

Hitachi Virtual Storage Platform G130

88-02-0x

(without SVP) Installation Guide

This guide provides information and instructions for installing and setting up your Hitachi Virtual Storage Platform VSP G130 storage system.

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Installing your storage system

Hitachi Virtual Storage Platform G130 storage systems are designed for self-installation, so you can set up your storage system for the first time without assistance from a Hitachi Vantara representative.

Step 1: Unpack the storage system

Before you begin

Make sure your data center meets all [site preparation](#) requirements before you install the storage system. In addition, if you are not using a Hitachi Universal V2 rack, make sure the electrical specifications of your rack meet the power requirements of the storage system.

Procedure

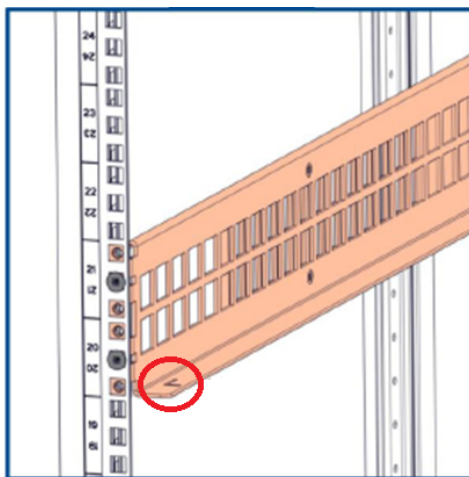
1. Inspect all materials for signs of damage. If you see damage, discontinue the installation and contact your Hitachi Vantara representative.
2. If your storage system did not arrive factory-installed in a rack, loosen the band around the cartons and open all boxes. Remove all packing materials, envelopes, and boxes from the cartons.
3. Retain all packing materials and cartons in case you need to transport or ship the storage system in the future.
4. Check the items you received against the packing list. If any items are missing or damaged, discontinue the installation and contact your Hitachi Vantara representative.
5. Place the keys for the front bezel in a safe place. You will need them to attach the bezel to the front of the controllers.
6. If your storage system arrived already factory-installed in a rack, skip step 2 and proceed to [step 3 \(on page 10\)](#).

Step 2: Install the storage system into a rack

Mount the controller into the Hitachi Universal V2 rack or into a 4-post EIA 310-D compliant 19-inch rack with square mounting holes and rear-facing power distribution units (PDUs).



Note: Hitachi Vantara provides rail kits (part number A34V-600-850-UNI-S) for mounting the storage system controller into third-party racks. Mounting rails are shipped in a separate box. The left rail has the letter L cut into the sheet metal, as shown in the following figure. The right mounting rail has no similar marking. The kit includes more screws than are required for securing the rails to the rack.



The following instructions describe how to install the controller into a Hitachi Universal V2 rack. For information about installing the controller in a third-party rack, see the documentation for that rack.



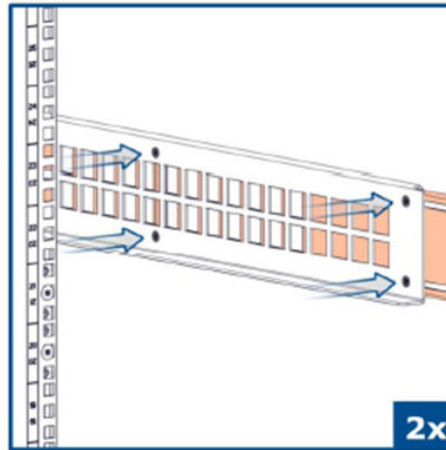
WARNING: Due to the heavy weight of the controller, use a mechanical lift or at least three people to lift and mount the controller in the rack.

Before you begin

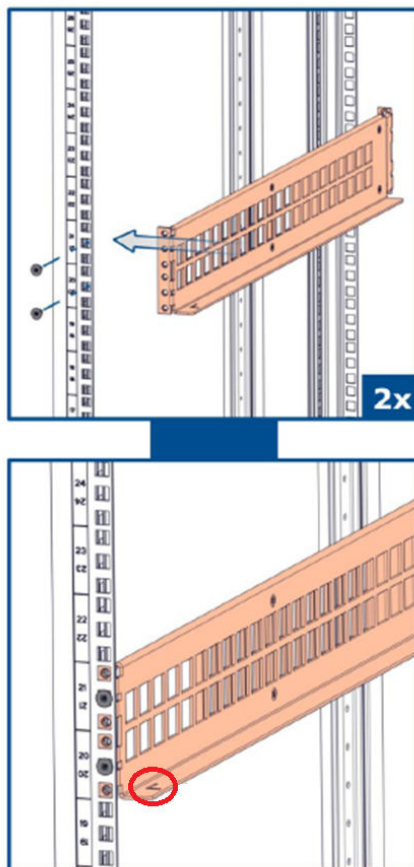
- Make sure you have a 19-inch rack that is secure and cannot fall over.
- Make sure the rack has one or more PDUs installed.
- Verify that all power cables are removed from the AC power receptacles on the rear of the controller.
- Install the rack stabilizers before mounting the storage system in the rack.

Procedure

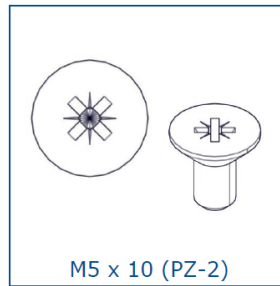
1. Loosen the four adjustment screws, if needed, so that the rail halves can be adjusted freely to fit between the front and rear vertical rack posts.



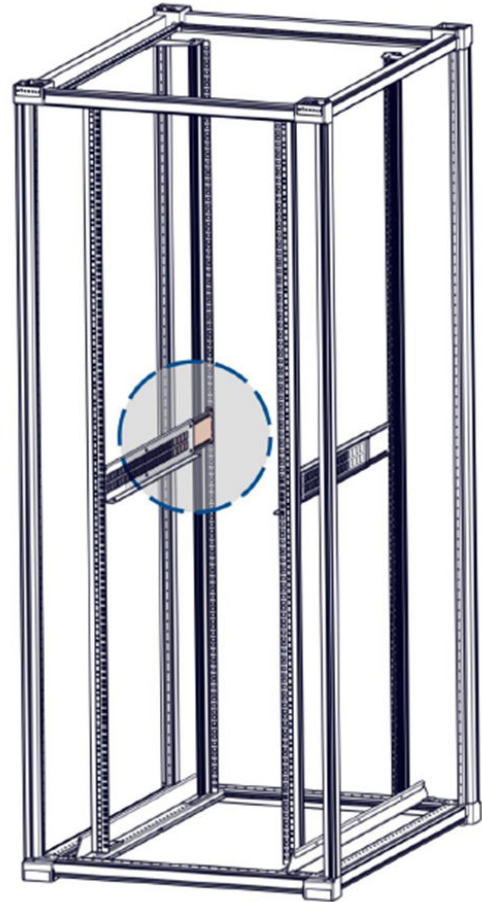
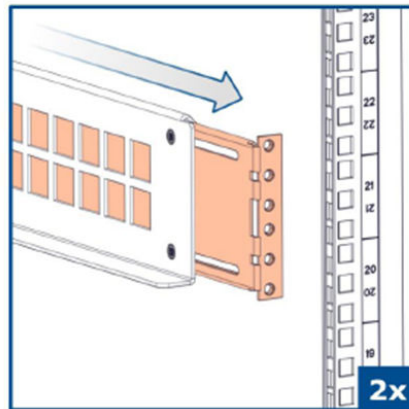
2. Facing the front of the rack, find an empty 2U location where you will install the controller.
3. Place the left mounting rail as shown in the following figure, and then use two flathead screws to secure the rails to the front vertical post on the rack.



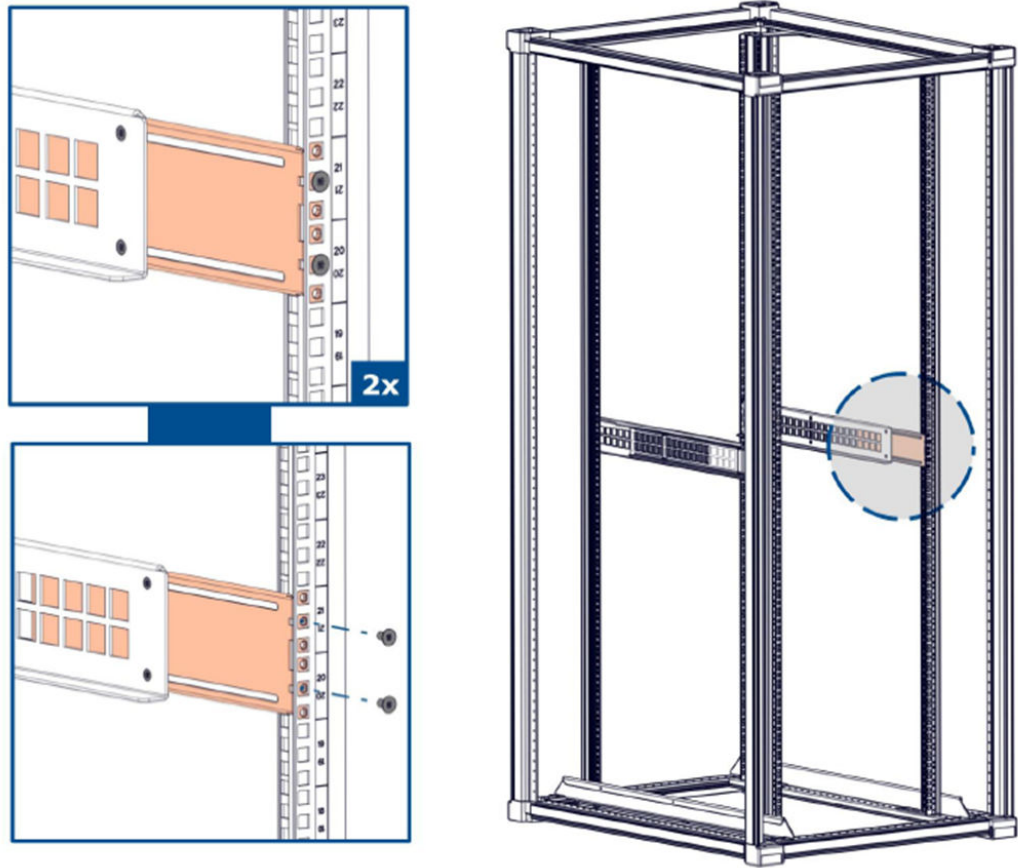
Note: The flathead screws are M5x10 (PZ-2), where PZ-2 refers to the size and type of the Philips head).



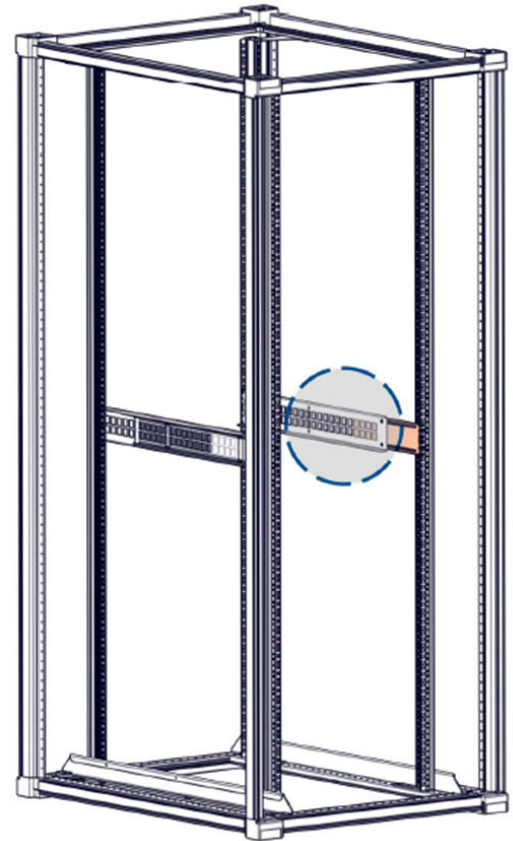
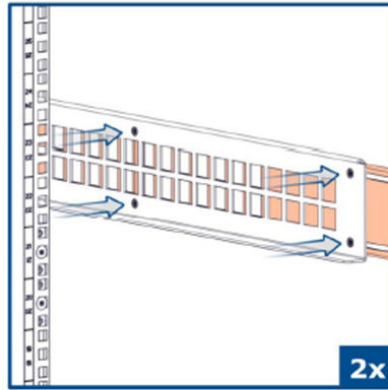
4. Slide the length of the left mounting rail to fit the length of the rack.



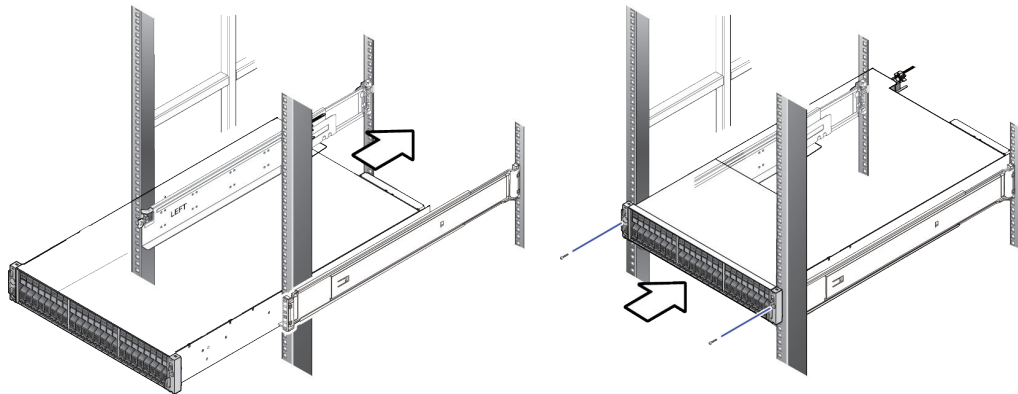
5. Use two flathead screws to secure the rails to the rear vertical post on the rack.



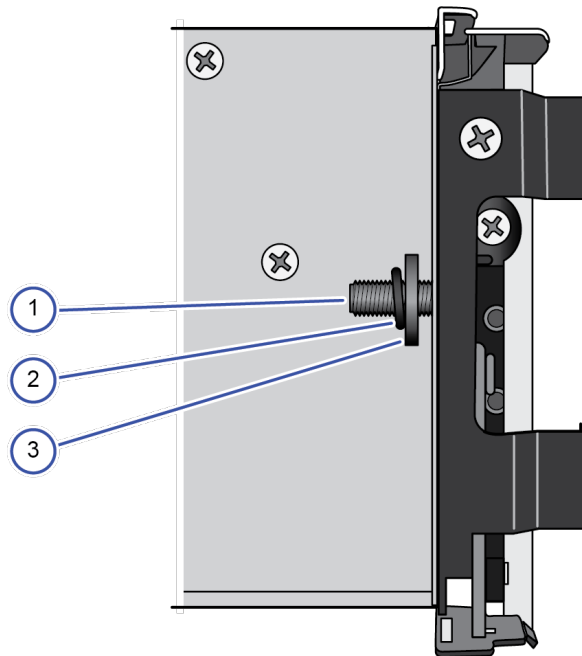
6. Tighten the four screws on the left mounting rail.



7. Repeat steps 1 through 6 to attach and secure the right mounting rail to the right side of the rack.
8. Position the controller so the front faces the front of the rack, and then slide the controller gently onto the rails. Stop sliding when the mounting flanges on the front of the controller touch the vertical face of the rack.

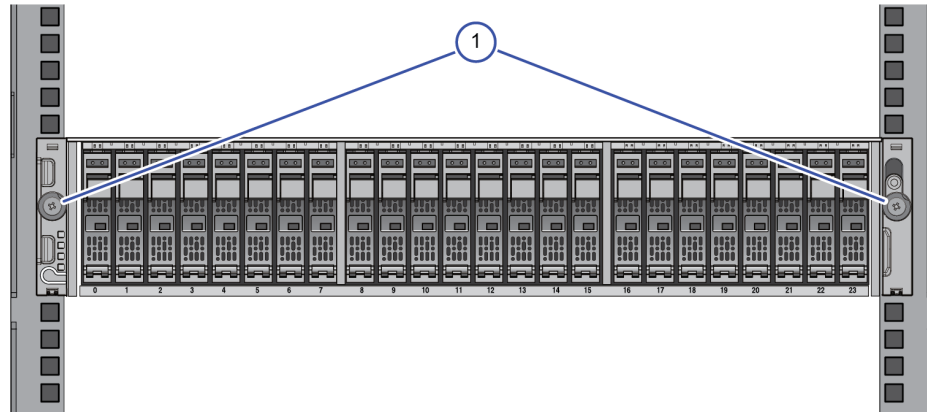


9. Find the washers, O-rings, and screws included with the bezel bracket mounting kit (part number 043-100885-01.P). Then install a washer, O-ring, and screw (one per side) between the mounting profile of the rack and the mounting "ears" of the controller. The screw engages the threaded hole in the rail.



Item	Description
1	Screw
2	O-ring
3	Washer

The rack installation for your controller should resemble the following figure.



Item	Description
1	Washers, O-rings, and screws securing the controller to the front of the rack

Step 3: Connect the storage system to power

The storage system's input voltage is auto-adjusting for 100-120 (+6%) / 200-240 (-11%) VAC, 50-60 Hz power connections. Power is provided through two power supplies, one per controller.

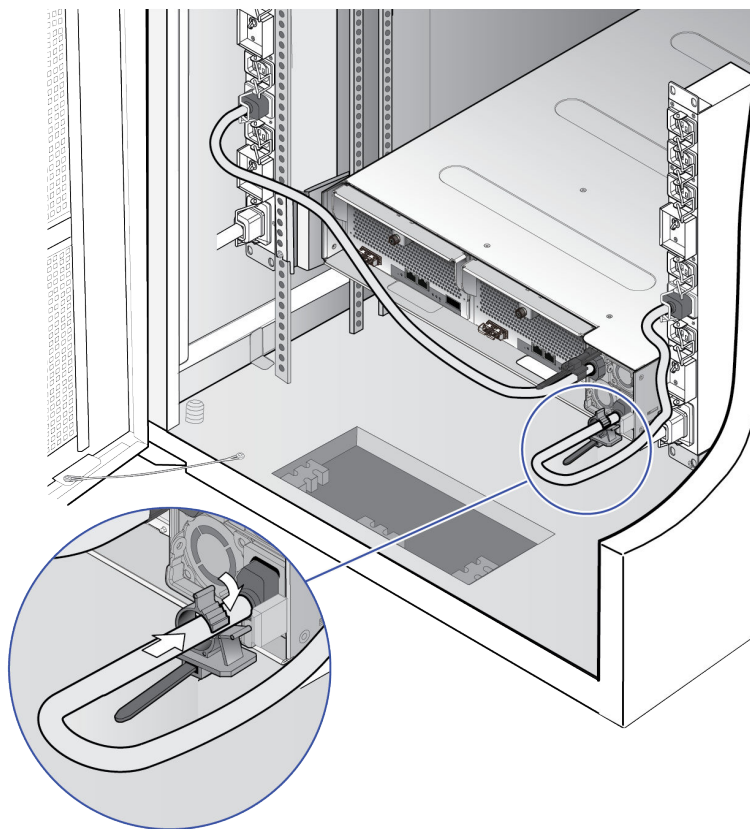
For best practice, establish power redundancy by routing each power supply to independent PDUs and then routing the PDUs to separate external power sources on different branch circuits. This arrangement enables the storage system to continue operating if AC power is lost to one power supply.



Note: Multiple outlets in a PDU or power strip do not constitute an independent electrical source.

Procedure

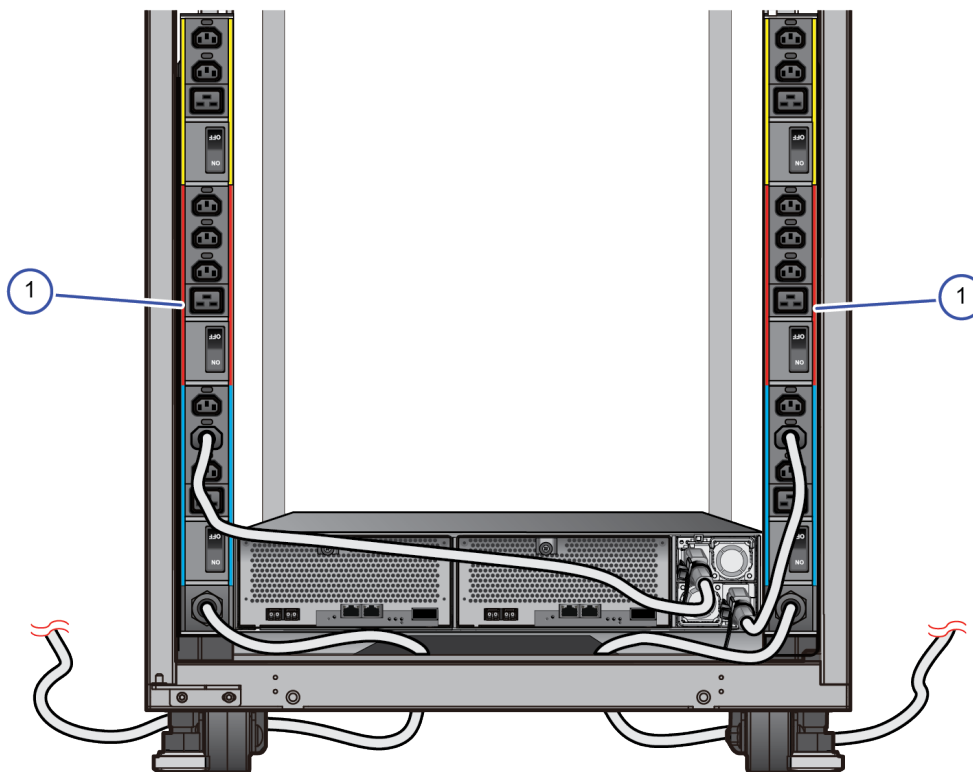
1. Confirm that all power sources are off.
2. Connect an AC power cable to the power receptacle on the rear of each controller.
3. Route the power cables from each controller to separate PDUs, and then use the pre-installed tie wraps at each controller power receptacle to secure the power cables, as shown in the following figure.



4. Connect the PDUs to separate external power sources on different branch circuits.



Note: To prevent the storage system from being turned off by accident, make sure the external power sources are not controlled by a wall switch.



Item	Description
1	PDUs on the left and right sides of the rack

Step 4: Cable a management console

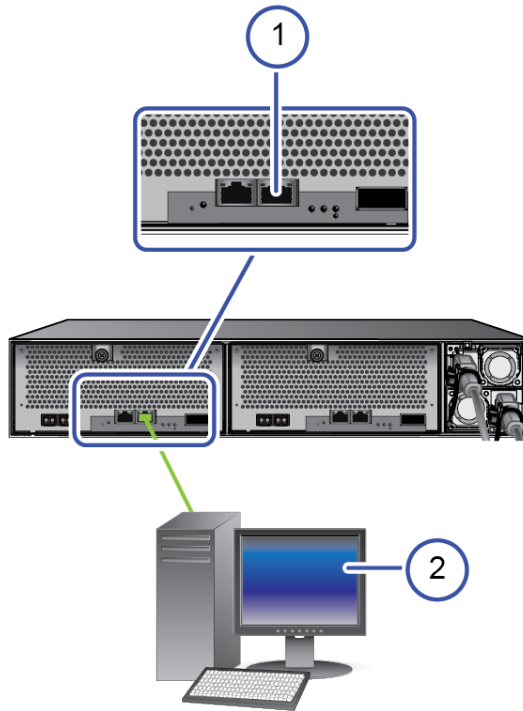
A customer-supplied computer is used to set up and manage your storage system.

Before you begin

- Obtain a Category 5 or better Ethernet cable.
- Obtain a customer-supplied Windows-based PC that will serve as the management console for setting up the storage system for the first time and, thereafter, to manage the storage system. The management console must have a supported web browser: Internet Explorer version 11 or later, Chrome, or Firefox.

Procedure

1. Connect one end of the Ethernet cable to the management port on the rear of either controller. The following figure shows the connection to the management port on controller 1.



Item	Description
1	Management port on the rear of controller 1
2	Management console

2. Connect the other end of the cable to a management console.

Step 5: Power on the storage system

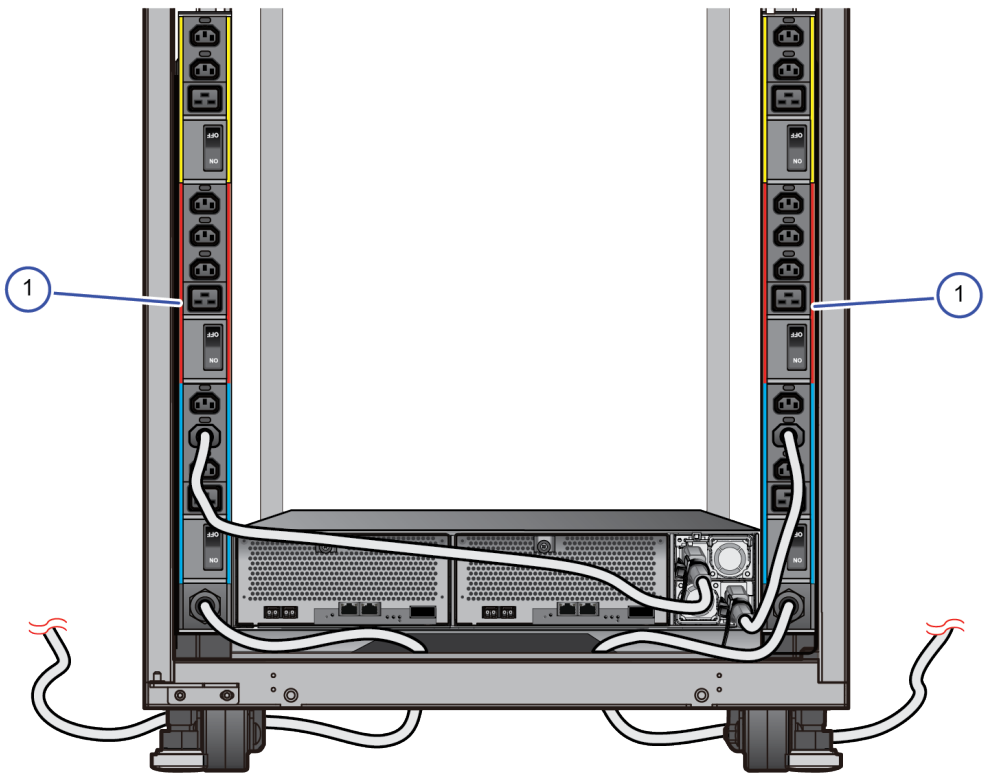
Procedure

1. Confirm that the power cables on the rear panel are connected to separate PDUs, as shown in the following figure. Then connect the PDUs to external power sources.



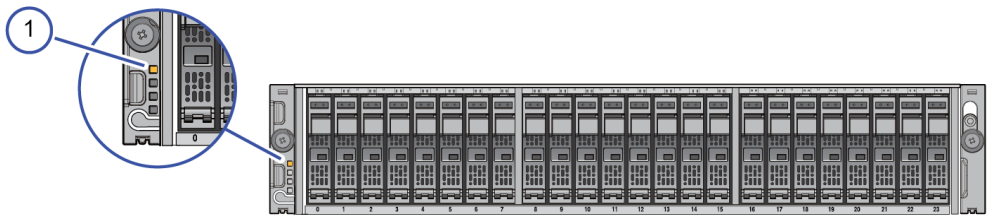
Note: For best practice, establish power redundancy by routing the power connections from each PDU to external power sources on different branch circuits.

To prevent the storage system from being turned off by accident, make sure the external power sources are not controlled by a wall switch.



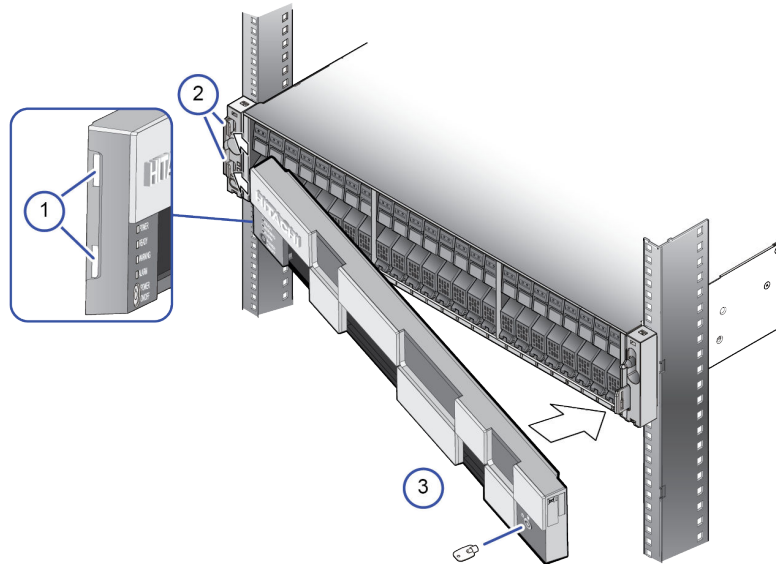
Item	Description
1	PDUs on the left and right sides of the rack

- 2. Power on the PDUs.
- 3. Confirm that the top (**POWER**) LED on the lower left front side of the controller is lit amber, as shown in the following figure. If the storage system has a drive tray, confirm that the **POWER** LED on the lower left front side of the drive tray is lit green.



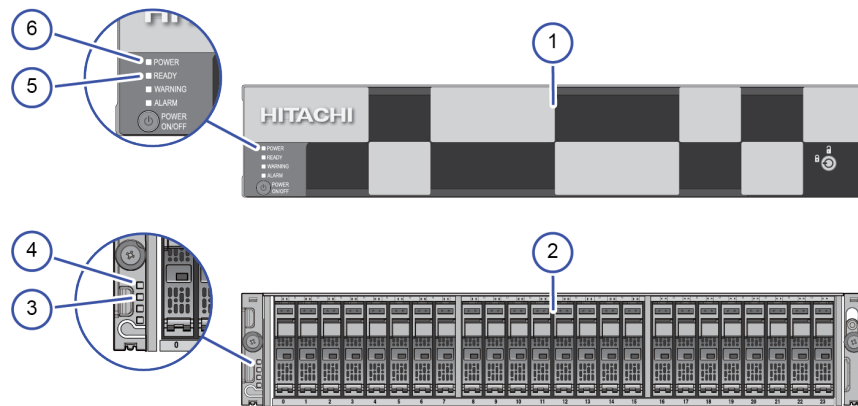
Item	Description
1	POWER LED on the front of the controller

4. If the front bezels are not attached to the front of the controller and drive tray, attach them as follows:
 - a. Line up the two tabs on the left side of the controller or drive tray with the two slots on the left side of the bezel.
 - b. Connect the bezel by sliding it on and swinging the bezel closed.
 - c. Use the key to secure the bezel to the front of the unit.



Item	Description
1	Bezel slots
2	Tabs
3	Key

5. On the lower left front side of the controller, press and hold the **POWER ON/OFF** button until the **POWER** LED changes to green (about 3 seconds), and then release the button.



Item	Description
1	Controller (front bezel attached)
2	Controller (front bezel removed)
3	READY LED on controller (front bezel removed)
4	POWER LED on controller (front bezel removed)
5	READY LED on controller (front bezel attached)
6	POWER LED on controller (front bezel attached)

6. Wait for the green **READY** LED on the front of the controller to go on (approximately 16-25 minutes).



Note: If the **READY** LED does not go on after 30 minutes, contact customer support.

Step 6: Perform the initial setup

Initial setup of the storage system is performed using the Windows-based management console.

Preparing a storage system that does not have an SVP

Before you begin

Confirm that the Windows-based management console has an Internet connection and an installed version of one of the following web browsers: Internet Explorer version 11 or later, Chrome, or Firefox.

Procedure

1. Connect the management port on controller 1 and controller 2 to a management (non-production) network.
2. Configure the management console to use an IP address of 192.168.0.18 and a subnet mask of 255.255.255.0.

Next steps

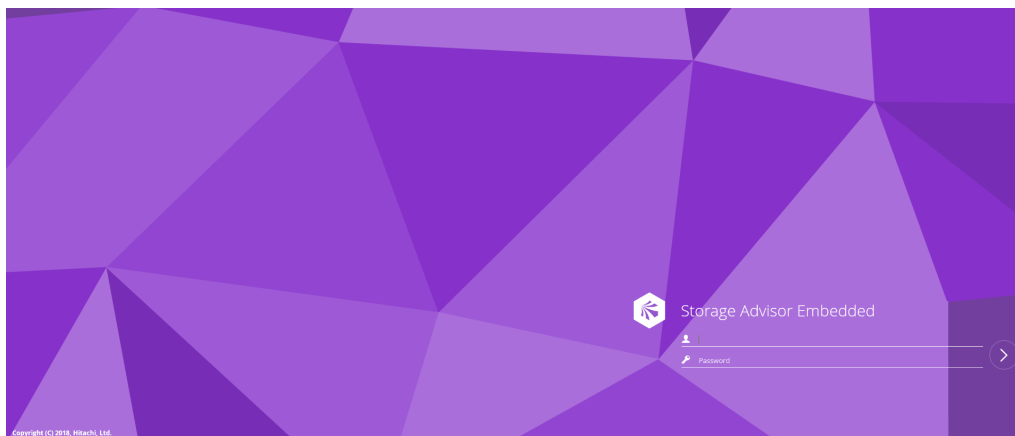
Change the storage system's default password.

Changing the default password

To prevent unauthorized access to your storage system, change the default password.

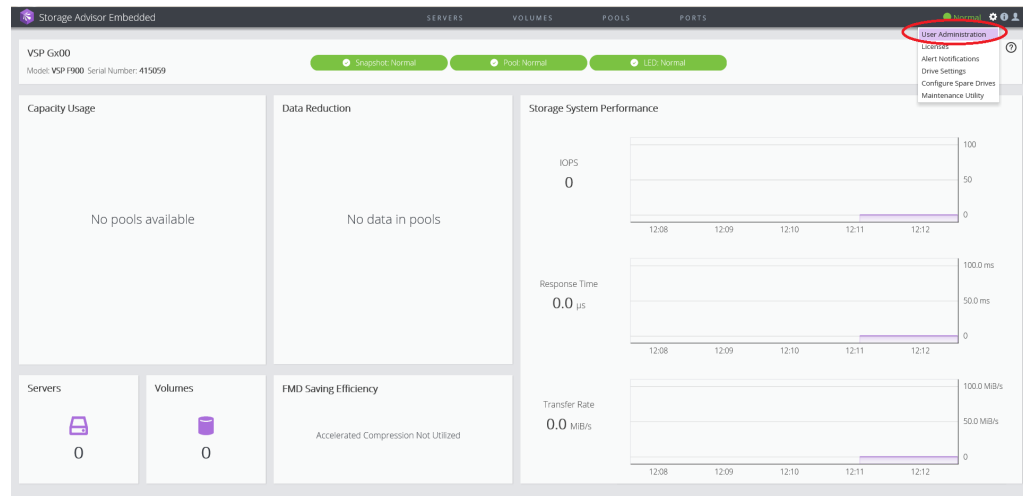
Procedure

1. On your management console PC or laptop, open a web browser and enter the following IP address: 192.168.0.16
2. Enter the default user name `maintenance` and the default password `raid-maintenance`, and then press the Enter key to log in to Hitachi Storage Advisor Embedded.

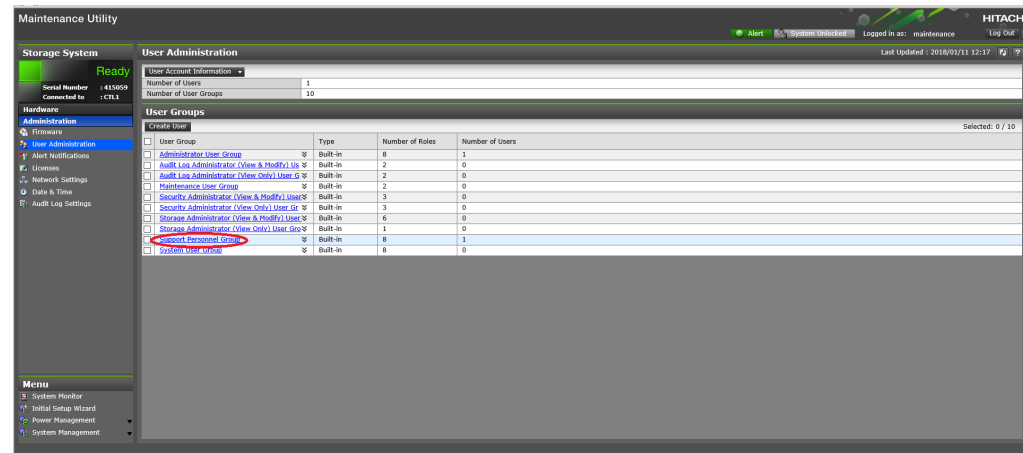


If the login window does not appear, check whether the browser is configured to allow pop-ups. If pop-ups are allowed, make sure the management console IP address is set to 192.168.0.18 and the subnet mask is set to 25.255.255.0. If the IP address and subnet mask are correct and pop-ups are allowed, but the login window does not appear, contact customer support.

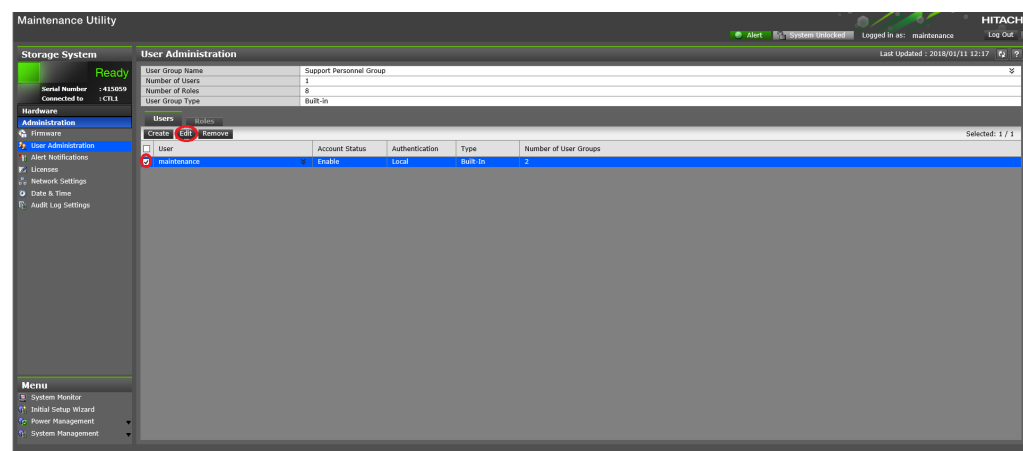
3. In the top-right corner, click the gear icon, and then select **User Administration**.



4. Click **Support Personnel Group**.



5. On the **Users** tab, select the **maintenance** user check box if it is not already selected, and then click **Edit**.



6. Type the new case-sensitive password for the maintenance user in **New Password** and **Re-enter Password**. For security, each typed password character is masked with a dot.



Important: This password is required for storage system maintenance and for running the **Initial Setup** wizard. Record the new password for the maintenance user and keep it in a safe location.

Edit User
To update the user account information, edit the settings, and then click [Finish].

User Name: maintenance

Account Status: ☒ Enable ☐ Disable

Authentication: ☒ Local: New Password: (6 - 256 characters)
Re-enter Password:

☐ External:

User Groups			
<input type="checkbox"/>	User Group Name	Type	Number of Roles
<input checked="" type="checkbox"/>	Administrator User Group	Built-in	8
<input type="checkbox"/>	Audit Log Administrator (View & Modify) Use	Built-in	2
<input type="checkbox"/>	Audit Log Administrator (View Only) User Gr	Built-in	2
<input type="checkbox"/>	Maintenance User Group	Built-in	2
<input type="checkbox"/>	Security Administrator (View & Modify) User	Built-in	3

Selected: 2 / 10

Finish Cancel ?

7. Click **Finish**, and then click **OK**, **Apply**, and **Close**.

Next steps

Run the **Initial Setup** wizard.

Running the Initial Setup wizard

The **Initial Setup** wizard allows you to configure system information, date and time settings, and network settings.

The **Initial Setup** wizard settings are presented on three windows. Buttons at the bottom of each window allow you to apply or skip the settings on that window. If you skip settings, you can complete them later by running the **Initial Setup** wizard again. To display details about the settings in the windows, click the question mark icon in the bottom right.

Before you begin

Log in to Storage Advisor Embedded, and then open the maintenance utility by clicking the gear icon at the top-right corner and selecting User Administration.

Procedure

1. In the maintenance utility navigation tree, under **Menu**, click **Initial Setup Wizard**.



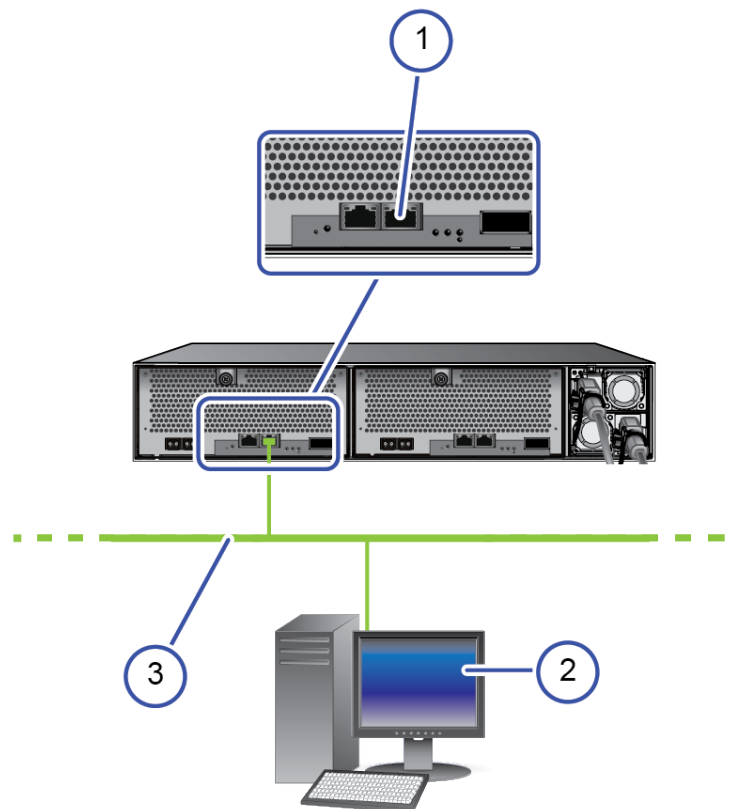
Tip: Initial Setup Wizard is near the bottom of the navigation tree. If you do not see this selection, scroll down the tree.

- At the bottom, click **Skip this step** two times to bypass the **Set Up System Information** and **Set Up Date & Time** screens.
- In the **Set Up Network Settings** screen, enter the IPv4 or IPv6 configuration settings for the production network to which the storage system will be connected. For example:

Setting	Description
Protocol	IP addressing method to be used for configuring the storage system.
MAC Address	Read-only field that shows the MAC address for controllers 1 and 2.
IPv4 Configuration/ IPv6 Configuration	<ul style="list-style-type: none"> ▪ IPv4 Address: IPv4 address of the production network to which the storage system will be connected (IPv4 only). ▪ IPv6 Address: IPv6 address of the production network to which the storage system will be connected (IPv6 only). ▪ Subnet Mask: IP address mask that identifies the range of IP addresses in the subnet to which the storage system will be connected. ▪ Subnet Prefix Length: Subnet prefix length of the network to which the storage system will be connected (IPv6 only). ▪ Default Gateway: IP address of the default gateway to which the storage system will be connected. The gateway is the IP address of the router used to communicate outside the local subnet. ▪ DNS Server 1-3: If your configuration uses DNS to resolve IP addresses (for example, the IP address for the NTP server used with the storage system), enter up to three DNS IP addresses.
Network Connection Mode	Determines whether the storage system negotiates the speed and duplex mode automatically with the attached device. The default setting (Auto-Negotiation) connects the storage system at the highest speed and appropriate duplex setting supported by itself and the connected device.

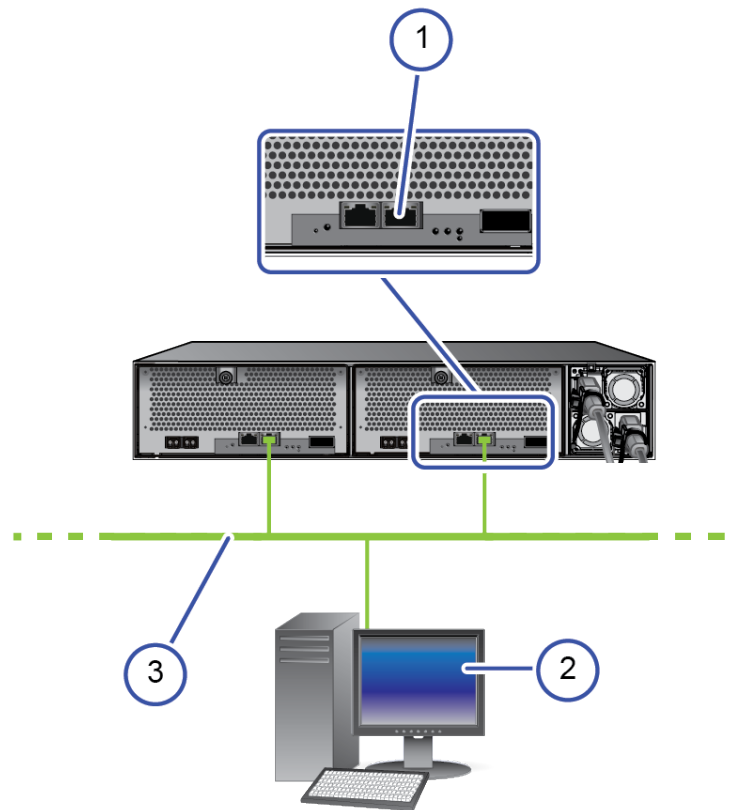
Option	<ul style="list-style-type: none"> ▪ DNS Domain Name: IP address of the DNS server that will perform address resolution. ▪ DNS Search Order: Search domain names. Use the Up and Down buttons to order the domain names. ▪ Maintenance Port: Do not change these values. ▪ Internal Network: Do not change this value.
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4. Click **Apply**, and then click **Close**.
The system logs you out.
5. Remove the Ethernet cable from the management console and attach the cable to your production network. Leave the other end of the cable connected to the management port on the rear of the controller.



Item	Description
1	Management port on the rear of controller 1
2	Management console
3	Production network

6. Connect one end of another Ethernet cable to the management port on the rear of the other controller. Connect the other end of the cable to your production network.



Item	Description
1	Management port on the rear of controller 2
2	Management console
3	Production network

7. Wait 5 minutes for the maintenance utility to fetch the new IP addresses.

8. Open a web browser, and log in to Storage Advisor Embedded again. Use the new IP address you specified in the **Initial Setup** wizard and the new password you specified for the **maintenance** user.
9. In the top-right corner, click the gear icon, and then select **User Administration**.
10. In the maintenance utility navigation tree, under **Menu**, click **Initial Setup Wizard**.
11. Enter the system information, and then click **Apply and Next**.

Setting	Description
Storage System Name	Name used to identify the storage system. This name will appear in the maintenance utility, so use a name that is meaningful.
Contact	Name of the contact person associated with the storage system.
Location	Location of the storage system.

12. Enter the date and time settings, and then click **Apply and Next**.

Initial Setup Wizard

1.Set Up System Information > **2.Set Up Date & Time** > 3.Set Up Network Settings > 4.Finish

To set the date and time of the system, specify the UTC Timezone, the NTP Server information, and Synchronizing Time. When the settings are complete, verify the settings, and then click [Apply & Next].

UTC Timezone: [(UTC-08:00)Pacific Time (US & Canada)]

☒ Automatically adjust clock for Daylight Saving Time

Use NTP Server: ☐ Yes: NTP Server:

☐ Synchronize immediately

☒ No: Date & Time: 2018/01/11 11 : 28

Synchronizing Time: :

< Back Skip this step > Apply and Next > Cancel ?

Setting	Description
UTC Timezone	Time zone in which the storage system is located.
Automatically adjust clock for Daylight Saving Time	If the time zone in which the storage system is located follows Daylight Saving Time, check this box to have the storage system automatically adjust its time twice a year.

Use NTP Server	<p>Determines whether the storage system time is synchronized with an NTP server.</p> <ul style="list-style-type: none"> ▪ Yes: Synchronize system time with an NTP server. Enter the IP address or domain name of the NTP server. To add more than three servers, click the + Add NTP Server button. To synchronize the system time to the NTP server time now, check Synchronize immediately. ▪ No: Do not synchronize system time with an NTP server. In Date & Time, enter the date and time that the storage system will use.
Synchronizing Time	To synchronize the storage system time with the NTP server at a specific time, enter the time when the two will be synchronized.

13. Confirm or change the network settings that you entered earlier in this procedure, and then click **Apply**.

Initial Setup Wizard
 1. Set Up System Information > 2. Set Up Date & Time > **3. Set Up Network Settings** > 4. Finish

To set the network information, set the IP address information and the rest of the settings. When the settings are complete, verify the settings, and then click [Apply].

Protocol: ☒ IPv4 ☐ IPv6 ☐ IPv4/IPv6

	CTL1	CTL2
MAC Address:	f8:48:97:ce:82:08	f8:48:97:ce:81:f8
IPv4 Configuration:		
IPv4 Address:	10.4.9.83	10.4.9.84
Subnet Mask:	255.255.255.0	255.255.255.0
Default Gateway:	10.4.9.126	10.4.9.126
DNS Server 1:	10.74.12.6	10.74.12.6
DNS Server 2:	10.74.12.7	10.74.12.7
DNS Server 3:		
IPv6 Configuration:		
IPv6 Address:	::	::
Subnet Prefix Length:	0	0
Default Gateway:		
DNS Server 1:		
DNS Server 2:		
DNS Server 3:		
Network Connection Mode:	Auto-Negotiation	Auto-Negotiation

[Option](#)

< Back Skip this step > Apply > Cancel ?

14. When prompted that initial settings are complete, click **Close**.

Next steps

(Optional) Configure syslog and SNMP notifications.

Configure syslog and SNMP notifications

Before you begin

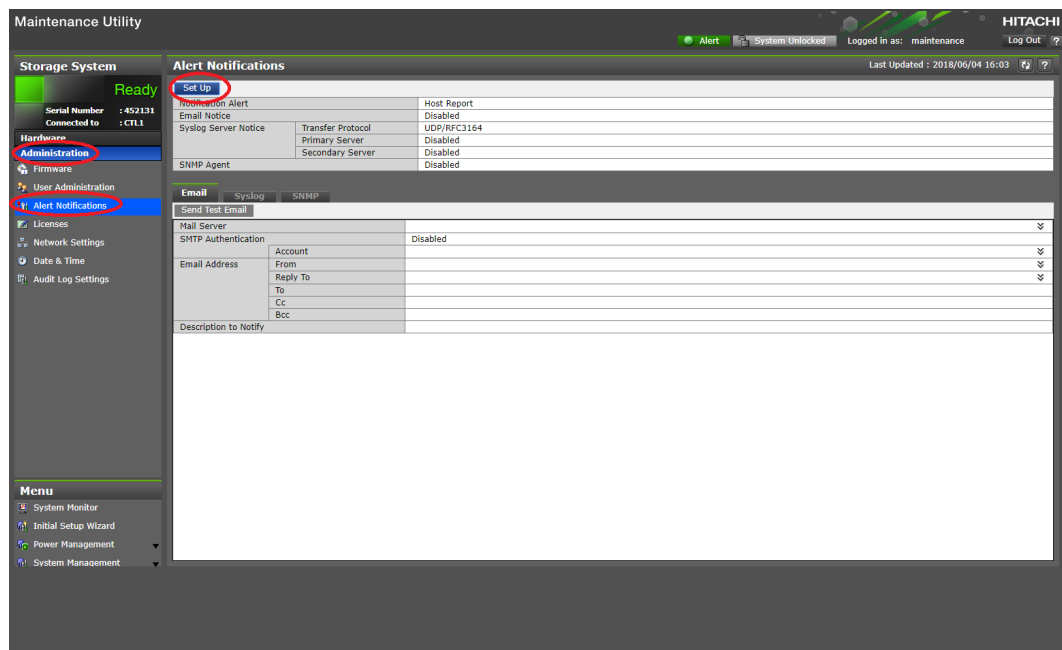
Make sure the storage system is connected to your production network.

Procedure

1. In the navigation tree of the maintenance utility, under **Administration**, click **Alert Notifications**. Then click **Set Up** in the **Alert Notifications** pane on the right.



Note: Although a tab is provided for configuring email notifications, we recommend that you set up email notifications using Hi-Track Remote Monitoring system.



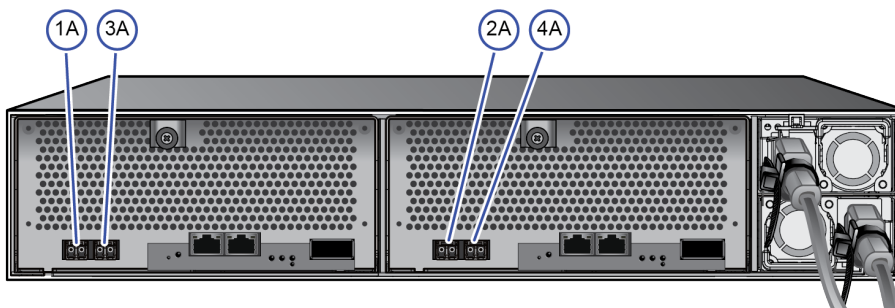
2. To configure the storage system to send notifications in syslog format, complete the settings in the **Syslog** tab. Then open a firewall port on your network for transferring syslogs.
3. To configure the storage system to send notifications as SNMP traps, complete the settings in the **SNMP** tab.
4. Click **Apply**, and then click **OK**.

Step 7: Make host connections

Before you connect Fibre Channel hosts to the storage system, the storage system and hosts must be prepared.

Host attachment tasks include configuring ports and preparing the host hardware and software for connection to the storage system. For information and instructions, see the host attachment preparation procedures in the *Open-Systems Host Attachment Guide*. You will also find the following resources helpful:

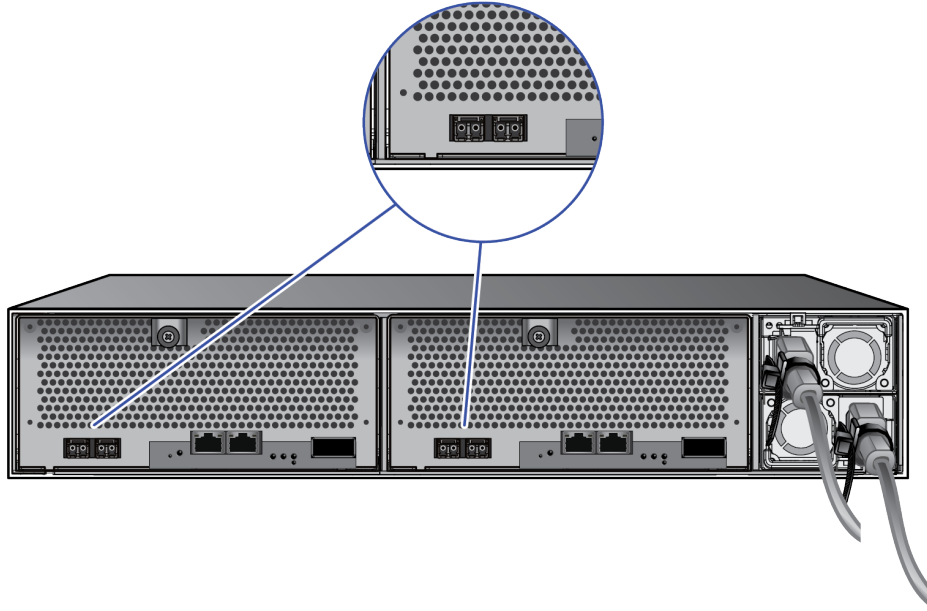
- For the latest interoperability and compatibility information about supported hosts and host attachment hardware, see the Hitachi Vantara [Interoperability Reports](#).
- For information about preparing your hosts for use with the storage system, see the documentation for the product.



Cabling Fibre Channel ports

Each controller supports 16-Gbps Fibre Channel connectivity to host computers using LC-LC optical cables connected to a Fibre Channel switch. To eliminate single paths of failure, connect the ports on each controller to separate switches for redundancy.

Important: For important information and instructions about connecting to hosts, refer to the *Open-Systems Host Attachment Guide*.



Before you begin

Make sure the storage system is connected to your production network.

Procedure

1. Connect the Fibre Channel data ports on each storage system controller to your Fibre Channel switch.
2. Connect your Fibre Channel switch to the Fibre Channel HBA card in each host computer or server.

Step 8: Register your storage system with Hitachi Vantara Support

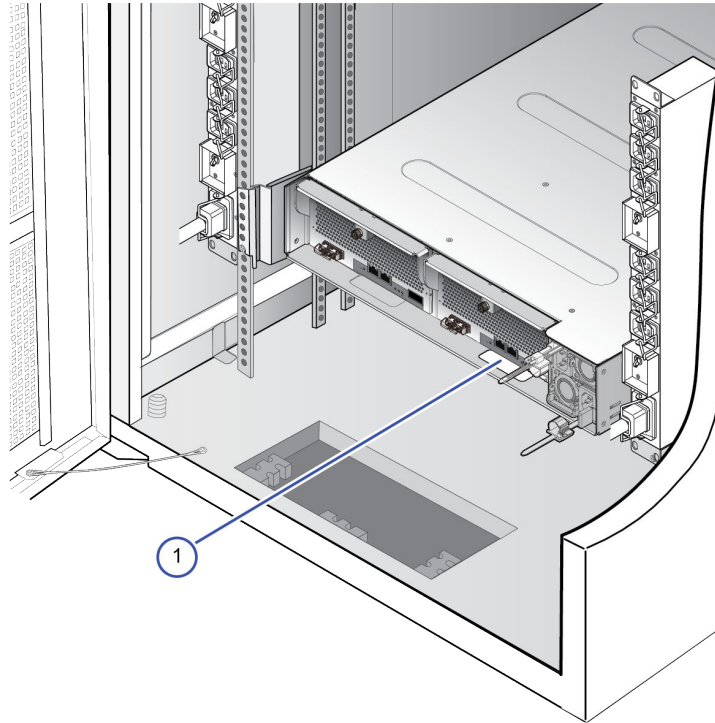
If you have not already registered for access to Hitachi Support Connect, do so now. Otherwise, you will not be able to download and install Hi-Track Remote Monitoring system, and you will encounter delays in getting your storage system running and supported.

Before you begin

- If you do not yet have a Support Connect account, register on Support Connect. For details, click [here](#).

Procedure

1. Locate the product serial number (labeled **MFG. NO.**) on the rear of the controller. You will need this number to register your storage system.



Item	Description
1	Product serial number on rear of controller

2. Open a web browser on your PC or mobile device.
3. Go to [Support Connect](#), click **Verify a Product**, and follow the on-screen instructions to register your storage system. If you have registered Hitachi Vantara products previously, [add a site on Support Connect](#).

Step 9: Install Hi-Track Remote Monitoring system

Hi-Track Remote Monitoring system monitors your storage system and notifies the Hitachi Vantara Support Connect when assistance is required. Hi-Track runs on Windows, Linux, and Solaris operating systems.

Before you begin

- If you do not have a Support Connect account, [register for Support Connect](#). You will need your product serial number and an e-mail domain that is recognized as a Hitachi Vantara customer.
- [Log in to Support Connect](#) to obtain the Site ID for the location at which the storage system is installed. If the location is not listed, [add a site on Support Connect](#).

Procedure

1. Download the [Hi-Track](#) application and documentation.
2. Open the *Hi-Track Monitor Installation Guide*, and follow the installation instructions.
3. After you configure Hi-Track with the appropriate Site ID, log in to [Support Connect](#) and create a Support Connect case to inform Hitachi Vantara that your system is installed and that Hi-Track is enabled.

Installing Hi-Track completes the self-installation of your storage system.

Where to go from here

After concluding the self-installation successfully, perform the following post-installation activities.

Configure the storage system for the first time

After you complete the self-installation of your storage system, configure the storage system to suit your requirements using the management software (Storage Advisor Embedded, Device Manager - Storage Navigator, Command Control Interface, or Hitachi Command Suite).

Typical configuration activities include the following:

- Set up spare drives
- Create pools and volumes
- Configure Fibre Channel ports
- Create a message that appears at login
- Create user accounts, and then back up the accounts

For more information, see the [software user documentation](#).

Read the release notes

Your storage system undergoes constant development and improvement.

Each time your storage system's firmware is updated, read the [release notes](#). The release notes provide important information about new features and functions as well as bug fixes.

Read the latest technical bulletins

Technical bulletins are provided to communicate technical information about your storage system and to assist you with additional information about the proper use, handling, and solving of technical issues.

You can [subscribe to receive technical bulletins](#), and then you can [access technical bulletins](#) on Hitachi Vantara Support Connect.

Support

The following resources provide additional information about the storage system:

- [Support Connect home page](#)
- [Product interoperability](#)
- [Hitachi Vantara Community](#)

Hitachi Vantara



Corporate Headquarters

2845 Lafayette Street

Santa Clara, CA 95050-2639 USA

HitachiVantara.com | community.HitachiVantara.com

Contact Information

USA: 1-800-446-0744

Global: 1-858-5474526

HitachiVantara.com/contact