Intel® Modular Server System MFSYS25 to Promise* VTrak E-Class Connection Guide

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/ Products

Intel Order Number E64781-001

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Safety Information

Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See also Intel Server Boards and Server Chassis Safety Information on the *Intel® Server Deployment Toolkit CD* and/or at

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warnund Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und Servergehäusen auf der *Intel® Server Deployment Toolkit CD* oder unter http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le *Intel® Server Deployment Toolkit CD* ou bien rendez-vous sur le site http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el *Intel® Server Deployment Toolkit CD* y/o en

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

重要安全指导

在执行任何指令之前，请阅读本文件中的所有注意事项及安全声明。并参阅
http://support.intel.com/support/motherboards/server/sb/CS-010770.htm 上的 *Intel Server Boards and Server Chassis Safety Information*（《Intel 服务器主板与服务器机箱安全信息》）。

Warnings

Heed safety instructions: Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

System power on/off: The power button DOES NOT turn off the system AC power. To remove power from system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

Hazardous conditions, devices and cables: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

Electrostatic discharge (ESD) and ESD protection: ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground any unpainted metal surface on your server when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the pins on the board.

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Connection Guide

Intel® Modular Server System MFSYS25 to Promise* VTrak Connection

This document contains the following topics and tasks:

This Guide describes how to connect an Intel® Modular Server System MFSYS25 (Modular Server) to a Promise* VTrak E610s or E310s subsystem (VTrak) to expand the Modular Server's data capacity. These instructions are limited to making the Modular Server-to-VTrak connection and related settings.

For information about setting up your VTrak, see the printed *VTrak Quick Start Guide* or the *VTrak Product Manual* on the software CD that came with your subsystem.

For information about setting up your Modular Server, see the *Intel® Modular Server System MFSYS25 Quick Start User's Guide*, the *Intel® Modular Server System MFSYS25 User Guide*, and other related documents.

IT managers want the ability to assign LUNs to individual servers. On the Modular Server, you can do that easily in the Intel® Modular Server Control GUI. The GUI reports the World Wide Number (WWN) of each Compute Module (blade server). The WWN is used for the SAS initiator name, and you need the initiator name to associate a LUN with a compute module. But the GUI was not designed to work with external storage devices such as VTrak. As a result, you must manually associate a LUN on VTrak with a compute module.

The tasks in this document enable you to identify the WWN of each compute module in the Modular Server and associate a LUN with the compute module using Promise* WebPAM PROe, the GUI that runs on VTrak.

Logical Drive and LUN Numbering Strategy

A suggested strategy is to create a logical drive for each compute module. Each logical drive has its own LUN. The LUN is 0 so the compute module can boot from it.

Compute Module	Logical Drive	LUN
Slot 1	LD1	LUN0
Slot 2	LD2	LUN0
Slot 3	LD3	LUN0
Slot 4	LD4	LUN0
Slot 5	LD5	LUN0
Slot 6	LD6	LUN0

This strategy is followed throughout this document. You are free to use a different strategy that better meets your needs.

Prerequisites

The Modular Server-to-VTrak connection requires:

- Modular Server, set up and running with a network connection
- VTrak, set up and running with a network connection
- Networked PC workstation running a Microsoft Windows* OS, to access Modular Server Control and WebPAM PROe
- One or two SAS cables with SFF-8088 Mini-SAS connectors at both ends. The cables must be long enough to reach from your Modular Server to your VTrak.
- RJ11-to-DB9 serial data cable supplied with the VTrak. This cable is required to verify the VTrak's IP address.

Task 1: Log into Modular Server Control

1. On your PC workstation, open Microsoft Internet Explorer*.
2. In the Address field, type **https://** followed by the IP address of your Modular Server, then press Enter.

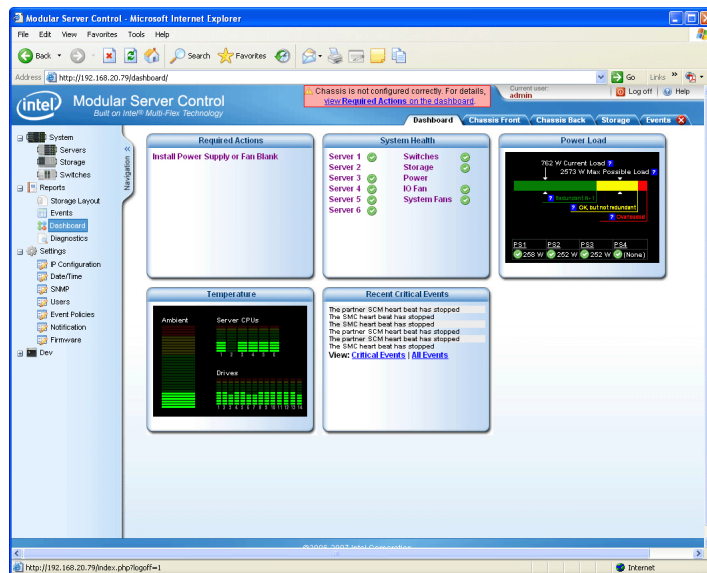   The Modular Server Control (MSC) login screen appears.
3. In the MSC login screen:

   — Type **admin** in the Username field.

   — Type **admin** in the Password field.

   — Click the **Log In** button.

   The Username and Password are case sensitive.
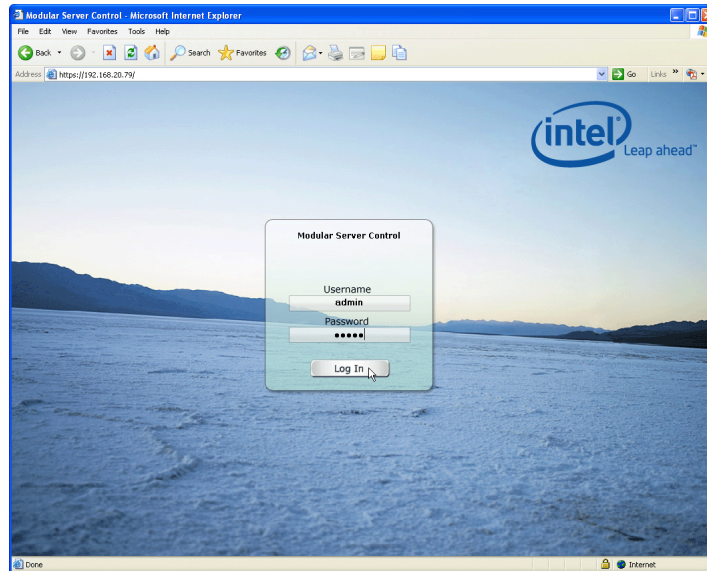
Figure 1. MSC Login Screen

After login, the MSC Dashboard screen appears.

Figure 2. MSC Dashboard Screen

Task 2: Enabling External Ports

The Modular Server has external ports that each compute module can access. The port numbers correspond to the slot number of each compute module. You enable a port to enable the external data connection, in this case, to access a LUN on the VTrak.

To enable the external ports:

1. In the MSC screen, click the **Chassis Back** tab.
2. Click the **SCM 1** component in the enclosure graphic.
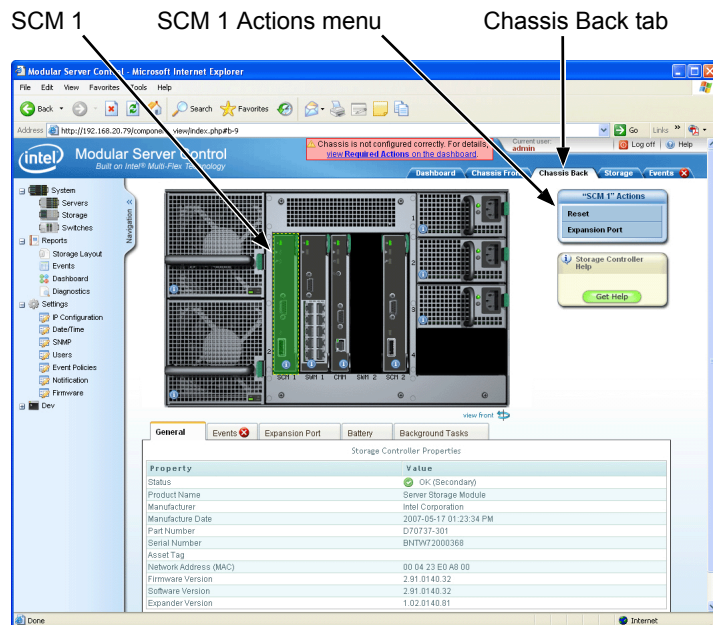3. Click **Expansion Port** in the SCM 1 Actions menu.

Figure 3. MSC Chassis Back Screen

4. Select the check box for **Server 1** and click the **Apply** button.

   Later in the process, you will return to this task to enable another external port, until all the ports are enabled. You must enable just one port at a time.
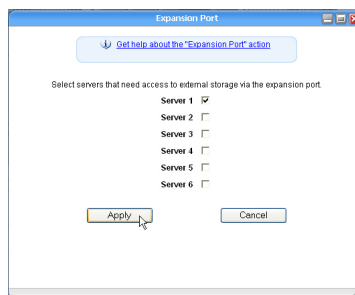

Figure 4. MSC Expansion Port Dialog Box

Server 1's external port is now enabled. It will appear as a SAS initiator in WebPAM PROe. In "Task 7: Associating LUNs and Initiators" on page 18, you will associate this port or initiator with a LUN.

Task 3: Attaching the Data Cables
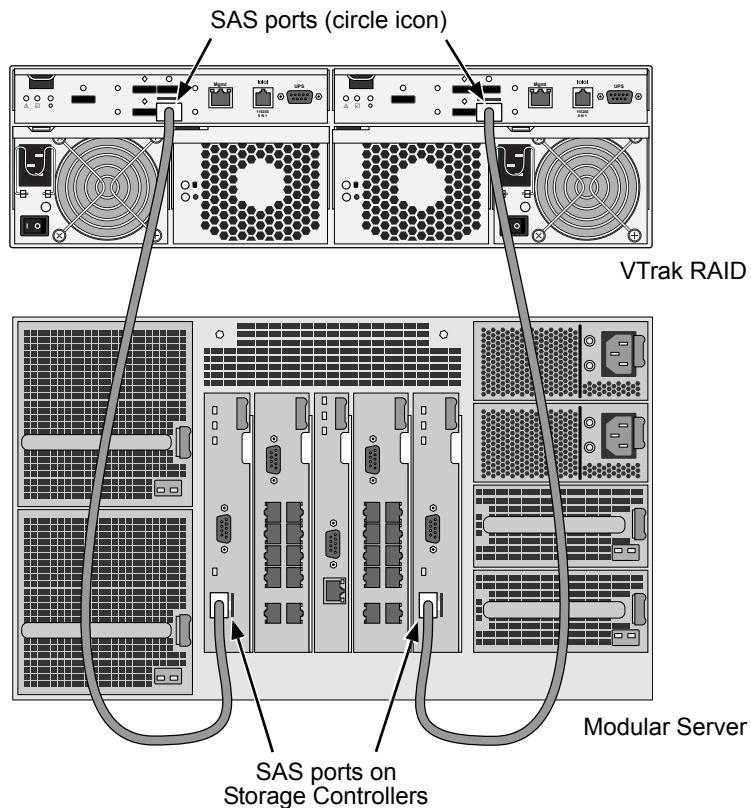
Configuration I: SCM to VTrak

This task requires one or two SAS cables with SFF-8088 Mini-SAS connectors at both ends, long enough to reach from the Modular Server to the VTrak.

1. Power off the VTrak.
2. Insert the SAS cable connector into the SAS port on Storage Controller 1.
3. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the VTrak.
4. For dual-controller VTraks: Repeat steps 2 and 3, with a second SAS cable from the SAS port on Storage Controller 2 to one of the SAS ports (circle icon) on the *other* VTrak controller. See Figure 5 on page 6.
5. Power on the VTrak.

   Flip the switch on both power supplies to the ON position.

Additional requirements for dual-controller VTraks:

- Disable LUN Affinity on the VTrak.
- Upgrade the Intel Software Package to dual-controller.
- Use the Intel MPIO. Do not install or use Promise* Perfect Path.

SAS ports (circle icon)

VTrak RAID

Modular Server

SAS ports on
Storage Controllers

Figure 5. SCM to VTrak Basic Connections

Configuration II: SCM to VTrak with JBOD Expansion

This task requires SAS cables with SFF-8088 Mini-SAS connectors at both ends, long enough to reach from the Modular Server to the VTrak RAID subsystem, plus additional SAS cables to connect the JBOD expansion chassis.

Up to four VTrak J310/J610 JBOD chassis can be expanded together.

SCM to VTrak Connections

1. Power off the VTrak RAID and JBODs.

2. Insert the SAS cable connector into the SAS port on Storage Controller 1.

3. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the VTrak.

4. For dual-controller VTraks: Repeat steps 2 and 3, with a second SAS cable from the SAS port on Storage Controller 2 to one of the SAS ports (circle icon) on the *other* VTrak controller. See Figure 5 on page 6.
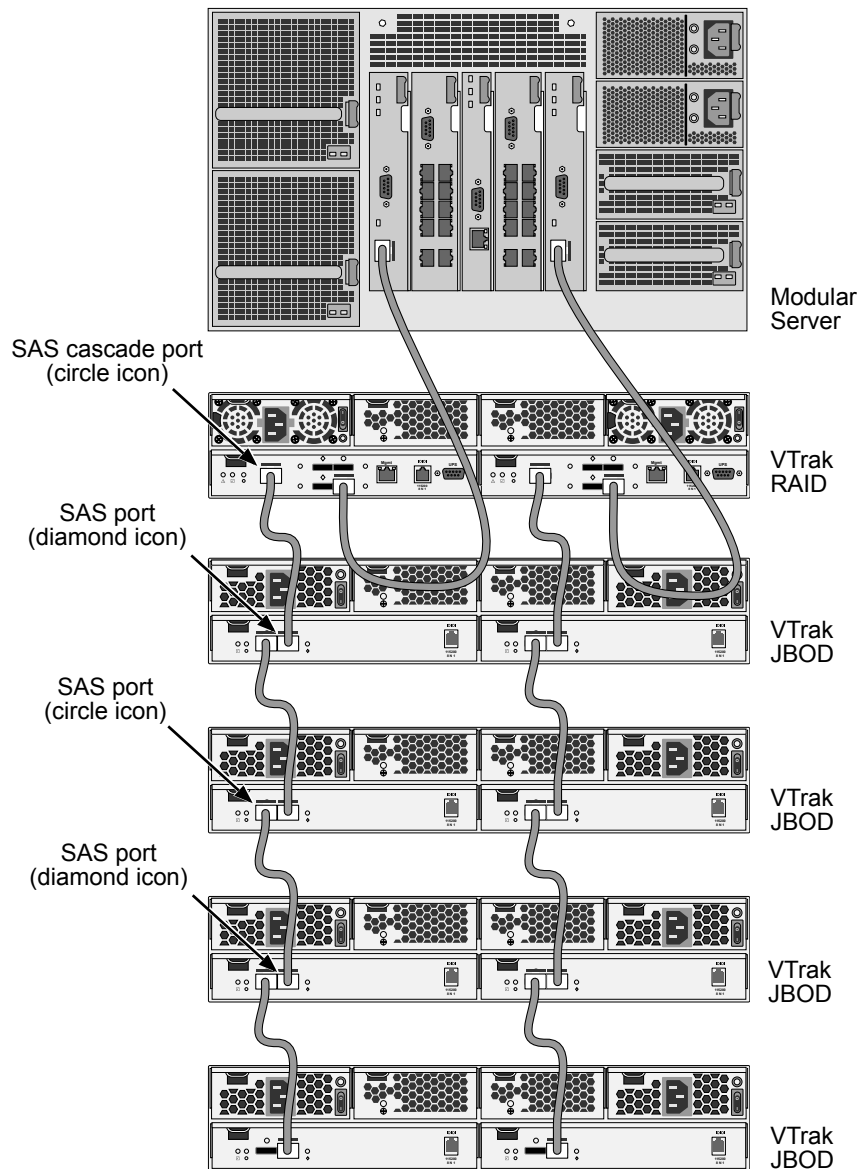
JBOD Expansion

1. Insert a SAS cable connector into the SAS cascade port (circle icon) on VTrak RAID.

2. Insert the other end of the SAS cable into one of the SAS ports (diamond icon) on the VTrak JBOD.

3. For dual-controller VTraks: Repeat steps 1 and 2, with a second SAS cable from the SAS cascade port on the *other* VTrak RAID controller to the SAS port on the *other* VTrak JBOD I/O module. See Figure 6 on page 8.

Powering On

1. Power on the VTrak JBODs.

   Flip the switch on both power supplies to the ON position.

2. Wait ten seconds. Then power on the VTrak RAID.

   Flip the switch on both power supplies to the ON position.

Additional requirements for dual-controller VTraks:

* Disable LUN Affinity on the VTrak.

* Upgrade the Intel Software Package to dual-controller.

* Use the Intel MPIO. Do not install or use Promise* Perfect Path.

Figure 6. SCM to VTrak with JBOD expansion

Configuration III: SCM to Cascaded VTraks

This task requires SAS cables with SFF-8088 Mini-SAS connectors at both ends, long enough to reach from the Modular Server to the VTrak RAID subsystem, plus additional SAS cables to connect the additional RAID subsystems.

Up to four VTrak E310/E610 RAID subsystems can be cascaded together.

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SCM to VTrak Connections

1. Power off the VTrak RAIDs.

2. Insert the SAS cable connector into the SAS port on Storage Controller 1.

3. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the VTrak.

4. For dual-controller VTraks: Repeat steps 2 and 3, with a second SAS cable from the SAS port on Storage Controller 2 to one of the SAS ports (circle icon) on the *other* VTrak controller. See Figure 5 on page 6.

Cascading

1. Insert a SAS cable connector into the SAS data port (diamond icon) on *first* VTrak RAID.

2. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the *second* VTrak RAID.

3. For dual-controller VTraks: Repeat steps 1 and 2, with a second SAS cable from the SAS data port on the *other* RAID controller of the *first* VTrak to the SAS port on the *other* RAID controller of the *second* VTrak. See Figure 7 on page 10.

Powering On

- Power on the VTraks.
  Flip the switch on both power supplies to the ON position.

Additional requirements for dual-controller VTraks:

- Disable LUN Affinity on the VTrak.

- Upgrade the Intel Software Package to dual-controller.

- Use the Intel MPIO. Do not install or use Promise* Perfect Path.
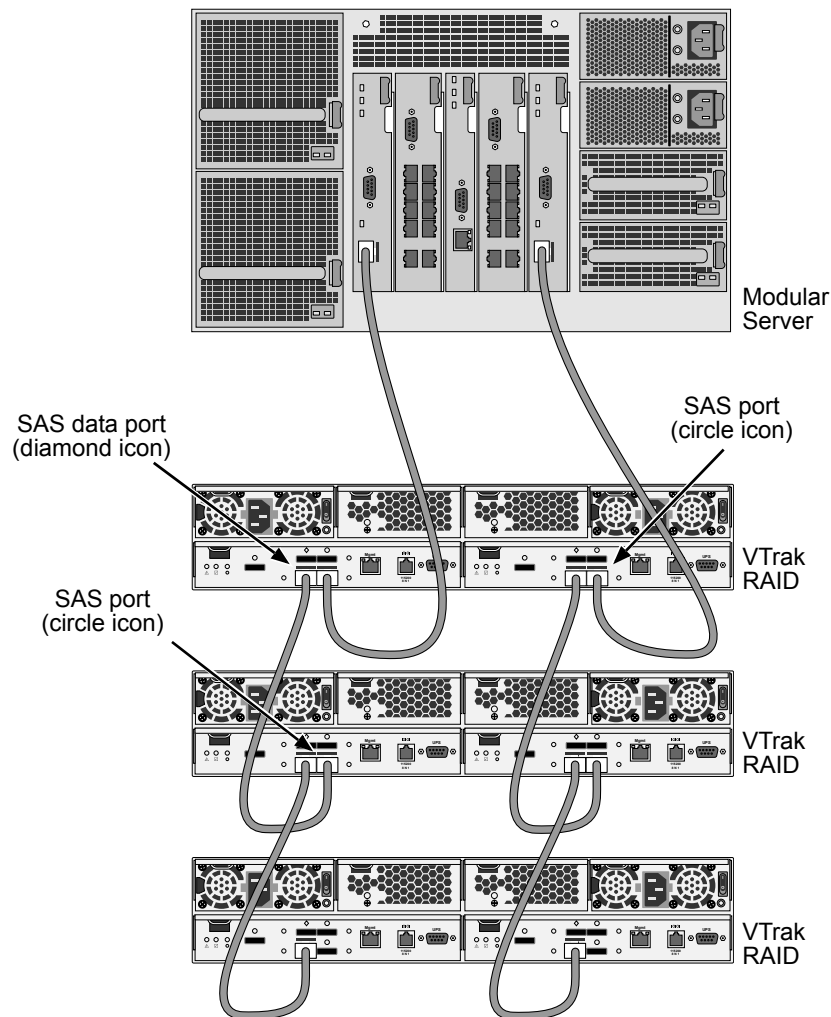
Figure 7. SCM to Cascaded VTraks

Configuration IV: SCM to Cascaded VTraks with JBOD Expansion

This task requires SAS cables with SFF-8088 Mini-SAS connectors at both ends, long enough to reach from the Modular Server to the VTrak RAID subsystem, plus additional SAS cables to connect the additional RAID subsystems and JBOD expansion chassis.

Up to four VTrak E310/E610 RAID subsystems can be cascaded together.

Up to four VTrak J310/J610 JBOD chassis can be expanded together under each RAID subsystem.

SCM to VTrak Connections

1. Power off the VTrak RAIDs and JBODs.

2. Insert the SAS cable connector into the SAS port on Storage Controller 1.

3. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the VTrak.

4. For dual-controller VTraks: Repeat steps 2 and 3, with a second SAS cable from the SAS port on Storage Controller 2 to one of the SAS ports (circle icon) on the *other* VTrak controller. See Figure 5 on page 6.

Cascading

1. Insert a SAS cable connector into the SAS data port (diamond icon) on *first* VTrak RAID.

2. Insert the other end of the SAS cable into one of the SAS ports (circle icon) on the *second* VTrak RAID.

3. For dual-controller VTraks: Repeat steps 1 and 2, with a second SAS cable from the SAS data port on the *other* RAID controller of the *first* VTrak to the SAS port on the *other* RAID controller of the *second* VTrak. See Figure 7 on page 10 and Figure 8 on page 12.
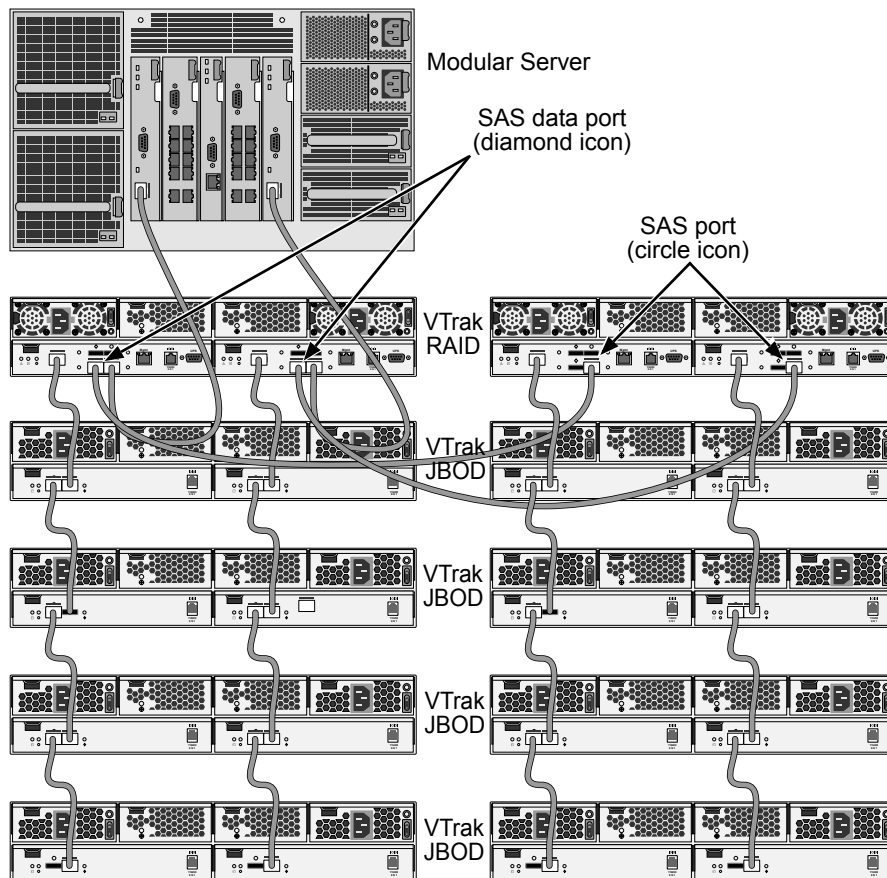
Expanding

1. Insert a SAS cable connector into the SAS cascade port (circle icon) on VTrak RAID.

2. Insert the other end of the SAS cable into one of the SAS ports (diamond icon) on the VTrak JBOD.

3. For dual-controller VTraks: Repeat steps 1 and 2, with a second SAS cable from the SAS cascade port on the *other* VTrak RAID controller to the SAS port on the *other* VTrak JBOD I/O module. See Figure 6 on page 8 and Figure 8 on page 12.

Powering On

1. Power on the VTrak JBODs.

    Flip the switch on both power supplies to the ON position.

2. Wait ten seconds. Then power on the VTrak RAIDs.

    Flip the switch on both power supplies to the ON position.

Additional requirements for dual-controller VTraks:

- Disable LUN Affinity on the VTrak.
- Upgrade the Intel Software Package to dual-controller.
- Use the Intel MPIO. Do not install or use Promise* Perfect Path.

Figure 8. SCM to Cascaded VTraks with JBOD Expansion

Task 4: Finding the VTrak's IP Address

You must first set up a serial connection between the VTrak and your PC. Then you can run Microsoft HyperTerminal* to access the VTrak's command line interface (CLI) to find the IP address.

This procedure requires the RJ11-to-DB9 serial data cable supplied with the VTrak and includes the following actions:

- Setting up a Serial Connection (page 12)
- VTrak Serial Connector (page 13)

Setting up a Serial Connection

To set up a serial connection:

1. Attach the RJ11 end of the serial data cable to the RJ11 serial connector on one of the controllers.

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2. Attach the DB9 end of the serial data cable to a serial port on the PC.
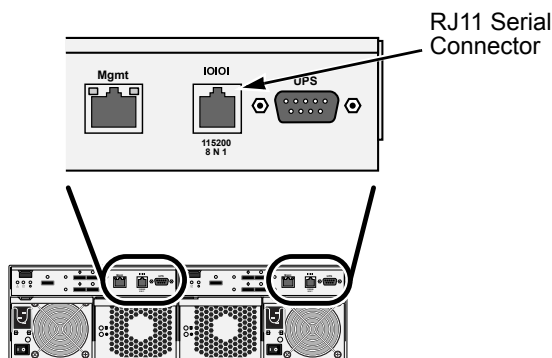
Figure 9. VTrak Serial Connector

Accessing the VTrak's CLI

To access the VTrak's CLI:

1. Change your terminal emulation program settings to match the following specifications:

   — Bits per second: 115200

   — Data bits: 8

   — Parity: None

   — Stop bits: 1

   — Flow control: none

2. Start your PC's terminal VT100 or ANSI emulation program.

3. Press Enter once to launch the CLI.

4. At the Login prompt, type **administrator** and press Enter.

5. At the Password prompt, type **password** and press Enter.

   At this point, you are in the CLI.

6. To view the IP address, type **net** and press Enter.

   administrator@cli> **net**

```
===============================================================
CId Port   Type    IP              Mask            Gateway      Link
===============================================================
1   1      Mgmt    192.168.10.85   255.255.255.0   192.168.10.1  Up
```

In this example, the VTrak's IP virtual address is **192.168.10.85**. Use this address to log into WebPAM PROe.

Task 5: Logging into WebPAM PROe

To log into WebPAM PROe:

1. Launch your Browser.

2. In the Browser address field, type in the virtual IP address of the VTrak.

   Use the virtual IP address you obtained in Task 4 - step 6 (see page 13). Note that the IP address shown below is only an example. The IP address you type into your browser will be different.

Regular Connection

- WebPAM PROe uses an HTTP connection........................... http://
- Enter the VTrak's IP address.. 192.168.10.85

Together, your entry looks like this: **http://192.168.10.85**

Secure Connection

- WebPAM PROe uses a secure HTTP connection................... https://
- Enter the VTrak's IP address:.. 192.168.10.85

Together, your entry looks like this: **https://192.168.10.85**

3. When the login screen (Figure 10) appears:
   — Type **administrator** in the User Name field.
   — Type **password** in the Password field.
   — Click the **Login** button.

The User Name and Password are case sensitive.
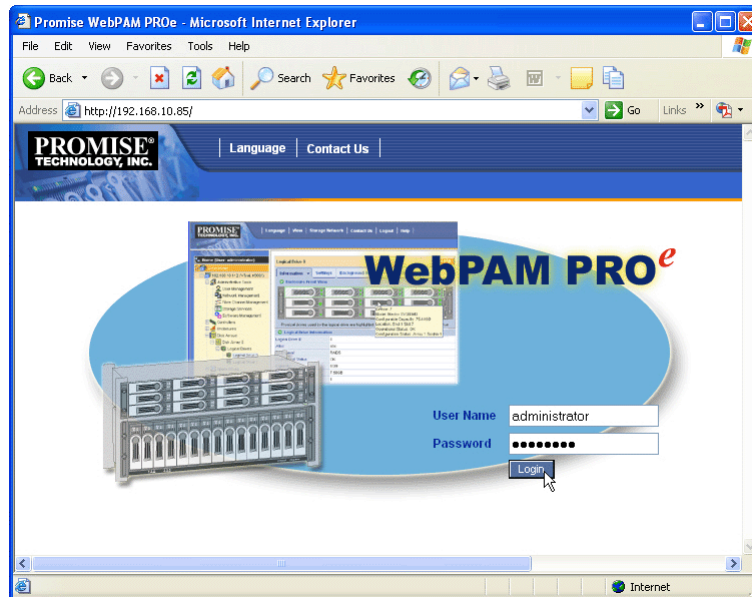
Figure 10. WebPAM PROe Login Screen

After sign-in, the WebPAM PROe opening screen appears. You are ready to create your disk arrays and logical drives.

Task 6: Creating Logical Drives

WebPAM PROe offers three methods of creating disk arrays and logical drives. Two of these methods are suitable for the Modular Server because they can create multiple logical drives:

- **Express** – You choose the RAID characteristics and type of application. This method creates a disk array and logical drives based on your input and is faster.

- **Advanced** – You specify all parameters for the disk array and logical drives. One logical drive will be created automatically. You can create additional logical drives now or at a later time. This method provides more options. For information, see "Advanced Method" on page 16.

Express Method

To create a disk array and logical drives:

1. Click the Subsystem 📇 icon in Tree View.

2. Click the Disk Arrays 📇 icon.

3. Click the **Create** tab in Management View.

4. From the **Create** tab dropdown menu, choose *Express*.

5. Select the check boxes to choose any one or a combination of:

   — **Redundancy** – The array will remain available if a physical drive fails.

— **Capacity** – The greatest possible amount of data capacity.

— **Performance** – The highest possible read/write speed.

— **Mixing SATA/SAS Drive** – Select this check box if you want to use both SATA and SAS drives in the same disk array.

If the check box is cleared, and you have both SATA and SAS drives, different arrays will be created for each type of drive.

6. In the Number of Logical Drives field, enter the number of logical drives you want to make from this disk array.

7. From the Application Type menu, choose an application that best describes your intended use for this disk array:

— File Server

— Video Stream

— Transaction Data

— Transaction Log

— Other

8. Click the **Update** button OR select the Automatic Update check box and updates will occur automatically.

The following parameters are displayed:

— **Disk Arrays** – The number of physical drives in the disk array, their slot numbers, configurable capacity, and the number of logical drives to be created .

— **Logical Drives** – The slot number of the logical drive(s), their RAID level, capacity, and stripe size.

For Modular Server, create six logical drives. Rename them LD1 through LD6

— **Spare Drives** – The physical drive slot number of the dedicated hot spare assigned to this disk array (all RAID levels except RAID 0).

If you accept these parameters, proceed to the next step.

If you do NOT accept these parameters, review and modify your selections in the previous steps.

9. When you are done, click the **Submit** button.

The new disk array appears in the Disk Array List of the Information tab.

Advanced Method

To create a new disk array and logical drives:

1. Click the Subsystem ▦ icon in Tree View.

2. Click the Disk Arrays ▦ icon.

3. From the **Create** tab dropdown menu, choose *Advanced*.

Step 1 – Disk Array Creation

4. Enter an alias for the disk array in the field provided.

5. Select the check box if you want to enable Media Patrol.

6. Select the check box if you want to enable PDM.

7. Highlight physical drives you want in the disk array from the Available list and press the >> button to move them to the Selected list.

    You can also double-click them to move them.

8. When you are done, click the **Next** button.

Step 2 – Logical Drive Creation

Logical Drive Creation enables you to specify logical drives under the new disk array. Enter the information for a logical drive, then click the **Update** button. If there is free capacity remaining, you can specify another logical drive now or wait until later.

For Modular Server, create six logical drives. Name them LD1 through LD6.

9. Enter an alias for the logical drive in the field provided.

10. Choose a RAID level for the logical drive from the dropdown menu.

    The choice of RAID levels depends the number of physical drives you selected.

11. RAID 50 and 60 only – Specify the number of axles for your array.

12. Specify a Capacity and the unit of measure (MB, GB, TB).

    This value will be the data capacity of the first logical drive in your new disk array. If you specify less than the disk array's maximum capacity, the remainder will be available for additional logical drives which you can create later.

13. Specify a Stripe size from the dropdown menu.

    The available options are 64 KB, 128 KB, 256 KB, and 1 MB. 64 KB is the default.

14. Specify a Sector size from the dropdown menu.

    The available options are 512 B, 1 KB, 2 KB, and 4 KB. 512 B is the default.

15. Specify a Read (cache) Policy from the dropdown menu.

    The available options are Read Cache, Read Ahead Cache, and No Cache. Read Ahead is the default.

16. Specify a Write (cache) Policy from the dropdown menu.

    The available options are Write Back and Write Through (Thru). Write Back is the default.

17. From the Preferred Controller ID dropdown menu, choose a controller.

    The choices are Controller 1 or 2, or Automatic. This feature is only available on subsystems with two controllers and LUN Affinity enabled.

18. Click the **Update** button.

    A new logical drive is displayed under New Logical Drives.

Repeat the above steps to specify additional logical drives as desired.

19. When you are done specifying logical drives, click the **Next** button.

The Summary lists the disk array and logical drive information you specified.

20. To proceed with disk array and logical drive creation, click the **Submit** button.

The new disk array appears in the Disk Array List of the Information tab.

Task 7: Associating LUNs and Initiators

A LUN represents a logical drive on the VTrak. An initiator represents a compute module in the Modular Server. Each compute module uses LUN0 for booting and storage. This task includes the following actions:

- Enabling LUN Masking (page 18)
- Adding an Initiator (page 18)
- Adding a LUN Map (page 19)
- Editing a LUN Map (page 19)

Enabling LUN Masking

LUN masking is the process of applying a LUN Map so that each initiator can only access the LUNs specified for it. You only have to perform this action one time.

To enable LUN Masking:

1. Click the Subsystem ⬛ icon in Tree View.
2. Click the Administrative Tools ⬛ icon.
3. Click the Storage Services ⬛ icon.
4. Click the **LUN Map** tab in Management View.
5. Click the **LUN Masking Enabled** box.
6. Click the **Submit** button.

Adding an Initiator

You must add an initiator to the VTrak's initiator list before you can associate the initiator with a LUN. You must repeat this action for each initiator.

To add an initiator:

1. Click the Subsystem ⬛ icon in Tree View.
2. Click the Administrative Tools ⬛ icon.
3. Click the SAS Management ⬛ icon.
4. In Management View, click the **Initiators** tab.

A list of all currently logged-in initiators appears on the screen.

5. Select the check box to the left of the initiator you want to add.

6. Click the **Add to Initiator List** button.

   The initiator is added to VTrak's list.

- If you do not have a LUN Map, continue with "Adding a LUN Map" below.
- If you have a LUN Map, continue with "Editing a LUN Map" below.

Adding a LUN Map

A LUN map associates LUNs and initiators.

To add the LUN Map:

1. Click the Subsystem 📰 icon in Tree View.

2. Click the Administrative Tools 🖥 icon.

3. Click the Storage Services ▦ icon.

4. Click the **LUN Map** tab in Management View and from the dropdown menu, choose *Add a LUN Map*.

5. Choose the initiator from the Initiator dropdown list.

   An initiator takes its name from the WWN of the compute module.

6. In the LUN Mapping & Masking list, enter LUN0 for logical drive LD1.

7. Click the **Submit** button.

   The compute module in slot 1 is now associated with logical drive LD1.

- Go back to "Task 2: Enabling External Ports" on page 4 and enable one more External Port.

Editing a LUN Map

This action associates LUNs and initiators.

To edit the LUN Map:

1. Click the Subsystem 📰 icon in Tree View.

2. Click the Administrative Tools 🖥 icon.

3. Click the Storage Services ▦ icon.

4. Click the **LUN Map** tab in Management View.

5. From the LUN Mapping & Masking Information list, choose the new initiator that just appeared and click its link.

6. In the LUN field, enter LUN0 for each logical drive.

   Specify logical drives LD2 though LD6, in order, one logical drive for each initiator.

7. Click the **Submit** button.

   This action completes the association of the compute modules in slots 2 through 6 with logical drives LD2 through LD6, respectively.

What to do next

- Go back to "Task 2: Enabling External Ports" on page 4 and enable one more External Port until all ports have been enabled.

Task 8: Installing an OS on a Compute Module

In this case, the phrase *installing an OS on a compute module* refers to installing the OS onto the VTrak LUN that is assigned to the compute module.

Connections required to boot the compute module and install the OS are made through the 15-pin video connector and two USB connectors on the front panel.

This procedure requires a monitor, keyboard, mouse, and an external CD drive with a USB 2.0 interface.
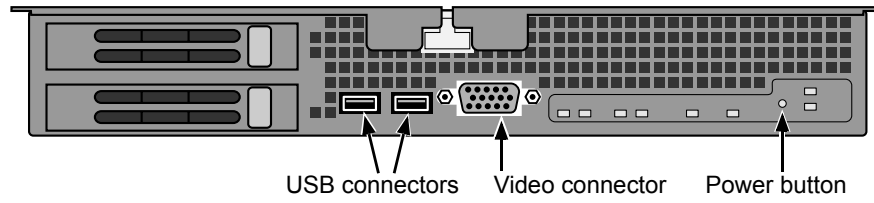
To install an OS on a compute module:

1. Power off the compute module by pressing the power button on the front panel (see Figure 11).

2. Attach a monitor, keyboard and mouse, and CD drive to the compute module.

3. Power on the monitor, CD drive, and compute module.

   To power on the compute module, press the power button on the front panel (see Figure 11).

4. Insert the OS installer CD in the CD drive.

5. Follow the prompts for OS installation.

   Be sure you install the OS onto LUN 0.

6. Reboot the compute module.

7. Enter the BIOS setup and set the boot order to boot from LUN 0 first.

8. Exit the BIOS setup.

   This completes OS installation on this compute module. Repeat the installation on your other compute modules as required.

Within Microsoft Windows*, you might have to bring the physical drives online to enable them.

USB connectors   Video connector   Power button

Figure 11. Modular Server Compute Module

Intel® Modular Server System MFSYS25 to Promise* VTrak E-Class Connection Guide