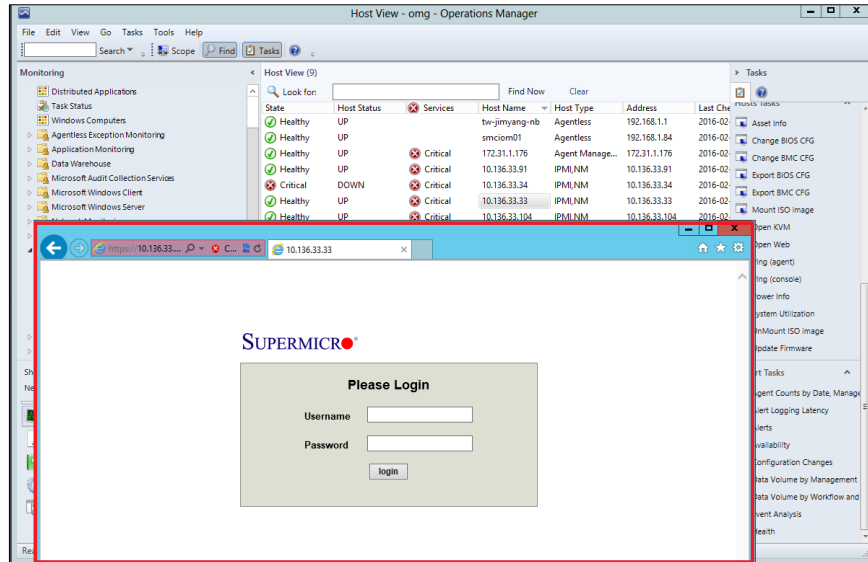


Figure 4-20

## 4.1.11 Exporting a BIOS/BMC Config

In the Host View, select a desired host and click either **Export BIOS/BMC CFG** from Tasks menu.

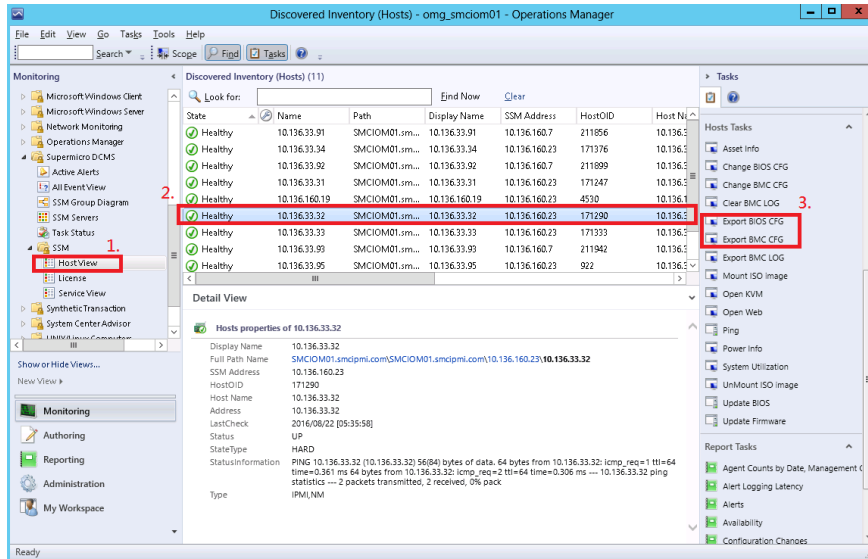


Figure 4-21

Click **Browse** to select a destination path to save the exported configurations.

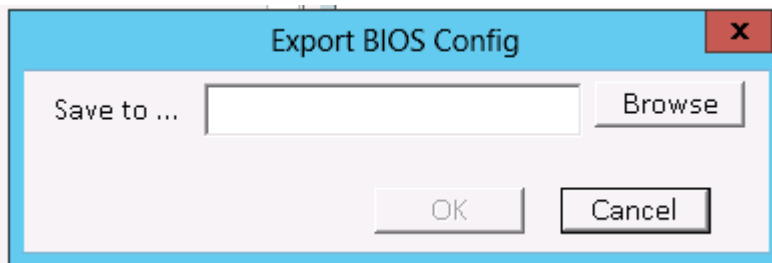
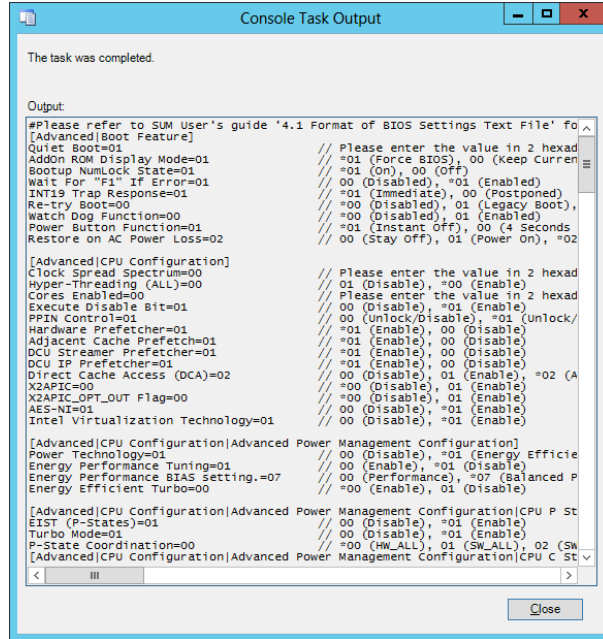


Figure 4-22

The figure shows the resultant output of exporting a BIOS configuration.



```
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

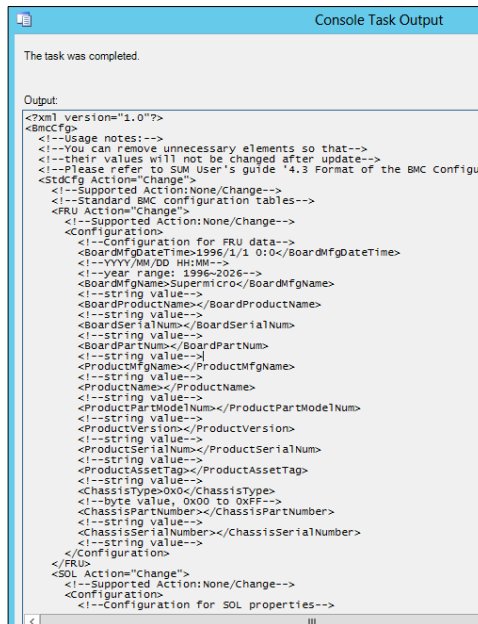
[Advanced]CPU Configuration]
Clock Spread Spectrum=00 // Please enter the value in 2 hexad
Hyper-Threading (ALL)=00 // =01 (Disable), =00 (Enable)
Cores Enabled=00 // Please enter the value in 2 hexad
Execute Disable Bit=01 // =00 (Disable), =01 (Enable)
PPIN Control=01 // =00 (Unlock/Disable), =01 (Unlock/
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
```

Figure 4-23

The figure shows the resultant output of exporting a BMC configuration.



```
The task was completed.

Output:
<?xml version="1.0"?>
<BmcCfg>
<!--Usage notes:-->
<!--You can remove unnecessary elements so that-->
<!--their values will not be changed after update-->
<!--Please refer to SUM User's guide '4.3 Format of the BMC Configur
<StdCfg Action="Change">
<!--Supported Action:None/Change-->
<!--Standard BMC configuration tables-->
<FRU Action="Change">
<!--Supported Action:None/Change-->
<Configuration>
<!--Configuration for FRU data-->
<BoardMfgDateTime>1996/1/1 0:0</BoardMfgDateTime>
<!--YYYY/MM/DD HH:MM-->
<!--year range: 1996-2026-->
<BoardMfgName>Supermicro</BoardMfgName>
<!--string value-->
<BoardProductNum></BoardProductNum>
<!--string value-->
<BoardSerialNum></BoardSerialNum>
<!--string value-->
<BoardPartNum></BoardPartNum>
<!--string value-->
<ProductMfgName></ProductMfgName>
<!--string value-->
<ProductName></ProductName>
<!--string value-->
<ProductPartModelNum></ProductPartModelNum>
<!--string value-->
<ProductVersion></ProductVersion>
<!--string value-->
<ProductSerialNum></ProductSerialNum>
<!--string value-->
<ProductAssetTag></ProductAssetTag>
<!--string value-->
<ChassisType>0x0</ChassisType>
<!--byte value, 0x00 to 0xFF-->
<ChassisPartNumber></ChassisPartNumber>
<!--string value-->
<ChassisSerialNumber></ChassisSerialNumber>
<!--string value-->
</Configuration>
</FRU>
<SOL Action="Change">
<!--Supported Action:None/Change-->
<Configuration>
<!--Configuration for SOL properties-->
```

Figure 4-24

## 4.1.12 Changing a BIOS/BMC Config

In the Host View, select a desired host and click either **Change BIOS/BMC CFG** from Tasks menu.

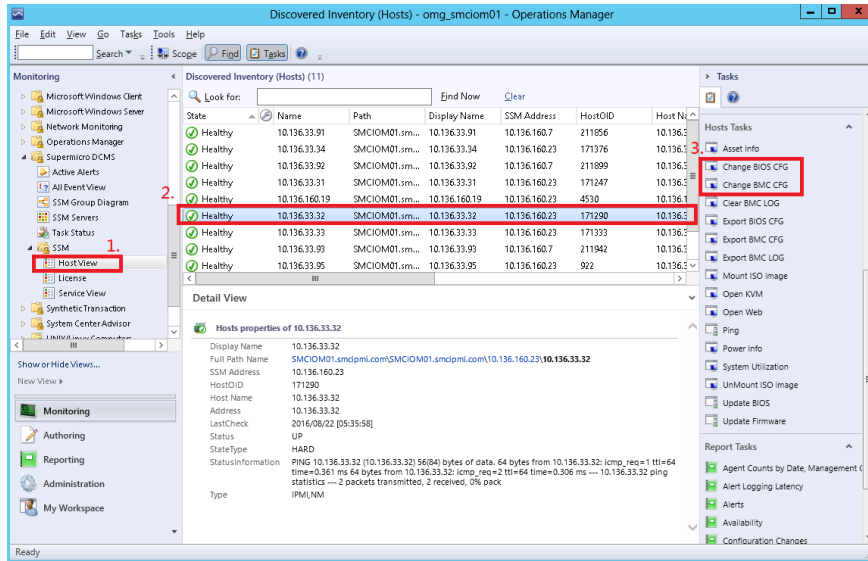


Figure 4-25

The figure shows the resultant output of using the Change BIOS Config function.

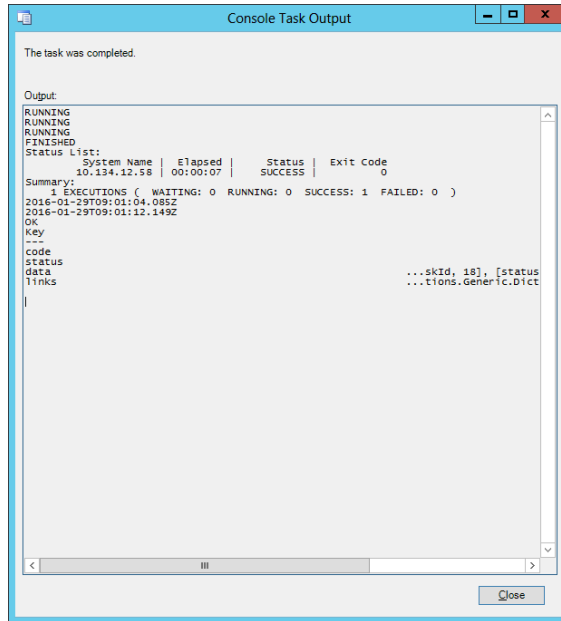


Figure 4-26

The figure shows the resultant output of using the Change BMC Config function.

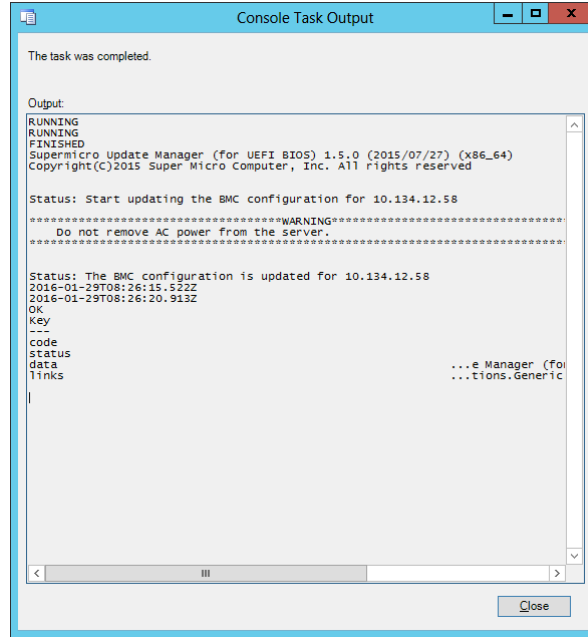


Figure 4-27

### 4.1.13 Updating Firmware and BIOS

In the Host View, select a target host and click **Update Firmware** or **Update BIOS** from Tasks menu.

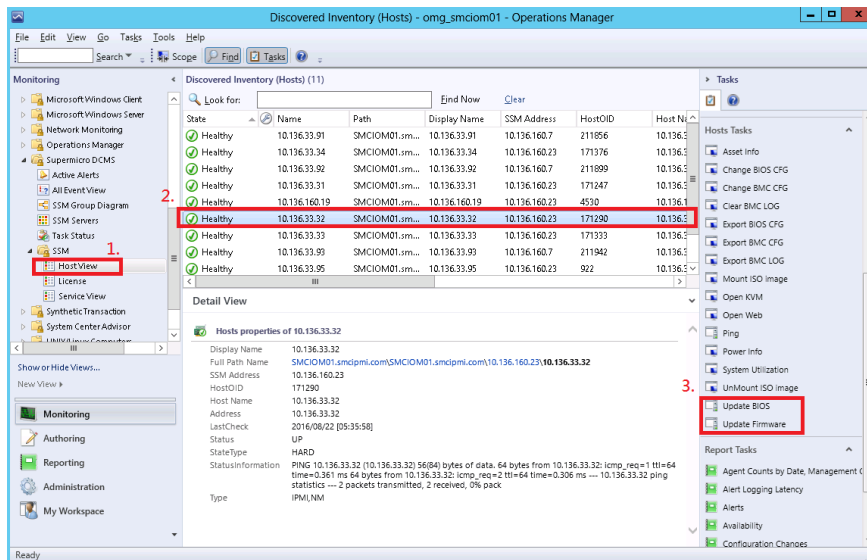


Figure 4-28

In the Run Task dialog box, click the **Override** button and enter the firmware or BIOS file location.

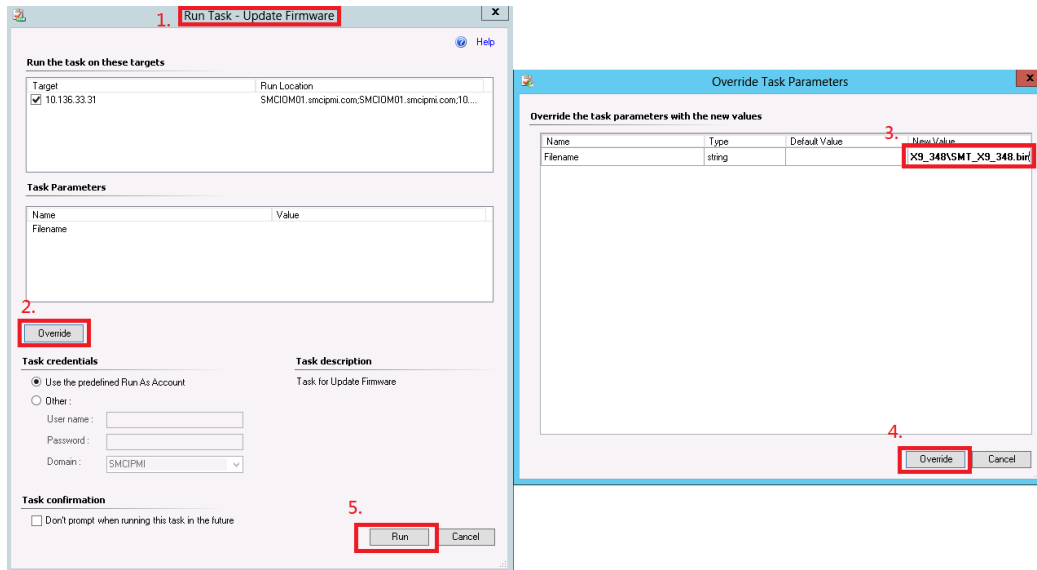


Figure 4-29

The figure shows the resultant output.

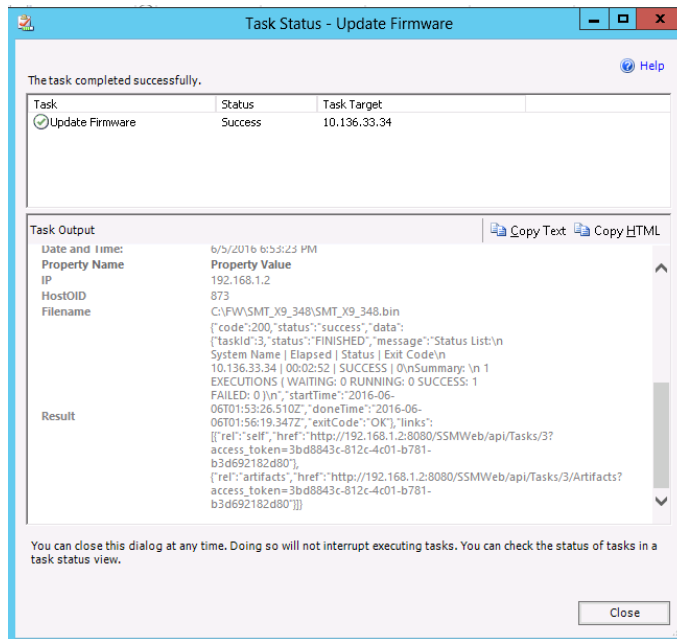


Figure 4-30



## 4.2 Log Views in Supermicro DCMS category

In this section, we will introduce the following Views in Supermicro DCMS category

- Active Alerts
- All Event View
- Task Status
- License

### 4.2.1 Active Alerts

On the Monitoring panel, click **Supermicro DCMS** and select **Active Alerts** to view the alerts detected by the management plugin. The alert times and resolution states are also listed for further tracking.

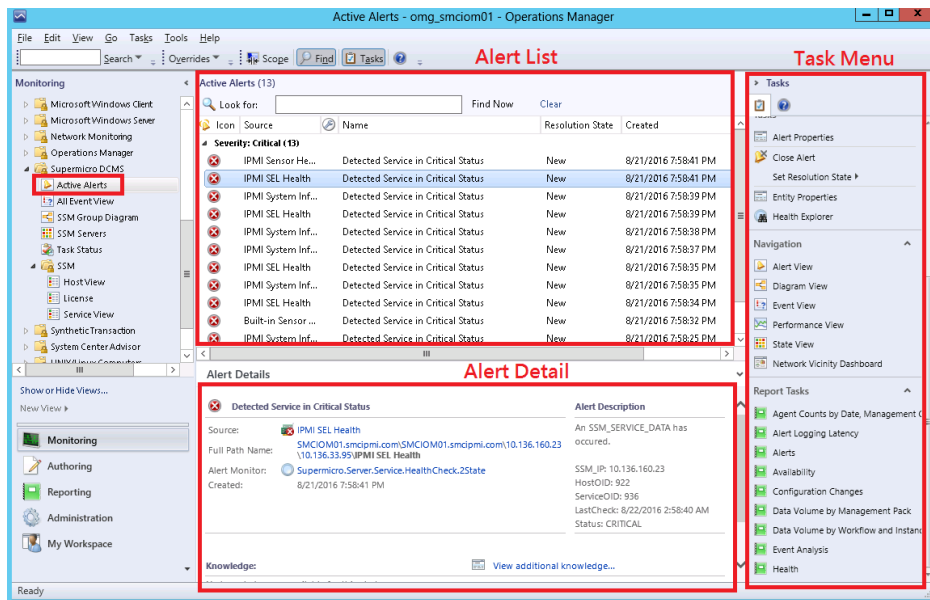


Figure 4-31

## 4.2.2 All Event View

On the Monitoring panel, click **Sumpermicro DCMS** and select **All Event View** to view the events collected from the BMC hosts.

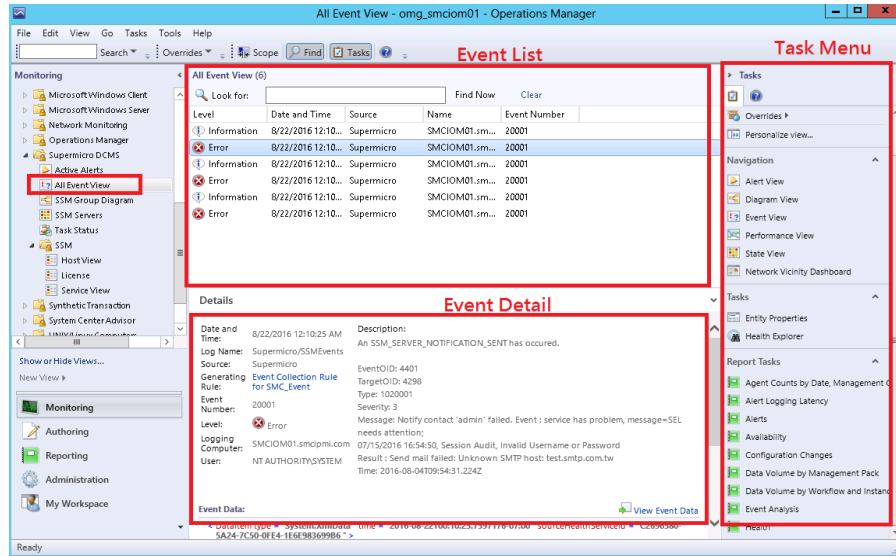


Figure 4-32

## 4.2.3 Task Status

On the Monitoring panel, click **Sumpermicro DCMS** and select **Task Status** to view the status of running tasks and their results.

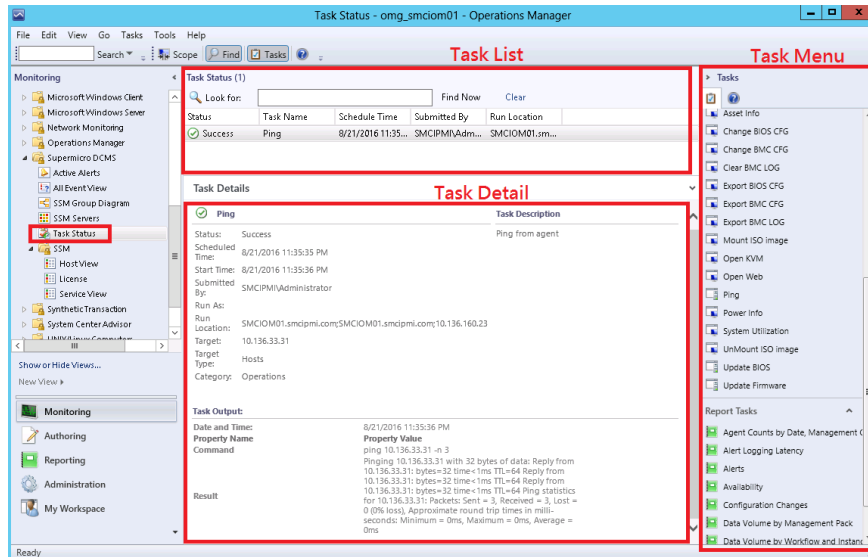


Figure 4-33

## 4.2.4 License

On the Monitoring panel, click **SSM** and select **License** to view the BMC license type information. (The State of License Objects are currently not monitored)

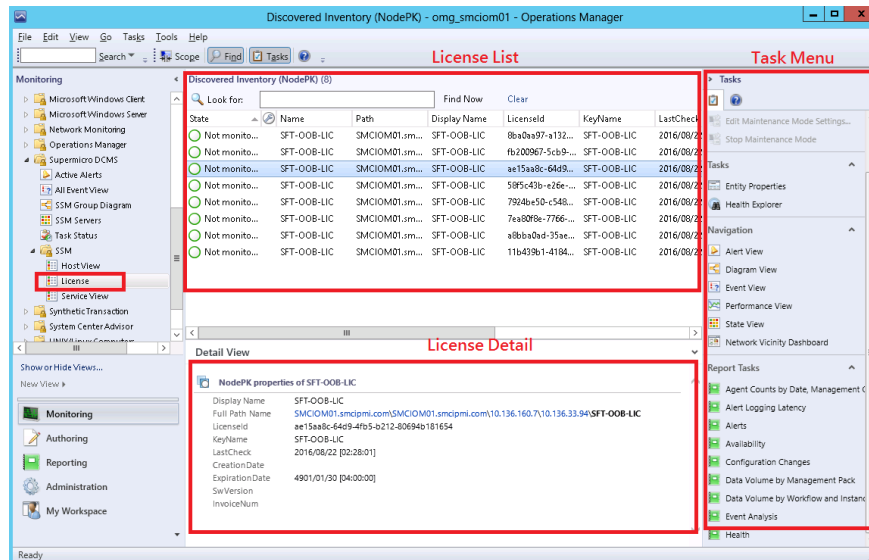


Figure 4-34

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