

Hitachi Virtual Storage Platform One File

Remote Management using IPMI on VSP One File 34 and File 38

This document provides information on using the Intelligent Platform Management Interface (IPMI) in a VSP One File environment.

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Preface

About this document

This document provides information on using the Intelligent Platform Management Interface (IPMI) in a VSP One File environment.

Document conventions

This document uses the following typographic convention:

Convention	Description
Bold	<ul style="list-style-type: none">Indicates text in a window, including window titles, menus, menu options, buttons, fields, and labels. Example: Click OK.Indicates emphasized words in list items.
<i>Italic</i>	Indicates a document title or emphasized words in text.
Monospace	Indicates text that is displayed on screen or entered by the user. Example: <code>pairdisplay -g oradb</code>

Intended audience

This document is intended for users working on Intelligent Platform Management Interface (IPMI) in a VSP One File environment.

Accessing product downloads

Product software, drivers, and firmware downloads are available on Hitachi Vantara Support Connect: <https://support.hitachivantara.com/>.

Log in and select Product Downloads to access the most current downloads, including updates that may have been made after the release of the product.

Getting Help

[Hitachi Vantara Support Connect](#) is the destination for technical support of products and solutions sold by Hitachi Vantara. To contact technical support, log on to Hitachi Vantara Support Connect for contact information: https://support.hitachivantara.com/en_us/contact-us.html.

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Chapter 1: IPMI overview

This document provides information on using the Intelligent Platform Management Interface (IPMI) in an VSP One File environment.

What is IPMI?

The Intelligent Platform Management Interface (IPMI) is a specification for providing management and monitoring capability directly to computer hardware without requiring access to the firmware or software. This functionality is useful for unmanned data centers where physical access to the hardware is not available. For example, if an Administrator needs to turn the power to a server on or off but is not based at the same geographical location as the server, IPMI provides a method of power cycling the server remotely.

IPMI features supported by the VSP One File server

The VSP One File server supports the following IPMI features:

- Remote console access
- Power Off Server - Immediate (non-graceful shutdown)
- Graceful Shutdown
- Power On Server
- Power Reset
- Power Cycle Server

Remote console access

This feature enables a remote Administrator to access a server over a network connection using a remote console.

Power Off Server - Immediate

This option turns off power to the server. It does not restart the server.

Caution: IPMI also provides a Power Off Server - Orderly Shutdown option. This option is not supported as it causes the VSP One File server to reboot instead of shut down.

Graceful Shutdown

This option powers off the server system by shutting down the operating system before turning off the server.

Power On Server

This option restarts the server by turning on the power.

Power Reset

Perform a warm restart on the server system

Power Cycle Server

For remote power cycling, IPMI provides two options:

The VSP One File server supports **Power Cycle Server** only. This feature enables a remote Administrator to reboot the server as if someone were pressing the power button locally.

On reboot the server will report the boot reason in the dblog:

```
Boot reason: Power up
```

The NVRAM log is always preserved and replayed after a reboot.

```
Hm Early Fail Cause (4): TAN_PCIE_Reset CFB boot reason:  
Motherboard
```

Security considerations

Before using IPMI with an VSP One File server, note the following security considerations:

- Ensure the VSP One File Linux passwords are changed from the default password, especially the root user password.
- Ensure the IPMI ADMIN password is changed from the default password.
- Configure IPMI to use a dedicated network port on a dedicated secure network which can only be accessed from the remote monitoring site.

These steps help to protect your VSP One File server from unauthorized access.

Further reading

Further information regarding the IPMI interface may be found in the SUPERMICRO® document titled “IPMI User’s Guide” which is located here:

https://www.supermicro.com/manuals/other/IPMI_Users_Guide.pdf

Chapter 2: Installing and configuring IPMI

Before using the IPMI features, the Administrator must enable and configure the IPMI settings on each individual VSP One File server in order to be able to control them with IPMI - not just the node containing the Admin EVS.

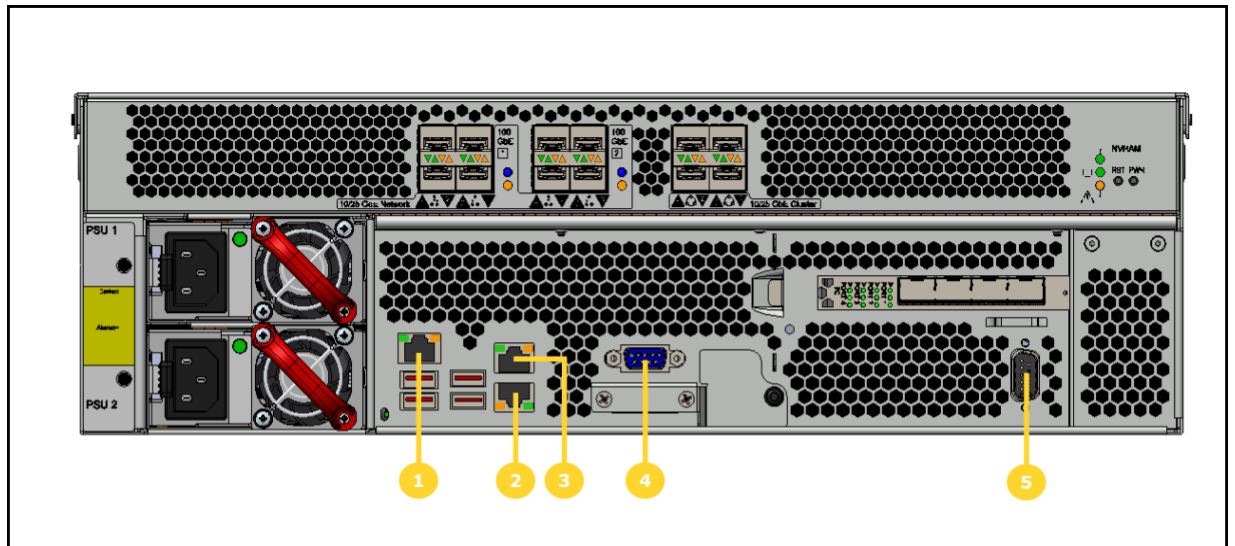
Enabling IPMI on the VSP One File server

The VSP One File server has the following pre-installed IPMI tools:

- `ipmitool`
- `ipmievd`
- All necessary Linux kernel modules To enable IPMI on an VSP One File server in a cluster:

Procedure

1. Connect the separate IPMI network port (indicated below as annotation number 1) to your secure management network.



2. Connect to the VSP One File server as follows:

- a) Run the following command:

```
ssh supervisor@<VSP One File server IP address>
```

- b) Enter the Supervisor password.
- c) If you already know the IP addresses of the individual VSP One File server nodes in the cluster, proceed to step 2 e.

Otherwise:

- d) On the console, type **ipaddr -s** and press Enter.

This displays the IP address of each server node in the cluster. Note the IP address of the VSP One File server node being updated.

- e) Type **Ctrl+c** to enter the Linux console.
- f) Type **su** and enter the root password to become a root user.

3. From the Linux prompt, run the following command to obtain the user ID number for the ADMIN user:

```
ipmitool user list | grep ADMIN
```

4. Run the following command appending the ADMIN user ID number to reset the password:

```
ipmitool user set password <user ID number for ADMIN>
```

This sets the password for the default username which is ADMIN. Once logged in, you can create additional users.

5. Run the following command:

```
ipmitool lan print 1
```

This command displays the IP address. By default, the address is obtained through DHCP.

6. Run the following command to display the Firmware revision number:

```
ipmitool mc info
```

The correct version is 1.05.23. If the version is earlier than this, the server requires an update.

7. Run the following commands to specify a static IP address:

```
ipmitool lan set 1 ipsrc static
ipmitool lan set 1 ipaddr <ip address>
ipmitool lan set 1 netmask <netmask>
ipmitool lan set 1 defgw ipaddr <gateway ip address>
ipmitool lan print 1
```

It is also possible to change the IP address using the IPMI Management GUI. The server is now manageable remotely using HTTP or HTTPS with the IP address of the IPMI port.

Important: Record the password and IPMI IP address for future use.

Changing the IP address using a Web browser

To update the IP address using the SUPERMICRO® Web application:

Procedure

1. Navigate to `http://<IP address of the IPMI port>` using a Web browser. The SUPERMICRO® Web application appears.
2. Enter the IPMI ADMIN username and password. Note that the username and password are both case-sensitive.
3. Click on the Configuration option on the left-hand tool bar.
4. Click on the Network option from the drop-down list.
5. Enter the new IP address, subnet Mask, gateway address as required.
6. Click on 'Advanced settings' to change/modify DNS Server IP address.
7. Click on the Save button at the bottom of the screen to save changes.

Checking the IPMI version

You can determine the IPMI version by connecting to the IPMI port address using a Web browser (**System** tab) or by using the following command at the Linux prompt:

```
ipmitool mc info
```

Obtaining the IPMI firmware

Before upgrading the IPMI version, you need to download the IPMI firmware.

To obtain the firmware:

Procedure

1. Navigate to the SUPERMICRO® website, search for X12SCZ-F.
2. Select the link for X12SCZ-F Motherboard and download the IPMI firmware from the Resources section. If the required version of the firmware is no longer available at the site, contact Hitachi Vantara support.

3. Extract the individual firmware file from the compressed file and save it on the system used to connect to the NAS server. You should also extract the IPMI Firmware Update document.

Updating an IPMI installation

Use the SUPERMICRO® Web application to update the IPMI version from any earlier version, even where the firmware version differs on each cluster node.

Important: While updating the IPMI firmware, it is important to maintain a power supply to the server.

Important: It is recommended that the current configuration is saved before updating the IPMI firmware

Important: This procedure can cause the VSP One File server to be temporarily out of service. To avoid an unplanned interruption to file serving on a cluster, migrate all EVSs away from the node which is being updated.

To update the IPMI firmware:

Procedure

1. Using a Web browser, navigate to **http://<IP address of the IPMI port>** from the PC containing the new firmware files. The SUPERMICRO® Web application appears.
2. Enter the IPMI ADMIN username and password. Note that the username and password are both case-sensitive.
3. Follow the instructions in the **WEB-GUI** section of the **IPMI Firmware Update** document provided by SUPERMICRO® in the firmware download to install the bin file.
4. The upgrade takes approximately five minutes. If access to the Web page is disrupted during the upgrade process, wait for at least 15 minutes before attempting a reboot of IPMI to allow the upgrade to finish in the background.

Chapter 3: Using IPMI

This section contains instructions on how to use the IPMI features supported on the VSP One File server:

You can use either the SUPERMICRO® Web application or a separate Linux PC connected to the same management network as the VSP One File server IPMI port.

Using SUPERMICRO® Web application

You can remotely control the VSP One File server from the web interface by selecting **Remote Control** and clicking the Launch Console button. It can also be accessed from the Dashboard after selecting either HTML or Java from the Remote Console Preview. You can then click on the console preview to open a separate window.

Using Remote Console Access on a Linux PC

To obtain remote access to the VSP One File server firmware console using a Linux PC make sure that the IPMI tool is installed.

On the Linux PC console, enter the following command:

```
ipmitool -I lanplus -H <IP from IPMI LAN setup> -U ADMIN -P <password>  
sol activate
```

Log into the server as supervisor. It is now possible to access the firmware functionality on the VSP One File server using the server's standard CLI commands.

To exit the console, enter ~. (tilde dot)

Checking the server power status

To check the power status of the server, use a separate Linux PC connected to the same management network as the VSP One File server's IPMI port.

On the Linux PC, enter the following command:

```
ipmitool -I lanplus -H <IP from IPMI LAN setup> -U ADMIN -P <password>  
power status
```

The power can be 'Off' or 'On'.

Using Power Cycle Server

To reboot the VSP One File server, use a separate Linux PC connected to the same management network as the VSP One File server IPMI port.

On the Linux PC, enter the following command:

```
ipmitool -I lanplus -H <IP from IPMI LAN setup> -U ADMIN -P  
<password> power cycle
```

It is also possible to power cycle the server from a Web browser connected to the IPMI port IP address.

Using Power Off Server - Immediate

To turn off the power to the VSP One File server, use a separate Linux PC connected to the same management network as the VSP One File server IPMI port.

On the Linux PC, enter the following command:

```
ipmitool -I lanplus -H <IP from IPMI LAN setup> -U ADMIN -P  
<password> power off
```

This command performs a shutdown of the server.

It is also possible to perform a shutdown from a Web browser connected to the IPMI port IP address.

Using Power On Server

To turn on the power to the VSP One File server, use a separate Linux PC connected to the same management network as the VSP One File server IPMI port.

On the Linux PC, enter the following command:

```
ipmitool -I lanplus -H <IP from IPMI LAN setup> -U ADMIN -P  
<password> power on
```

It is also possible to power on the server from a Web browser connected to the IPMI port IP address.

Using a Web browser for IPMI power options

The following IPMI power options are supported on the IPMI Web application:

- Power Down – Immediate
- Graceful Shutdown

- Power Cycle
- Power Reset

To access the power options:

Procedure

1. Open a Web browser and navigate to the IPMI IP address configured using the `ipmitool` application.
2. Enter username: ADMIN and the associated password.
3. Once successfully logged in, click the power button on the right of the screen. Note that hovering over the button will show the power status of the server. Clicking the button will open a window with radio buttons for each of the power options.
4. Select one of the following options as required:
 - Power Down – Immediate
 - Graceful Shutdown
 - Power Cycle
 - Power Reset
5. Click the Apply button to begin the selected power option. If the power is turned off, the Web browser becomes unavailable for a few seconds.

Setting the IPMI network port to “dedicated”

To improve security the IPMI port should ideally be dedicated to IPMI use only. To do this, from the VSP One File Linux console run the following command:

```
ipmitool raw 0x30 0x70 0x0c 1 0
```

To query the current setting, run the following command:

```
ipmitool raw 0x30 0x70 0x0c 0
```

The value returned can be decoded as follows: 0=dedicated, 1=shared, 2=failover.

Chapter 4: Backup and restore overview

IPMI configuration backup

To back up the IPMI configuration use the web interface and select **Configuration** followed by BMC Settings. Select **IPMI Configuration** then choose **Download**.

IPMI configuration restore

To restore an IPMI configuration use the web interface and select **Configuration** followed by BMC Settings. Select **IPMI Configuration** then click on **Select File** and select the desired file. Finally select **Reload**.

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