PROMISE®
TECHNOLOGY, INC.

VTRAK
E-Class / J-Class
Quick Start Guide

Version 2.0

Firmware SR2.4

About This Guide

This *Quick Start Guide* shows you how to install the VTrak E-Class and J-Class in a rack, how to make management and data connections, and how to power-up, set-up, and configure the VTrak subsystem.

For information about unpacking the VTrak, see page 3.

For instructions on installing VTrak in a rack, see page 4.

For diagrams and connections for management and data cables, see page 6.

For the system power-up sequence, see page 14.

For making VTrak network settings, see page 16.

For configuring the VTrak automatically using scripts, see page 19.

For safety information, see pages 3 and 4.

Promise periodically releases firmware updates that add functionality to your VTrak system. You can download the firmware updates from the Promise Support Website. The firmware update procedure is described in the *VTrak Product* (User) *Manual* on the Software CD.

If you have questions or need assistance, see page 24.

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VTrak Setup Task List

For complete information about your VTrak E-Class and J-Class subsystems, see their respective *VTrak Product* (User) *Manuals* on the Software CDs.

Task 1: Unpacking the VTrak

The VTrak box contains the following items:

- VTrak Unit
- *Quick Start Guide*
- Left and right center-mount brackets
- Left and right mounting rails

- RJ11-to-DB9 serial data cable
- 1.5m (4.9 ft) Power cords (2)
- Software CD with SNMP files, *Product* (User) *Manual* and *Quick Start Guide*

Warning

The electronic components within the VTrak disk array are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the VTrak or its subassemblies.

Caution

At least two persons are required to safely lift the VTrak subsystem from the box and place it into a rack.

Important

Use the following categories of network cables with VTrak:

- Cat 6, preferred
- Cat 5E, minimum

Task 2: Mounting VTrak in a Rack

The E-Class subsystem installs to the rack using the supplied mounting rails. You can also use your existing rails.

Cautions

- At least two persons are required to safely lift, place, and attach the VTrak subsystem into a rack.
- Do not lift or move the VTrak subsystem by the handles, power supplies or the controller units. Hold the subsystem itself.
- Do not install the VTrak subsystem into a rack without rails to support the subsystem.
- Only a qualified electrician who is familiar with the installation procedure should mount and install the VTrak subsystem.
- Be sure all switches are OFF before you install the VTrak subsystem or plug in the power.

To install the VTrak subsystem 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.
3. Attach the mounting rail assemblies to the outside of the rack posts, using the attaching screws from your rack system. See Figure 1 on page 5.

   Be sure the support is on the bottom facing inward.
4. Square the rail assemblies in the rack.
5. Tighten the adjustment screws and the attaching screws.
6. Place the VTrak subsystem onto the rails.
7. Secure the VTrak subsystem to the rack through each handle, using the attaching screws from your rack system.

Figure 1   Rack mount assembly diagram
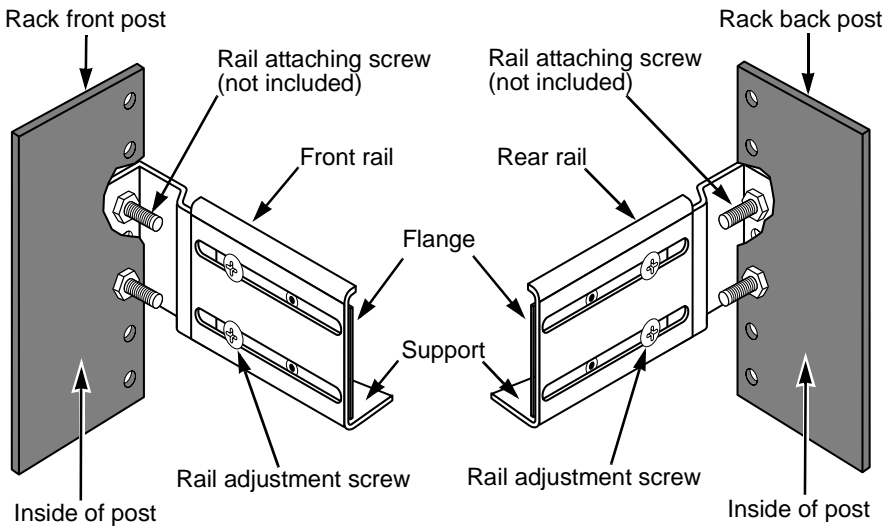
8. Remove the drive carriers from their packing and install them into the drive bays of the VTrak enclosure. See Figure 2
9. Plug in the power supply cords.

Figure 2   VTrak mounted in a rack with the supplied rails
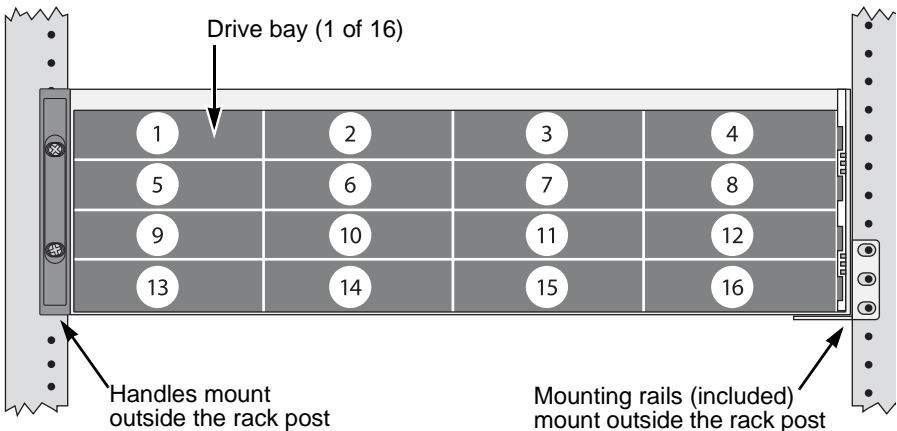
Task 3: Making Management and Data Connections

VTrak E-Class models have one or two RAID controllers. Each controller has an Ethernet (RJ45) Management Port connector that enables you to monitor the VTrak over your network using the WebPAM PROe Software. The VTrak supports HTTP, HTTPS, and Telnet protocols.

The VTrak RAID controllers have two 4-Gb Fibre Channel (FC) connections for the data ports. See Figure 3.

You can configure your VTrak for:

- Storage Area Network (SAN)
- Direct Attached Storage (DAS)
- Expansion chassis using SAS data connections

Figure 3   VTrak E-Class RAID controller connector

Fibre Channel data port 2

Fibre Channel data port 1

RJ11 Serial Connector

SAS expansion port (to J-Class)

Management port
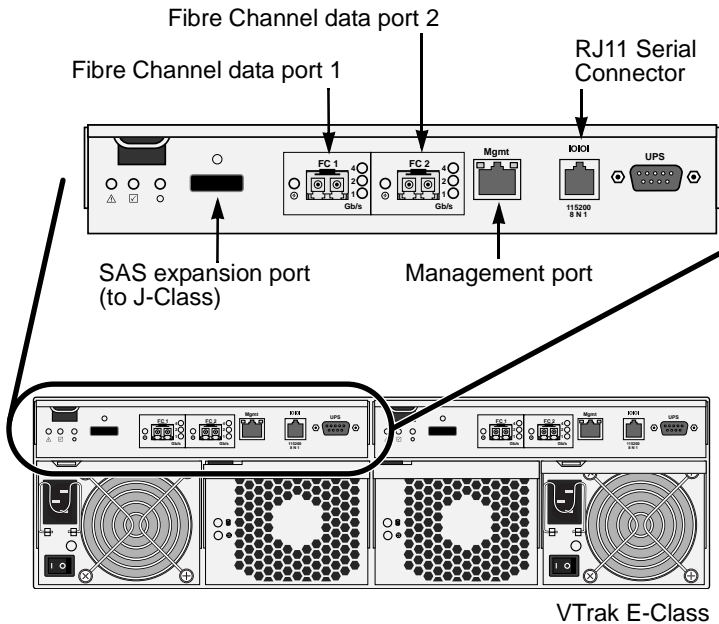
VTrak E-Class

When you require more than 16 hard disk drives for your storage system, you can add capacity by connecting up to four VTrak J-Class expansion chassis. See Figure 4 on page 7.

**Figure 4   VTrak J-Class I/O Module**
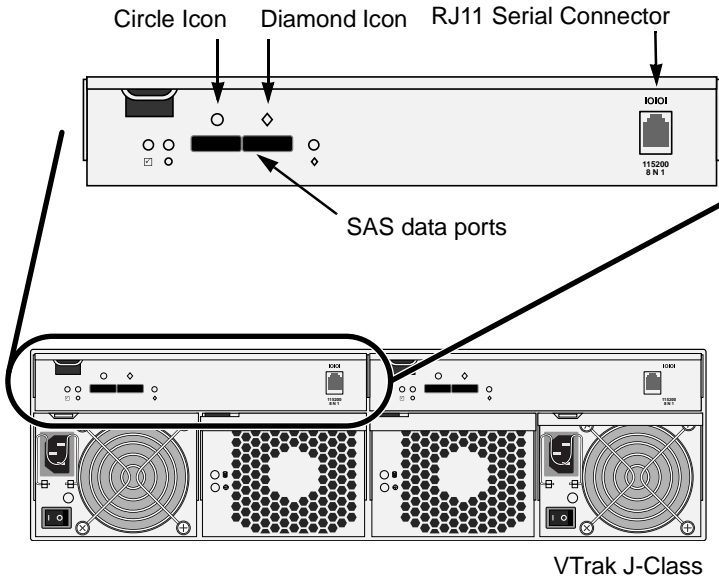
To connect a VTrak E-Class subsystem to a VTrak J-Class expansion chassis:

1. Find the SAS data cables that ship with the J-Class.

2. Connect one end of a SAS data cable to the SAS expansion port on the VTrak E-Class RAID controller. See Figure 5 on page 8.

3. Connect the other end of the SAS data cable to the *Diamond* icon SAS port on the VTrak J-Class I/O module. See Figure 5 on page 8.

4. If your VTrak E-Class has dual RAID controllers and your VTrak J-Class has dual I/O modules, connect a second SAS data cable between the other RAID controller and I/O module in the same manner.

5. Optional. If your system has multiple VTrak J-Class expansion chassis, connect their SAS data cables:

    •   From the *Circle* icon SAS port on the I/O module of the *First* VTrak J-Class

    •   To the *Diamond* icon SAS port on the I/O module of the *Second* VTrak J-Class

    See Figure 5 on page 8 and Figure 6 on page 9.

    Be sure all of your SAS data connections are *Circle*-to-*Diamond*.

Figure 5   J-Class expansion SAS data connections, dual I/O modules
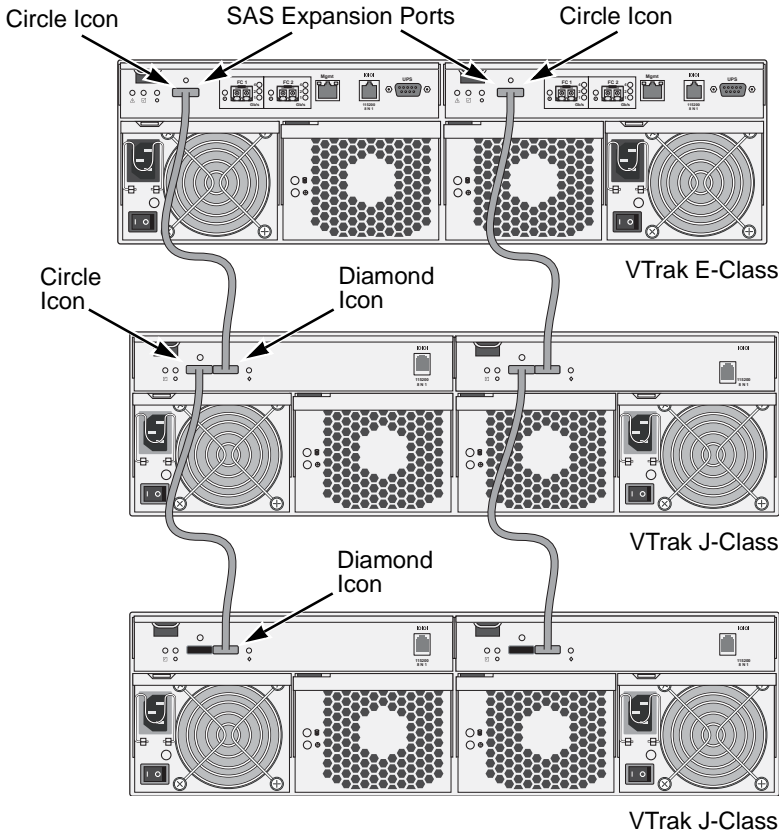
Figure 6   J-Class expansion SAS data connections, single I/O modules
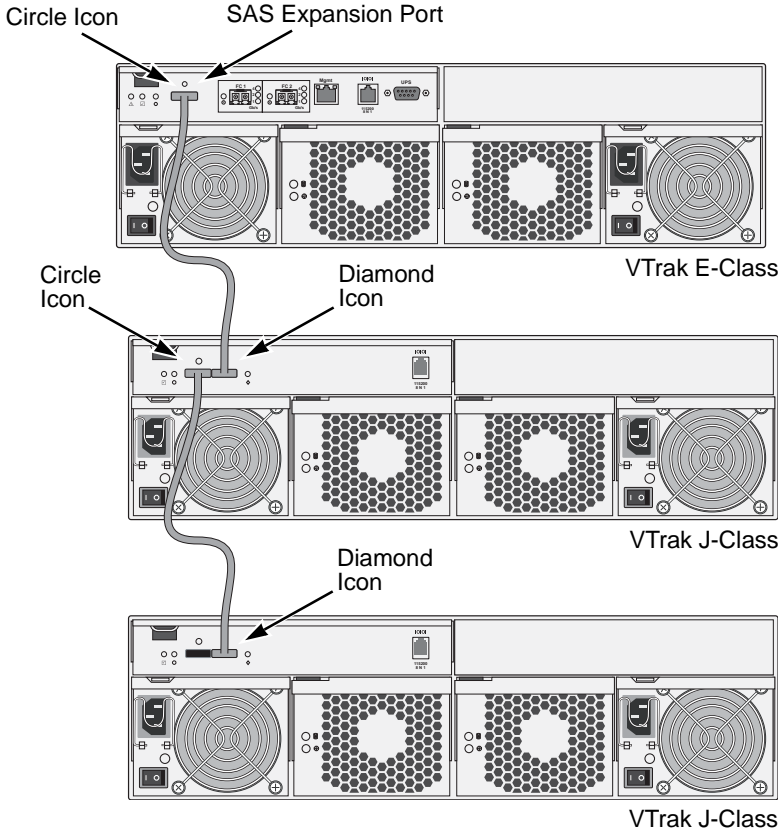
Configuring a Storage Area Network

A storage area network (SAN) requires:

- A Fibre Channel switch
- A Fibre Channel HBA card in the Mac Pro or Xserve
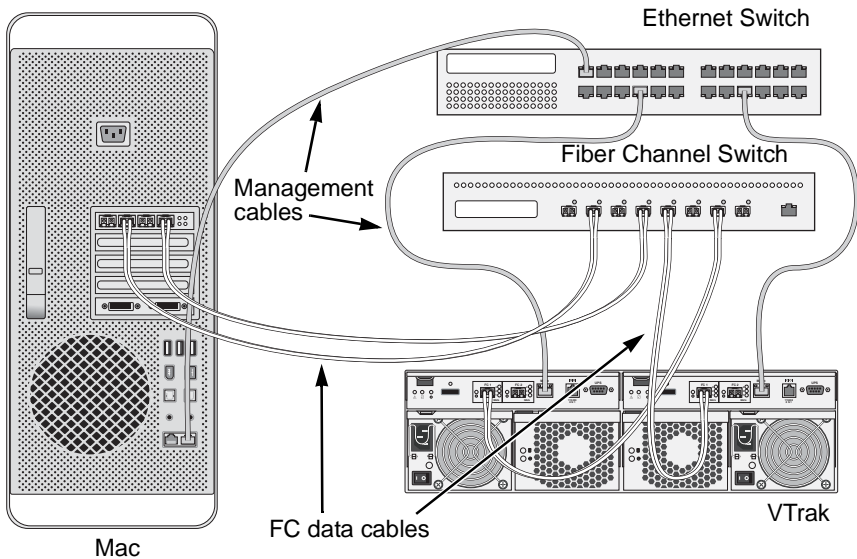- An Ethernet switch

Data Paths

To establish the data paths:

1. Connect one or both of the Fibre Channel ports on each VTrak controller to your Fibre Channel switch.
2. Connect two or four Fibre Channel ports on the Mac to your Fibre Channel switch.

Management Path

To establish the management path:

1. Connect the Management port on the VTrak controller to your network switch. Figure 7 below and Figure 8 on page 11.
2. Connect each Mac's NIC to your network switch.

Figure 7   SAN data and management connections, dual controller

A two-path connection, as shown above, is the *minimum* requirement for VTrak. Use a four-path connection for best performance and no single point of failure.

Figure 8   SAN data and management connections, single controller
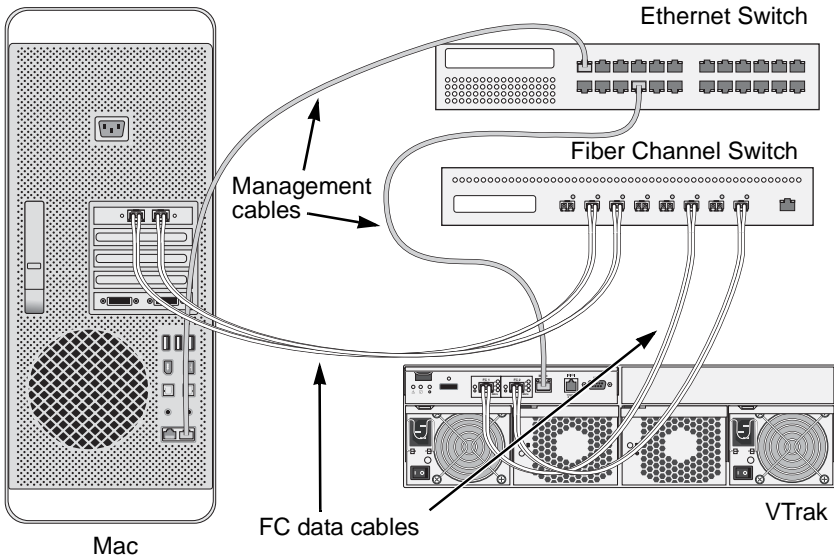
A two-path connection, as shown above, is the *minimum* requirement for VTrak.

Configuring Direct Attached Storage

Direct attached storage (DAS) requires:

• A Fibre Channel HBA card in the Mac Pro or Xserve

• An Ethernet switch

Data Paths

To establish the data paths:

> Connect one or both of the Fibre Channel ports on each VTrak controller to the Fibre Channel card in your Mac.

Management Path

To establish the management path:

1. Connect the Management port on the VTrak controller to your network switch. See Figure 9 below and Figure 10 on page 13.

2. Connect the Mac's NIC to your network switch.

Figure 9   DAS data and management connections, dual controller
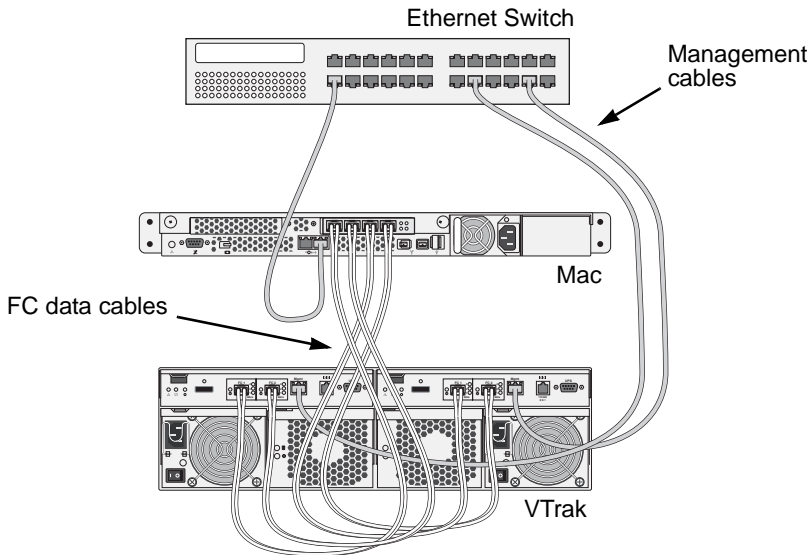
Figure 10   DAS data and management connections, single controller

Ethernet Switch

Management
cables

Mac

FC data cables
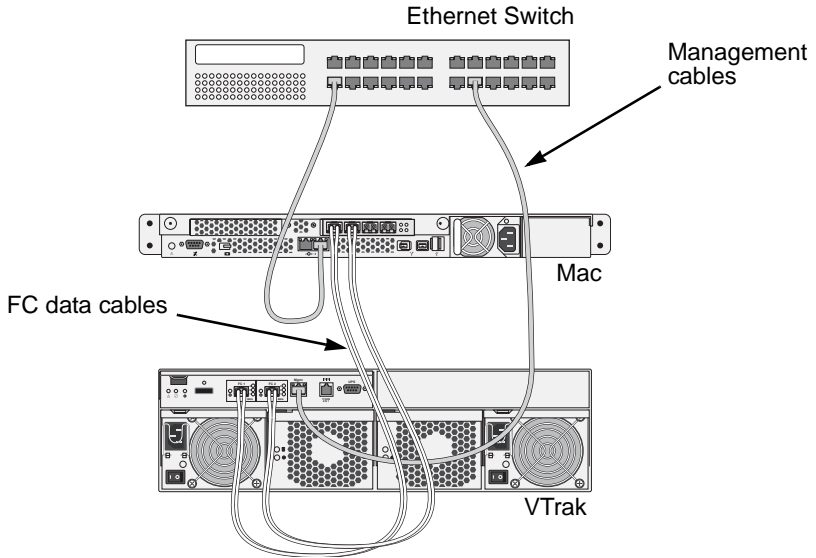
VTrak

Task 4: Powering On the System

There is a specific sequence to follow when you power on your VTrak and Mac system. See Figure 11 below or Figure 12 on page 15.

Power on your system components in the following sequence:

1. All VTrak J-Class expansion chassis
2. The VTrak E-Class subsystem
3. The Mac Client

The VTrak takes a few minutes to fully boot-up and become available to the host.

Figure 11   VTrak and Mac power-on sequence, dual controller
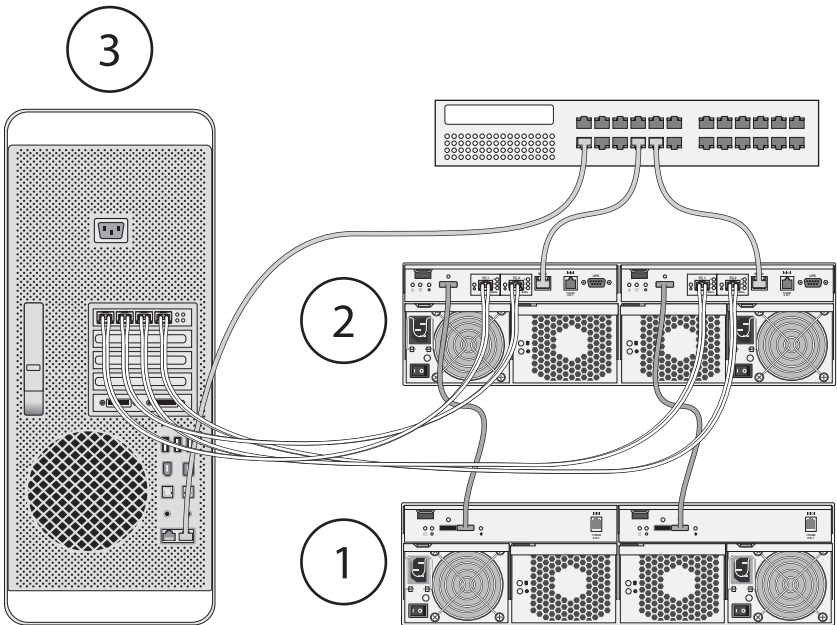
Figure 12   VTrak and Mac power-on sequence, single controller
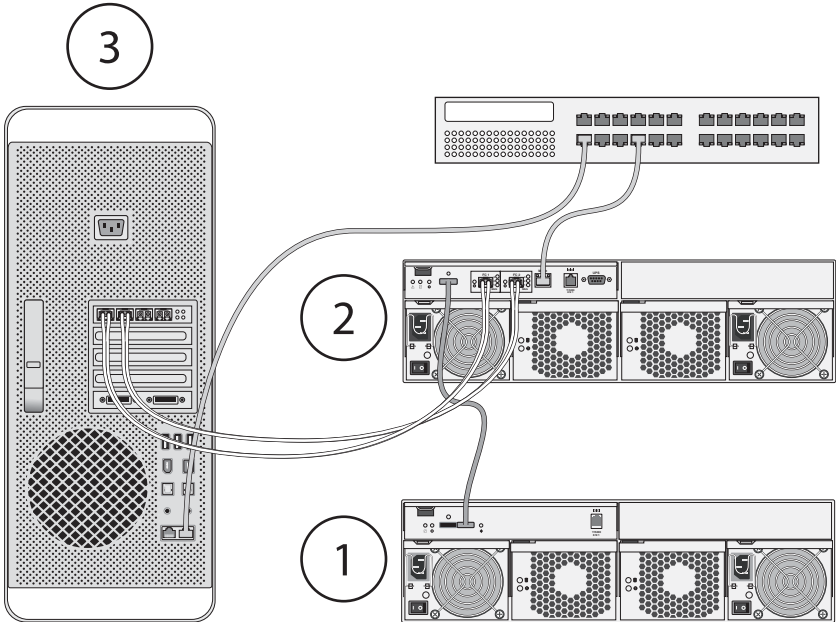
Task 5: Performing the Initial Setup

The VTrak's default network settings are DHCP enabled. The Bonjour service on the VTrak enables your Safari browser to find the VTrak on the network and establish a connection automatically.

Establishing a Connection with VTrak

To establish an Ethernet connection between your Mac and the VTrak:

1. Be sure the VTrak is connected to the network and powered on.

   See "Task 3: Making Management and Data Connections" on page 6 and "Task 4: Powering On the System" on page 14.

2. On your Mac Desktop, launch **Safari**.

3. In Safari, click the **Show all bookmarks** icon.

   See Figure 13.

Figure 13 Show all bookmarks icon

Click the **Show all bookmarks** icon.
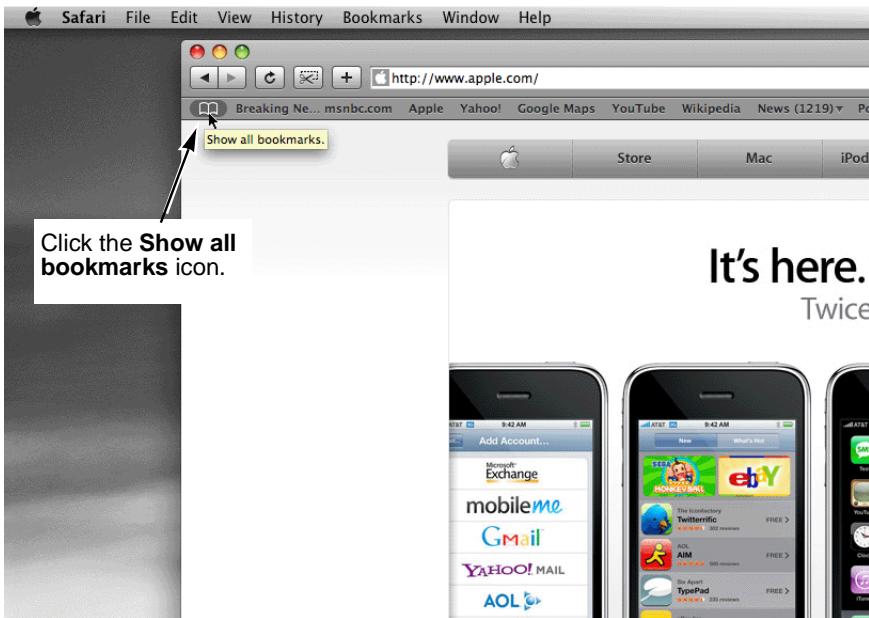
The *Collections* list appears. See Figure 14 on page 17.

4. Under the *Collections* list, click the **Bonjour** icon.

   The Bonjour links appear in the *Bookmarks* list. Each VTrak on your network is listed by its World Wide Node Name (WWNN).

Figure 14 VTrak WWNNs in the Bookmarks list
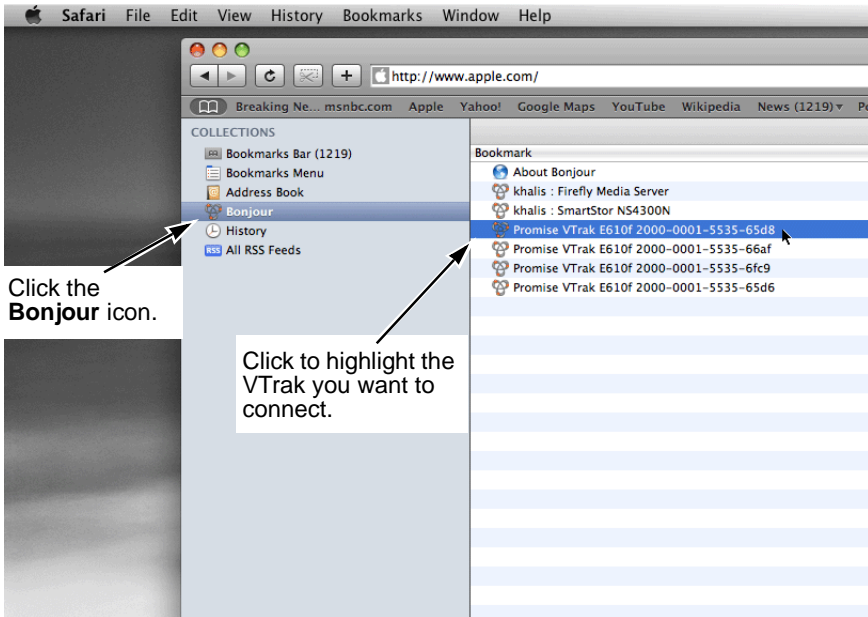
5. Click to highlight the **WWNN** of the VTrak to which you want to connect.

6. When the log-in screen 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 15   WebPAM PROe log-in screen
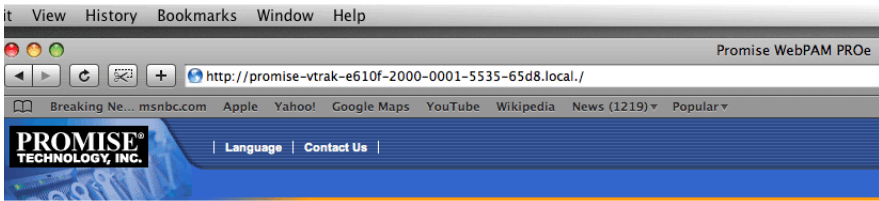
Verifying VTrak's Network Settings

To verify the VTrak's network settings:

1.   Click the **+** icon beside Administrative Tools.

Then click Network Management.

2.   In the Management Port tab, click the **Port Configuration** Link.

Figure 16   VTrak Network settings

Port Configuration Information	Help
Management Port	Maintenance Mode
Port Configuration - Virtual for Management Ports of the Subsystem	
Active Port	Controller 1
Port	Enabled
Link	Unknown
IP Type	IPv4
DHCP	Enabled
IP Address	192.168.1.120
Subnet Mask	255.255.255.0
Gateway IP Address	192.168.1.1
DNS Server IP Address	192.168.1.5
MAC Address	00:01:55:35:68:15
Max Supported Speed	1000 Mbps

The VTrak's network settings are shown on the Management Port tab.

Task 6: Configuring the VTrak

The VTrak supports a wide range of RAID levels, cache settings, and volume configurations. See the *VTrak E-Class Product* (User) *Manual* for more information.

Apple provides a number of tested and supported configuration scripts to simplify system configuration for most common storage applications using Mac OS X, including Xsan configurations. These scripts automatically configure a new VTrak system for best performance.

Visit Apple's Knowledge Base at http://support.apple.com/kb/HT1200 for configuration scripts and directions on applying them.

Preparing Your Script

To prepare your configuration script:

1. Double-click this link http://support.apple.com/kb/HT1200.

   The scripts are listed under **Configure via script**.

2. Carefully read the descriptions and choose the script that matches your application. Click the script name to choose it.

3. Highlight the entire script from *#Begin Copy* through *#End Copy*, then press ⌘-C to copy it.

4. Open **TextEdit** and press ⌘-V to paste the script into a new file.

5. From the dropdown menu, choose *Format > Make Plain Text*.

   Be sure you convert the configuration script to a plain text file.

6. Choose *File > Save As*, name the script file, and click the **Save** button.

   Your configuration script is ready to import using WebPAM PROe.

Checking Your Physical Drives

The configuration script only works when all of your physical drives are unconfigured. If you are setting up your VTrak system for the first time, all of your drives will be unconfigured.

To check your physical drives:

1. If WebPAM PROe is not running, launch **Safari** and log into WebPAM PROe as described in "Task 5: Performing the Initial Setup" on page 16.

2. In Tree View, click 🗂 VTrak, 📇 Enclosures, 📇 Enclosure, and 🔲 Physical Drives.

3. Under the Information tab, look at the Operational Status and Configuration of each physical drive.

If Operational Status is **OK** and Configuration is **Unconfigured**, your physical drives are ready to run the configuration script.

Figure 17 Physical drive information


If you have created any disk arrays, logical drives, or spare drives, you must delete them before you run the script. Be sure you back-up your important data first, then delete the disk arrays and logical drives. See the *VTrak E-Class Product* (User) *Manual* for instructions.

Importing and Running a Configuration Script
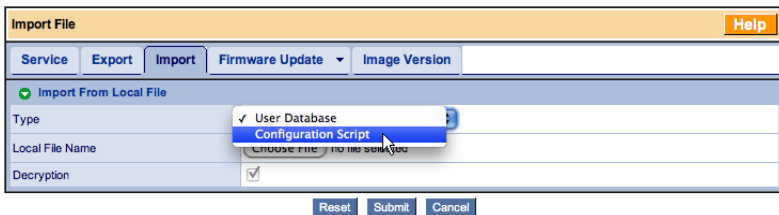
To import and run your configuration script:

1. In Tree View, click 🖳 Administrative Tools, then click the **Import** link.

Figure 18 The Import link under Administrative Tools
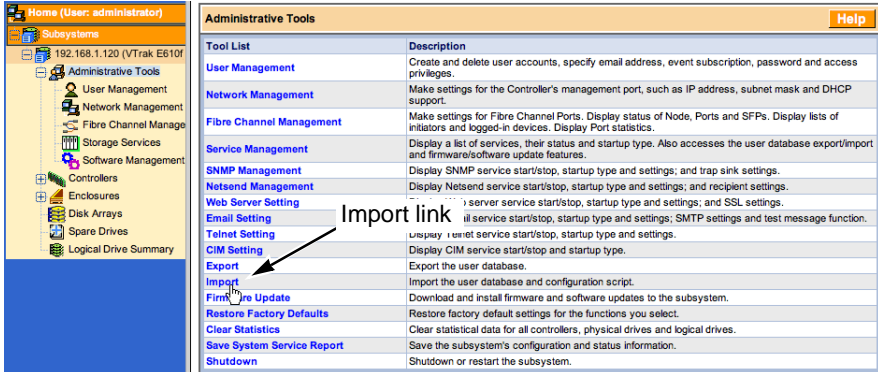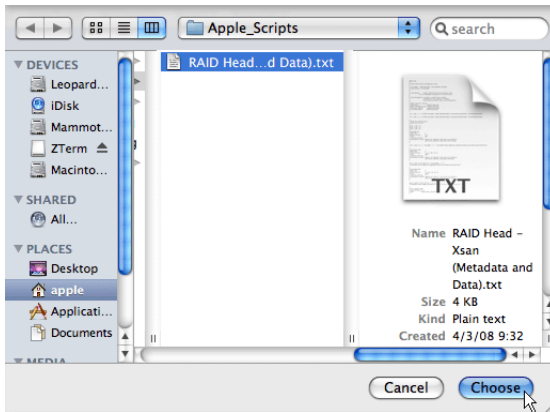

2. In the Import File dialog box, choose *Configuration Script* from the **Type** dropdown menu.
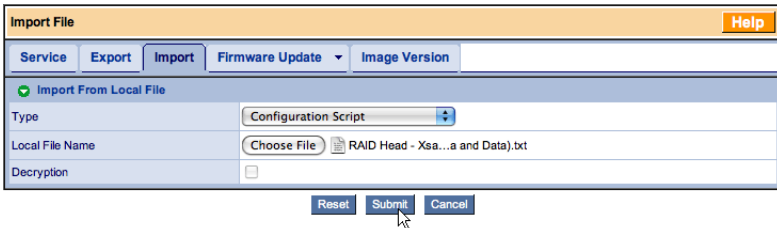
Figure 19 Import File dialog box

3. In the Import File dialog box, click the **Choose File** button and navigate to the folder where you saved the configuration file. Click the configuration file and click the **Choose** button.
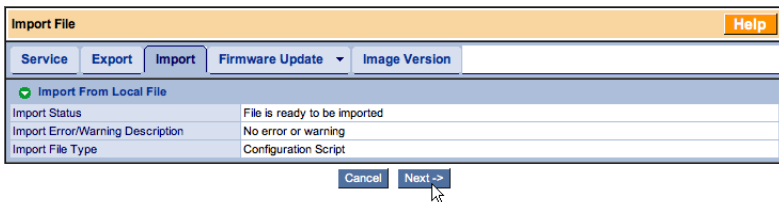
Figure 20 Choosing the configuration file

4. In the Import File dialog box, click the **Submit** button.
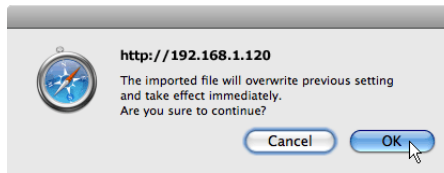
Figure 21 Clicking the Submit *button*

5. In the Import File dialog box, click the **Next** button.

Figure 22 Clicking the Next *button*

6. In the Warning box, click the **OK** button.

    See Figure 23 on page 23.

Figure 23   Warning box

The configuration script takes about 30 to 45 seconds to upload and run.

When the script is done, new disk arrays and logical drives appear in Tree View.

Figure 24   An example of Tree View after running a configuration script

Disk arrays and logical drives have been added
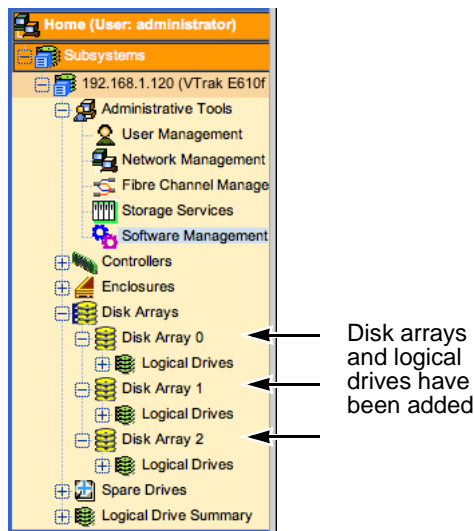
The exact appearance of Tree View depends upon how you set up your system and which script you chose.

Your VTrak system is now configured and ready to use.

Click ▦ Logical Drives Summary in Tree View to see the full representation of your new logical drives.

Contacting Technical Support

For assistance or more information:

- Go to the Promise Support Website at
  http://www.promise.com/support/support_eng.asp
- Go to Promise E-mail Support at e-Support On-Line
- Contact the nearest Promise Technical Support Office

United States	
Fax Support	+1 408 228 1100 Attn: Technical Support
Phone Support	+1 408 228 1400 option 4
The Netherlands	
Fax Support	+31 0 40 256 9463 Attn: Technical Support
Phone Support	+31 0 40 235 2600
Germany	
Fax Support	+49 0 2 31 56 76 48 29 Attn: Technical Support
Phone Support	+49 0 2 31 56 76 48 10
Taiwan	
Fax Support	+886 3 578 2390 Attn: Technical Support
Phone Support	+886 3 578 2395 ext. 8822 or 8823