



# **Supermicro CIM Provider for VMware ESXi**

## **User's Guide**

**Revision 1.0.0**

---

The information in this USER'S MANUAL has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person organization of the updates. Please Note: For the most up-to-date version of this manual, please see our web site at [www.supermicro.com](http://www.supermicro.com).

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software, if any, and documentation may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any medium or machine without prior written consent.

IN NO EVENT WILL SUPERMICRO BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPERMICRO SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Super Micro's total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. Perchlorate Material-special handling may apply. See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate/> for further details.

Manual Revision

Release Date: 2016/10/4

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document.

Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Copyright © 2016 by Super Micro Computer, Inc.

All rights reserved.

Printed in the United States of America

---

## Document revision history

Date	Revision	Description
2016/10/4	1.0.0	Initial document

---

## Contents

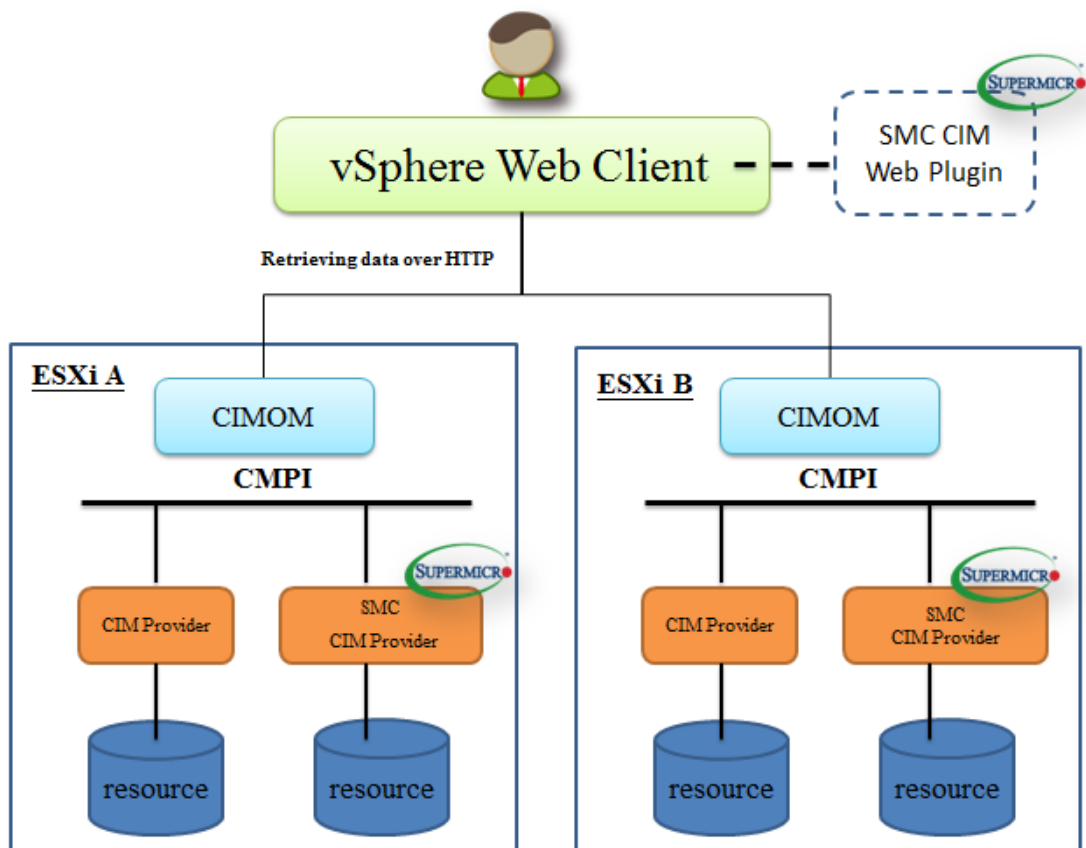
1	Introduction .....	5
2	Requirements.....	6
3	Using Supermicro CIM Provider .....	7
3.1	Enabling SSH .....	7
3.2	Uploading Installation File to Your ESXi Server.....	8
3.3	Installing the Supermicro CIM Provider via SSH .....	9
3.3.1	Automatic Installation .....	10
3.3.2	Manual Installation .....	10
3.4	Viewing the List of Installed Software .....	11
3.5	Removing Supermicro CIM Provider.....	11
3.5.1	Automatic Removal.....	11
3.5.2	Manual Removal .....	11
3.6	Installing the SMC CIM Provider Web Plug-in .....	12
4	User Interface .....	14
	Contacting Supermicro .....	19

---

# 1 Introduction

---

In this user's guide, you will learn how to install Supermicro CIM Provider and the Supermicro CIM Web Plugin. The system architecture is shown below:



---

## 2 Requirements

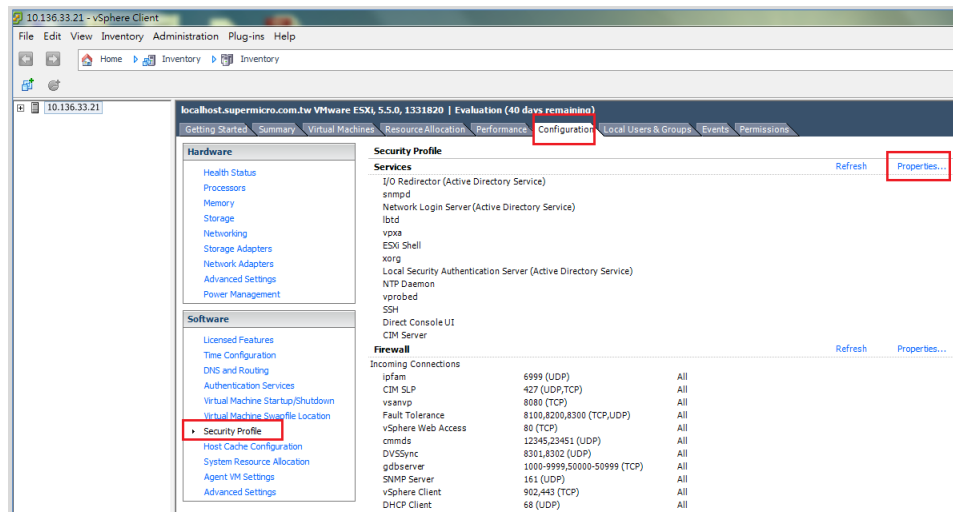
---

1. Install ESXi Server. Visit [https://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.install.doc\\_50/GUID-6FFA928F-7F7D-4B1A-B05C-777279233A77.html](https://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.install.doc_50/GUID-6FFA928F-7F7D-4B1A-B05C-777279233A77.html) and refer to *VMWare vSphere ESXi* and *vCenter Server 5 Documentation* for more details.
  - You can use the customized ESXi ISO that provided by Supermicro. The Supermicro CIM Provider will be installed automatically after the user finishes ESXi installation through customized ISO. If you use customized ESXi ISO, you can ignore chapter 3.1 to 3.5.
2. Prepare VMware's vCenter server and install vSphere Web Client.
3. (Optional) If you use customized ESXi, you don't need to install the following software on your windows.
  - Telnet Client: the software which can use SSH connections
  - VMware vSphere Client

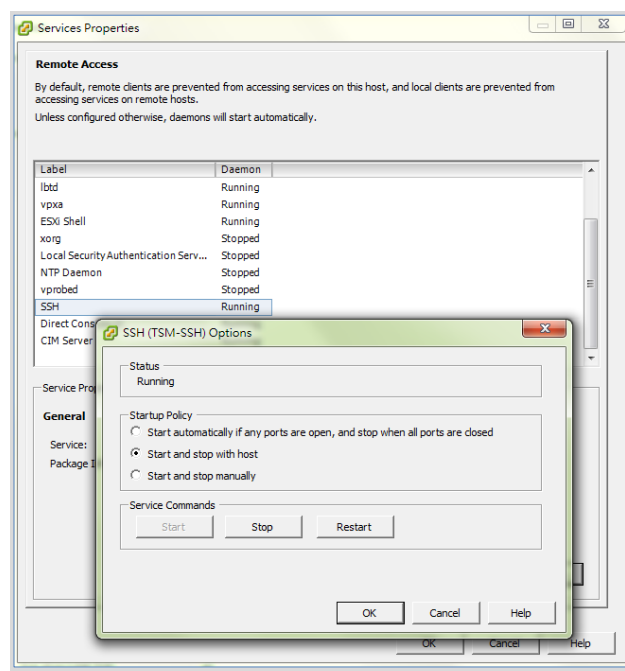
## 3 Using Supermicro CIM Provider

### 3.1 Enabling SSH

1. Open the vSphere client and login to your ESXi server.
2. Select your host server, click the **Configuration** tab, click the **Security Profile** on the left and then click **Properties**.



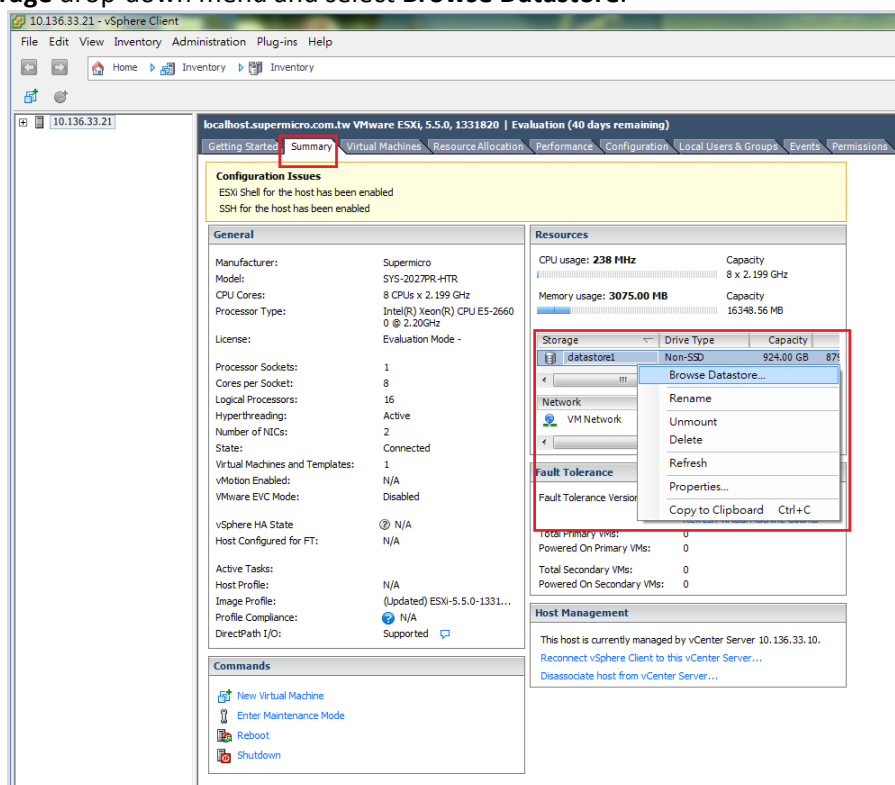
3. Select the SSH label, click **Options**, select **Start and stop with host**, click **Start** and then click **OK** to enable SSH.




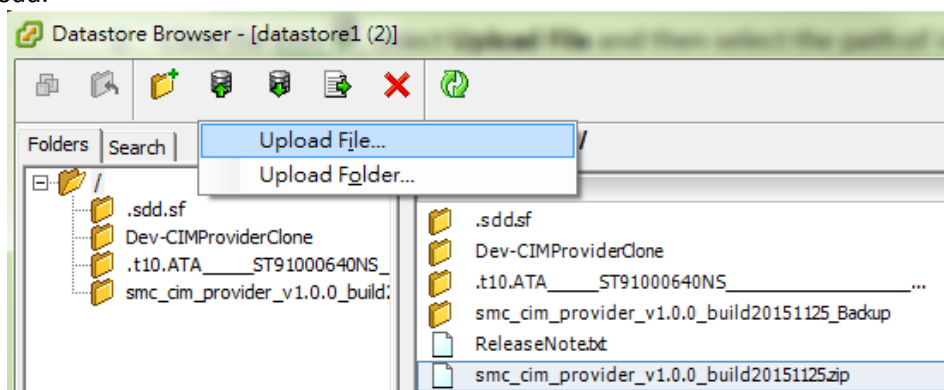
## 3.2 Uploading Installation File to Your ESXi Server

You can use any method to upload the Supermicro installation package to your ESXi. In this example, the vSphere client is used to upload the installation file to ESXi.

1. Login your ESXi through vSphere client and select your host, click the **Summary** tab, right-click the **Storage** drop-down menu and select **Browse Datastore**.



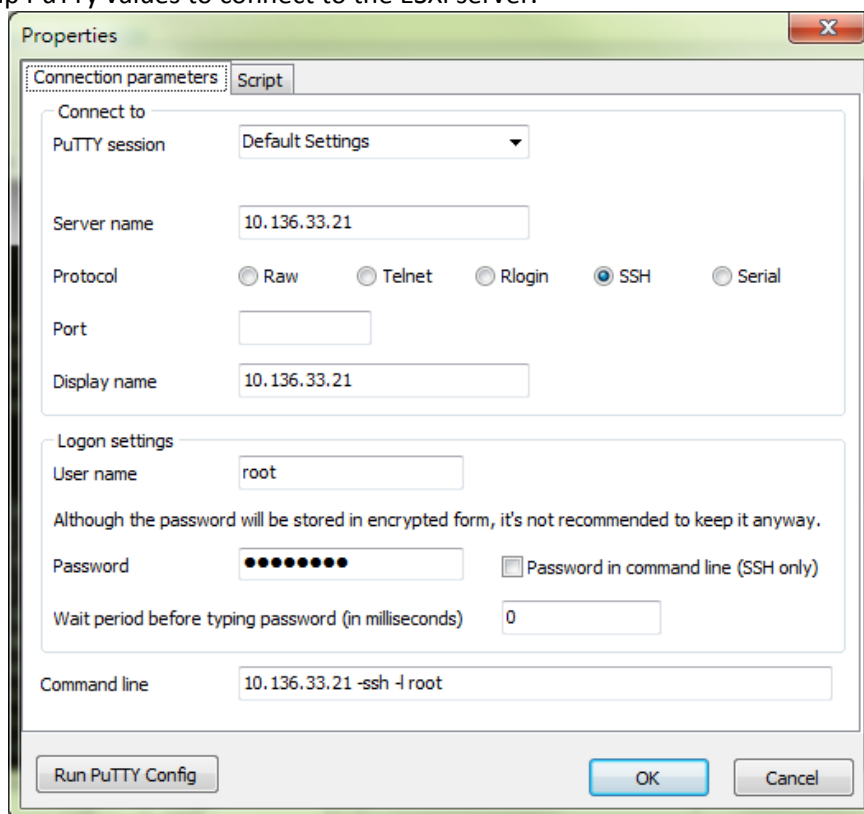
2. Click the icon , select **Upload File** and then select the path of the installation file to finish the upload.



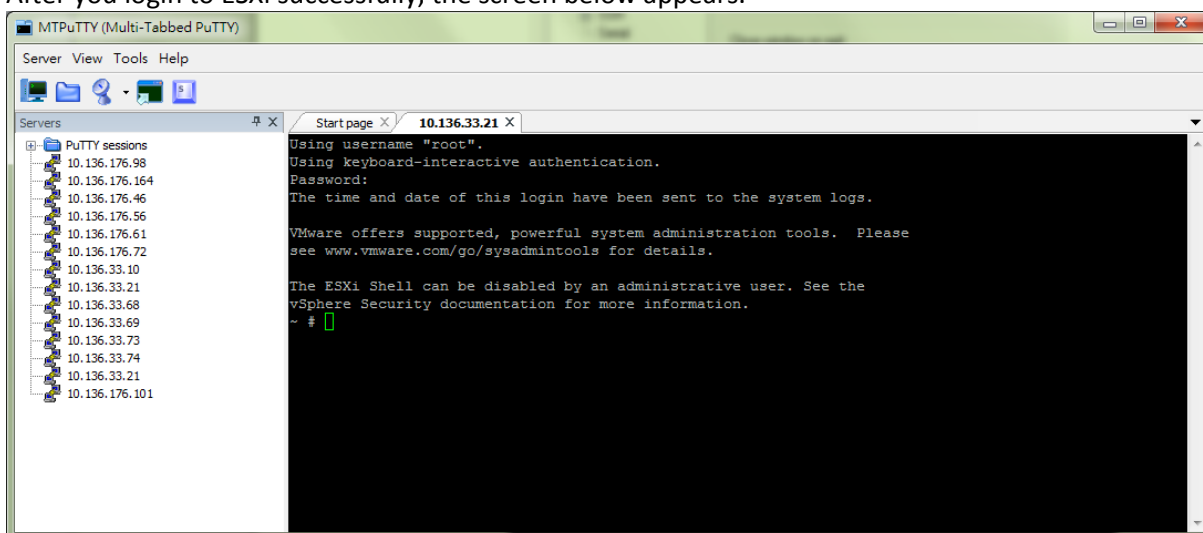
3. If the upload is successful, you can see the intallation file on your ESXi server.

## 3.3 Installing the Supermicro CIM Provider via SSH

1. Set up PuTTY values to connect to the ESXi server.



2. After you login to ESXi successfully, the screen below appears.



3. Switch to the directory that has the Supermicro installation file. (The default path is /vmfs/volumes/your\_datastore )
4. Compress the installation file by running the command  
# **unzip <SMC File Name>.zip**
5. Switch to the directory that just unpacked.

### 3.3.1 Automatic Installation

To automatically install the SMC CIM Provider, run the command # **./install.sh --AllowCommunitySupported** (Note : Make sure the executable permission is acquired to run install.sh)

```
/vmfs/volumes/5683e45c-69fc354c-9e6f-002590e87492/SMC_CIM_Provider # ./install.sh --AllowCommunitySupported
Host acceptance level changed to 'CommunitySupported'.
Starting install Supermicro CIM Provider
Checking vib file .. OK
Stop CIM service, please wait .. OK
Checking and removing the old version of SMC CIM Provider .. OK
Installing .. OK
Start CIM Service .. OK
List installed information ..
```

Name	Version	Vendor	Acceptance Level	Install Date
smc-cim-provider	1.0.0-000000	Supermicro	CommunitySupported	2016-02-18

```
Installation complete, please reboot the host.
/vmfs/volumes/5683e45c-69fc354c-9e6f-002590e87492/SMC_CIM_Provider #
```

If the installation is successful, a message appears: *Installation complete, please reboot the host.* You need to reboot the system for the changes to take effect.

### 3.3.2 Manual Installation

To manually install the Supermicro CIM Provider, follow these steps:

1. Set acceptance level # **esxcli software acceptance set --level=CommunitySupported**
2. Stop CIMOM by running the command # **/etc/init.d/sfcbd-watchdog stop**
3. Install the VIB offline
  - For offline installation, run the command #**esxcli software vib install -v <VIB Path>**  
(<VIB Path> example: /vmfs/volumes/datastore/directory/smc-cim-provider.vib)
4. Start CIMOM by running the command # **/etc/init.d/sfcbd-watchdog start**
5. Reboot the system for the changes to take effect.

**Note:** Another way for installation is to use online installation. If you have VIB file placed on FTP or Web, you can just run the following command directly, not required to download file to your local host.

# **esxcli software vib install -v <web Link>**

(<web Link> example: <http://ftp.yourcompany.com.tw/~test/smc-cim-provider.vib>)

## 3.4 Viewing the List of Installed Software

To view the list of the installed software, run the command # **esxcli software vib list**.

```
/vmfs/volumes/5683e45c-69fc354c-9e6f-002590e87492/SMC_CIM_Provider # esxcli software vib list
Name                               Version                               Vendor      Acceptance Level  Install Date
-----                               -
smc-cim-provider                   1.0.0-000000                        Supermicro  CommunitySupported 2016-02-18
ata-pata-amd                       0.3.10-3vmw.550.0.0.1331820         VMware     VMwareCertified    2015-12-30
ata-pata-atiixp                    0.4.6-4vmw.550.0.0.1331820         VMware     VMwareCertified    2015-12-30
ata-pata-cmd64x                    0.2.5-3vmw.550.0.0.1331820         VMware     VMwareCertified    2015-12-30
```

## 3.5 Removing Supermicro CIM Provider

You have two ways to remove the Supermicro CIM Provider from your host.

### 3.5.1 Automatic Removal

To automatically remove the Supermicro CIM Provider, run the command # **./uninstall.sh**

(Note : Make sure the executable permission is acquired to run uninstall.sh)

```
/vmfs/volumes/5633515a-23e14cfc-bef6-002590e87492/smc_cim_provider_v1.0.0_build20151125 # ./uninstall.sh
Removing the SMC CIM Provider ..
Remove success
```

### 3.5.2 Manual Removal

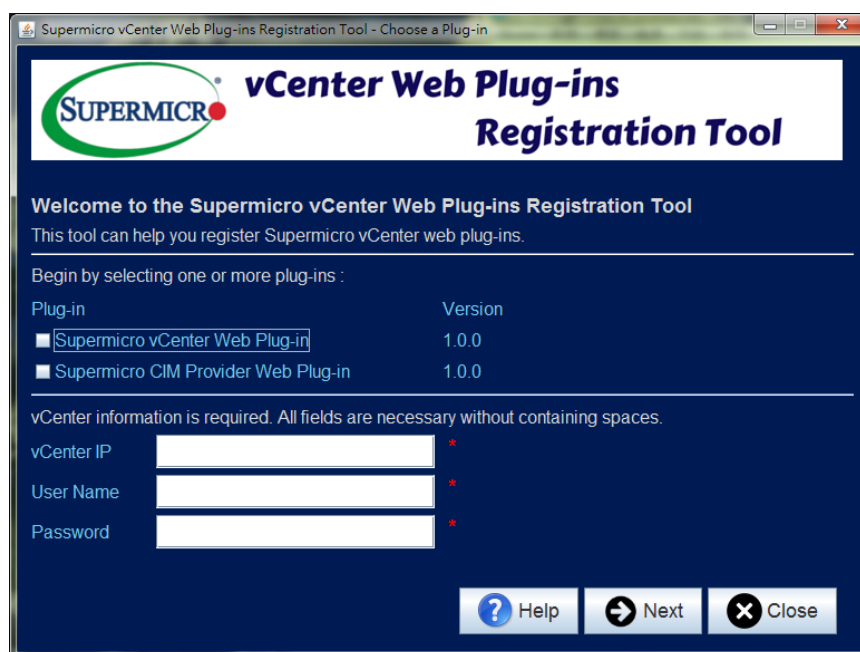
To manually remove the Supermicro CIM Provider, run the command # **esxcli software vib remove -n smc-cim-provider**

```
/vmfs/volumes/5633515a-23e14cfc-bef6-002590e87492/smc_cim_provider_v1.0.0_build20151125 # esxcli software vib remove -n smc-cim-provider
Removal Result
  Message: Operation finished successfully.
  Reboot Required: false
  VIBs Installed:
  VIBs Removed: Supermicro_bootbank_smc-cim-provider_1.0.0-000000
  VIBs Skipped:
```

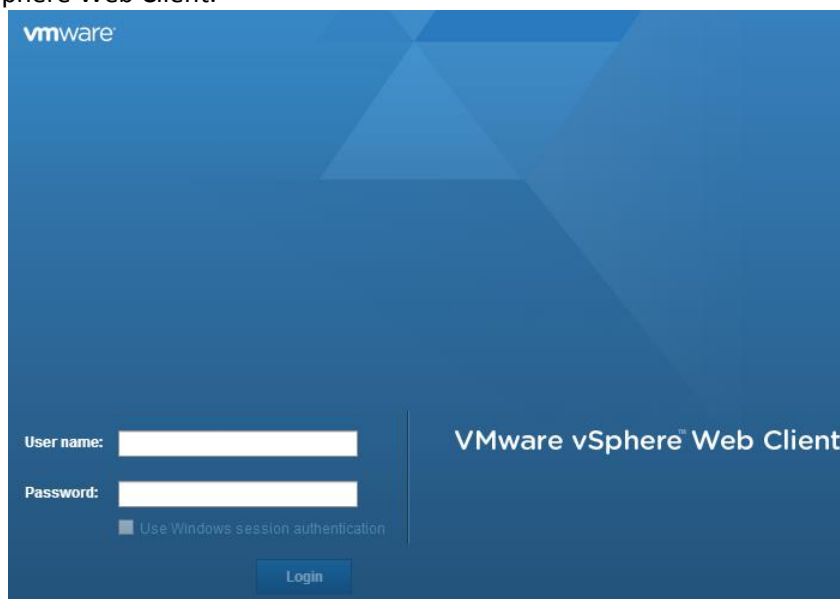
---

## 3.6 Installing the SMC CIM Provider Web Plug-in

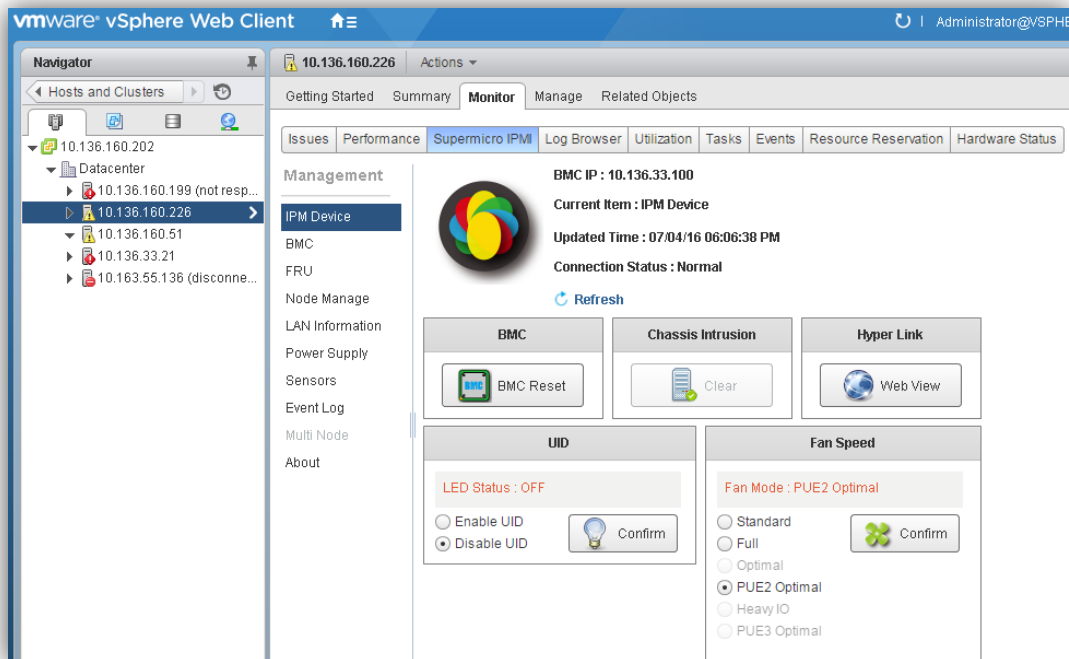
1. Use the Supermicro VMware Web Plug-in Registration Tool to install the CIM web plugin.  
For details, please refer to the *Supermicro vCenter Web Plug-in User's Guide*.



2. After installing both the Supermicro CIM Provider and the Supermicro CIM Provider Web Plug-in, login to the vSphere Web Client.



3. Select a host, click the **Monitor** tab and click **Supermicro IPMI**. The customized Supermicro information appears on the vSphere Web Client.



## 4 User Interface

Supermicro provides several functions displayed on the vSphere Web Client. All data comes from the Supermicro CIM Provider. The vSphere Web Client retrieves data from Supermicro CIM Provider and displays information on Supermicro CIM Provider Web Plug-in.

### 1. IPM Device

The screenshot shows the vSphere Web Client interface for the IPM Device. The top navigation bar includes tabs for Issues, Performance, Supermicro IPMI, Log Browser, Utilization, Tasks, Events, Resource Reservation, and Hardware Status. The left sidebar lists Management options: IPM Device (selected), BMC, FRU, Node Manage, LAN Information, Power Supply, Sensors, Event Log, Multi Node, and About. The main content area displays the IPM Device status, including BMC IP (10.136.33.31), Current Item (IPM Device), Updated Time (06/08/16 03:43:26 PM), and Connection Status (Normal). A Refresh button is available. Below this, there are three sections: BMC (with a BMC Reset button), Chassis intrusion (with a Clear button), and Hyper Link (with a Web View button). At the bottom, there are two sections: UID (with LED Status: OFF, radio buttons for Enable UID and Disable UID, and a Confirm button) and Fan Speed (with Fan Mode: PUE2 Optimal, radio buttons for Standard, Full, Optimal, PUE2 Optimal (selected), and Heavy IO, and a Confirm button).

### 2. BMC

The screenshot shows the vSphere Web Client interface for the BMC. The top navigation bar includes tabs for Issues, Performance, Supermicro IPMI, Log Browser, Utilization, Tasks, Events, Resource Reservation, and Hardware Status. The left sidebar lists Management options: IPM Device, BMC (selected), FRU, Node Manage, LAN Information, Power Supply, Sensors, Event Log, Multi Node, and About. The main content area displays the BMC status, including BMC IP (10.136.33.31), Current Item (BMC), Updated Time (06/08/16 03:46:29 PM), and Connection Status (Normal). A Refresh button is available. Below this, there is a table with the following data:

Description	Value
Board ID	X9DRT-P
BMC Firmware Version	3.46
BMC Build Time	2015-11-24
OOB Product Key	Activated

### 3. FRU

Issues Performance **Supernode IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPMI Device  
BMC  
**FRU**  
Node Manage  
LAN Information  
Power Supply  
Sensors  
Event Log  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : FRU  
Updated Time : 06/08/16 03:43:40 PM  
Connection Status : Normal  
[Refresh](#)

Description	Value
Board Mfg. Data/Time	1996/01/01 00:00:00 (00 00 00)
Board Manufacturer	Supernode
Board Product Name	Patrick
Board Serial Number	ZM141S022841
Board Part Number	123
Product Manufacturer	Supernode
Product Name	SYS-2027PR-HTR
Product Part/Model number	NA
Product Version	NA
Product Serial Number	A15003824301830

### 4. Node Manage

Issues Performance **Supernode IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPMI Device  
BMC  
FRU  
**Node Manage**  
LAN Information  
Power Supply  
Sensors  
Event Log  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : Node Manage  
Updated Time : 06/08/16 03:43:49 PM  
Connection Status : Normal  
[Refresh](#)

Description	Value
Platform	Romley
NM Version	NM Revision 2.0
ME FW Version	2.1.7.328
ME Image Flag	operational image 2

## 5. LAN Setting

Issues Performance **Supernode IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPMI Device  
BMC  
FRU  
Node Manage  
**LAN Information**  
Power Supply  
Sensors  
Event Log  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : LAN Information  
Updated Time : 06/08/16 03:43:57 PM  
Connection Status : Normal  
[Refresh](#)

Description	Value
IP Address	10.136.33.31
BMC MAC Address	0C:C4:7A:00:A1:3C
System MAC Address1	0C:C4:7A:00:A3:26
System MAC Address2	0C:C4:7A:00:A3:27
Default Gateway	0.0.0.0
Subnet Mask	255.255.0.0
DHCP	disabled

## 6. Power Supply

Issues Performance **Supernode IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPMI Device  
BMC  
FRU  
Node Manage  
LAN Information  
**Power Supply**  
Sensors  
Event Log  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : Power Supply  
Updated Time : 06/08/16 03:44:07 PM  
Connection Status : Normal  
[Refresh](#)

Properties	Value
▼ PS 1	
Status	[STATUS OK](00h)
Input Voltage	115.4 V
Input Current	0.84 A
Main Output Voltage	12.09 V
Main Output Current	7.11 A
Temperature 1	44C/111F
Temperature 2	45C/113F
Fan1	2016 RPM
Fan2	2048 RPM

## 7. Sensors

Issues Performance **Supermicro IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPM Device  
BMC  
FRU  
Node Manage  
LAN Information  
Power Supply  
**Sensors**  
Event Log  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : Sensors  
Updated Time : 06/08/16 03:44:23 PM  
Connection Status : Normal  
[Refresh](#)

Status	SensorName	Reading	LowLimit	HighLimit
✓	CPU1 Temp	39C/102F	N/A	88C/190F
	CPU2 Temp	N/A	N/A	N/A
✓	System Temp	26C/79F	-7C/19F	85C/185F
✓	Peripheral Temp	38C/100F	-7C/19F	85C/185F
✓	PCH Temp	48C/118F	-8C/18F	95C/203F
	P1-DIMMA1 TEMP	N/A	N/A	N/A
	P1-DIMMA2 TEMP	N/A	N/A	N/A
	P1-DIMMB1 TEMP	N/A	N/A	N/A
	P1-DIMMB2 TEMP	N/A	N/A	N/A

## 8. Event Log

Issues Performance **Supermicro IPMI** Log Browser Utilization Tasks Events Resource Reservation Hardware Status

Management

IPM Device  
BMC  
FRU  
Node Manage  
LAN Information  
Power Supply  
Sensors  
**Event Log**  
Multi Node  
About

BMC IP : 10.136.33.31  
Current Item : Event Log  
Updated Time : 06/08/16 03:46:00 PM  
Connection Status : Normal  
[Refresh](#)

Order	Sensor Name	Event Description	Event Dir	Time
1	OEM	AC Power On	Assertion	2016/06/04 05:37:20
2	OEM	AC Power On	Assertion	2016/06/04 05:42:34
3	OEM	AC Power On	Assertion	2016/06/04 05:49:03
4	OEM	AC Power On	Assertion	2016/06/04 05:54:21

---


[illegible]

## 10. About

Issues	Performance	Supermicro IPMI	Log Browser	Utilization	Tasks	Events	Resource Reservation	Hardware Status
--------	-------------	-----------------	-------------	-------------	-------	--------	----------------------	-----------------

Management

- IPMI Device
- BMC
- FRU
- Node Manage
- LAN Information
- Power Supply
- Sensors
- Event Log
- Multi Node
- About



Supermicro CIM Provider for VMware ESXi

(1) Supermicro CIM Provider Version : 1.0.1-160604

(2) Supermicro CIM Web Plugin Version : 1.0.0-160630

Copyright(c) 2016 by Super Micro Computer, Inc. All rights reserved.

More information, please visit : <http://supermicro.com/>

---

# Contacting Supermicro

---

## Headquarters

Address: Super Micro Computer, Inc.  
980 Rock Ave.  
San Jose, CA 95131 U.S.A.  
Tel: +1 (408) 503-8000  
Fax: +1 (408) 503-8008  
Email: [marketing@supermicro.com](mailto:marketing@supermicro.com) (General Information)  
[support@supermicro.com](mailto:support@supermicro.com) (Technical Support)  
Web Site: [www.supermicro.com](http://www.supermicro.com)

## Europe

Address: Super Micro Computer B.V.  
Het Sterrenbeeld 28, 5215 ML  
's-Hertogenbosch, The Netherlands  
Tel: +31 (0) 73-6400390  
Fax: +31 (0) 73-6416525  
Email: [sales@supermicro.nl](mailto:sales@supermicro.nl) (General Information)  
[support@supermicro.nl](mailto:support@supermicro.nl) (Technical Support)  
[rma@supermicro.nl](mailto:rma@supermicro.nl) (Customer Support)

## Asia-Pacific

Address: Super Micro Computer, Inc.  
3F, No. 150, Jian 1st Rd.  
Zhonghe Dist., New Taipei City 235  
Taiwan (R.O.C)  
Tel: +886-(2) 8226-3990  
Fax: +886-(2) 8226-3992  
Web Site: [www.supermicro.com.tw](http://www.supermicro.com.tw)  
Technical Support:  
Email: [support@supermicro.com.tw](mailto:support@supermicro.com.tw)  
Tel: +886-(2)-8226-3990