PROMISE® TECHNOLOGY, INC.

Server 1U4 / Vess R2600iD
Hardware Setup Guide

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Contents

Task List

The basic setup tasks for the FileCruiser Server 1U4 described in the guide are the following:

1. Unpacking the Vess R2600iD and FileCruiser Server 1U4
2. Mounting the FileCruiser Server 1U4 in a rack
3. Mounting the Vess R2600iD in a rack
4. Network and backend storage connections
5. Connecting the Power (Vess R2600iD and FileCruiser Server 1U4)
6. Power on Vess R2600iD
7. Power on FileCruiser Server 1U4
8. Check LED behavior for both systems

Packing List

The FileCruiser Server 1U4 box contains the following items:

- FileCruiser Server 1U4
- Quick Start Guide
- 1.5m (4.9 ft) Power cord
- Sliding rail assembly for rack mounting and associated hardware
- Front panel bezel cover

The Vess R2600iD box contains the following items:

- Vess R2600iD Unit
- *Quick Start Guide* printed
- 1.5m (4.9 ft) Power cords (3 cords for 3 PSU installed, 4 cords for 4 PSU installed)
- Sliding rail assembly for rack mounting

MOUNTING THE FILECRUISER SERVER 1U4 IN A RACK

The instructions here apply to the FileCruiser Server 1U4 1U server.

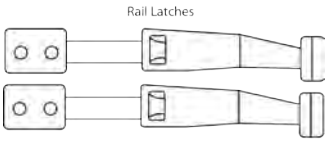
Cautions

* At least two persons are required to safely lift, place, and attach the device into a rack system.
* Make sure the rack rail cabinet and rack posts are stable and standing firmly on a level surface.
* Only a qualified technician who is familiar with the installation procedure should mount and install the device.
* The rails available for the device are designed to safely support that unit when properly installed. Additional loading on the rails is at the customer's risk.
* PROMISE Technology, Inc. cannot guarantee that the mounting rails will support your device unless you install them as instructed.

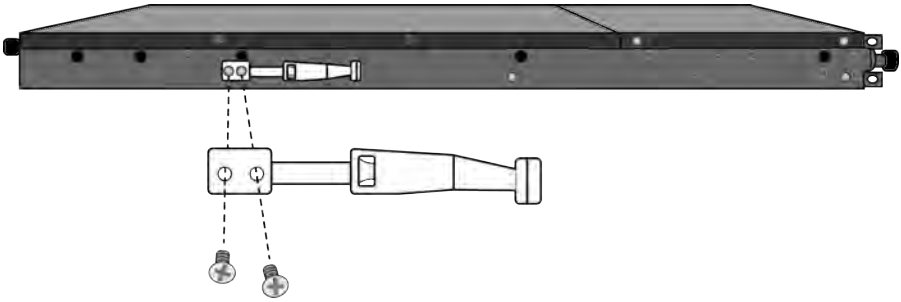
The device installs to the rack using the mounting rails shipped with the device.

The mounting hardware shipped with each FileCruiser Server 1U4 includes the following items.

Right and left sliding rails.



1. On the right and left sides of the FileCruiser Server 1U4, secure the Rail Latches to the FileCruiser Server 1U4 housing using the latch screws, two screws for each latch.



2. Determine what height to place the FileCruiser Server 1U4 in the rack, then place the right and left rack rails at the same height on in the right and left rack position. This is a 1U server, so choose the mounting holes accordingly for your rack system. Consult the documentation for your rack if you are unsure which holes to use.

3. Secure the rails to the rack posts. Make sure the rack rails are properly oriented in the rack.
   To set the rails into the rack posts and secure the rails, follow these steps:

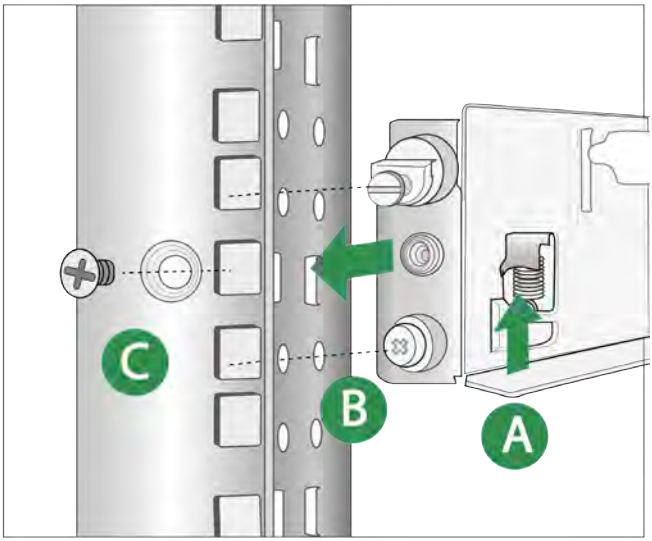
   a. Press the spring lock then insert the studs into the selected square holes on the rack post.

   b. Press the spring lock on the other end of the rail and insert the studs into the selected mounting hole on the rack post. If necessary, extend the rail to reach the post.

   c. Use the rail screws and washers to anchor the rack rail to the post.

   d. Make sure the rack rail is aligned, secure, stable and in the correct place.

   e. Perform steps a through c above for the other rail.



f. Make sure the rack rails are aligned, secure, stable and in place.

7. Mount the FileCruiser Server 1U4 to the rack. Make sure to include the side knots of the left and right sides of the FileCruiser Server 1U4 in the rack rail holders.

MOUNTING VESS R2600 IN A RACK

The instructions here apply to the Vess R2600 and Vess J2600 series.

Cautions

* Do not populate any unit with hard drives until it has been securely installed in the rack. If drives are installed, remove the disk trays with drives installed before you lift the unit.
* At least two persons are required to safely lift, place, and attach the Vess R2600 or Vess J2600 unit into a rack system.
* Do not lift or move the Vess R2600 or Vess J2600 unit by the handles, power supplies or the controller units. Hold the subsystem itself.
* Do not install the Vess R2600 or Vess J2600 unit into a rack without rails to support the subsystem.
* Only a qualified technician who is familiar with the installation procedure should mount and install the Vess R2600 or Vess J2600 unit.
* Mount the rails to the rack using the appropriate screws and flange nuts, fully tightened, at each end of the rail.
* Do not load the rails unless they are installed with screws as instructed.
* The rails available for the PROMISE Vess R2600 or Vess J2600 unit are designed to safely support that PROMISE Vess R2600 or Vess J2600 unit when properly installed. Additional loading on the rails is at the customer's risk.
* PROMISE Technology, Inc. cannot guarantee that the mounting rails will support your PROMISE Vess R2600 or Vess J2600 unit unless you install them as instructed.

The Vess R2600 or Vess J2600 installs to the rack using the mounting rails shipped with the device.

Note

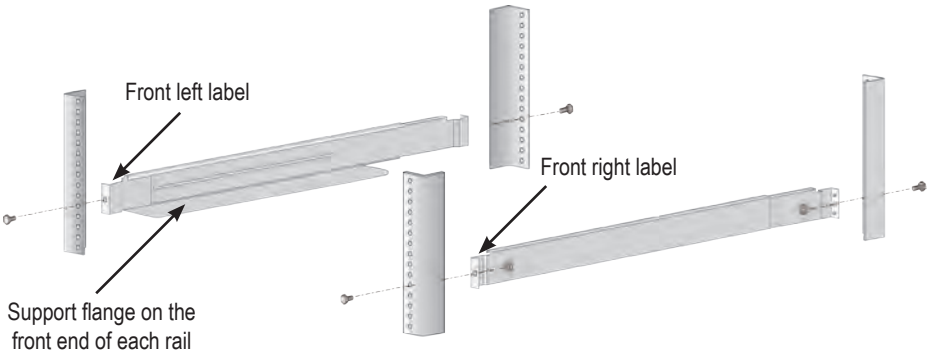
To lighten the Vess R2600 or Vess J2600 enclosure, you can remove the power supplies. Replace the power supplies after the Vess R2600 or Vess J2600 unit is mounted in your rack.

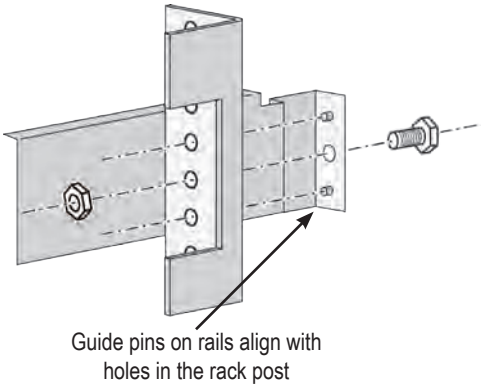
To install the Vess R2600 subsystem or Vess J2600 expansion into a rack with the supplied mounting rails:

1. Check the fit of the mounting rails in your rack system.
2. Adjust the length of the mounting rails as needed.

- The rear rail slides inside the front rail. The rail halves are riveted together and use no adjustment screws.
- The front-left and front-right mounting rail ends are labeled.
- Be sure the front rail support is on the bottom facing inward.

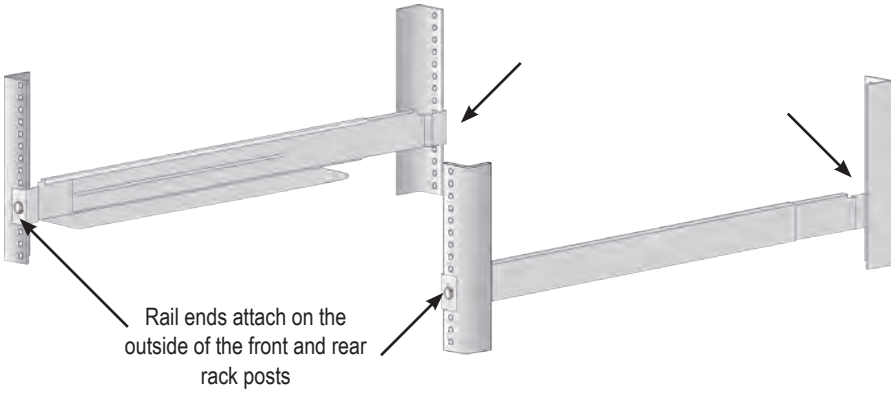
Installing the rails onto the rack





- All rail ends, front and rear, attach at the outside of the rack posts.
- The guide pins at the rail ends align with the holes in the rack posts.
- Use the attaching screws and flange nuts from your rack system. Tighten the screws and nuts according to instructions for your rack system.

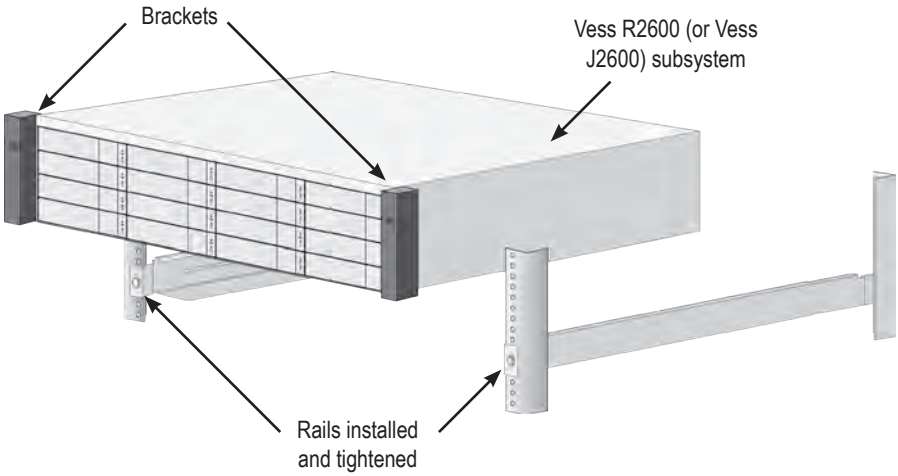
Rail ends attach to the outside of each post



3. Place the Vess R2600 or Vess J2600 onto the rails.

- At least two persons are required to safely lift the subsystem.
- Lift the Vess R2600 or Vess J2600 itself. Do not lift the subsystem by its brackets.

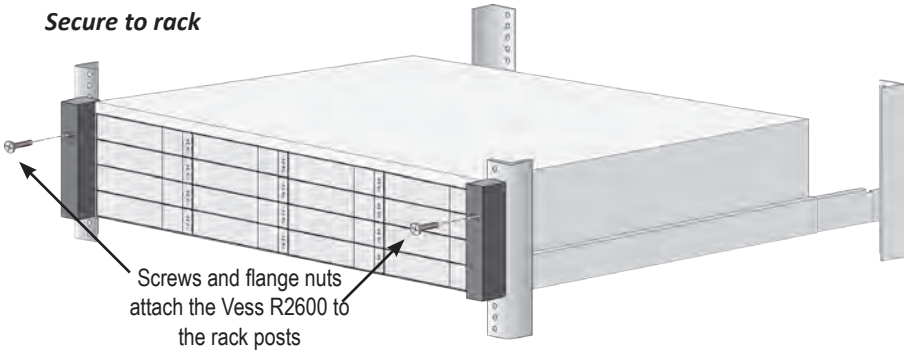
Placing the subsystem onto the rack rails



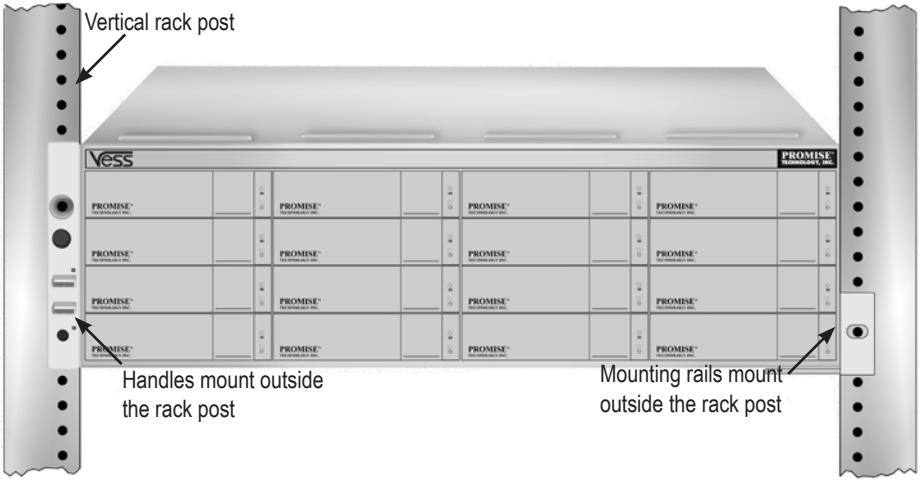
4. Secure the Vess R2600 or Vess J2600 to the rack.

- The unit attaches to the rack posts using the included screws and flange nuts. One screw each side, in the upper hole only.
- Use the attaching screws and flange nuts that came with the Vess R2600 or Vess J2600.

Secure to rack

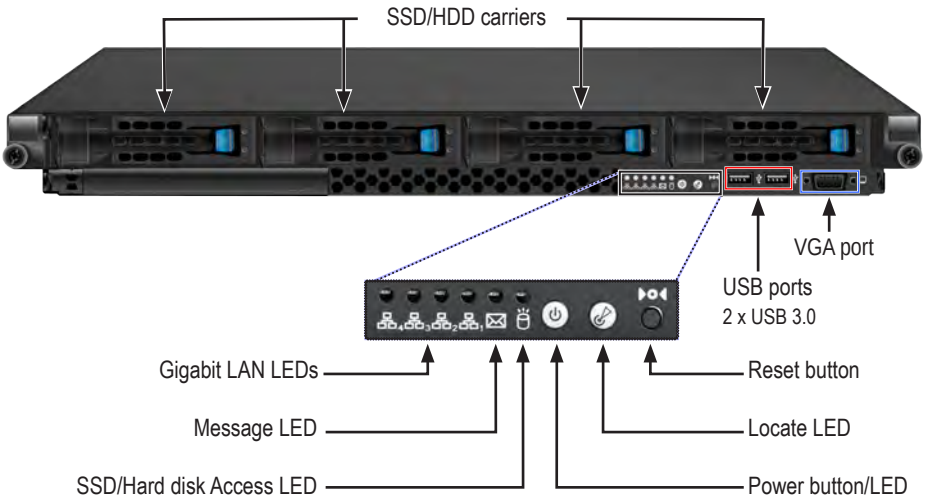


Subsystem installed in rack



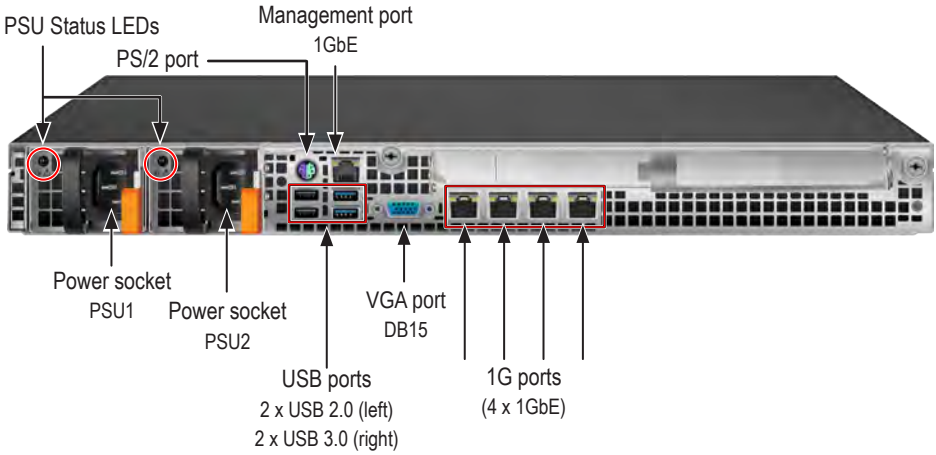
External Hardware

FileCruiser Server 1U4 front view



Feature	**Description** (refer to product manual for more details)
Gigabit LAN LEDs	Lights when a valid link is established on the corresponding Gigabit LAN port (from left to right, ports 4-1), blinks when there is activity on the port.
Message LED	Indicates a hardware event. See user manual for more information on events and alert messages.
SSD/HDD Access LED	Lights when there is read/write activity on the Solid State Drives (SSD) or Hard Disk Drives (HDD).
Power button/LED	Press this to power on the system. This lights green when the system is powered on.
Locate LED	Normally dark. Lights when the location feature is triggered.
Reset button	Press to reset to default settings.
USB ports	Two USB 3.0 ports.
VGA port	VGA (DB15) port for monitor connection. Used for out-of-band management. No connection required.
SDD/HDD carriers	Two SSDs or HDDs are installed. Each drive carrier has a Status LED (uppermost) and Activity LED (lowermost) on the right front side. DO NOT remove these drives.

FileCruiser Server 1U4 back view



Feature	**Description** (refer to product manual for more details)
PSU Status LEDs	Lights green when PSU is functioning normally. Lights red when PSU has a problem.
Power Supply sockets	Connect both power supplies using power cords shipped with the FileCruiser Server 1U4.
PS/2 port	For keyboard and mouse. Used for out-of-band management. Use this or a USB port to connect a keyboard for the initial configuration setup to get the IP address of the server.
Management port	Not used for network connection. Used for out-of-band management. No connection required.
USB ports	Two USB 2.0 ports (left) and two USB 3.0 ports (right). Use one of these or the PS/2 port to connect a keyboard for the initial configuration setup to get the IP address of the server.
VGA port	VGA (DB15) port for monitor connection. Use this to connect a monitor for the initial configuration setup to get the IP address of the server.
Gigabit LAN ports	Four 1 Gigabit LAN ports. Connect to 1G Ethernet switch for physical connection to NAS clients. LED indicators above each port are Link/Activity on left, and Speed on right. Amber Speed indicator = 100 Mbps Green = 1 Gbps

MANAGEMENT NETWORK CONNECTION ON VESS R2600

Each Vess R2600 controller has one RJ-45 1G Ethernet Management Port used for device management via web-based GUI. After establishing the IP settings for the Vess R2600, you will use WebPAM PROe, the management GUI for Vess R2600, to setup the system for use as backend storage with the FileCruiser Server 1U4.

To establish the management path:

1. Attach one end of an Ethernet cable to the network connector or standard NIC in the Host PC.

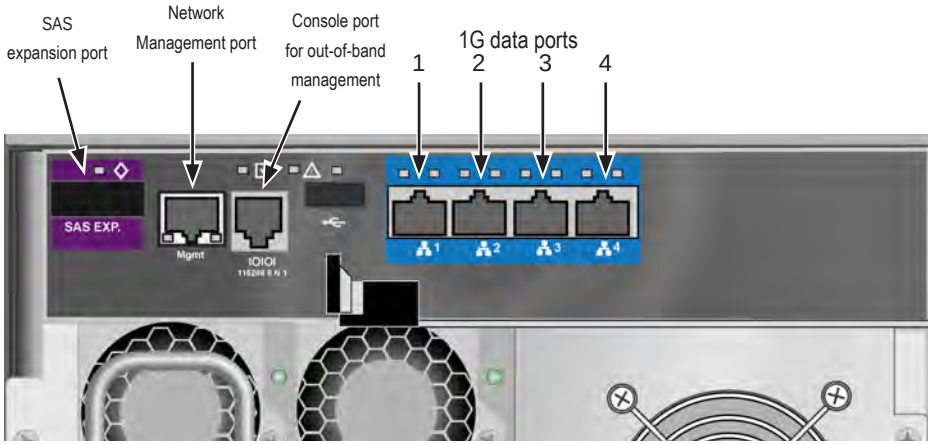
   Attach the other end of the Ethernet cable to one of the ports on the standard network switch.

2. Attach one end of an Ethernet cable to one of the ports on the standard network switch.

   Attach the other end of the Ethernet cable to the Management Port on the Vess R2600 subsystem.

   If you have multiple Vess R2600 subsystems, Host PCs or Servers, repeat steps 1 and 2 as required.

Vess R2600iD controller data and management ports



Management serial connection for Vess R2600

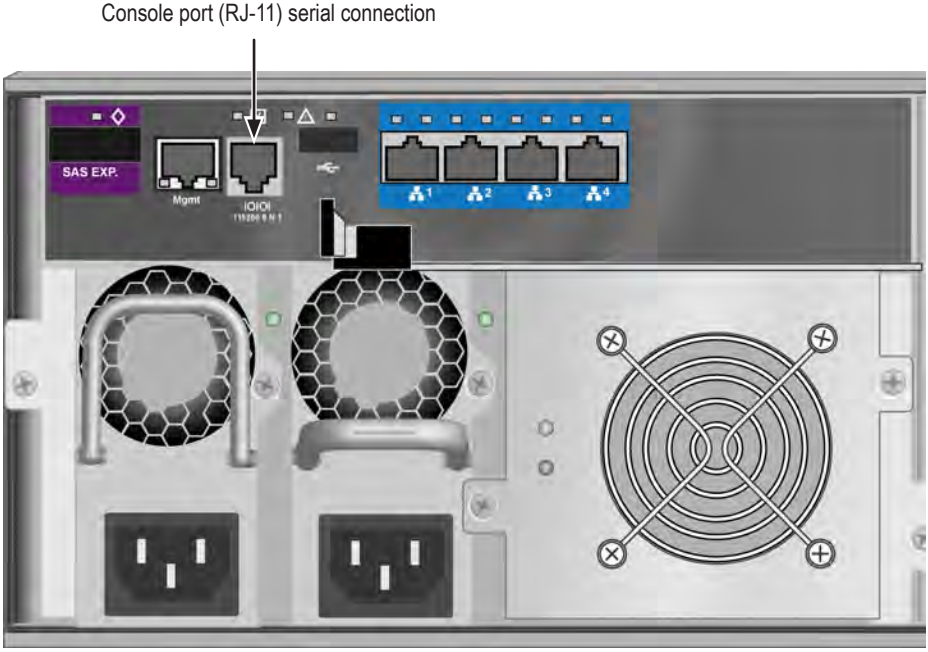
Vess R2600 has a Command Line Interface (CLI) to manage all of its functions. A subset of the CLI is the Command Line Utility (CLU), a user-level interface that manages your Vess R2600 via most terminal emulation programs, such as Microsoft HyperTerminal.

Serial communication enables the terminal emulation application on your host computer or server to access the Vess R2600 Command Line Interface (CLI) to set up a network connection. The Vess R2600 package includes one RJ11-to-DB9 serial data cable for each controller.

To set up a serial cable connection:

1. Attach the RJ-11 end of the serial data cable to the RJ-11 Console port serial connector on one of the RAID controllers. See “Vess R2600iD controller data and management ports” on page 12 to identify the console port.
2. Attach the DB9 end of the serial data cable to a serial port on the host computer or server.
3. After completing the remaining hardware setup described in this guide, you will use this connection to set the IP settings used for management access of the Vess R2600. See the FileCruiser Quick Configuration Guide for instructions on setting the management IP address for Vess R2600.

Console port serial connector on left controller of Vess R2600iD



CONNECTING BOTH SYSTEMS TO THE NETWORK

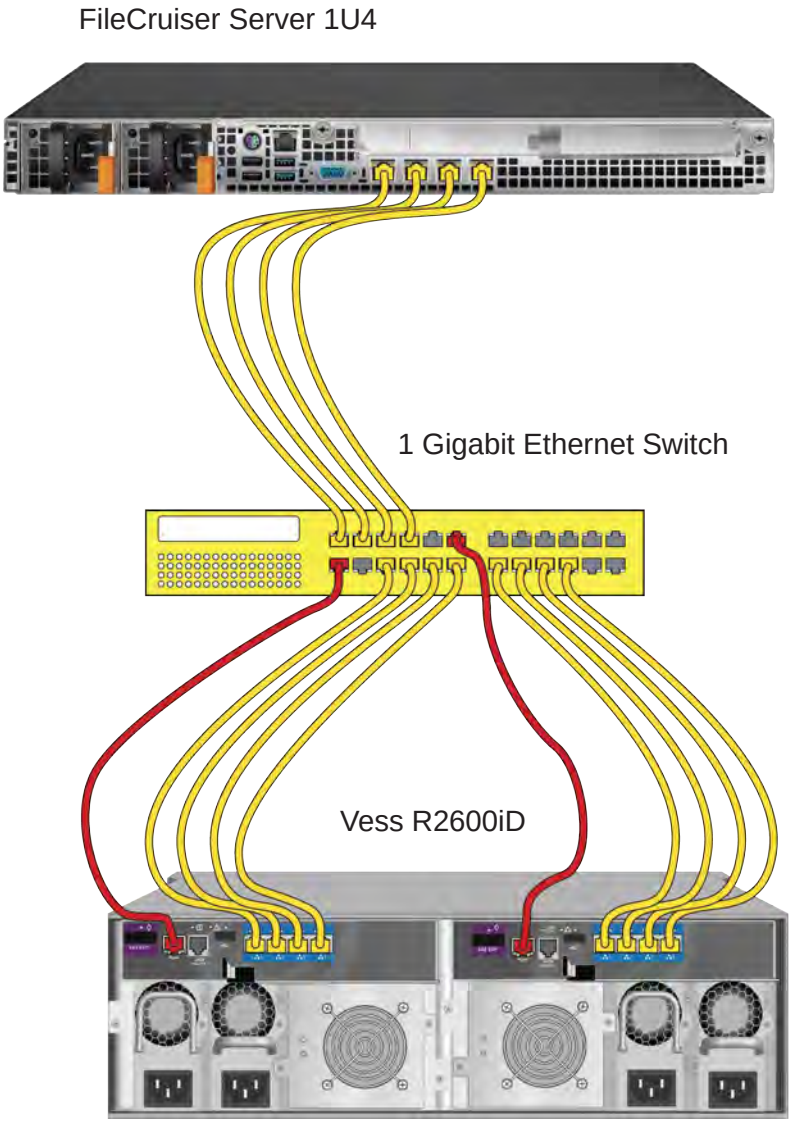
The FileCruiser Server 1U4 connects to FileCruiser clients with 1G Ethernet connections. In addition, all management and administration of the FileCruiser system is conducted through this interface.

The Vess R2600iD is used as the backend storage system for FileCruiser. This is where the FileCruiser client data is stored. The 1G network also provides connection from FileCruiser to FileCruiser clients. Both the Vess and FileCruiser systems must be connected to the same 1G Ethernet network for FileCruiser to function and service FileCruiser clients.

Connect the four 1G LAN ports on the FileCruiser Server 1U4 to the 1G LAN

Connect the eight 1G LAN ports on the Vess R2600iD to the 1G LAN

1G LAN connections on both systems and Management connection for Vess R2600



The management network path represented by the red colored cable in the illustration abaove, is used to configure the Vess R2600iD for operation with the FileCruiser Server 1U4. Once configured, this port is not used for ongoing operations, but it is a good idea to keep the cabling in place for future administration of the Vess R2600iD.

Connecting the Power for Vess R2600iD

Plug in the power cables on all power supplies.

The Vess R2600 and Vess J2600 enclosures can be equipped with up to four power supplies for each unit. A minimum of two operating power supplies are required for normal function of both the Vess R2600 and Vess J2600. The standard shipment includes three power supplies. Contact your vendor for information on additional power supplies.

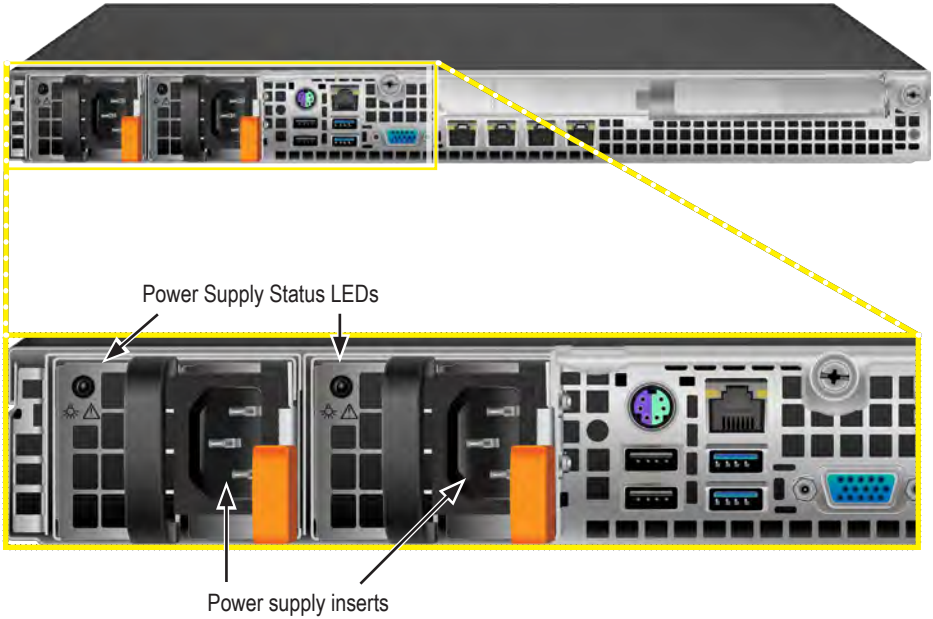
Vess R2600iD rear panel power connections

PSU1, PSU2 and PSU3 are installed on both the Vess R2600 and Vess J2600. Connect all power supplies to a suitable power source.

An optional fourth power supply (PSU4) can be installed in this bay. See the product manual for more information on installing and swapping power supplies.

Connecting the power on FileCruiser Server 1U4

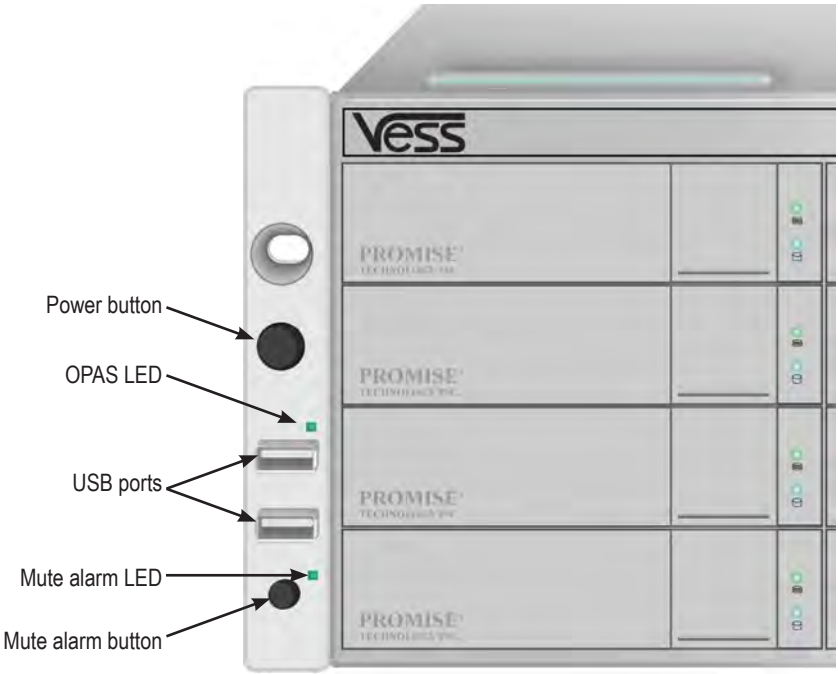
Insert the female end of one of the supplied power cables in to a power cable receptacle on each of the power supply units, and plug the other end in to a suitable power outlet.



With the power supplies connected, the system can now be powered on. Again, note that if your setup includes a SAN, DAS or cascade with Vess J2600 expansion, always power on the JBOD subsystems first.

To power on the subsystem, press the Power button on the front left bracket facing (see illustration below). Observe the LEDs on the right front bracket facing (see “Figure 26: Vess R2600 front panel LED display on right side bracket” on page 16).

Vess R2600 front panel components, left side

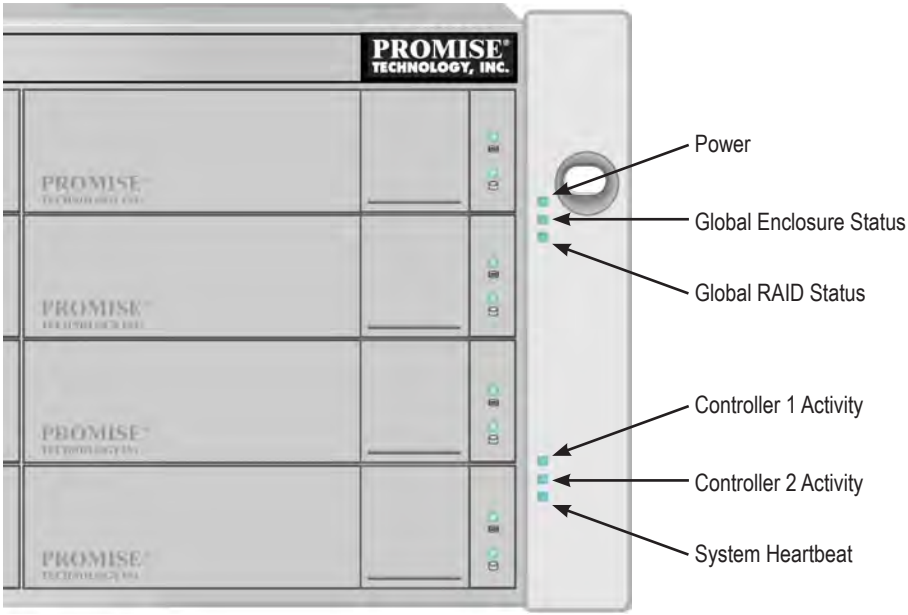


Front Panel LEDs

When boot-up is finished and the Vess R2600 subsystem is functioning normally:

- Power LED displays blue continuously
- Global Enclosure Status, and Global RAID Status LEDs display green continuously.
- Controller Activity LED flashes blue when there is controller activity.
- System Heartbeat LED blinks blue seven times in three seconds, goes dark for six seconds, then repeats the pattern.

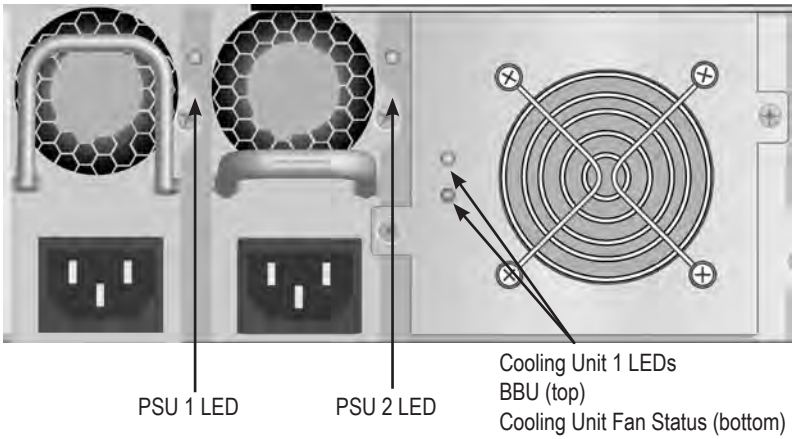
Vess R2600 front panel LED display on right side bracket



Rear Panel PSU & Cooling Fan LEDs

The LEDs on the rear panel include LEDs on each cooling fan and each power supply. These LEDs will light green to indicate normal operation. A red or amber LED indicates a problem or unit failure. See the Product Manual for a complete description of LED indicators.

LEDs on Power Supply and Cooling Units

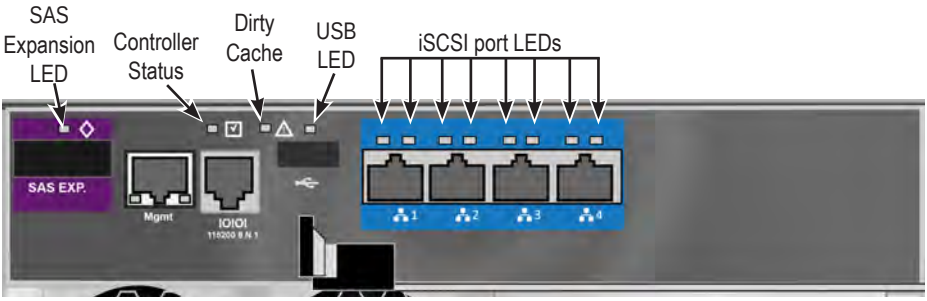


Controller LEDs

When boot-up is finished and the Vess R2600 subsystem is functioning normally, the Controller status LED displays green continuously; the Management port LEDs display green or flash depending on your network connection; the FC, iSCSI, and SAS Expansion LEDs display green or flash during port activity.

LED	**Description** (refer to product manual for more details)
SAS Expansion	Lights green when connected, flashes green when active.
Controller Status	Green light indicates controller is operational.
Dirty Cache	Lights amber if cache is dirty, otherwise dark.
USB	Green light indicates a connection, dark when not connected.
iSCSI (2 above each port)	Left LED lights green when connected, flashes green when active, dark if not connected. Right LED indicates connection speed, green is 100 Mbps, amber is 1000 Mbps.

Vess R2600iD controller LEDs



Disk Drive LEDs

There are two LEDs on each Drive Carrier. They report the presence of a disk drive, activity of the drive, and the drive's current condition.

Vess R2600 drive carrier LEDs

If there is a disk drive in the carrier, the Power/Activity LED displays Blue. If not, the Power/Activity LED remains dark. The Power/Activity LED flashes Blue during drive activity.

The Disk Status LED displays Green when a drive is configured.

Connect keyboard and monitor for initial configuration

The FileCruiser Server 1U4 uses DHCP by default to obtain IP Settings. In order to get the IP address used for administration of the system, you need to connect a keyboard and monitor. After booting up the server, login to the Linux operating system and get the IP address. This will be the address used to establish a connection through the Administrator Portal. Then follow the instructions in the Quick Configuration Guide to change the IP settings so the server uses a static IP address.

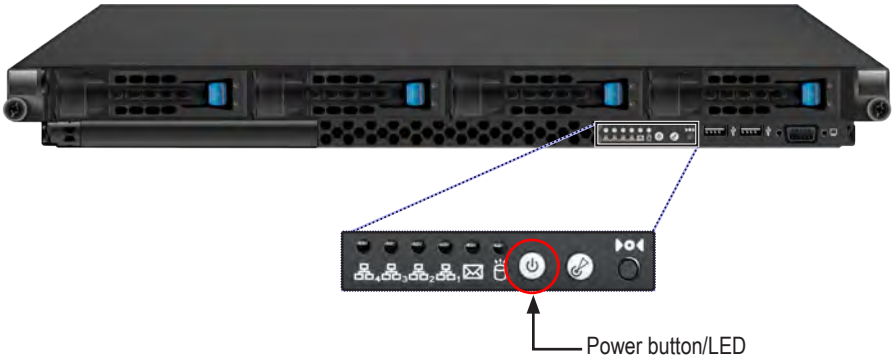
VGA, USB and PS/2 ports on rear panel of FileCruiser Server 1U4

Use any USB port or the PS/2 port to connect a keyboard. Use the VGA port to connect a monitor. Turn on the monitor and the server is ready to be powered on.

POWER ON SYSTEM

Before powering on the FileCruiser Server 1U4, make sure the Vess R2600iD is booted up and running. *See the previous section if you have not yet powered on the Vess R2600*.

FileCruiser Server 1U4 Power button on front



To power on the FileCruiser Server 1U4 simply press the Power button on front of both devices. Power on both units and check the Power LED and other LEDs to monitor the boot up process.

During the boot up phase, you should see the following:

- The Power LED (on the button) will light green.

LOGIN TO FILECRUISER ADMINISTRATOR PORTAL

When all system hardware for FileCruiser Server 1U4 and Vess R2600iD are booted up and the system health has been checked via LED observation, you are ready to begin configuration. Please refer to the Quick Configuration Guide for setup instructions.

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