VTrak N1616

Product Manual

Version 1.0

Introduction

This chapter covers the following topics:

- “Packing List”
- “Specifications”
- “Hardware”
    - “Front Panel”
    - “Rear Panel”

Packing List

Check the shipping package to make sure you have the following items:

- VTrak N1616
  Drives are shipped with the device already installed.
  There are two hardware versions are available:
    - Sixteen 3.5” SATA HDDs with carriers, or
    - Ten 3.5” SATA HDDs and six U.2 SSD with carriers
- Two power cords (1.5 meter)
- Quick Start Guide

Specifications

Interface	
LAN Ports	**Share Ports:** 10G Base-T : 8-Port / 10G SFP+ : 8-Port / 25G SFP28 : 4-Port **Management:** 2 Ports 1G Base-T
USB Ports	USB2.0 x 2 (Front) & USB3.2 x 4 (Back)
Graphics	HDMI x 1; VGA x 1

General	
CPU	Intel CPU i7-8700. 3.2GHz. 12MB Cache.65W 6 Cores
Memory	64 GB
Memory Slot	4 x Long-DIMM DDR4, Best performance with 4 DIMM
Drive Support	16 x 3.5” / 2.5” SATA HDD/SSD or Up to 10 x U.2 SSD
RAID	RAID level support: RAID 0, 1, 5, 6, 10, 50, 60
OS Support	Windows 10 and macOS 10.15 and newer
Boost	TierBoost SSD storage tiering

System	
Power Supply	(550W x 2) 100 - 240V AC, 50 - 60Hz
Power Consumption	110V, Power Consumption: 306W 230V, Power Cosnumption: 296W
System Fan	4500RPM.12V
Hardware monitoring	Temperature, Enclosure, Physical drives, Logical drives, RAID controller
Temperature	Operating: 5° - 35° C Non-operating: -40° - 70° C
Humidity	Operating: 10% - 95% non-condensing Storage: 5% - 95% non-condensing
Dimensions	131 mm x 447 mm x 503 mm
Weight	34 Kg with HDD installed

Hardware

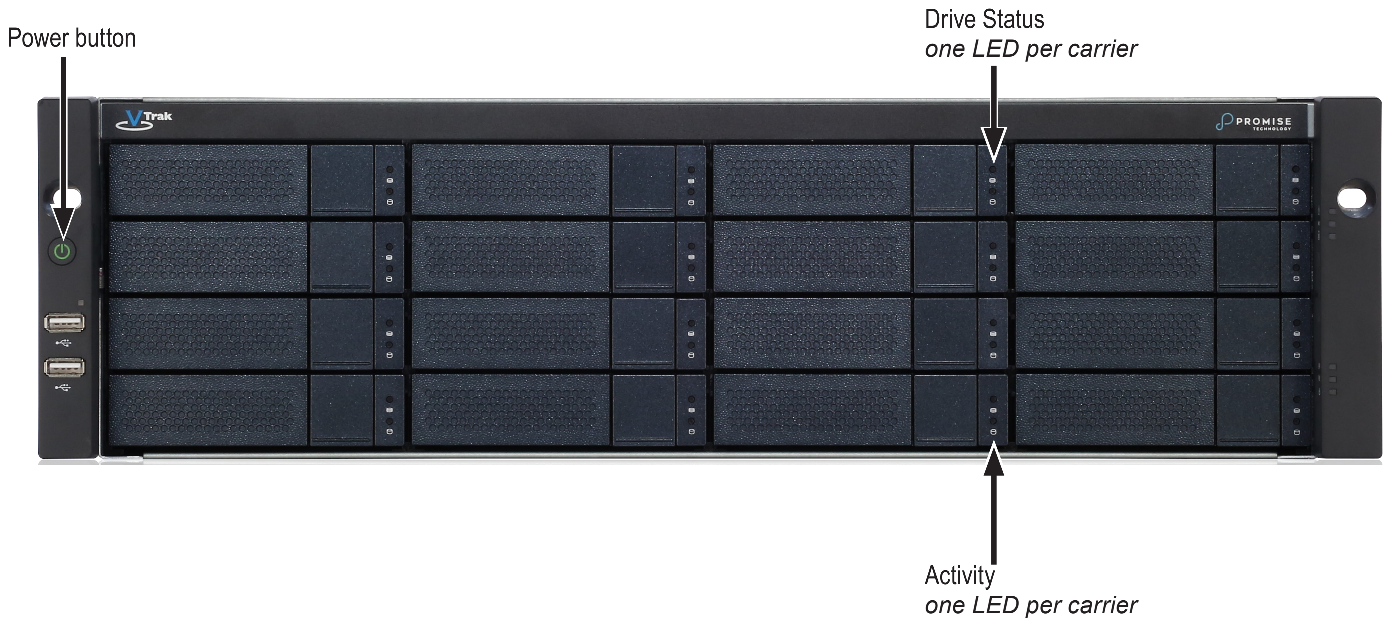
The following section provides a summary of the front and back panel hardware features of VTrak N1616.

Front Panel

The front panel of VTrak N1616 enclosures provide access to drives carriers. Defective drives can be replaced without interruption of data availability to the host computer. If so configured, a hot spare drive will automatically replace a failed drive, securing the fault-tolerant integrity of the logical drive. The self-contained hardware-based RAID logical drive in the VTrak N1616 provides maximum performance in a compact external enclosure.

The VTrak N1616 system power button located on the front includes the Power status LED.

VTrak N1616 Front Panel



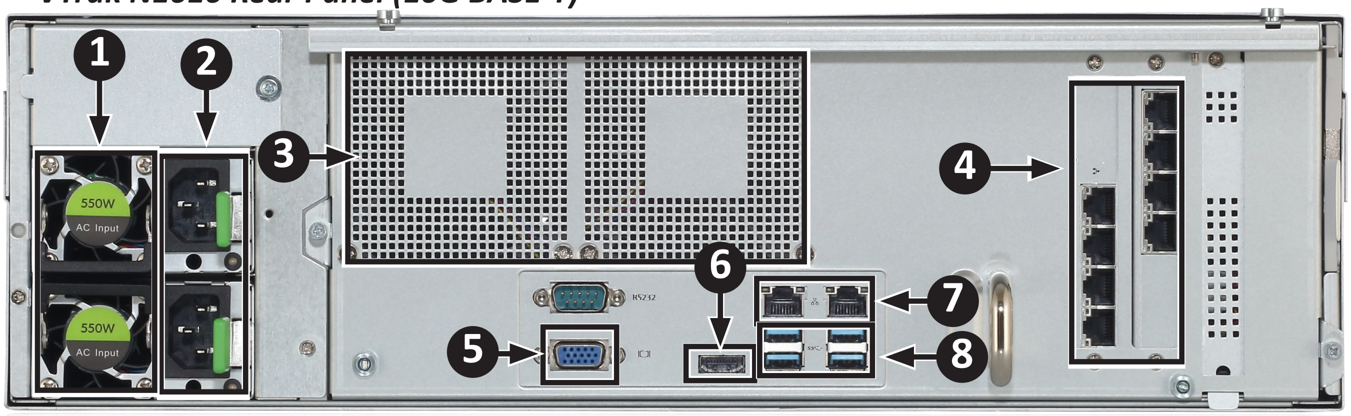
Drive carrier LED behavior on VTrak N1616

LED	Description
Power	Lights BLUE to indicate the system is powered on. Blinks BLUE in shutdown mode.
Drive Status	Each drive carrier has two LEDs on the right side of the front, the Drive Status LED located above the Activity LED. The Drive Status LED displays BLUE when a drive is configured and working properly. When the lights are RED the HDD requires manual replacement. ORANGE indicates background RAID activity on this particular HDD, no user action is required.
Drive Activity	Steady BLUE when HDD link is established, flashes BLUE during drive activity.

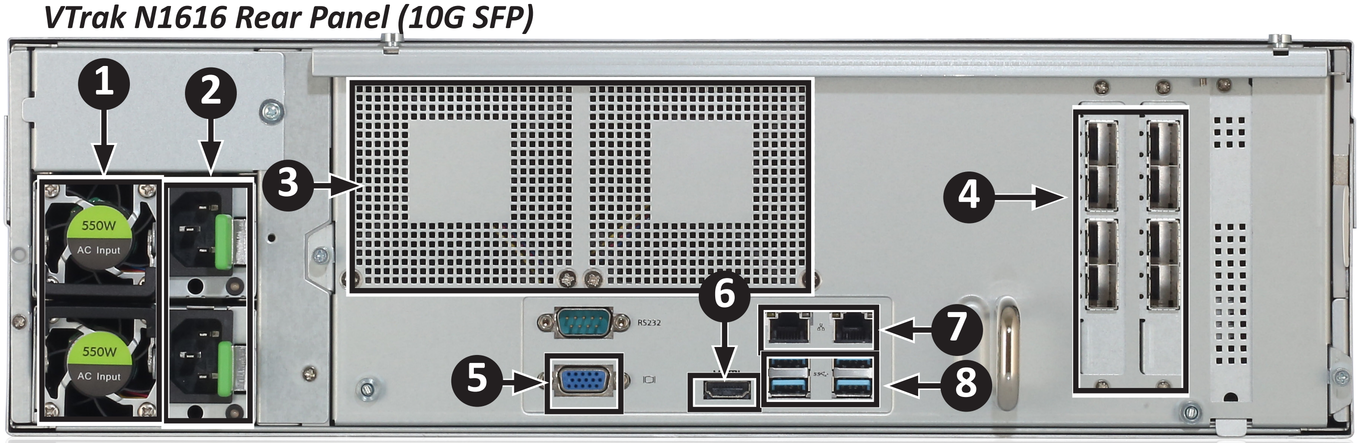
Rear Panel

The rear panel of the VTrak N1616 enclosure provides access to the power supplies, 10G NAS (Share) ports, VGA and HDMI video monitor connections, 1G Ethernet ports for device management over the local network, and USB 3.2 ports.

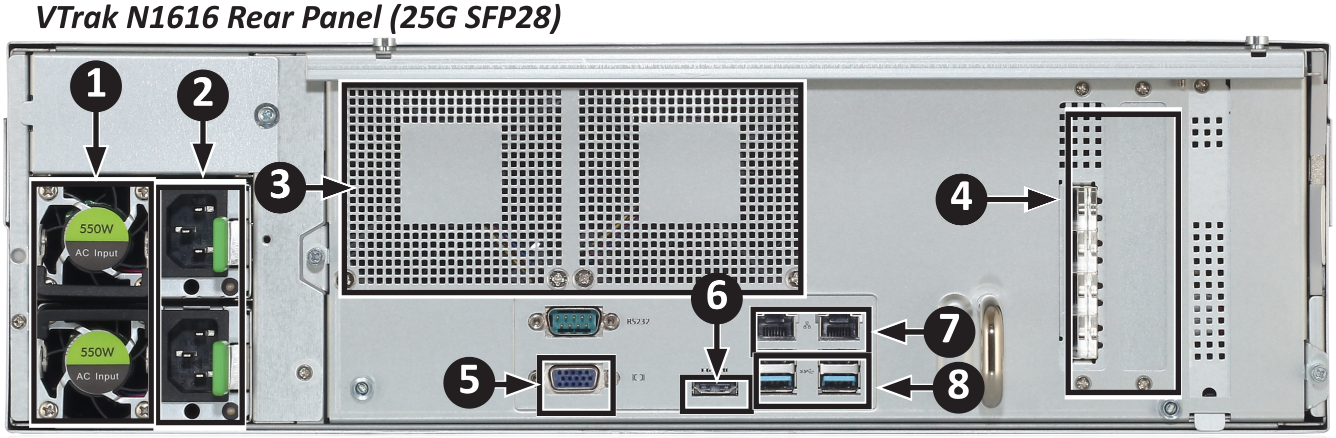
VTrak N1616 Rear Panel (10G BASE-T)



VTrak N1616 Rear Panel (10G SFP)



VTrak N1616 Rear Panel (25G SFP28)



Rear Panel Hardware	
1	PSU fan vent
2	Power insert
3	System fan vents
4	Network (Share) ports For collaborative accounts accessing over network. Three SKU available: • 10G Base-T : 8-Port • 10G SFP+ : 8-Port • 25G SFP28 : 4-Port
5	VGA port (technical support only)
6	HDMI (technical support only)
7	LAN RJ-45 ports (LAN1/LAN2) Use these ports to connect to a 1G network for system management using WebPAM Insight. *1G port numbers are written in white text in the illustration.*
8	USB 3.2 ports (4 ports)

Mounting in a Rack

The instructions here apply to the VTrak N1616 3U 16-bay enclosure.

Cautions

- **Do not populate any enclosure hardware with hard drives until it has been securely installed in the rack.**
- **At least two persons are required to safely lift, place, and attach the enclosure hardware into a rack system.**
- **Do not lift or move the enclosure hardware by the handles, or power supplies. Hold the system itself.**
- **Do not install the enclosure hardware into a rack without rails to support the system.**
- **Only a qualified technician who is familiar with the installation procedure should mount and install the enclosure hardware.**
- **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 enclosure hardware are designed to safely support that enclosure hardware when properly installed. Additional loading on the rails is at the customer's risk.**
- **PROMISE, Inc. cannot guarantee that the mounting rails will support your VTrak N1616 enclosure hardware unless you install them as instructed.**

The enclosure installs to the rack using the optional mounting rails available for purchase.

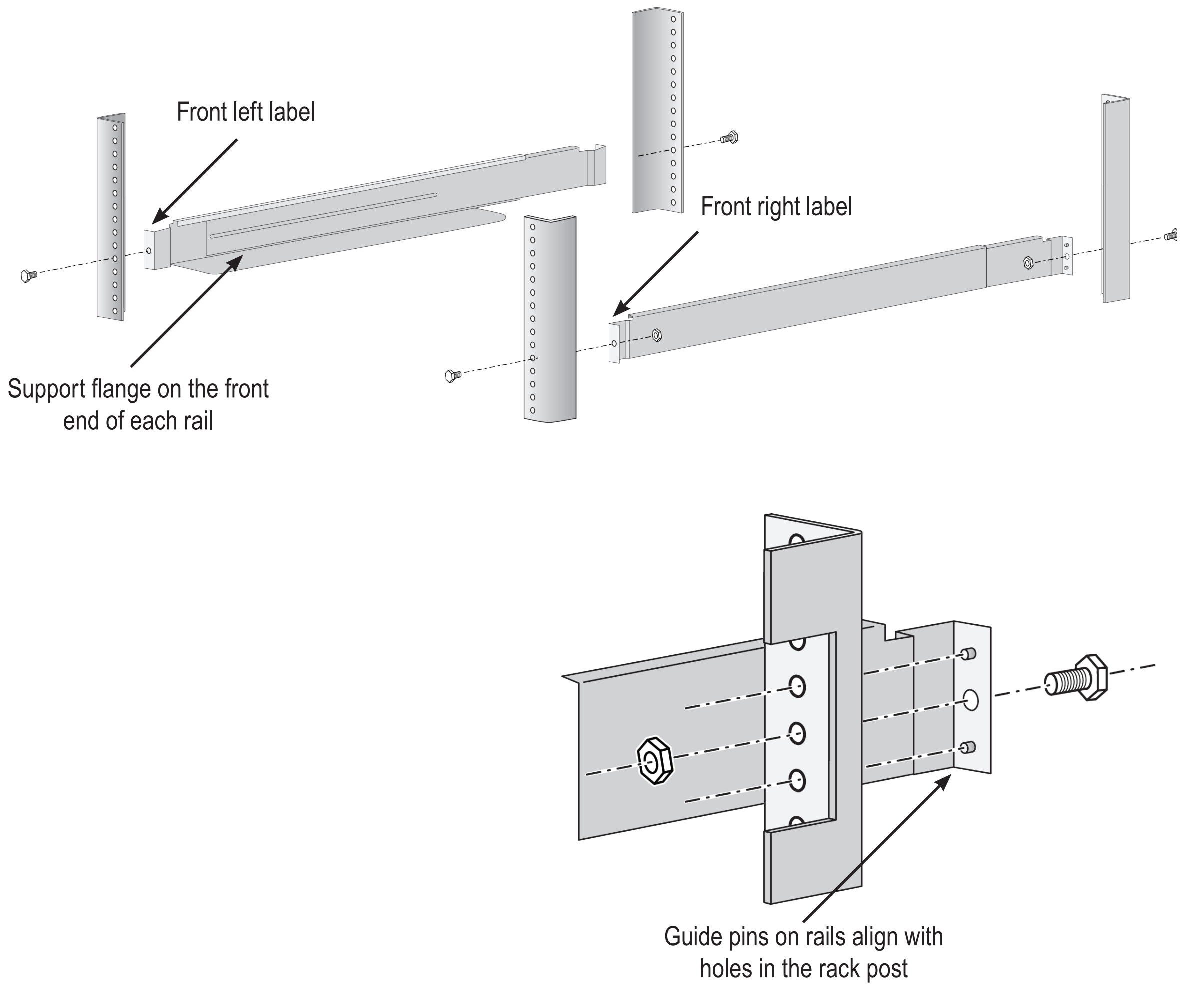
Note

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

To install the enclosure hardware into a rack with the supplied mounting rails:

1. Check the fit of the mounting rails in your rack system.

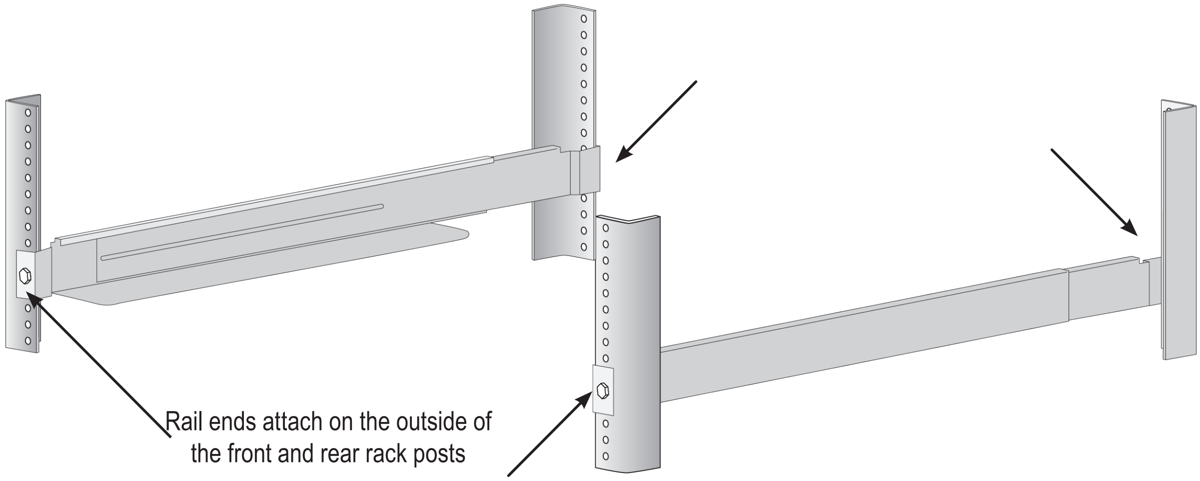
Installing the rails onto the rack



2. Adjust the length of the mounting rails as needed.

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

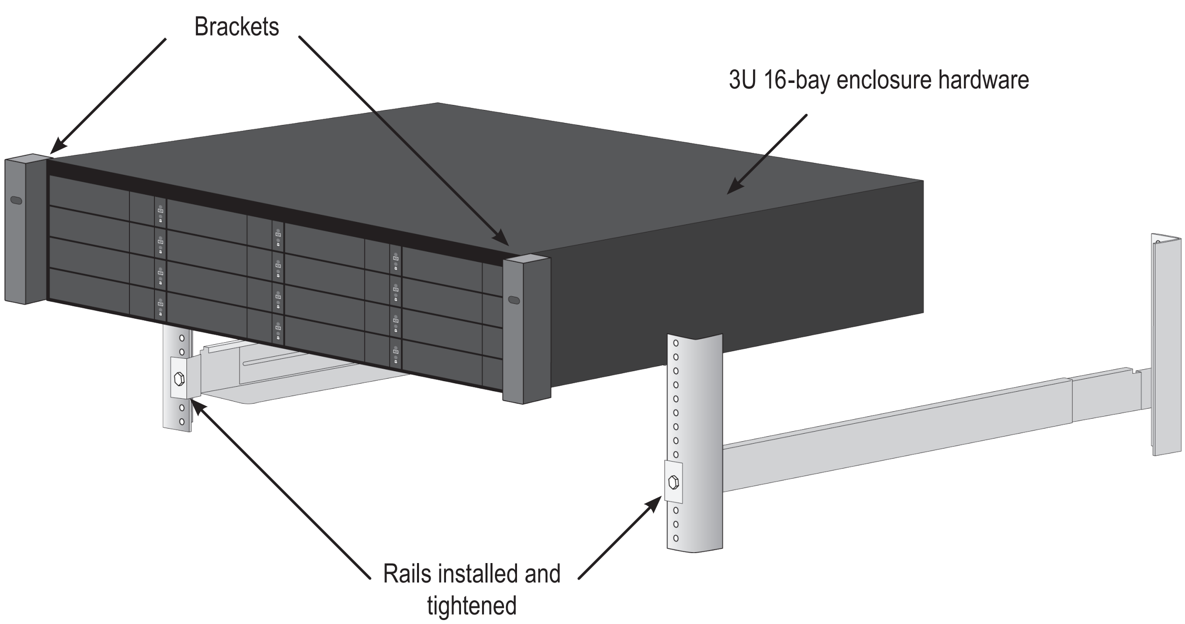
Rail ends attach to the outside of each post



3. Place the enclosure hardware onto the rails.

- At least two persons are required to safely lift the system.
- Lift the enclosure hardware itself. Do not lift the system by its brackets.

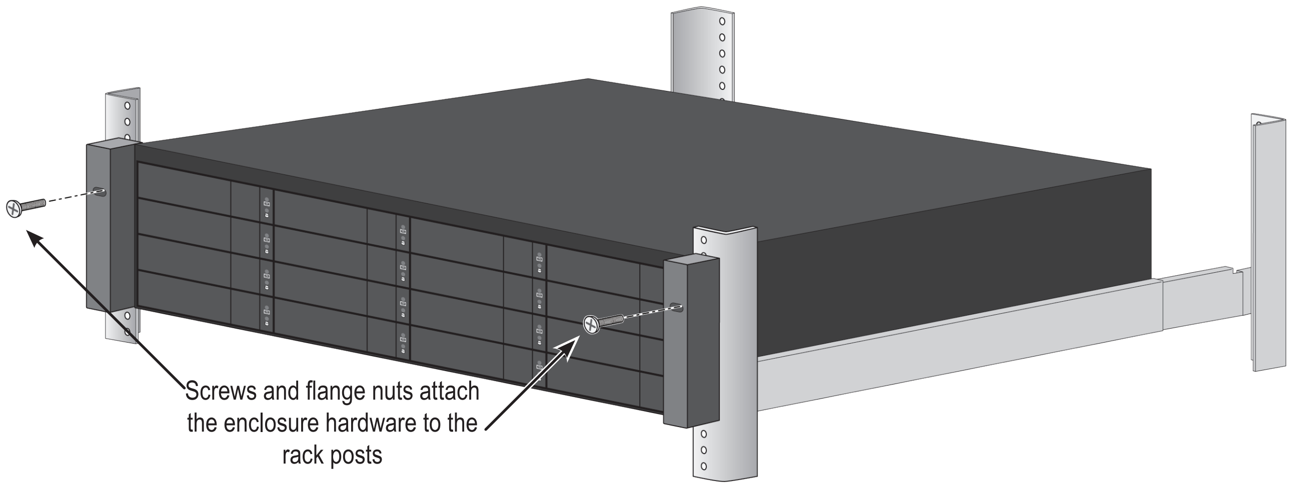
Placing the enclosure hardware onto the rack rails



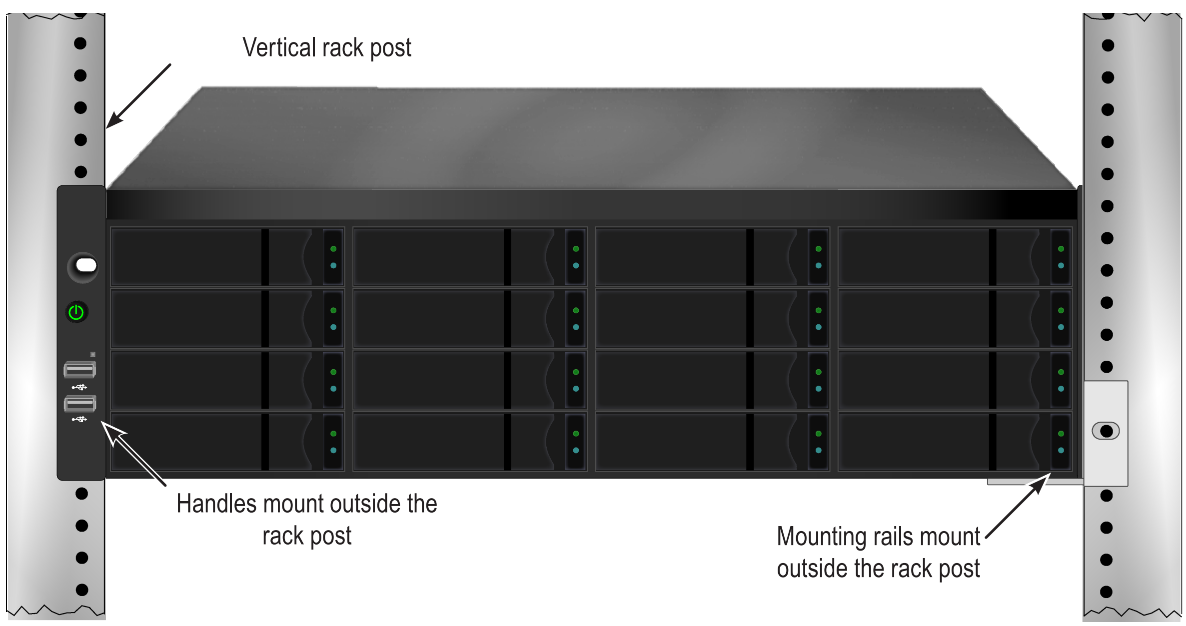
4. Secure the enclosure hardware or to the rack.

- 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 enclosure hardware.

Secure to rack



System installed in rack



Installation and Setup

This chapter contains the following topics:

- “Unpacking”
- “1 Download PROMISE Utility Pro”
- “3 Connect Power and power on”
- “4 Connect Network (Share Port)”

CAUTION

The electronic components within the VTrak N1616 unit are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the VTrak N1616 unit or its subassemblies.

CAUTION

Make sure to protect the VTrak from dust, moisture, extreme temperatures and sudden large changes in temperature at all times, even if the unit is not installed.

Unpacking

Carefully remove contents of shipping package, unpack the device and shipped components from the protective packaging. The equipment contained in the shipment is sensitive to electrostatic discharge.

The VTrak is shipped with eight hard disk drives (HDD) installed in drive carriers, so the unit is heavy. Be careful handling it and taking it out of the packaging.

Summary of the setup procedure

The setup procedure for the VTrak N1616 is simple and easy. The device is shipped with hard disk drives installed and a RAID array configured, so it is just necessary to plug it in and connect the device. However, you should install the PROMISE Utility software used for monitoring and administration of the system. Mac users, please follow the setup procedure here or in the Quick Start Guide.

The setup process is summarized below.

1. Download and install the latest software package including PROMISE Utility (download these from PROMISE website) on the host computer and any users that will use VTrak N1616 via the Ethernet (Share Port) interface.

2. Install PROMISE Utility.

3. Connect the power cord and power on the VTrak N1616.

4. Connect the VTrak N1616 Share Port to the network.

1 Download PROMISE Utility Pro

Then download and install PROMISE Utility on the host computer and collaborative user computers. The software download files are the same for all computers that will use the VTrak N1616.

Go to promise.com > Products > Pegasus > VTrak > Download > Utilities

2 Install PROMISE Utilty Pro

The PROMISE Utility software Utility is necessary for managing users and folders, for enabling File Boost, and other important features of the VTrak N-Series.
More advanced configuration such as changing the Disk Pools or RAID type can be done using the web-based management interface, WebPAM InSight, if preferred.

The software Utility installation package is located on the VTrak N1616. Follow the instructions below to install the Utility according to the OS you are using.

Install Utility on Mac

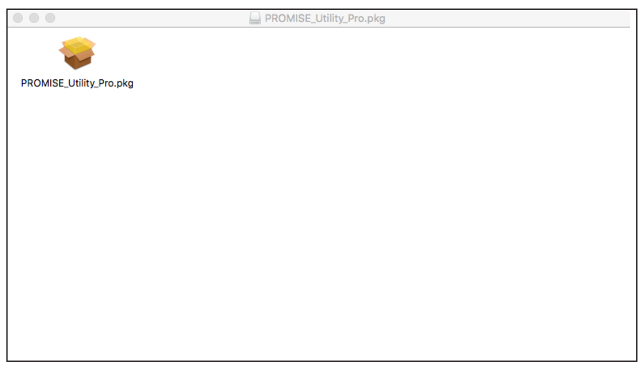
To install the PROMISE Utility on Mac:

1. Double-click on the VTrak N1616 icon on your desktop to view the device contents.

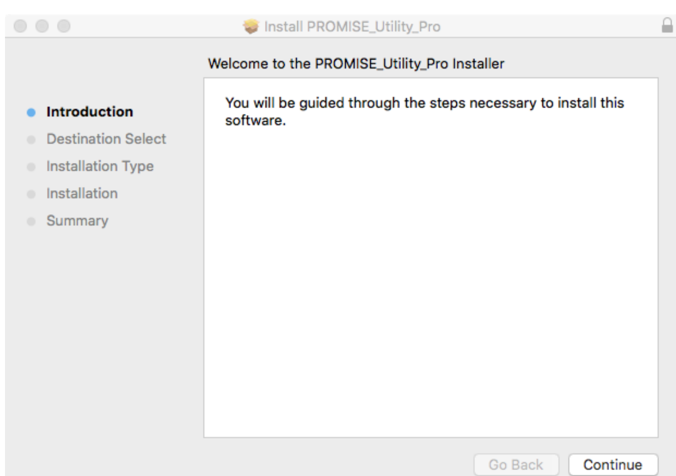
2. Find the file **R_PROMISE_Utility.dmg** and double-click on it to mount the virtual drive containing the installation software package.

3. Double-click on the PROMISE_Utility.pkg* file to begin the software installation.

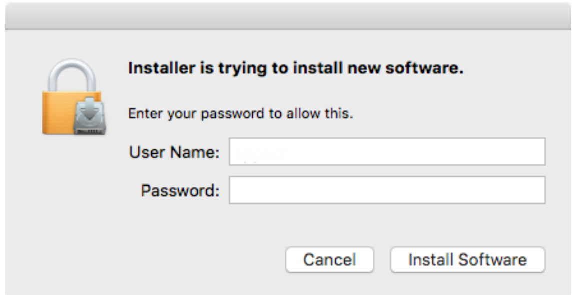
Note that the version number of the .dmg file and .pkg file will change as it is updated. The version number used in this example is just for the purpose of illustration.



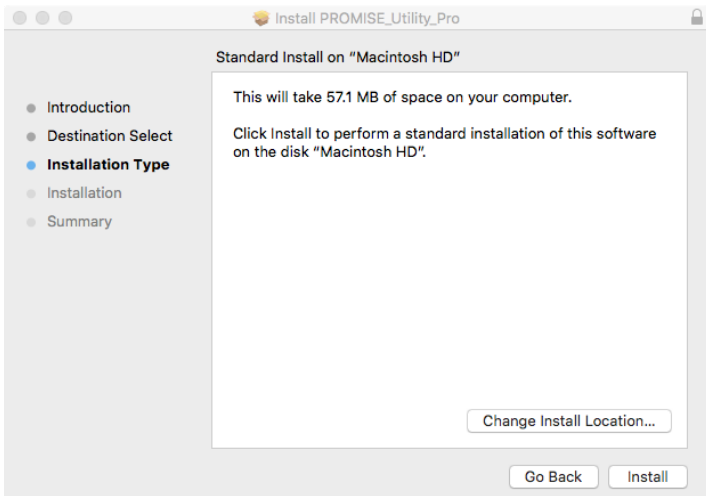
4. The Welcome menu explains that software will be installed on the computer Click the **Continue** button to proceed with installation.



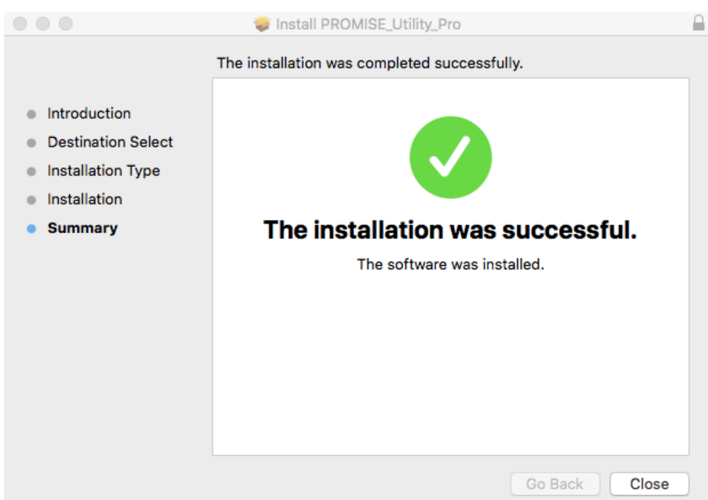
5. Administrator permission is required to install the software. Type the administrator password of your computer for permission to install the software.



6. You can change the location on your system for the installation if desired by clicking the **Change Install Location** button. Otherwise click on **Install** to continue the installation in the default location.



7. It takes a few seconds for the Utility software to be installed. When the installation has completed, a message informs you that the installation was successful.



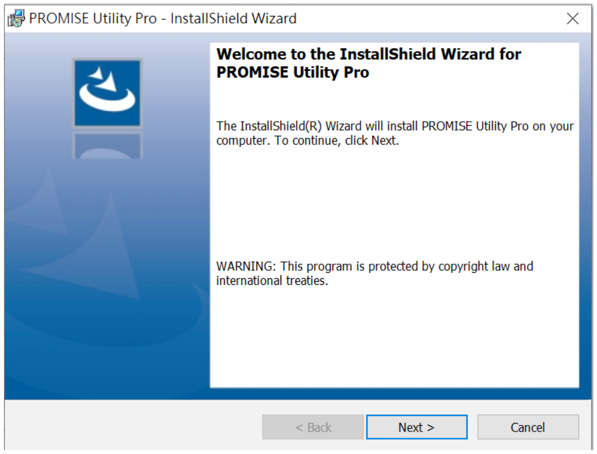
8. Click **Close** to end the installation procedure.

The PROMISE Utility is now available to be used with the VTrak N1616.

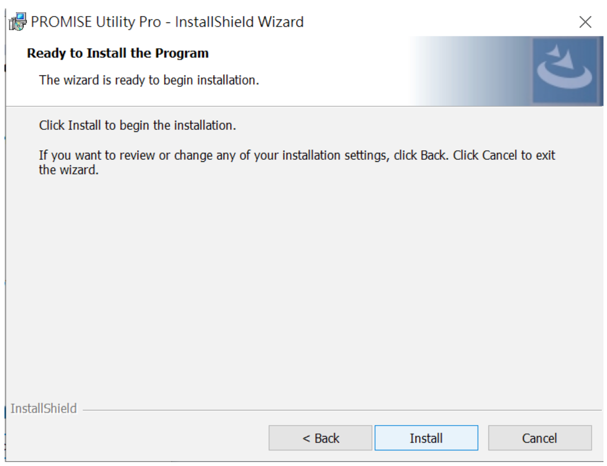
Install Utility on Windows

To install the PROMISE Utility on Windows:

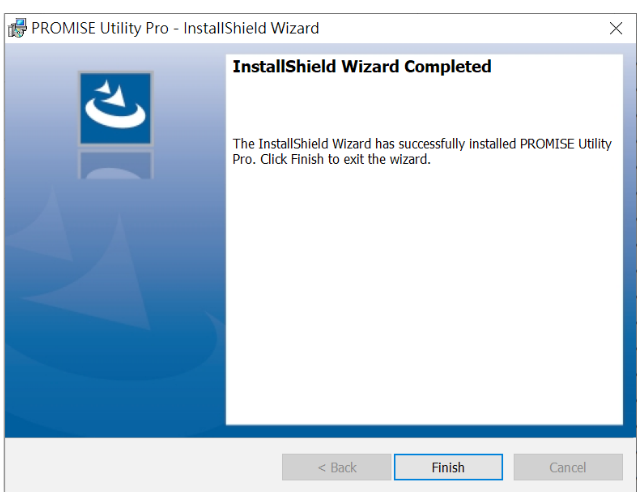
1. Double-click on the Utility installation file to launch the install wizard. Click on the **Next** button to begin installation.



2. Click **Install** to continue. The installer will start.



3. Click **Finish** to close the menu.

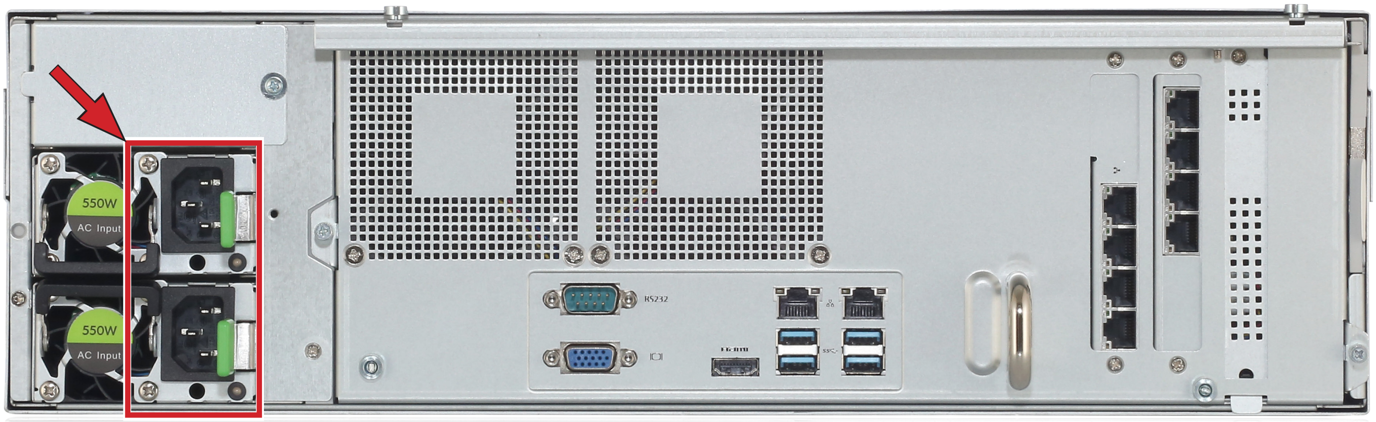


3 Connect Power and power on

VTrak N1616 enclosures are equipped a single power supply.

1. VTrak N1616 enclosures are equipped with redundant power supplies located on the back panel. Insert the female end of each supplied power cable in to the power cable receptacles on the power supply units, and plug the other end of each power cord in to a suitable power outlet.

Power insert and PSU on rear panel of VTrak N1616



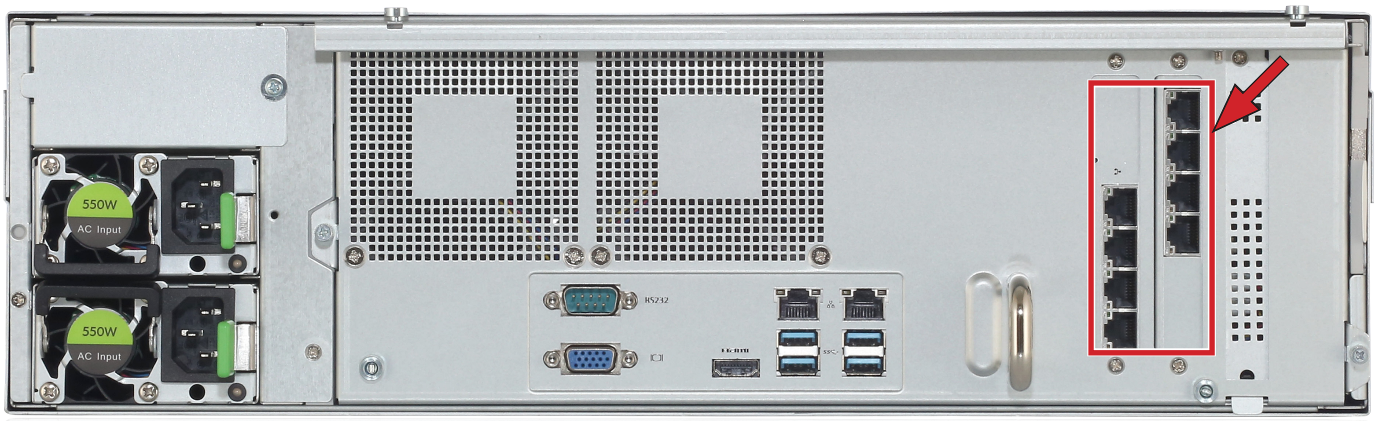
2. Press the **Power** button on the top left facing on the front of the device.

Front View - power button

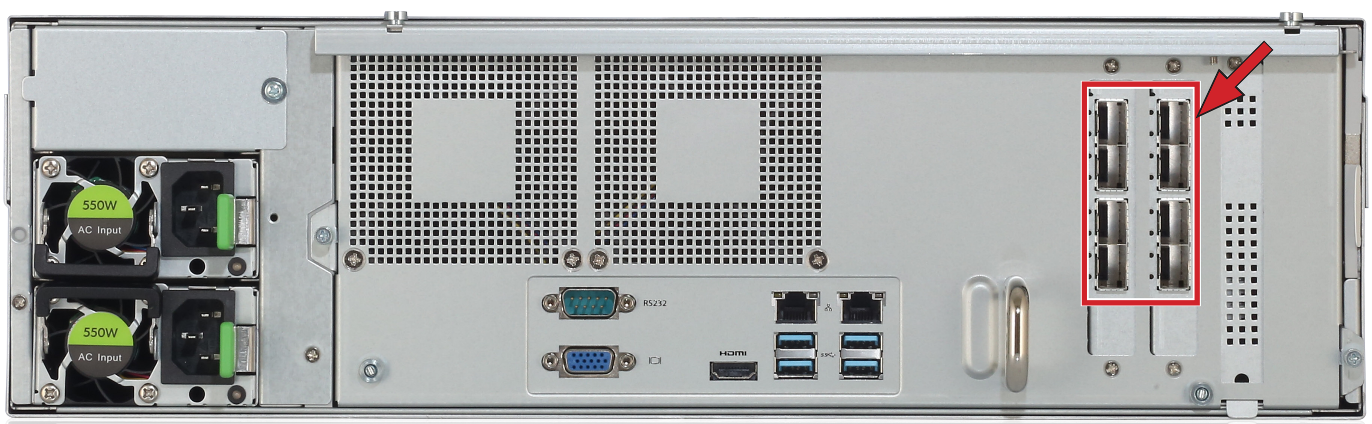
4 Connect Network (Share Port)

Use a suitable cabling to connect one to four of the Share Ports on the rear panel. The network cables for the Share Ports can be connected to a switched Ethernet network, or connect directly to a collaborative user computer.

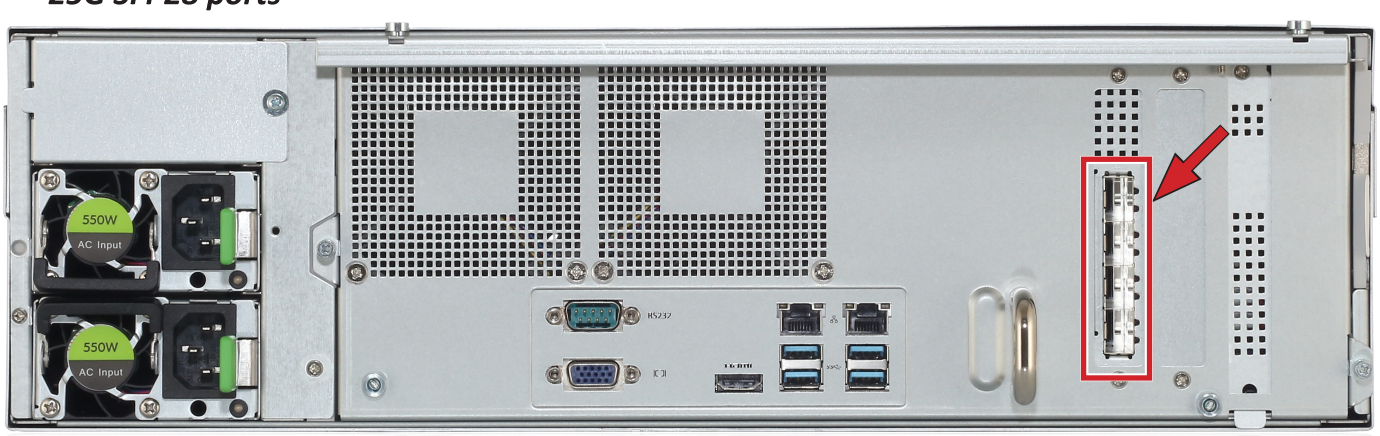
10G BASE-T ports



10G SFP+ ports



25G SFP28 ports



Use suitable cabling to connect one of the Share Ports (10G/SFP+/25G SFP28) on the rear panel. The network cables for the Share Ports can be connected to a switched Ethernet network appropriate for the connection standard used on the device (i.e. (10G/SFP+/25G SFP28)) and according to the instructions found in the product manual for the switch or switches that make up the network.

The connection standard must be maintained from the device to the end user.

In other words:

- 10G BASE-T Share Ports must be connected to a 10G BASE-T switch, which is connected to user systems via 10G BASE-T ports.
- 10G SFP+ Share Ports must be connected to a 10G SFP+ switch, which is connected to user systems via 10G SFP+ ports.
- 25G SFP28 Share Ports must be connected to a 25G SFP28 switch, which is connected to user systems via 25G SFP28 ports.

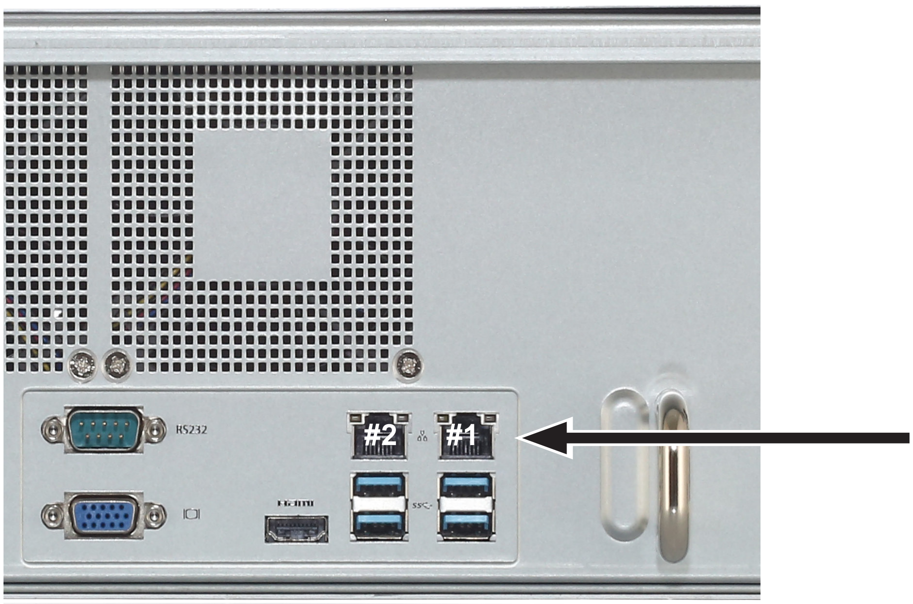
SFP+ and SFP28 Share Ports: for questions regarding cabling, compatibility and connectivity, please consult the user documentation for the respective switches used in the network.

The Share Port enables the administrator to use PROMISE Utility Pro to manage the Vtrak N1616 device, give access permission and create new shared or private folders. Other users connecting to the Share Port use PROMISE Utility Pro to mount shared folder for collaborative work.

5 Connect 1G Network WebPAM Insight Management

In order to use the web-based management interface, WebPAM Insight, it is necessary to connect the VTrak N1616 to the same switched network as the computer used to manage the system. Note that this is an optional step, since the device is ready to use as shipped. However, some advanced configuration options can only be accessed using the WebPAM Insight interface.

1G ports on back of VTrak N1616



Connect either 1G port to 1G network for system management using WebPAM Insight.

The default IP settings on the 1G network interface is DHCP client. If your network used for management has an active DHCP service, use DHCP on the computer used for management to simplify IP settings on both systems.

To complete the physical connection to the WebPAM Insight management interface, connect the computer used for VTrak N1616 management to a 1G network switch, and connect either of the 1G network ports to the same switch or switched network.

Also keep in mind that both the management computer and VTrak N1616 must be in the same IP subnet. If your network has DHCP service, this is easily done by setting the computer IP setting to DHCP client.

HDD Replacement

VTrak models are shipped with Hard Disk Drives (HDD) installed, so it will not be necessary to install new drives in order to use the device. If it is necessary to change a drive, follow the instructions in this section. It is best to have identical HDD in all bays, or at least identical specifications for capacity and speed. Go to PROMISE Support online to find a list of compatible HDD for the VTrak Series.

The number of NVMe SSD if any in the unit shipped depends on which SKU was ordered. For best system performance please make sure to install NVMe SSD in drive bays 1-6 only for systems that support six NVMe SSD, or in drive bays 1-10 for systems that support ten NVMe SSD.

NVMe SSD Optimal Location

For optimal performance, be sure to use drive bays 1-10 for NVMe SSD installation. HDD drives can use any bay (1-16).

NVMe SSD use drive bays 1-10

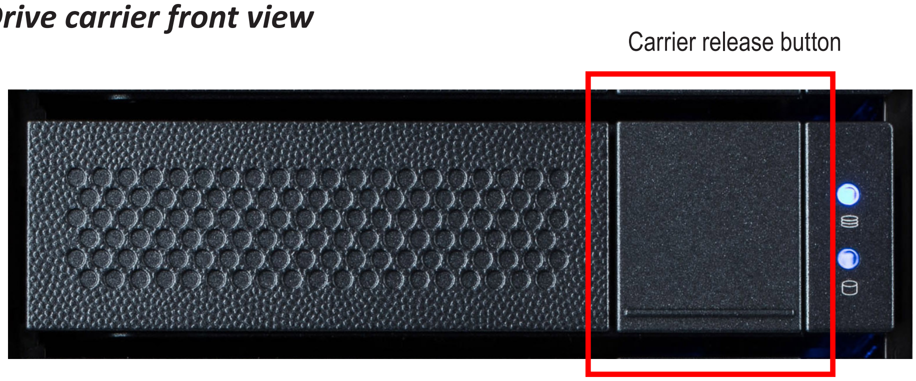
There are two available SKUs for NVMe SSD:

- Six NVMe SSD use drive bays 1-6
- Ten NVMe SSD use drive bays 1-10

Removing the Drive Carrier

The drive carrier accommodates 2.5-inch and 3.5-inch drives.

Drive carrier front view



Cautions

Swing open the drive carrier handle before you insert the drive carrier into the enclosure.

To avoid hand contact with an electrical hazard, remove only one drive carrier a time.

1. Press the drive carrier release button.
2. Grasp the handle between thumb and finger, gently pull the empty drive carrier out of the enclosure.
3. Carefully lay the drive into the carrier with the power and data connectors facing away from the carrier handle.

Installing 3.5" Disk Drive in the Carrier

The instructions below apply 3.5" hard disk drives installed in drive carriers intended for use with VTrak N1616.

1. Remove a disk drive carrier.

2. Carefully lay the disk drive into the drive carrier at the front, so that the screw holes on the sides line up correctly with the power and data connectors facing away from the carrier handle.

3. Insert the screws through the holes in the drive carrier and into the sides of the disk drive.

Install only the counter-sink screws supplied with the drive.

- Install four screws per drive.
- Snug each screw. Be careful not to over-tighten.

4. Reinstall the drive carrier into the enclosure.

Hard disk drive mounted in a drive carrier

Installing NVMe SSD in the Carrier

The instructions below apply to NVMe SSD drives installed in drive carriers intended for use with models VTrak N1616. ***NVMe SSD drives can be installed in drive bays 1-10 only.***

1. Remove a empty disk drive carrier. If the carrier is not empty, remove the existing drive or drive/ adapter assembly.

2. Attach an adapter designed for the NVMe SSD drive with counter-sink screws supplied with the drive. Snug each screw. Be careful not to over-tighten.
   See the pictures below to orient the drive correctly.

3. Carefully place the drive/adapter assembly into the empty disk tray. Make sure the contacts on the drive are located at the front edge of the disk carrier.

4. Attach the drive/adapter assembly to the carrier with screws attaching the adapter edge to the carrier as pictured below.

5. Reinstall the drive carrier into the enclosure.

Using PROMISE Utility Pro

Most system management can be done using PROMISE Utility Pro connected via network connection through either 1G network port or via Share Port connection. Some more advanced system changes however require using the WebPAM Insight web-based system management GUI. For example, if you want to change the RAID, extend or change a Storage Pool, these operations must be done using WebPAM Insight. Keep in mind that the VTrak is shipped ready to use, with the Disk Pool and RAID already configured, most users will not need to change any of these. Also note that making changes to the RAID or Storage Pool configuration will erase any data that is stored on the effected disks.

To use the VTrak, you first need to install the most up to date hardware drivers and PROMISE Utility Pro software. PROMISE Utility Pro allows the system administrator and collaborative users to copy and transfer files, create private and public folders; this is also where users can enable File Boost to quickly send or retrieve files between the Private volume and the Public NAS folders.

Note

A complete more frequently updated PROMISE Utility Pro manual is published separately, available online at the PROMISE website.

www.promise.com

PROMISE Utility Pro

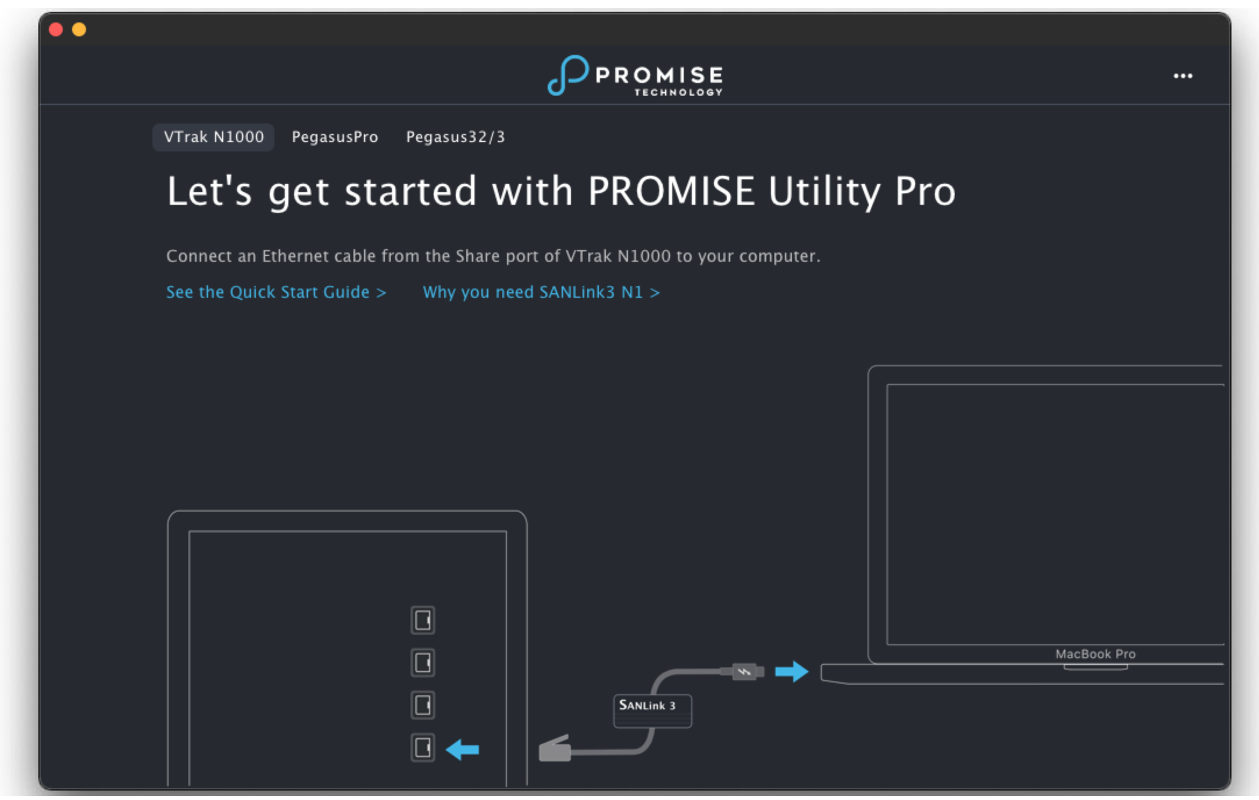
Many users might find it simpler to perform administrative operations using PROMISE Utility Pro. Fortunately, many of the necessary administrative functions can be done easily using either method. In this section we describe most of the basic setup functions and some of the user tasks that can be completed using PROMISE Utility Pro.

First Time Setup

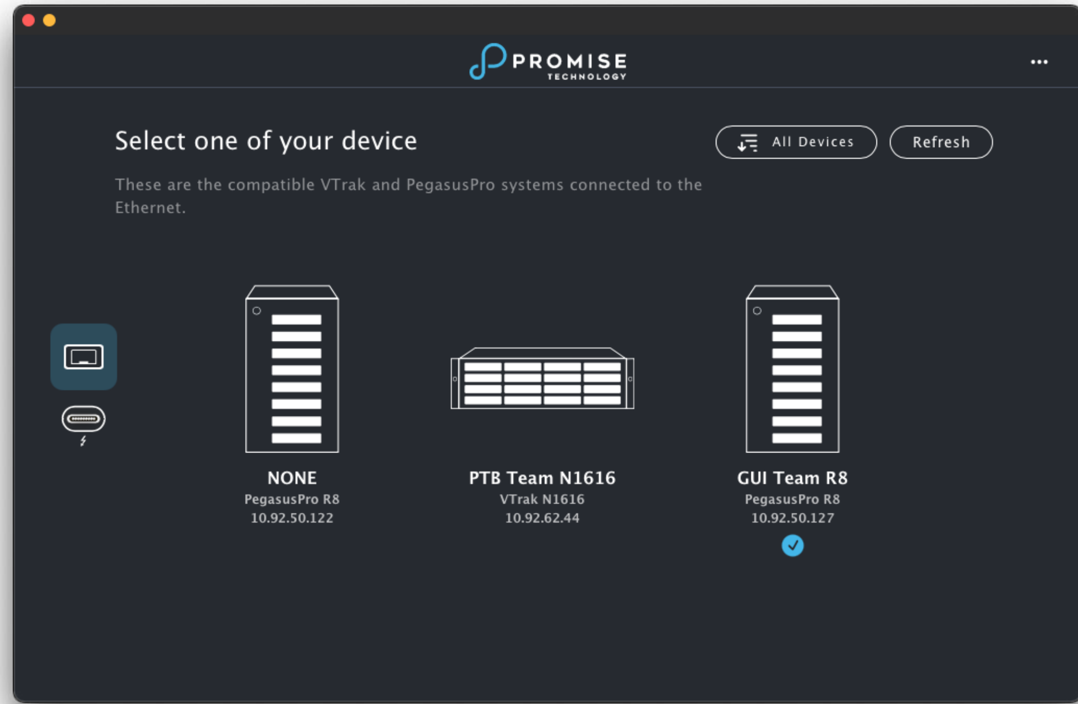
If this is the first time using PROMISE Utility Pro, make sure to follow the instructions to power on and connect the device in “Installation and Setup” on page 5. If you have installed the latest software, begin with the section “3 Connect Power and power on” on page 10.

Follow the steps below if you are setting up VTrak for the first time.

1. Launch the PROMISE Utility Pro and you are presented with instructions on connecting a 10G network cable to the device. If you have not yet done so, do this now.
   It is necessary to login for the first time setting up the system.



Note *that other VTrak N Series, PegasusPro, Pegasus3 or Pegasus32 systems detected will also appear in the device list. Choose the device you are setting up.*

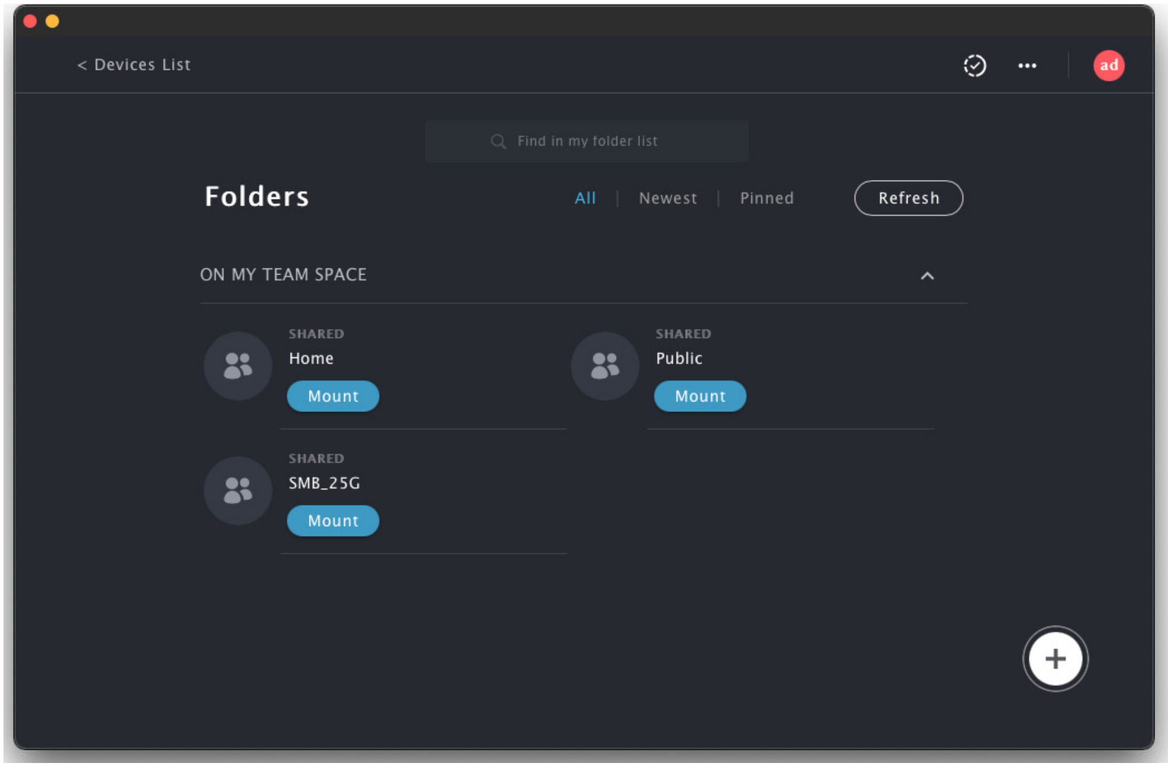


The default login settings are:

- User Account name: **admin**
- Password: **admin**

The administrator login information is used for accessing the management interface on the network as well. You will need to change the default login settings the first time you set up the system. Upon logging in you are presented with an opportunity to change the login password for the administrator. **You must change the password in order to proceed to the next menu.**

2. The **Folders** menu appears with the default folder configuration and the shared space folders (Public and Home). The administrator has access to the Home Volume folders. The shared space Team folders are available to be shared over the 10G network. Only the administrator can create Team folders on the shared space.
To create a new folder, click on the **+** icon in the lower right corner of the menu and follow the on screen instruction. *See next page for summary of Folder Type uses and actions.*



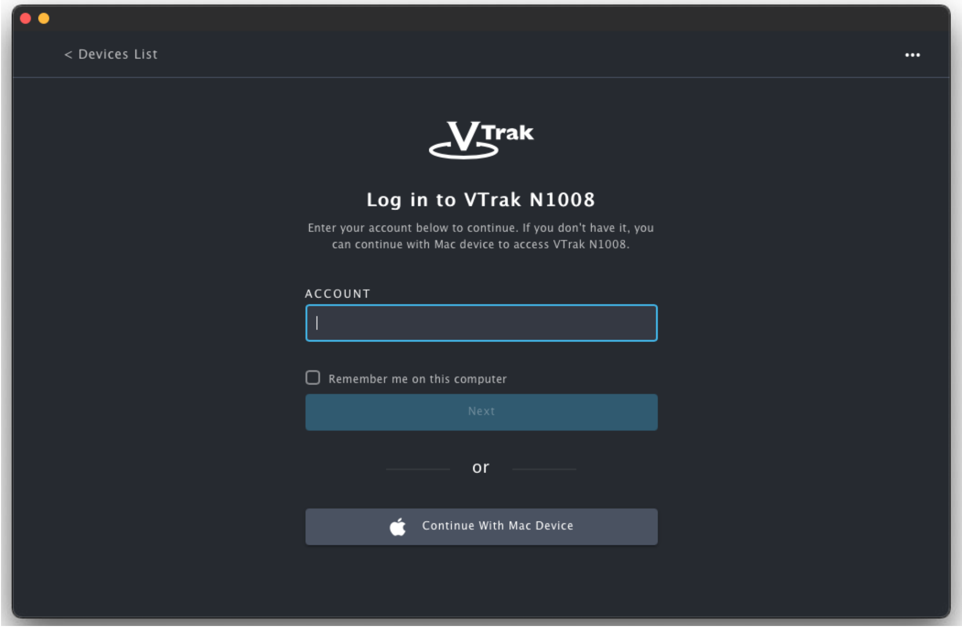
3. At this point, the administrator can approve member requests for access, manage member groups, are perform the operations necessary to use the VTrak and manage member accounts.

Summary of Folder Types

Folder Type	Administrator account	Member account
Public Folder	• The Public Folder is created automatically. • Only one Public Folder is allowed. • Available for use to the administrator. • Cannot be renamed. • Cannot be deleted.	The Public Folder is available for use to all members
Home (Personal Folder)	• The Home Folder contains member personal folders. • It cannot be renamed. • It cannot be deleted using the PROMISE Utility Pro. • It can be deleted using File Explorer or Finder.	Personal Folders are created automatically for each member when their account is created.
Team Folder	• Team Folders can be created using PROMISE Utility Pro. • The administrator can use any Team Folder. • Can be renamed using PROMISE Utility Pro. • Can be deleted using PROMISE Utility Pro.	Members can use a Team Folder if the account is added to the team using the folder. Team members are managed by the administrator.
External Folder (USB)	• The administrator can use any external folder. • Cannot be renamed. • Cannot be deleted.	Members can use any external folder.

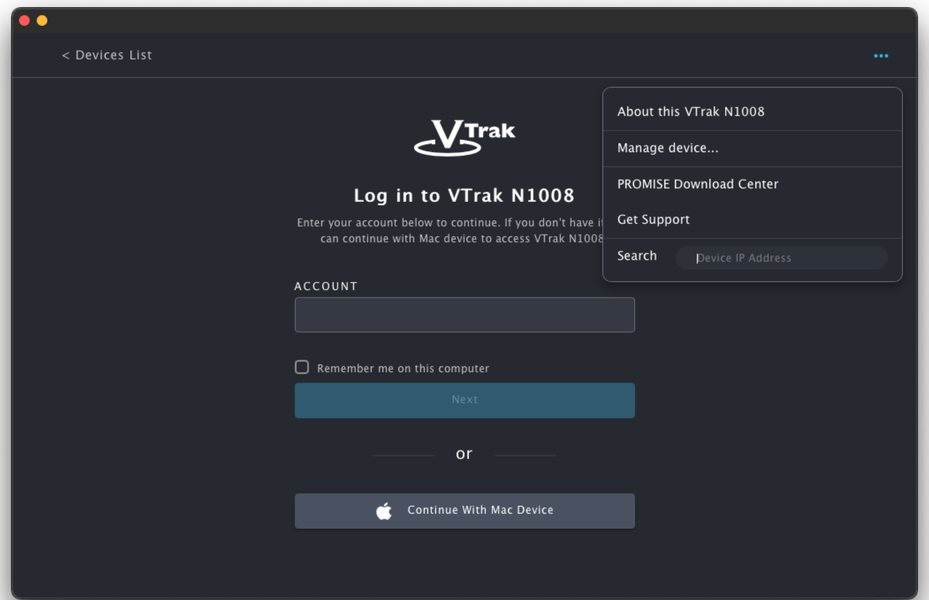
First Time Using PROMISE Utility Pro on Mac

Install the PROMISE Utility Pro on your Mac and launch the utility. The Welcome menu presents with two options for connecting with the VTrak. If you have an account already, login normally with your User Name and Password. Notice you that you can click on the *Remember me on this computer* option box to enable automatic login. Click on the **Next** button to continue to the password entry dialog.

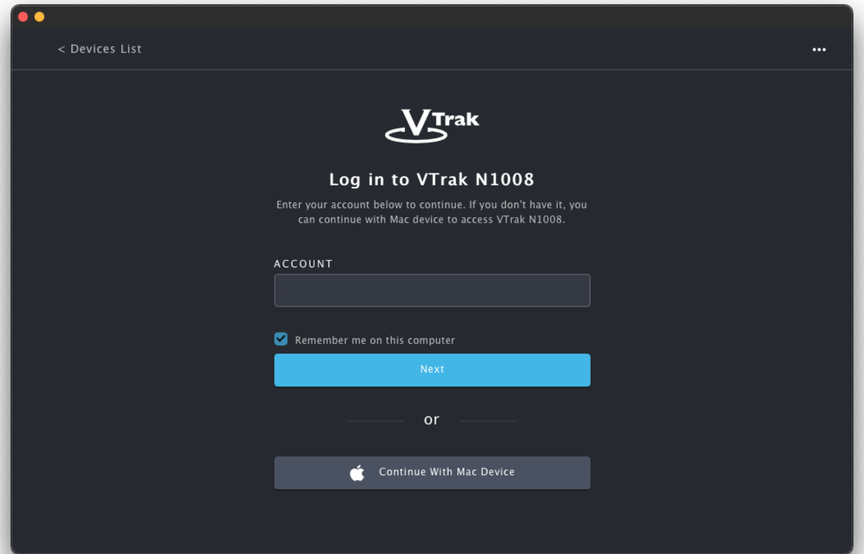


If this is the first time using PROMISE Utility Pro, you have the option to enable **Auto Startup**. *This is used to save time so you do not need to manually mount the storage folders located on the VTrak.* After launching the utility a dialog menu asks if you want to allow Auto Startup, click **Allow** to enable it, or click **Deny** if you prefer to manually mount storage folders after restarting the Mac.

Note that you can perform other actions form the log in menu by clicking on the three dot symbol in the upper right corner of the window.

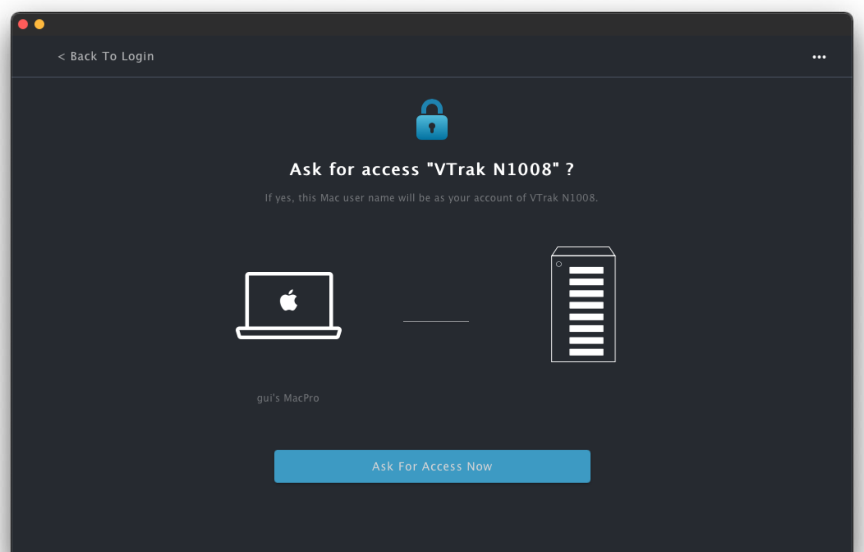


Follow the steps below for first time member set up:



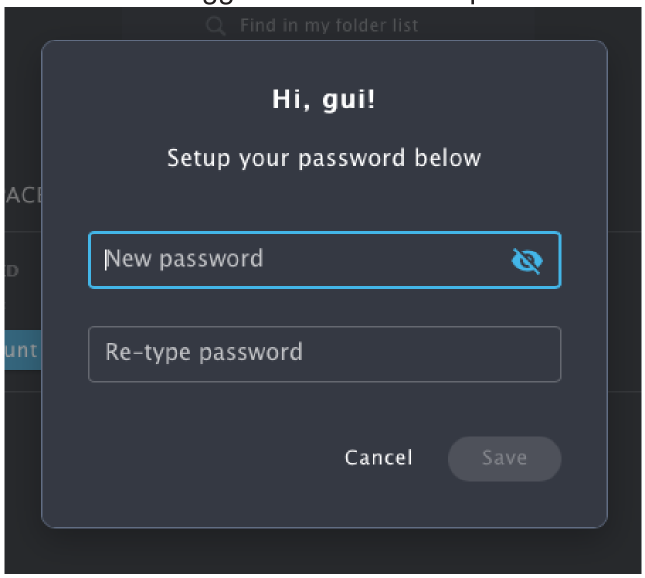
1. If you are using a Mac, click the **Continue with Mac Device** button to proceed with the first time setup.

2. To access the VTrak, you first need to get permission from the administrator. Click on the **Ask For Access Now** button. A request is sent immediately to the administrator to accept or deny the request. Presumably the administrator will be running VTrak and will respond quickly.
   While you await a reply, the menu presents the locked icon. If you need to cancel the request,



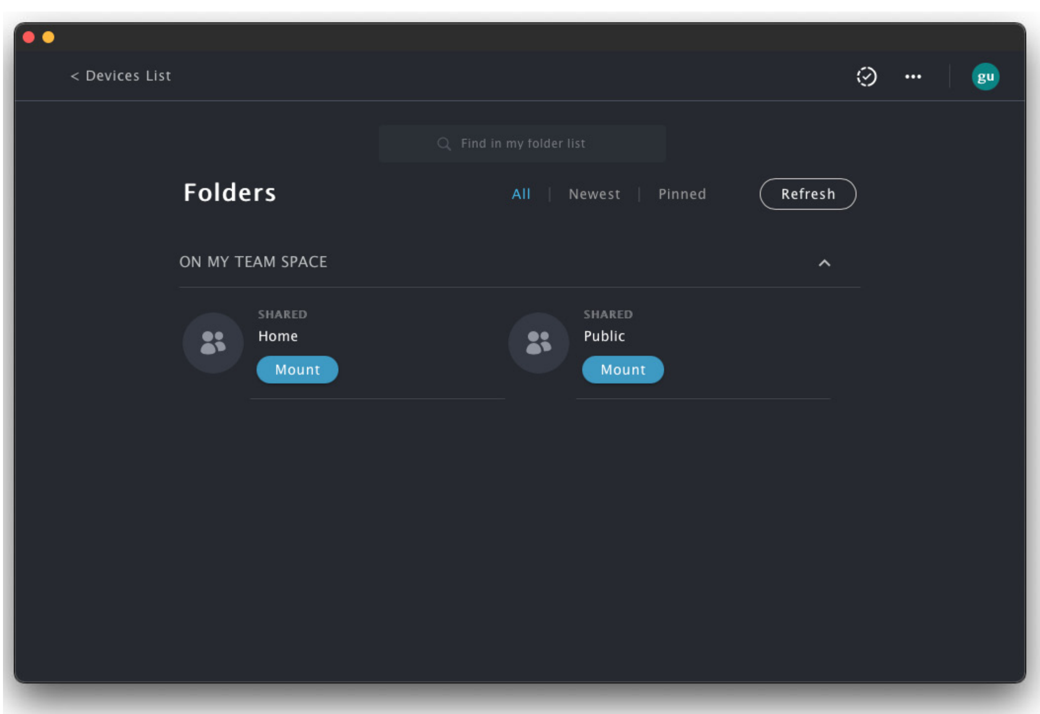
click on the **Cancel Request** button.
When access is granted, the **Folders** menu appears.

3. It is first necessary to create a password for your account. Your default account user name is the name of the Mac user account logged in when the request was sent. The user name cannot be



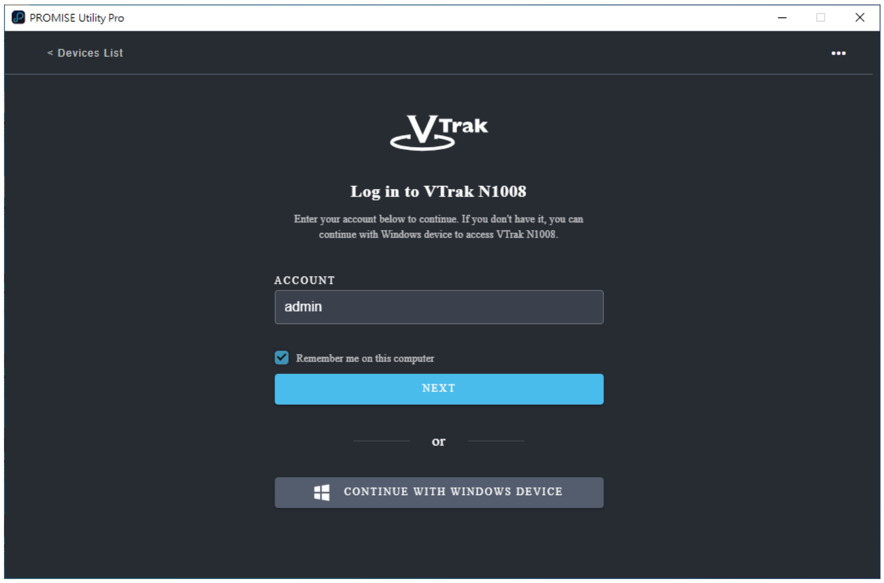
changed. Click on the **Set up now** link in the blue banner that appears in the Folders menu. *Note that you will no longer see this banner once you have a password*.

4. Once you are accepted by the administrator, you can Mount the folders available to your account. When you mount a folder it appears in Finder and becomes available for use. These folders function the same as a network drive, you can read or write to the Team folder and your personal folder. You can also be granted read and write access to other shared folders; access to other folders is controlled by the administrator.

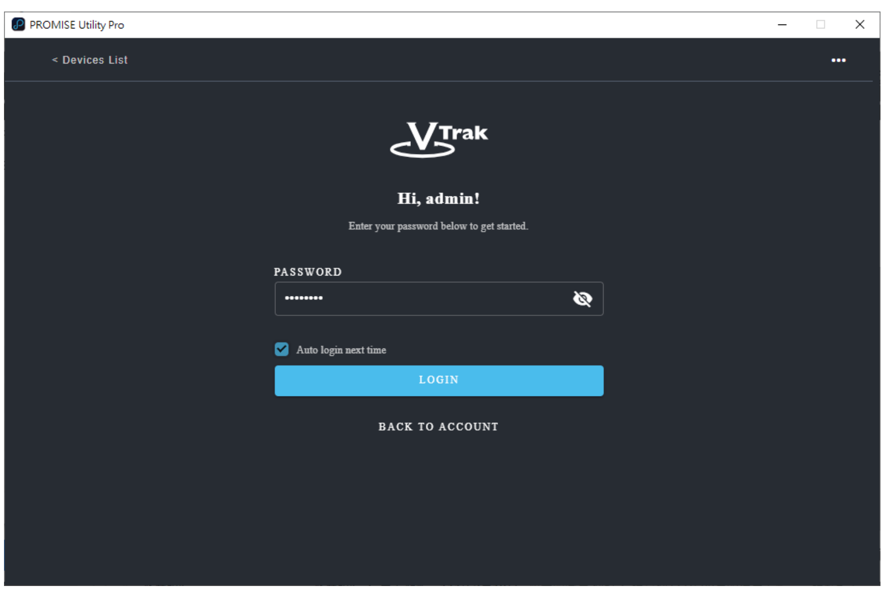


First Time Using PROMISE Utility Pro on Windows

Install the PROMISE Utility Pro on your Windows 10 (or later) system and launch the utility. The Welcome menu presents with two options for connecting with the VTrak. If you have an account already, login normally with your User Name and Password. Notice you that you can click on the *Remember me on this computer* option box to enable automatic login. Click on the **Next** button to continue to the password entry dialog.

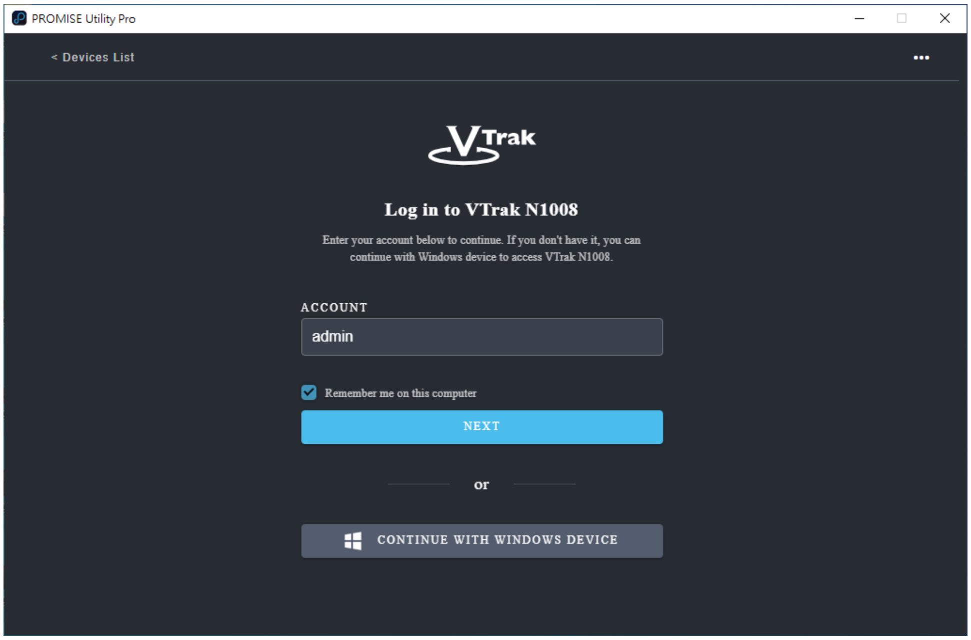


If this is the first time using PROMISE Utility Pro, you have the option to enable **Auto Startup**. *This is used to save time so you do not need to manually mount the storage folders located on the VTrak.* After launching the utility a dialog menu asks if you want to allow Auto Startup, click **Allow** to enable it, or click **Deny** if you prefer to manually mount storage folders after restarting Windows.

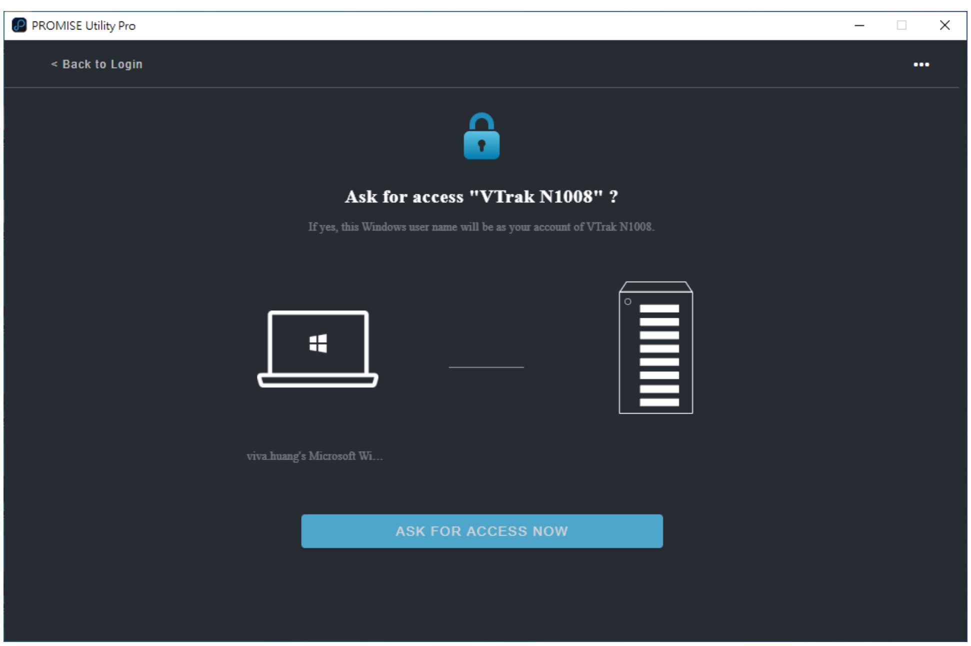


Follow the steps below for first time member set up in Windows:

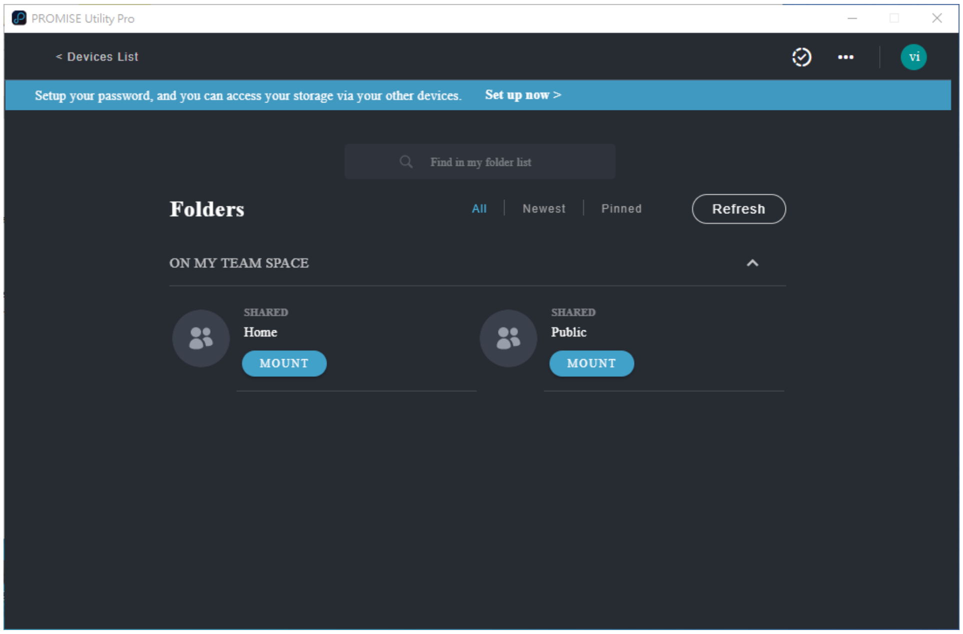
1. If you are using Windows, click the **Continue with Windows Device** button to proceed with the first time setup.



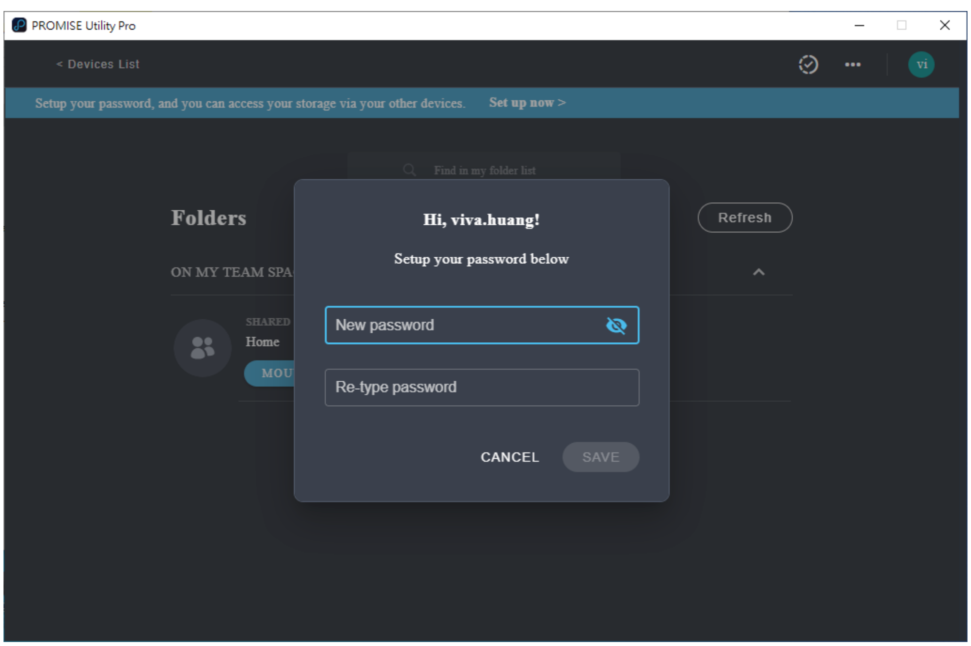
2. To access the VTrak, you first need to get permission from the administrator. Click on the **Ask For Access Now** button. A request is sent immediately to the administrator to accept or deny the request. Presumably the administrator will be running VTrak and will respond quickly.
While you await a reply, the menu presents the locked icon. If you need to cancel the request, click on the **Cancel Request** button.
When access is granted, the **Folders** menu appears.



3. It is first necessary to create a password for your account. Your default account user name is the name of the Windows user account logged in when the request was sent. The user name cannot be changed. Click on the **Set up now** link in the blue banner that appears in the Folders menu. *Note that if your Windows user account is named Administrator, a different name will automatically be assigned using the account name 'Administrator' with an index number attached with an underscore. There can be only one account named Administrator.*



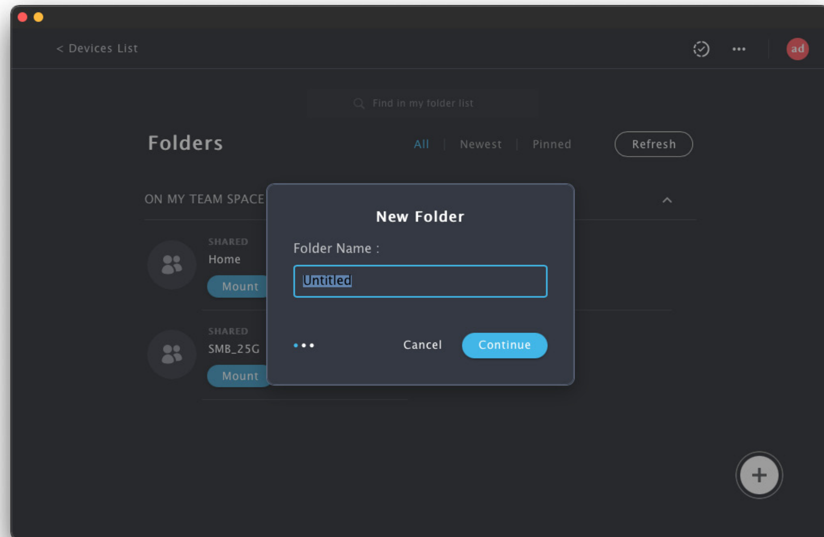
4. Once you are accepted by the administrator, you can Mount the folders available to your account. When you mount a folder it appears in File Explorer and becomes available for use. These folders function the same as a network drive, you can read or write to the Team folder and your personal folder. You can also be granted read and write access to other shared folders; access to other folders is controlled by the administrator.



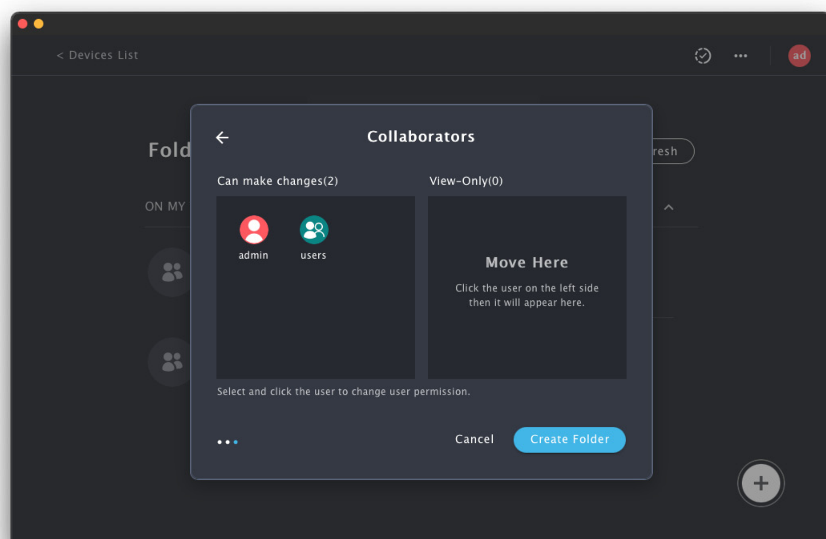
Adding a folder with PROMISE Utility Pro

To add a folder to a Team Volume, follow these steps:

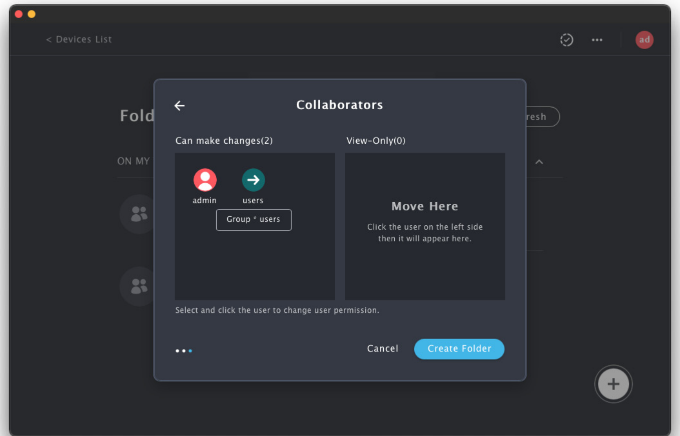
1. Click on the **+** icon in the lower right corner, enter a name for the new folder. Enter a name for the folder and click **Continue**.

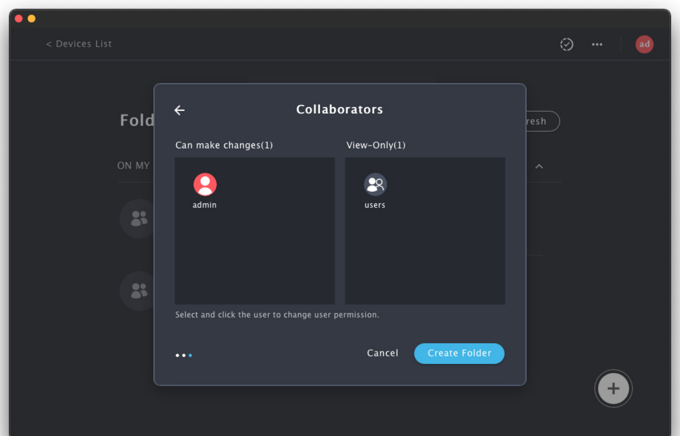


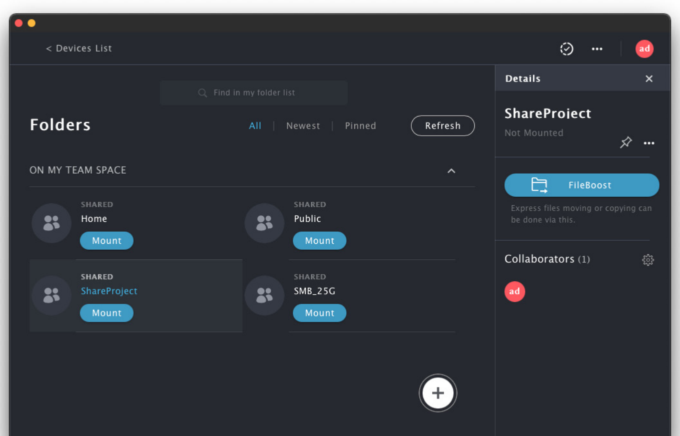
2. Add Collaborators to group allowed to access the new Team Folder. Click on the icons for the Members you want to add, and click on **Create Folder**.



3. There are two categories for Collaborators: Collaborators which are allowed to add, delete or edit their files in the Team folder (read/write) and others that can view content but not make changes (view only). Hover the cursor over the account icon to move from one category to the other, then click **Create Folder** to finish. The new Team folder appears in the Folders list.







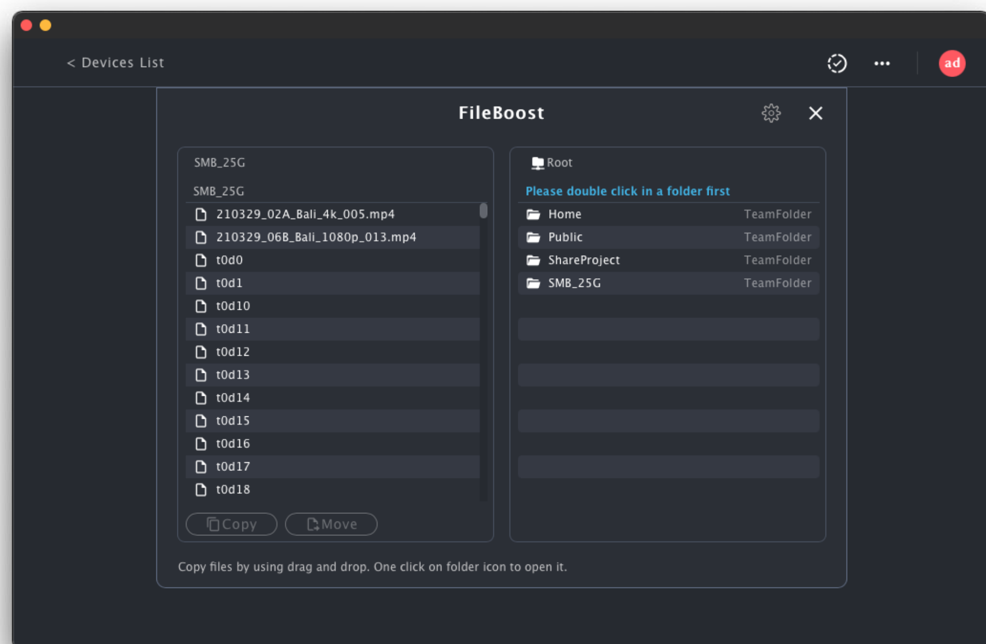
Using FileBoost

FileBoost is a PROMISE proprietary technology that makes possible very rapid data transfers to and from the NAS folder accessible on Member computers. This is a key feature of the VTrak system and is especially useful when large amounts of data need to be copied and moved between folders mounted on Member computers.

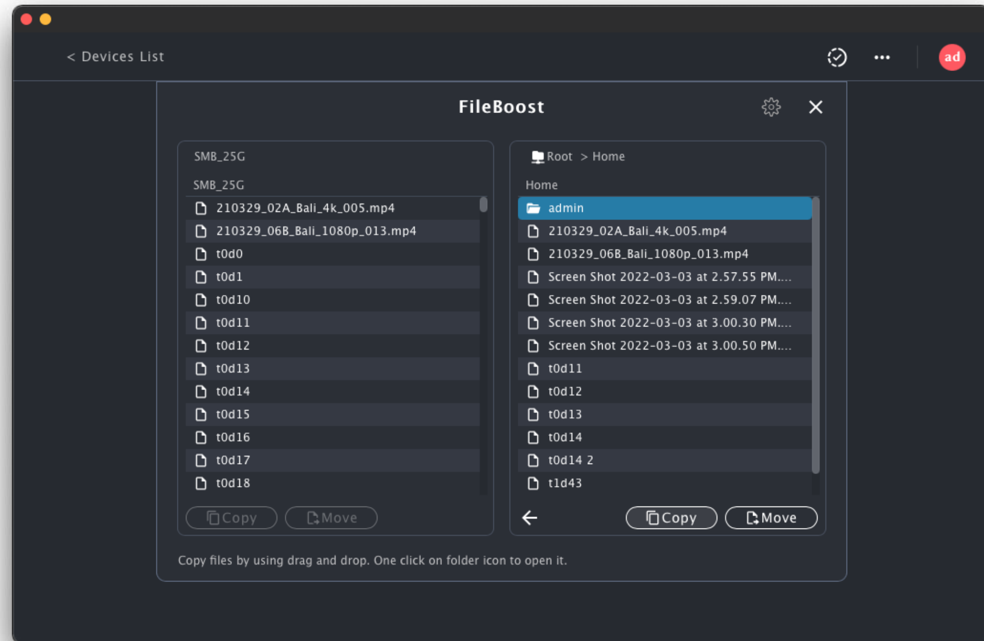
It is possible to perform the same operation using only Finder in Mac, but FileBoost greatly increases data transfer performance to reduce time needed for completion. Again, the time savings is significant when large quantities of data are routinely being moved from one Member folder to another.

To start using FileBoost:

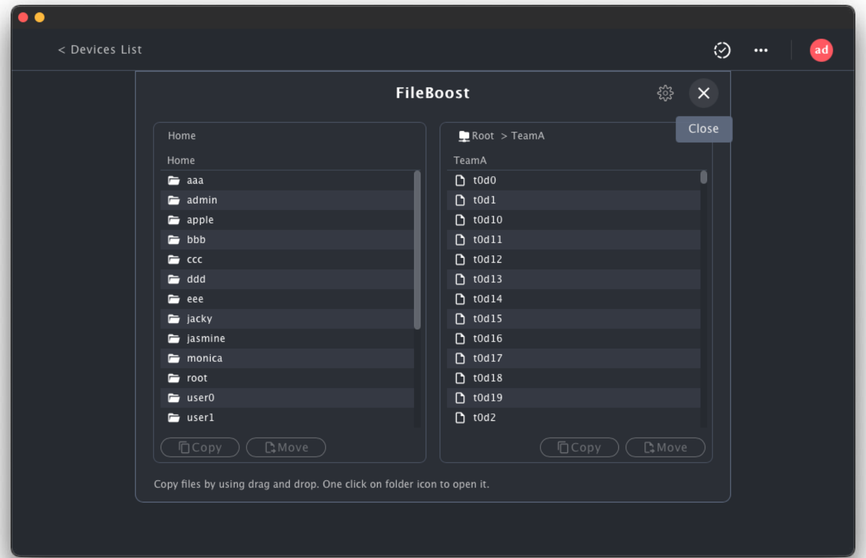
1. Click on the **FileBoost** button, the FileBoost menu appears. The menu reveals the content of the Source Volume in the left panel, with the Target folders available to the Member in the right panel. Select files and use the **Copy** and **Move** buttons or use the drag and drop function to move or copy files to the desired location.



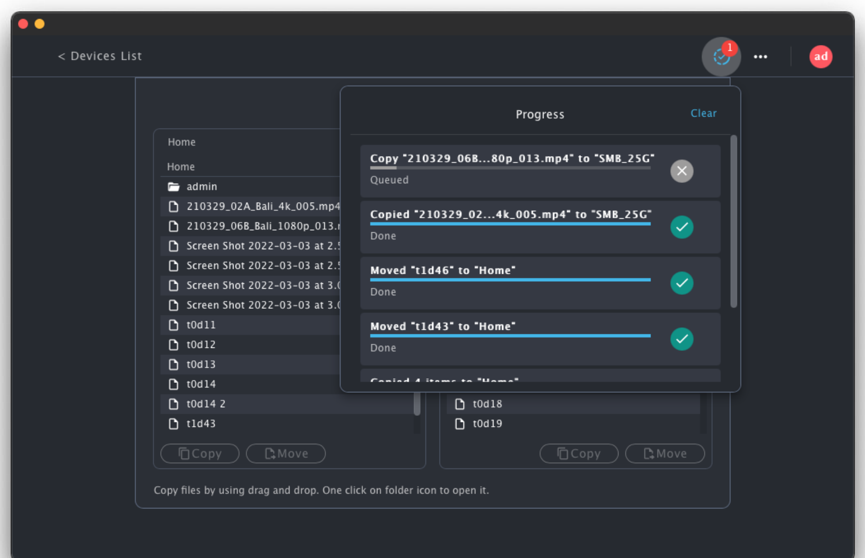
2. Choose the items to copy or move from the Source Volume, and click on the action button (i.e. **Copy To** or **Move To** located under the panel). Alternatively, select the items, drag them to the destination and release the (left) mouse button. Note that dragging a file will only **Copy** it to the location, it will not **Move** the file (i.e. the original file remains in the source location and is copied to the new location).



3. The items appear in the target location. Click **X** to close the FileBoost menu when you are finished copying or moving files.



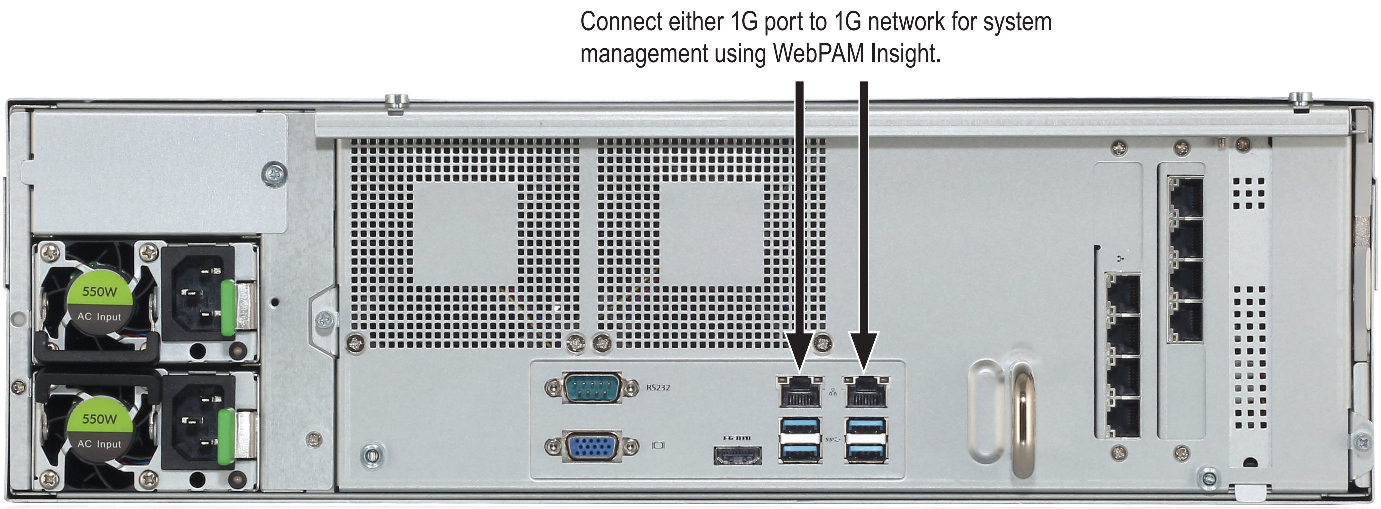
4. Status on the transfers appear above the menu. Click outside the menu to close the status menu.



Using WebPAM InSight

In order to connect to WebPAM Insight, the computer used for management and the VTrak must be connected to the same switched 1G network, and be in the same IP subnet.

1G ports on back of VTrak N1616



Accessing WebPAM Insight

The simplest way to access WebPAM Insight is to click on the link embedded in the PROMISE Utility Pro interface.

To launch WebPAM Insight in the default web browser, click the ··· icon to view the various options and select *Manage device*.

Your default browser will launch and present the Dashboard menu of WebPAM Insight.

Perusing WebPAM Insight GUI

The WebPAM Insight interface consists of menu icons in the left panel, each leading you to a specific function; a virtual front view of the VTrak N1616 with drives indicating their working status; a system health status indicator, capacity indicator that informs of total and available storage capacity; and a real-time graphical performance monitor. Note that the icons in the main display are interactive, if you float the cursor over an icon a tool tip appears telling its function. The icons labeled on the left side in the example below (*Dashboard*, *Storage*, *Members*, *Network*, *Device* and *Administration*) are links to functional menu groups. All configuration and administrative actions can be completed using the linked menus.

WebPAM Insight interface with the Dashboard displayed

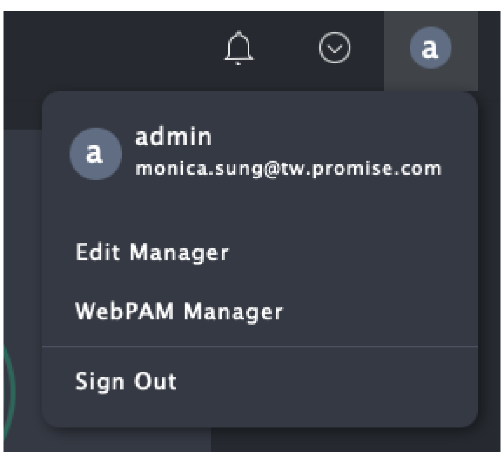
Dashboard

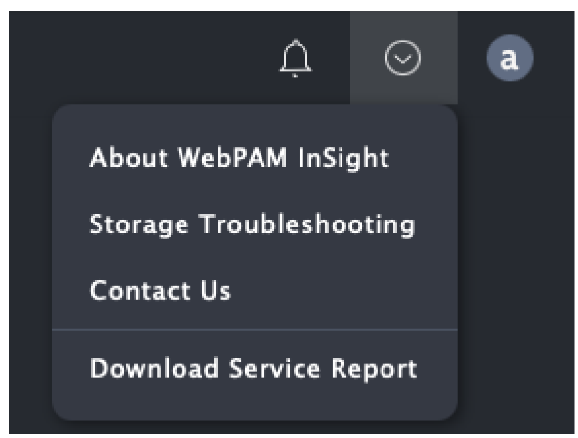
The Dashboard menu is the starting point on WebPAM Insight after login. This display menu provides a quick overview of the real time status to the physical enclosure hardware and functional systems of the VTrak.

Click on the arrow icon to view a drop-down menu to create a **Service Report**, find the current version of WebPAM Insight, or link to the **Support** menu on the PROMISE website. Click on the Bell icon to view the events menu. Click on the ‘a’ to logout of the administrator account, or to edit details for the account.

- **Dashboard** – Show the Dashboard
- **Storage** – Storage Pool List, Spare Drive List
- **Members** - Member Account and Member Group management
- **Network** - Network interface management
- **Device** – Device Information, Basic Settings, Physical Drive List
- **Administration** – Enclosure (VTrak hardware) Information, Events, Background Activities, Firmware Update, Performance Monitor and Restore Factory Default (Settings)

WebPAM Insight drop-down menus



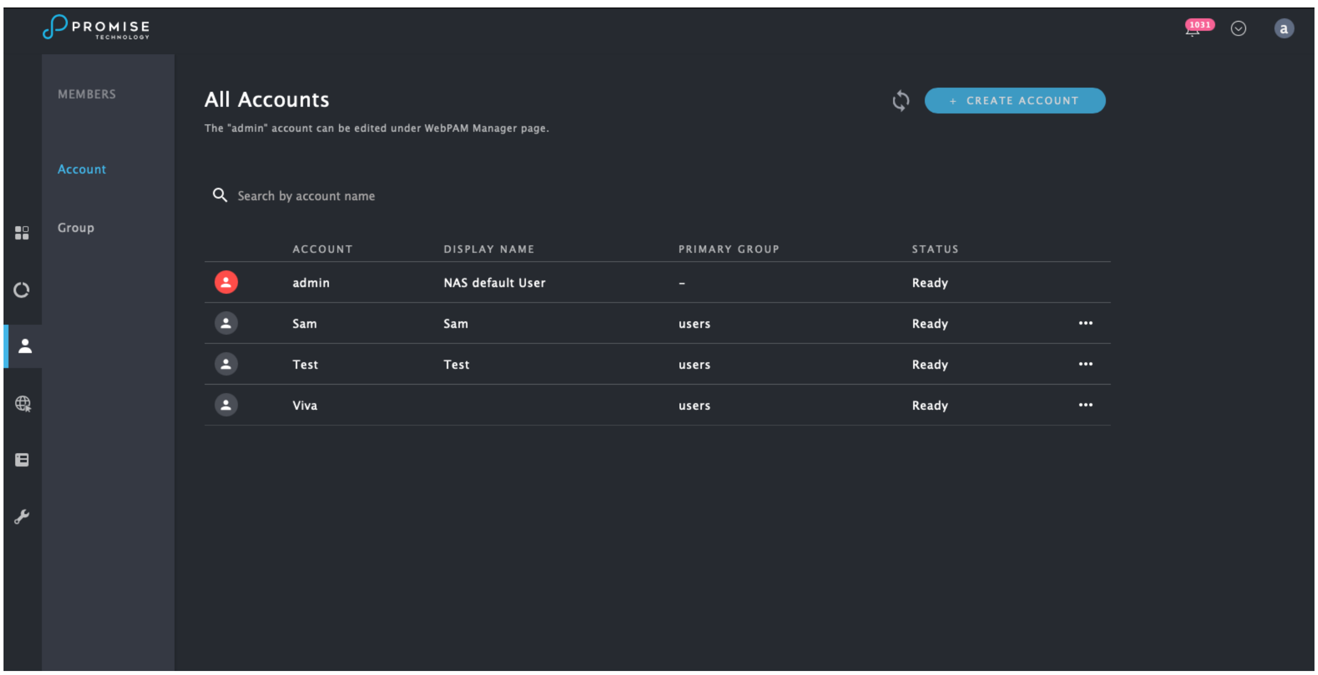


Member and Group Management

Management of accounts and groups can be done by the administrator using PROMISE Utility Pro or WebPAM Insight. In WebPAM Insight, click the **Members** icon in the left panel to go to the Members main menu.

Member accounts are listed in the main menu in alphabetical order by **Account** name. Other information in the menu includes **Display Name**, **Primary Group** (individual accounts can be in more than one group) and the **Status** of the account. By default, there is only a single account for the administrator; newly added accounts appear as they are created.

Members Main menu

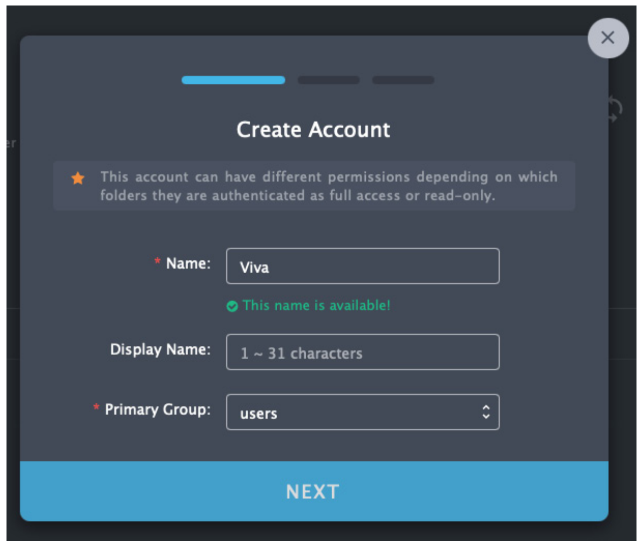


Creating a New Member Account

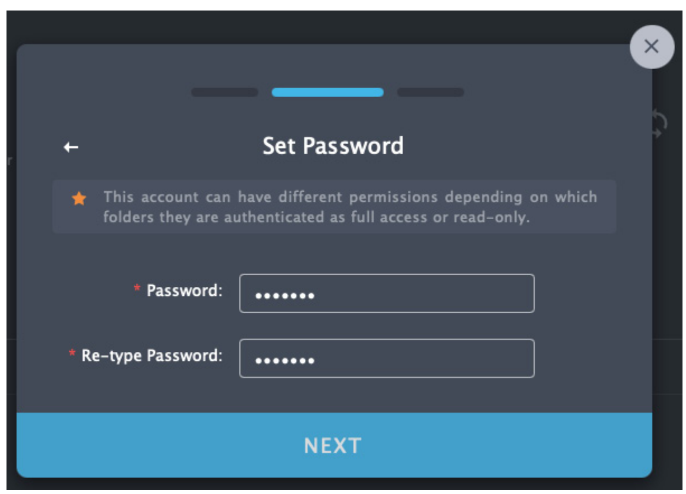
To create a new account, in the **Members** menu:

1. Click on the **Create Account** button, a new menu appears.
2. Enter a **Name** and a **Display Name** for the account.
3. Choose the **Primary Group** in which the account is placed and click **Next**. A new menu appears.
4. Enter a **Password**, **Re-type** the password to verify it is correct, and click **Next**.
5. The new account appears in the Members list.

Create Account menu



Account Password menu

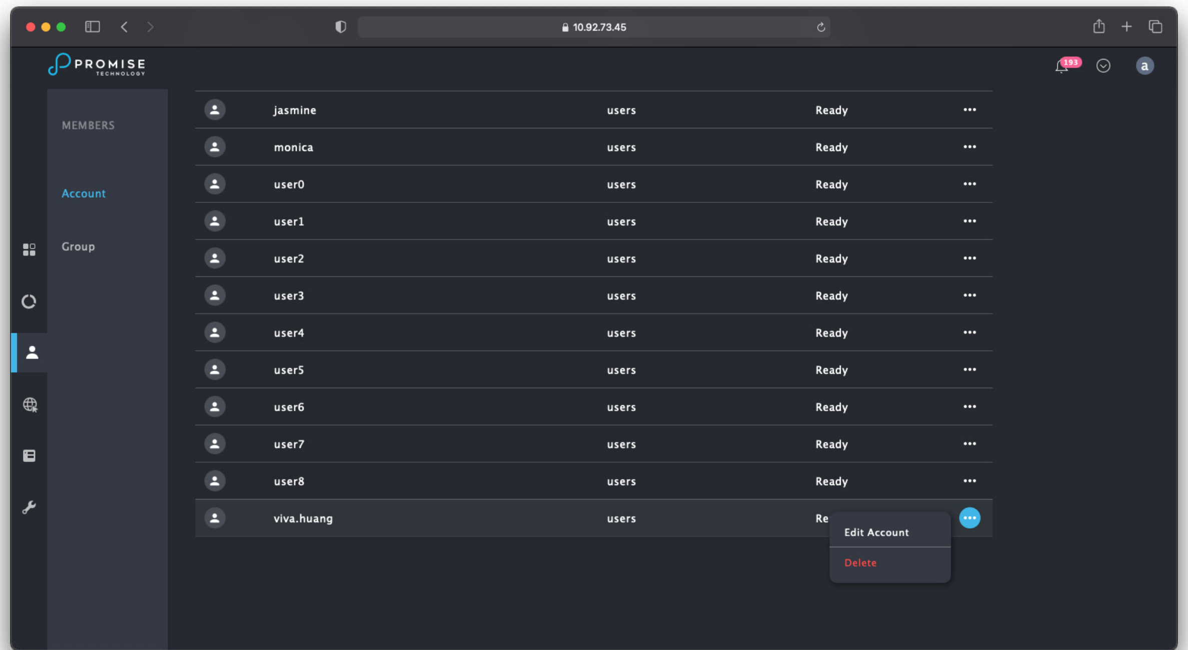


Deleting an Existing Account

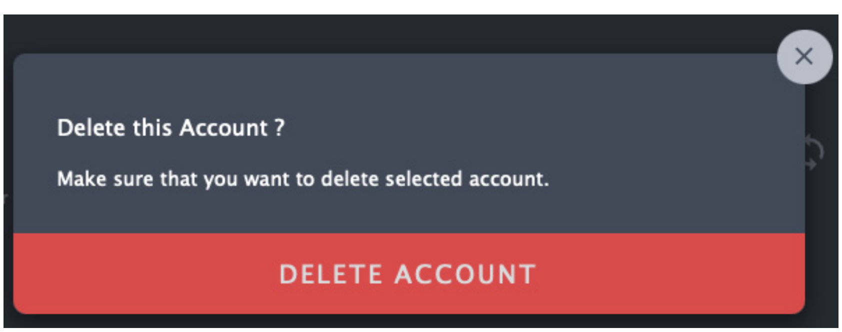
To remove an existing account:

1. Go to the Members Main Menu, click on the ••• icon in the right column for the account to be removed, and select the *Delete* option; a new menu appears.

Members menu



2. Confirm that you want to remove the account, click on **Delete Account**.

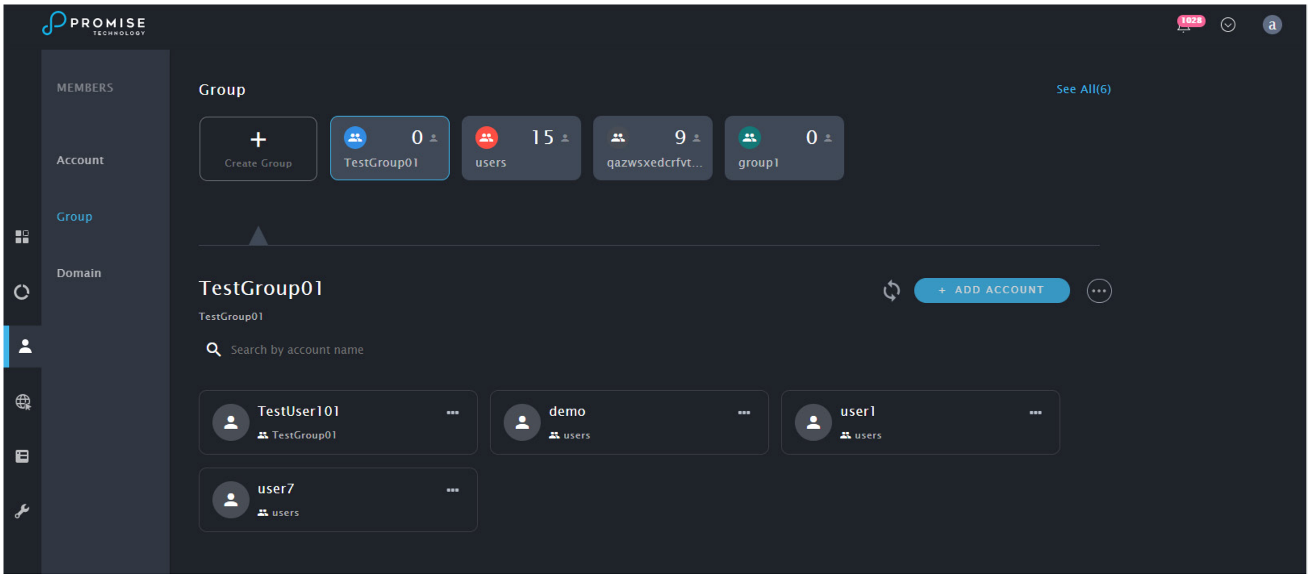


Creating a New Member Group

To create a new member group:

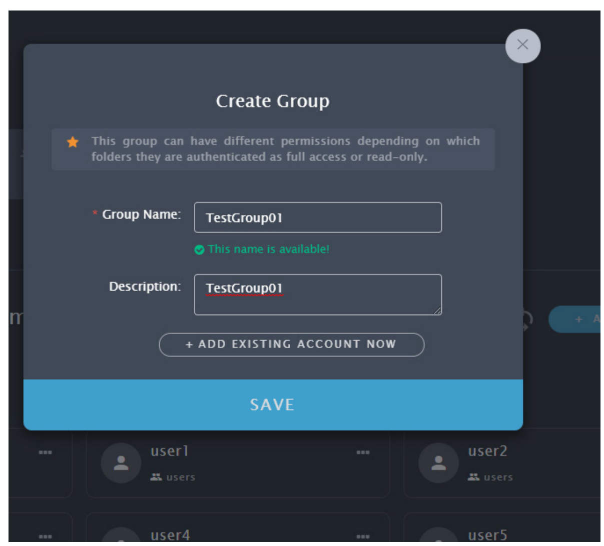
1. In the Group menu, click on the **Create Group +** icon, a new menu appears.

Group menu



2. Enter a **Group Name** and a **Description** for the account.

3. Click on **Save**. The new group appears listed in the **Group** menu.

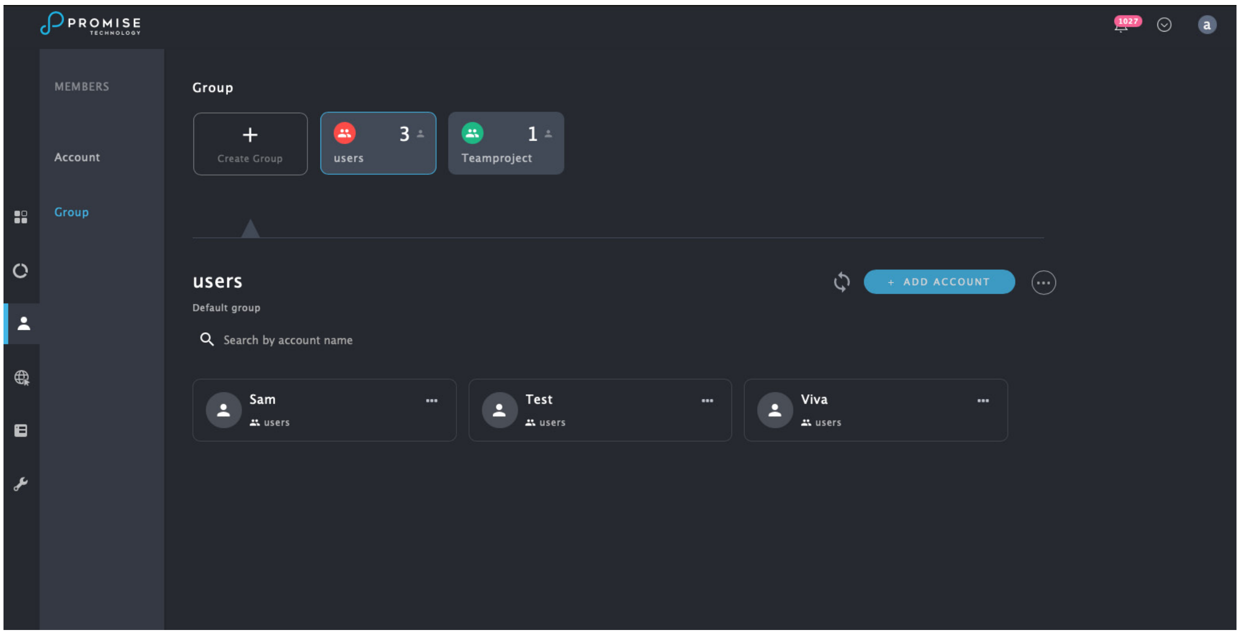


Adding Members to a Group

To add members to an existing group:

1. In the **Group** menu, click on the **Group** icon to view details for that group.
2. Click on the **Add Account** button, a new menu appears.
3. Select existing users from the list and click **Save**. The users are added to the group.

Group Details

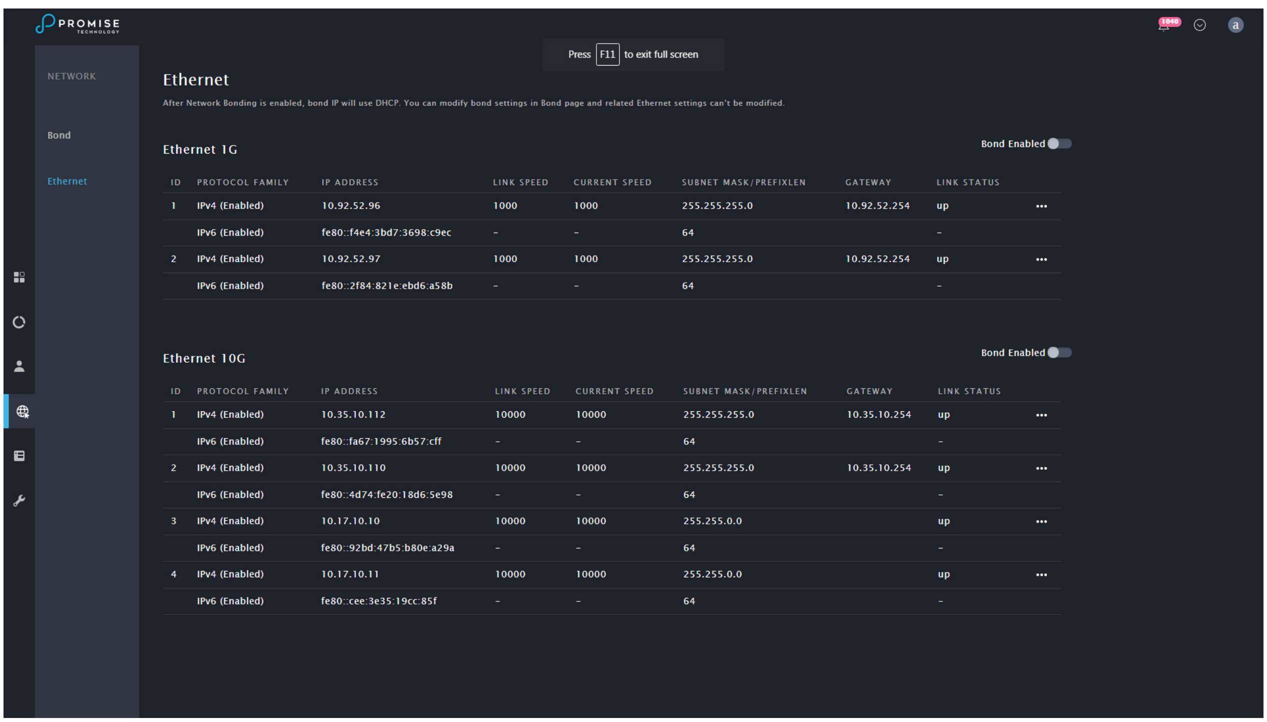


Network Management

Network management includes managing network settings for the 10G and 1G Ethernet interfaces, as well as enabling and configuring bonding for the Ethernet interfaces. **Device management over the network is done through the 1G Ethernet interface. Note that if you change the IP address or other network settings on this interface, you will need to reconnect to the device for further management changes.**

The 10G and 1G Ethernet network settings are managed via the Ethernet menu. To view this menu, click on the Network icon in the left tool bar, then click on Ethernet in the left panel.

Ethernet Interface List



To configure network settings on any Ethernet interface, click the settings icon for the interface (▪▪▪) and choose the Network Settings option. In the new menu, configure network IP settings for the 10G or 1G interface and click **Submit**.

Network Interface Bonding

Network bonding is a process of combing or joining two or more network interfaces together into a single interface. Network bonding offers performance improvements and redundancy by increasing the network throughput and bandwidth. If one interface is down or unplugged the other one will work. It can be used in situations where you need fault tolerance, redundancy or load balancing networks. In Linux, a special kernel module named bonding is used to connect multiple network interfaces into a single interface. Two or more network interfaces can be connected into a single logical “bonded” interface. The behavior of the bonded interfaces depends on the type of bonding method used.

Types of Network Bonding

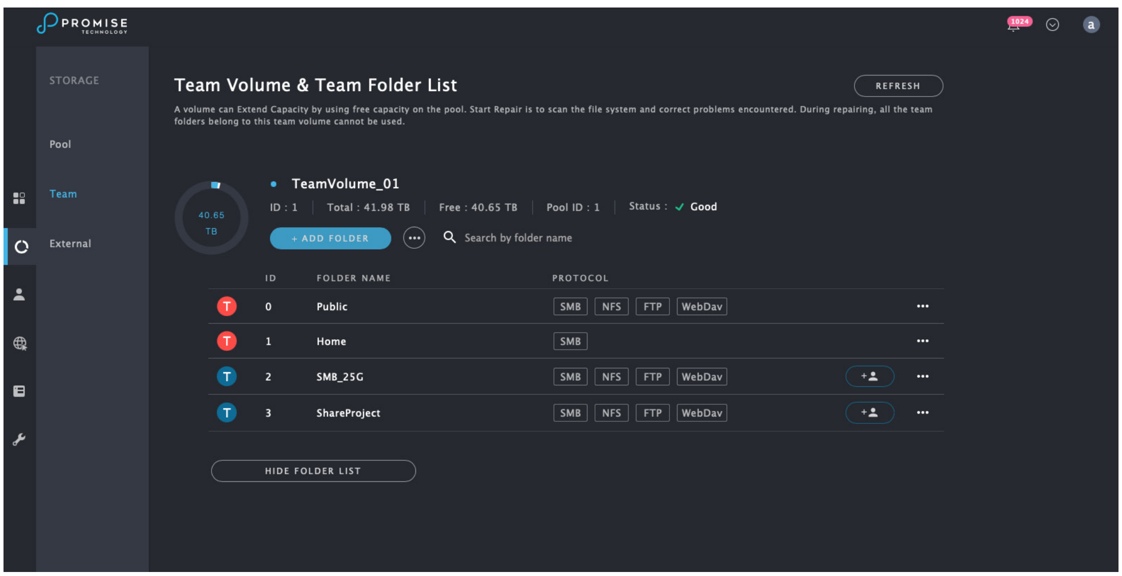
- **mode=0 (balance-rr)** This mode is based on Round-robin policy and it is the default mode. This mode offers fault tolerance and load balancing features. It transmits the packets in Round robin fashion that is from the first available slave through the last.
- **mode-1 (active-backup)** This mode is based on Active-backup policy. Only one slave is active in this band, and another one will act only when the other fails. The MAC address of this bond is available only on the network adapter part to avoid confusing the switch. This mode also provides fault tolerance.
- **mode=2 (balance-xor)** This mode sets an XOR (exclusive or) mode that is the source MAC address is XOR’d with destination MAC address for providing load balancing and fault tolerance. Each destination MAC address the same slave is selected.
- **mode=3 (broadcast)**This method is based on broadcast policy that is it transmitted everything on all slave interfaces. It provides fault tolerance. This can be used only for specific purposes.
- **mode=4 (802.3ad)** This mode is known as a Dynamic Link Aggregation mode that has it created aggregation groups having same speed. It requires a switch that supports IEEE 802.3ad dynamic link. The slave selection for outgoing traffic is done based on a transmit hashing method. This may be changed from the XOR method via the xmit_hash_policy option.
- **mode=5 (balance-tlb)** This mode is called Adaptive transmit load balancing. The outgoing traffic is distributed based on the current load on each slave and the incoming traffic is received by the current slave. If the incoming traffic fails, the failed receiving slave is replaced by the MAC address of another slave. This mode does not require any special switch support.
- **mode=6 (balance-alb)** This mode is called adaptive load balancing. This mode does not require any special switch support.

Team Folders

Management of production teams for collaboration will likely be one of the main activities of the VTrak administrator. The user interface and menus are user friendly and intuitive in order to simplify overall system management. Folders, teams and users can also be managed using the PROMISE Utility Pro.

To view the menu for team and user management, click the Storage menu icon in the left panel of the interface. The first menu that appears is the **Team Volume and Team Folder List.** The default configuration has a shared team volume, **Team_Volume_01**, already set up. If you want to change the name of the volume you need to go to the **Pool** configuration menus. Note however that making changes to the existing disk pool should be done before you start using it since the data will be lost if you change the default pool set up.

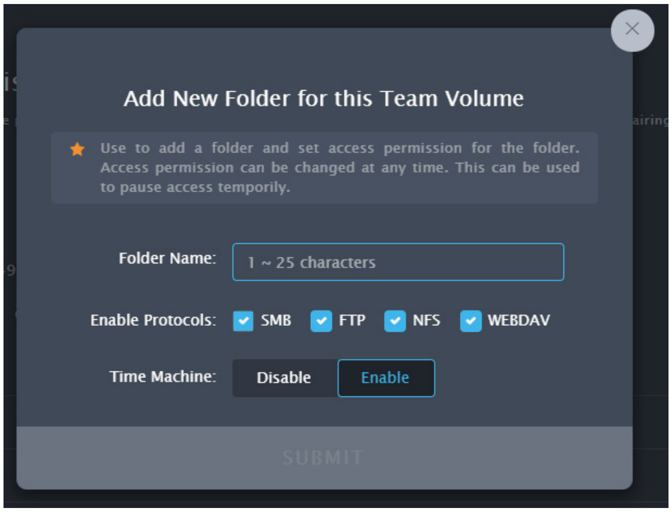
Team Folders List



Creating a New Team Folder

To create a new Team Folder, click the **+ Add Folder** button, the **Add New Folder** menu appears.

Add New Folder to Team Volume menu



To create a new Team Folder:

1. Type a **Folder Name**, and click to **enable** or **disable** protocols for the folder (*SMB, FTP, NFS* or *WEBDAV* all enabled by default).

2. The option of enabling Time Machine backups for the team folder can also be **enabled** or **disabled** (enabled by default).

3. Click the **Submit** button to create the new team folder. The new folder appears in the Team Folder list for the volume.

Removing a Team Folder

To delete a team folder, go to the Folders List, click on the Details icon for the folder (**▪▪▪**) and choose the *Delete* option. A pop-up menu asks you to confirm your decision to delete the folder. To confirm, type the name of the folder and click on **Confirm** to remove the folder.

Delete Team Volume

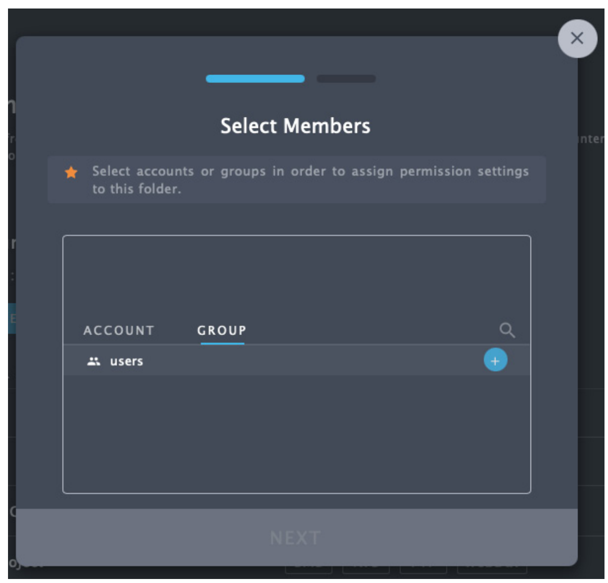
Adding Members to a Team Folder

1. To add members to a team folder, click on the **Add Member** icon for an eligible team folder. *Note that team folders with the blue T icon are eligible for member management in this menu.*

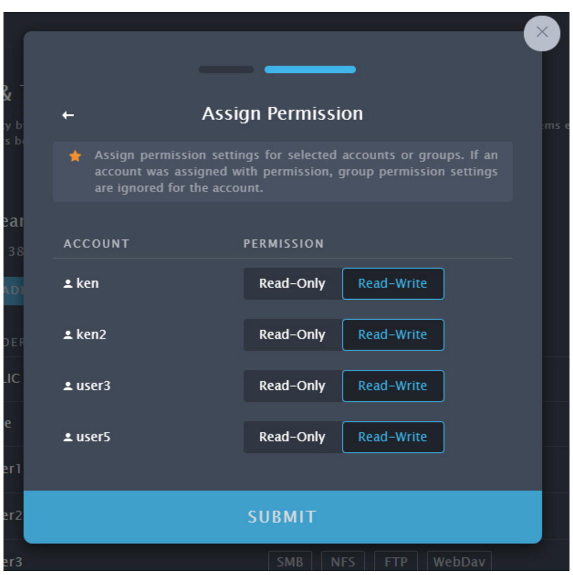
Click icon to add members

2. In the menu that appears, click on the **+** icon for the members you want to add to the team folder.

Select members to add to the team folder



Assign permission level for added members



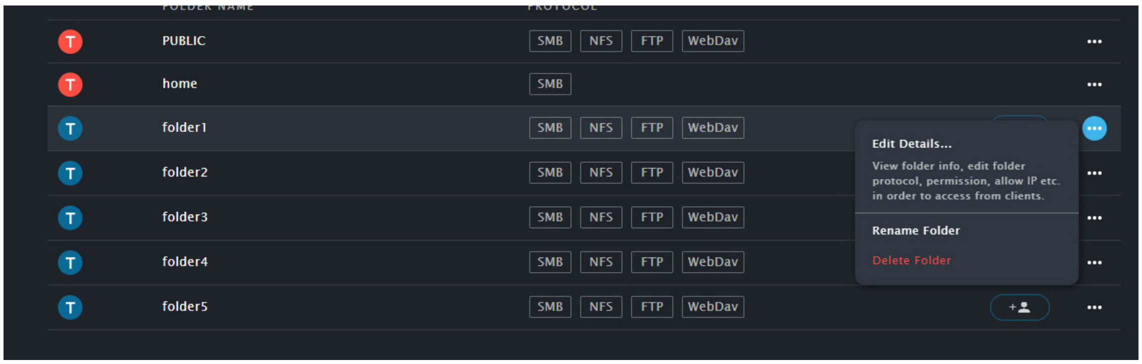
3. Choose the permission level (*Read-Write, Read-Only)* for the newly added members.

4. Click the **Submit** button.

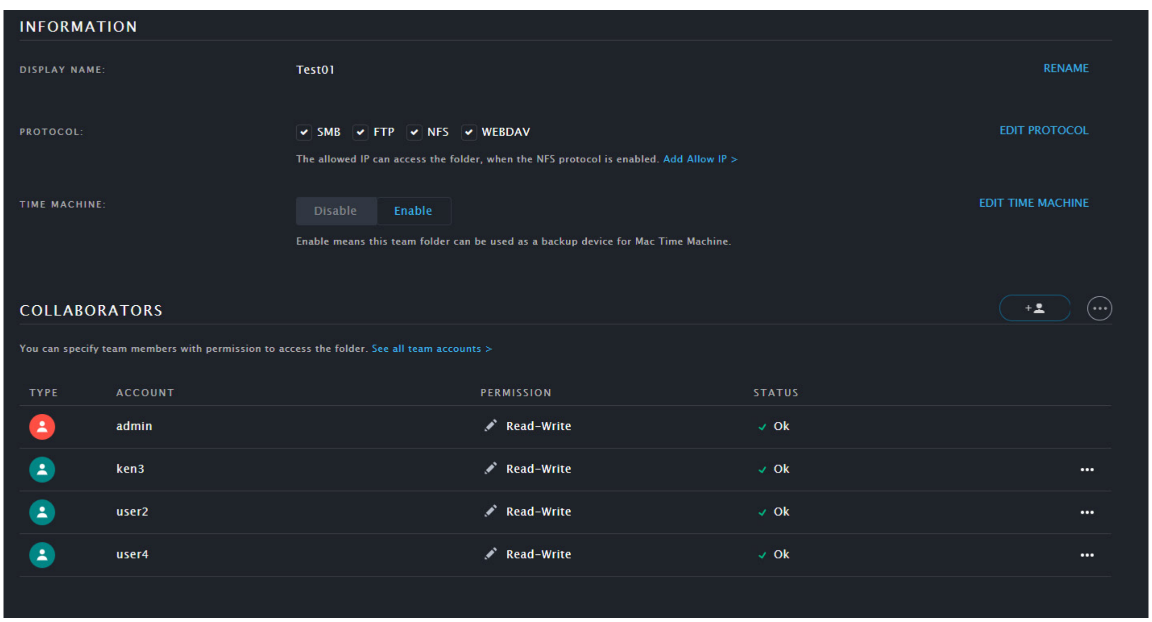
Editing/Deleting Members and Permission Settings

To delete members from a team folder or to change settings such as read-write permission settings, go to the Folders List, click on the Details icon for the folder (▪▪▪) and choose the *Edit Details* option. *Note that this is also where you can change the name of the folder.*

Team Folders list, Edit Details



Folder Information

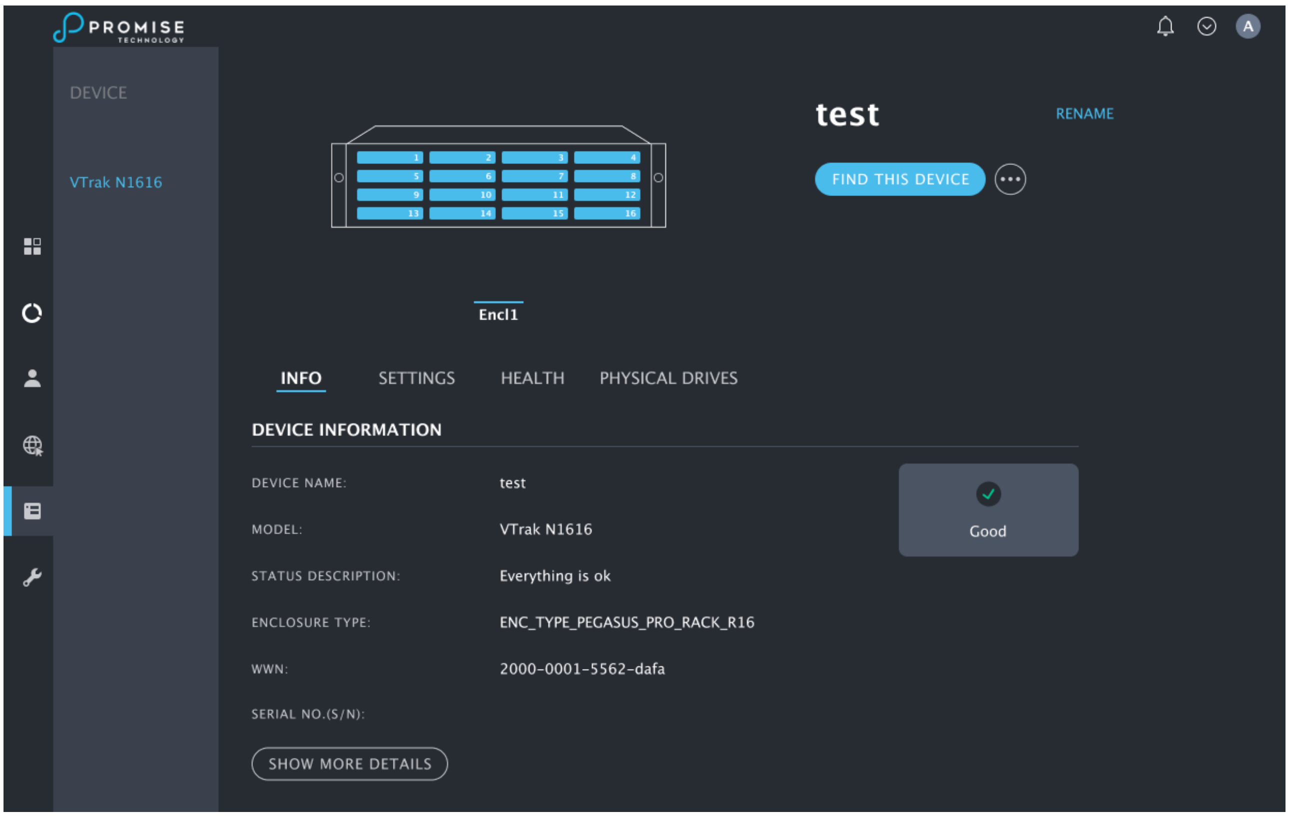


To delete members from a team folder, click on the Details icon for the user (▪▪▪) and choose the *Remove user from this folder* option.

Device Information

The Device menus include a few settings menus for system alarm and system time. This is also where you can reset the the device to the factory default settings. Most of the menus under the Device banner are used to present information about the enclosure.

Device Information Menu



Device Information

Information presented in the Device main menu includes:

- Device Name
- Model
- Status Description
- Enclosure Type
- WWN
- Serial Number

Click *See more details* to expand the menu.

- SCSI Protocol Supported
- Cache Usage Hardware Version
- Host Cache Flushing (*Disabled by default*)
- Dirty Cache Usage
- Firmware Version
- Software
- Version

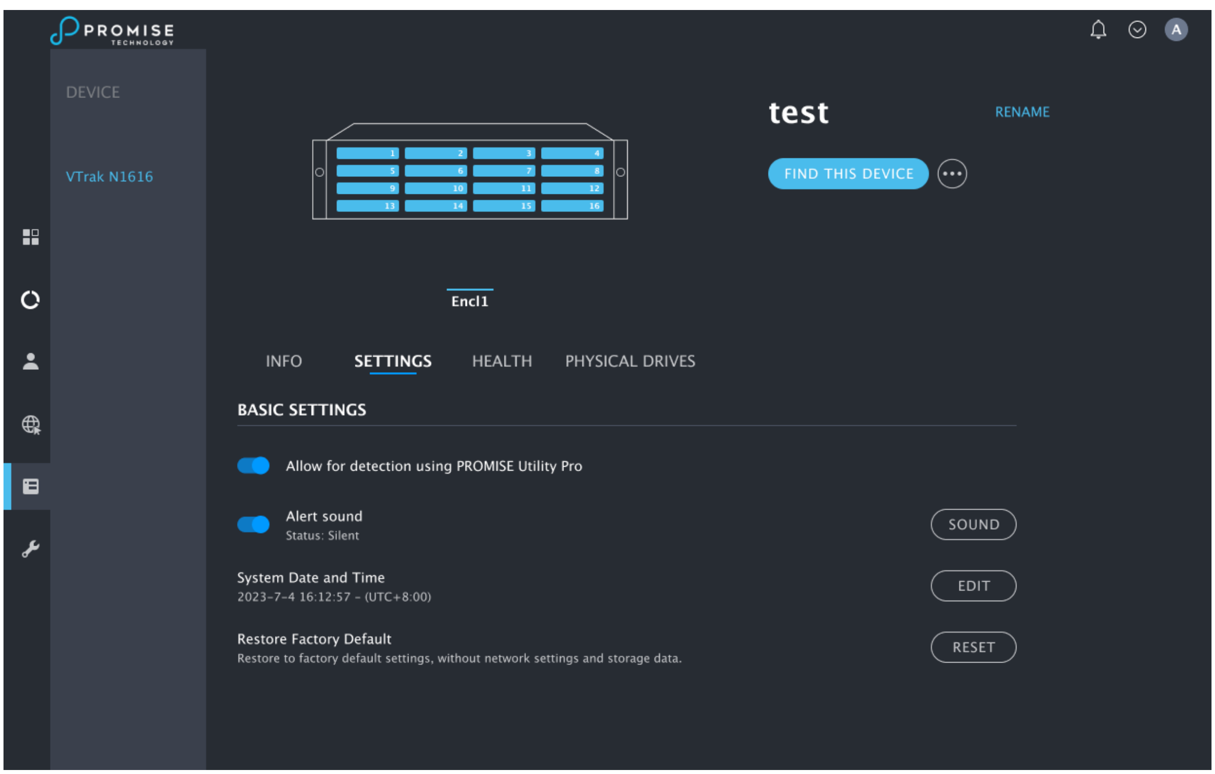
Device Settings

Click the Settings link in the Device menu to view the basic settings menu for the device.

The actions available in the Basic Settings menu are:

- **Allow detection using PROMISE Utility Pro**
  Enabled by default. Use this to enable or disable autodetection for PROMISE Utility Pro on the network. PROMISE Utility Pro uses autodetection to locate available VTrak devices on the 10G network.
- **Alert Sound (Sound/Mute)**
  Enabled by default. Use this to enable or disable the audible alarm on the VTrak.
- **System Date and Time**
  Click the Edit button to change Date and Time settings.
- **Restore Factory Default**
  Click on Reset to restore system settings to factory default settings. Note that if a reset is conducted, all data in the Home folder will be moved to the administrators Home folder, and all Members and permission settings will be lost. *Note that you can backup settings for Members and Storage settings using the Import/Export settings menu in the Administration tab.*

Device Settings menu



Device Health

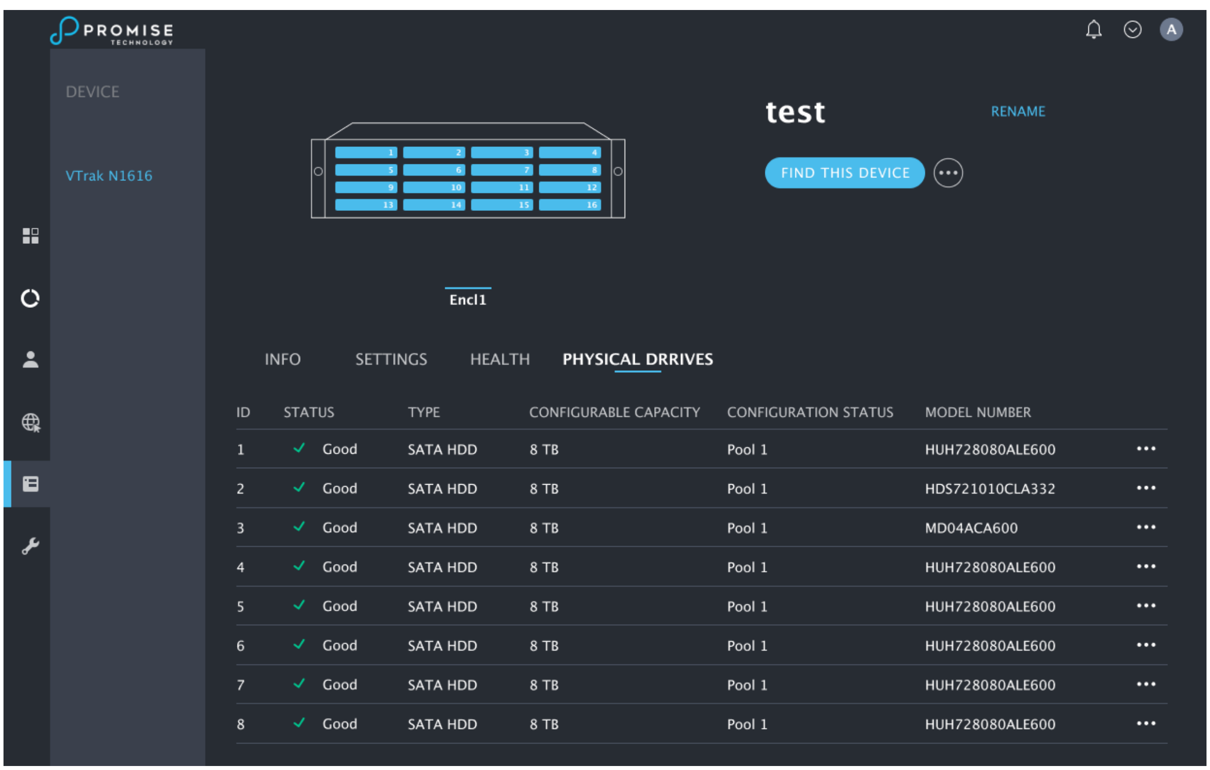
Click the Health link in the Device menu to view system health status information for the following:

- **Controller**
- **Power Supply Unit**
- **PSU Fan**
- **Blower**
- **Temperature Sensors**
- **Voltage Sensors**

Physical Drive Status

Click on the **Physical Drives** link in the Device menu to view the current status of the physical drives populating the enclosure. Basic information includes that drive health, the type, capacity and configuration status.

Physical Drives Status



Administration

Administration menus include the Events, Firmware Update, Import/Export settings, Service, Protocol Registration menus.

Events Log

The log of Events appears. Events are added to the top of the list. Each item includes:

- **Index number** – Begins with 0 at system startup.
- **Time Stamp** – Date and time the event happened.
- **Device** – Pool, Volume, Physical Drive by its ID number.
- **Severity** – See below:
    - Information – Information only, no action is required
    - Warning – User can decide whether or not action is required
    - Minor – Action is needed but the condition is not serious at this time
    - Major – Action is needed now
    - Critical – Action is needed now and the implications of the condition are serious
    - Fatal – Non-Recoverable error or failure has occurred
- **Description** – A description of the event in plain language.

To download the Events log, click on the Download Events button to save a zipped file listing the contents of the log.

To clear the log, click the ··· icon and selection the *Clear Events* option.

Firmware Update

To update system firmware, make sure to first download the latest firmware from the PROMISE website, and save the file to the administrator's computer. The Firmware Update menu allows drag and drop, or Browse functions to locate the downloaded firmware update file. You can also use TFTP from a remote system if preferred.

Choose the update file and follow the on screen instructions to install the new firmware. A system reboot will be required. Make sure there are no active users during the update process.

Import/Export Settings Files

The Import/Export settings menu allows back up of Members and Storage settings, which can be loaded back onto the system. This menu can also be used to generate a Service Report.

To import settings, drag and drop the previously saved settings file or Browse to locate it, then click on the **Import** button.

To export settings, click on the type of setting you want to save and click the **Export** button.

Service

Use the Service menu to start, stop or configure SSH, Email and Webserver functions. Click on the ⋯ icon for the service and choose the option to configure *Settings*, *Start*, *Stop* or *Restart*.

Protocol

The Protocol menu is used to enable, disable or configure settings for SMB, NFS, FTP and HTTP protocols. Note that SMB, NFS and HTTP must be enabled for client Members to use the VTrak.

Registration

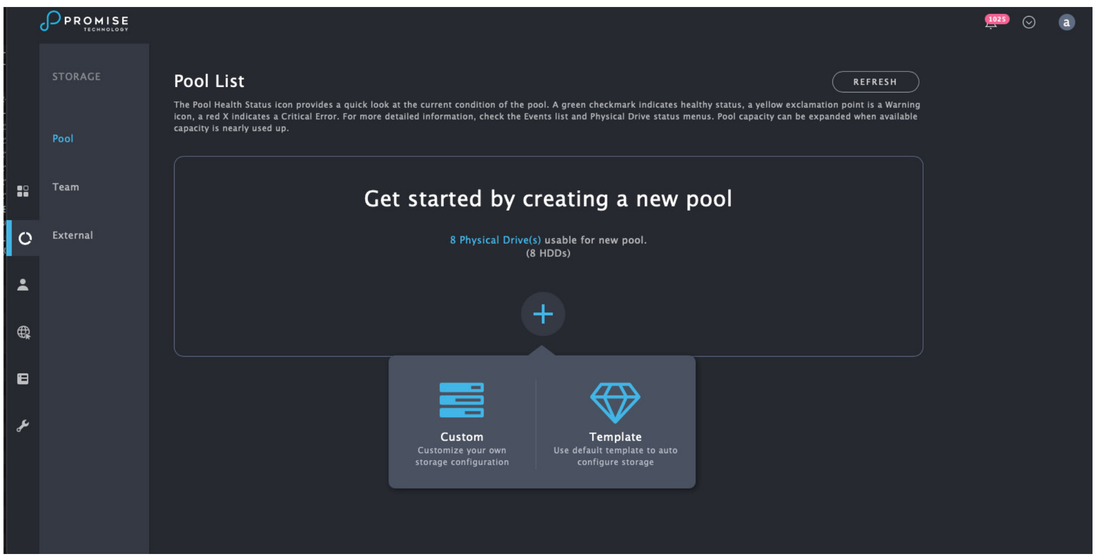
It is strongly recommended that you register your VTrak N1616 to enable optimum service if you should require assistance or technical support. To register, you must login with your PROMISE account. If you do not have an account, it is easy and quick to get one. To create a new PROMISE account, click on the Sign Up link in the Registration menu and proceed to register the VTrak. If you have an account already, just follow the instructions in the menu to complete the registration.

Configuring A New Storage Volume

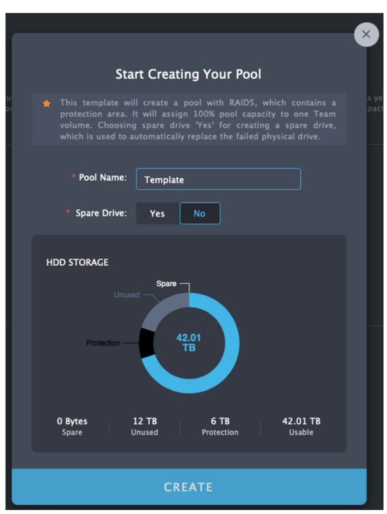
The VTrak is shipped with the storage configured ready to use. However, if you should want to delete the existing storage volumes and create a new storage configuration, the instructions in this section explain how to do it. The default storage configuration on the VTrak N1616 contains one storage pool with one storage volumes (*Team_Volume_01* with *Public* and *Home* folders), the volume consists of a storage pool of 8 HDD.

If you have deleted the default storage pool, the **Pool** menu will instruct you to create a new storage pool to begin the configuration. You have the option of using the ***Template*** option to create the default storage setup (one pool, two equal sized volumes) or you choose the ***Custom*** option to customize the storage configuration.

Pool List with no storage configuration



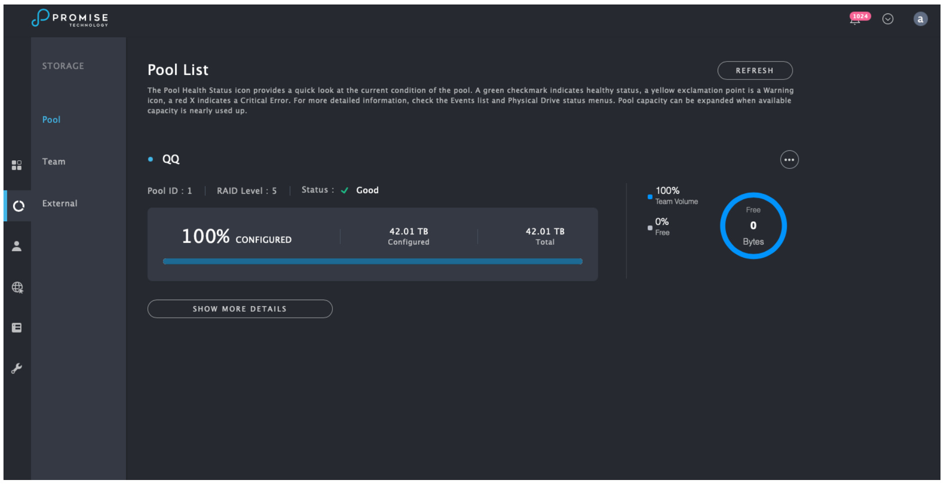
Create New Pool from Template



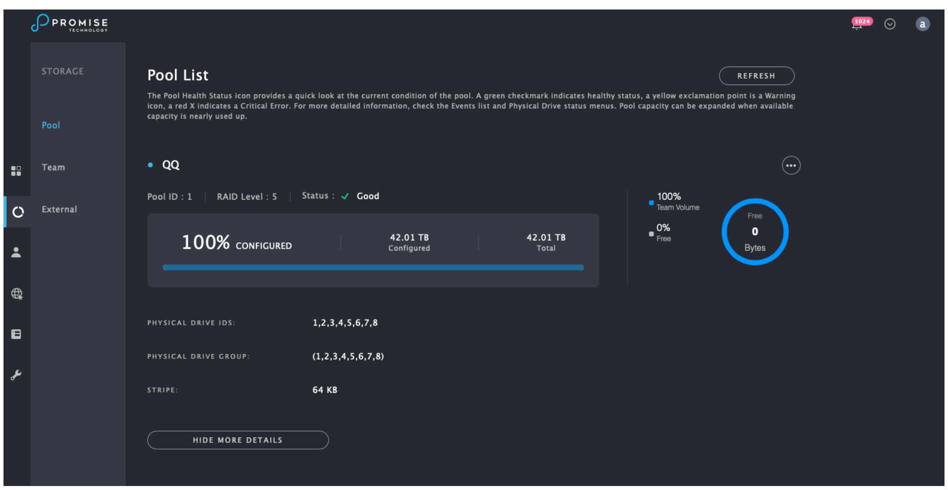
Template Option

The Template option will create everything in one step. You simply need to enter a name for the storage pool, click ***Yes*** or ***No*** to create or not create a spare drive and click on **Create**. The new pool will use all available drives for one storage pool with two volumes. When completed the **Storage Pool List** will look like the example here.

Pool List with Default Storage Configuration



Pool List Details



Using TierBoost

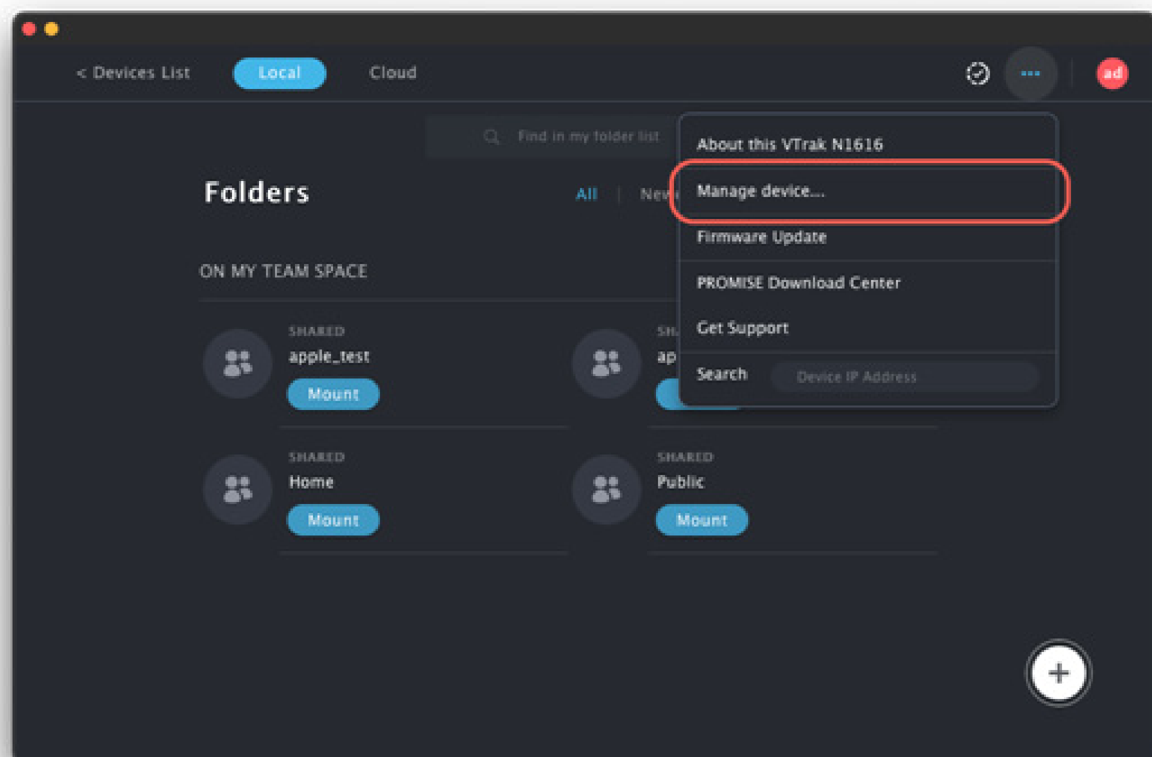
TierBoost is used to maximize storage usage efficiency and overall NAS performance. ‘Auto-tiering’ refers to the algorithms used to automatically assign files to one of three categories or tiers of data based on the frequency of user access. The information presented here focuses mostly on the NVMe tier which has the fastest performance. This tier is used to hold the data files that are most often used.

The remaining two tiers use 3.5” hard disk drives using a faster rotation speed for the middle tier. The reason for doing this is create efficiencies in cost and performance. These efficiencies a result of faster read/write speeds as well as organizational efficiency not related to the disk performance.

TierBoost adjustment takes place in the off hours, that is, when the system is not being accessed or is accessed very little. Use the scheduling settings to determine when TierBoost takes place.

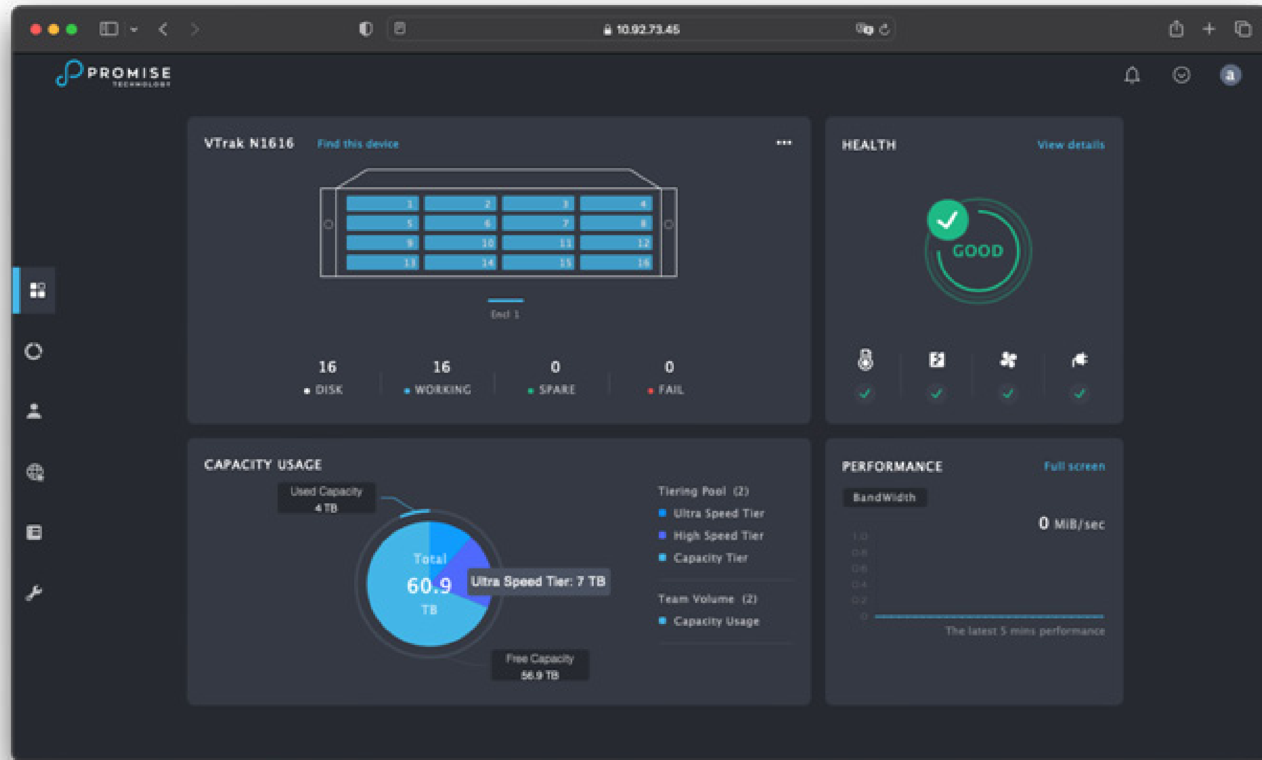
Accessing the TierBoost Menu

Access to the TierBoost menu is reserved for the system administrator. The menu is accessed using WebPAM InSight. The administrator can access WebPAM InSight directly using a browser and the VTrak IP address, or access WebPAM InSight via PROMISE Utility Pro. To access it in PROMISE Utility Pro, click the **More options** link in the upper right corner and select the *Manage devices ...* option, this will trigger your default browser to go to WebPAM InSight, then just login.



View Teiring Statistics

Tiering capacity usage, performance and other statistics of tiering are useful for management to see if adjustments are needed. This will likely be the case when the system is first used. It is a good idea to check this when the system is up and running for a while, and check it in the first few weeks of operation.

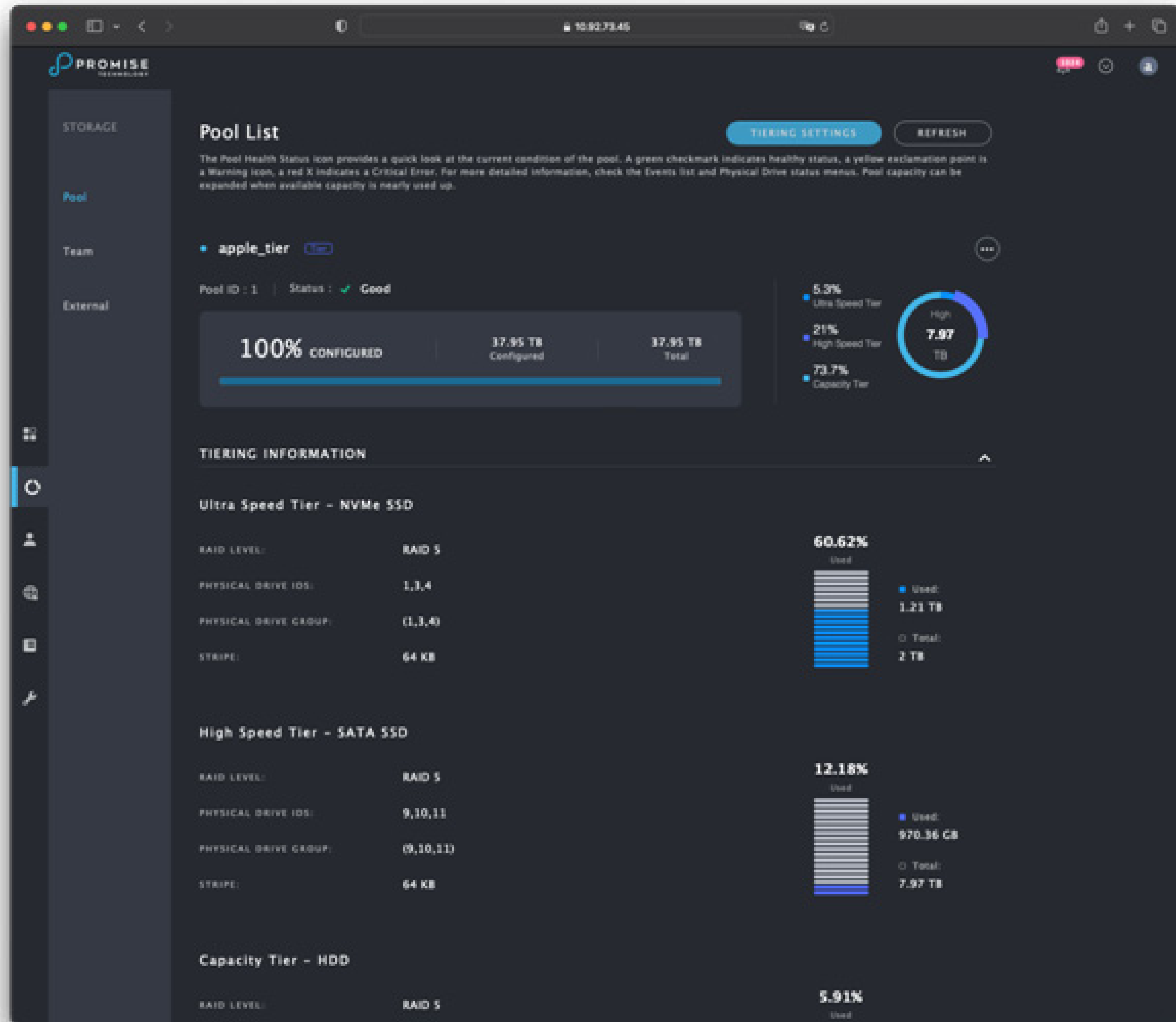


Capacity Graph in Dashboard

A Capacity usage graph in the Dashboard displays the different tiers (Ultra Speed Tier, High-Speed Tier, and Capacity Tier) and the capacity used.

Tiering Information in the Pool List

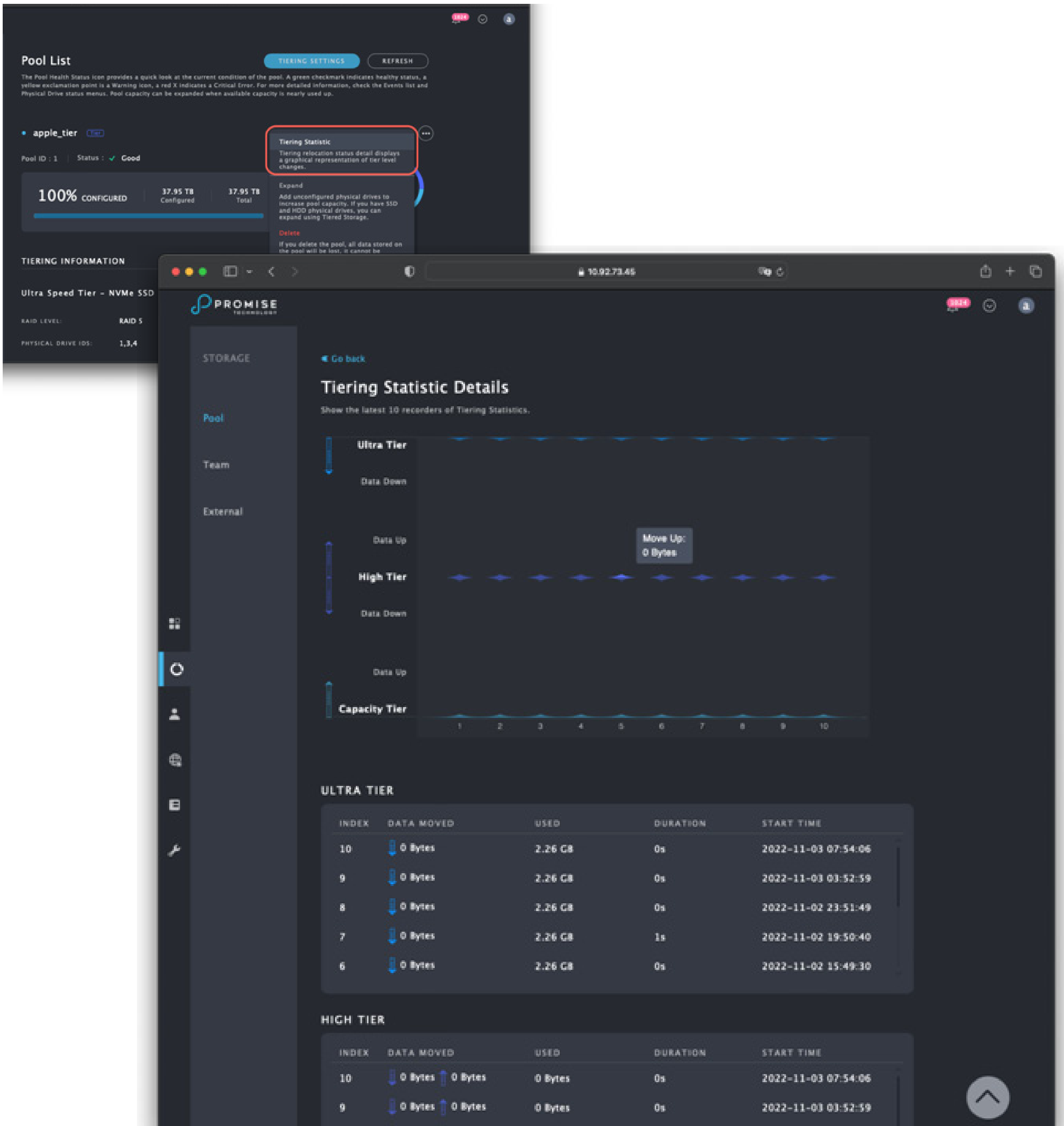
Tiering information in the Pool List indicates the type of disk in each tier, as well as RAID level, Physical drive IDS, Physical drive group, and Stripe Size. Statistics of each tier include capacity used by percentage and total size.



Additional Tier Statistics

In order to view information on how has data moved between tiers, click the **More options** menu and select the *Tier Statistic* option.

Details of data migration in tiering are displayed for the most recent 10 tiering migration record. The main graph presents migration movement statistics. The tables below indicate quantity of data moved, how much storage was used, duration of the migration process and migration start time.

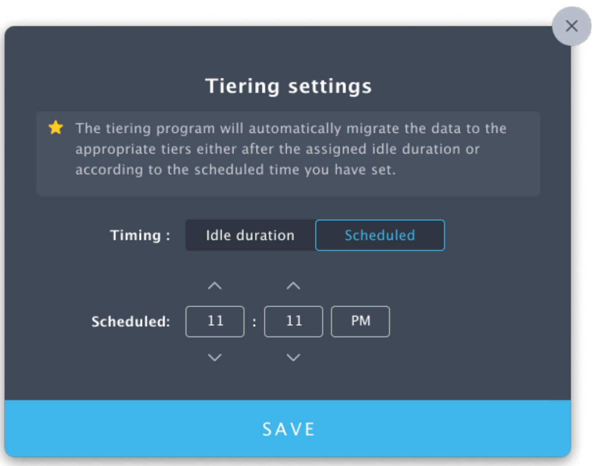


Tiering Schedule and Settings

The PROMISE tiering feature automatically moves hot data to high-performance drives and cold data to lower-cost, higher-capacity drives, enabling businesses to experience exceptional performance. To optimize machine usage, the Tiering settings allow users to decide when to initiate tiering after the machine enters an idle state, thus improving overall system performance. With the Tiering statistics, users can evaluate Tiering settings and adjust them if needed. Keep in mind that the Tiering changes, that is, movement of data into different tiers, will take place during off hours. Tiering can be set to take place using a schedule for staring the process, or it can begin automatically when the system has been idle for a select period of time.

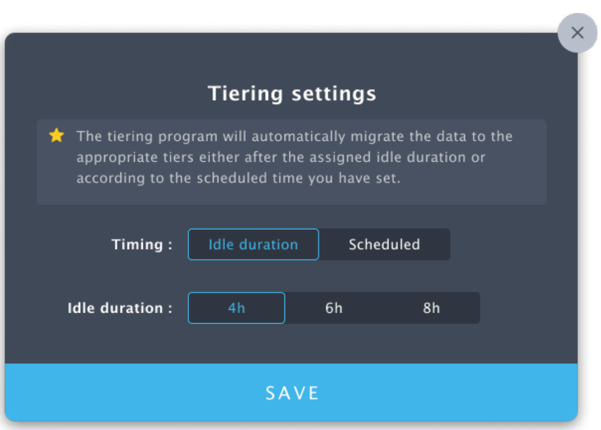
Scheduled Tiering

Click on the Tiering Settings button, in the new menu, click the Scheduled button to set a time preference for when the teiring adjustments take place. Use the time selector to choose the time to begin. The adjustment will commence at that time and continue until finished. Click Save to set the schedule.



Idle Duration Tiering

Click on the Tiering Settings button, in the new menu, click the Idel Duration button to set an idle period that will trigger the tiering process. When the system is idle for that chosen period, tiering adjustment will take place until finished.



Introduction to HybridBoost

This section aims to familiarize you with HybridBoost, guiding you through the initial setup for a task of Cloud Sync/Backup/Archive and Rsync Sync/Backup. Additionally, it offers valuable insights into the Recovery and Retrieval process, enabling you to efficiently manage your data and ensure its safety.

Planning and Preparation

Device Models and HybridBoost Features

	Cloud Sync	Cloud Backup	Cloud Archive	Rsync (Sync, Backup)
PegasusPro R8	X	O	X	O
PegasusPro R16	O	O	X	O
VTrak N1616	O	O	O	O

HybridBoost Features and Management Tools

Support for Cloud and Rsync Features

Unleash the full potential of cloud storage services and Rsync services by enabling file-level transfer, encryption, deduplication, compression, and bandwidth control. Experience secure and efficient data transfers like never before.

Modes

Cloud services are using object storage. Rsync services are peer-to-peer file storage.

Cloud Sync and Rsync Sync

Replicating and sharing: Perfect for users who want to replicate and share the latest files, this approach synchronizes destination data based on the changes made on the source.

Cloud Backup and Rsync Backup

Incremental backup in versions: Perfect for backups, this method creates backup versions with newly added and modified files, while retaining deleted files in the previous version on the destination storage.

Cloud Archive

Cost and space-saving: This approach archives cold data in cheaper storage space and reserves the space for high-performance storage of hot data.

Users

- **Admin**: HybridBoost empowers the administrator to utilize either Cloud Sync/Backup/Archive or Rsync Remote Sync/ Remote Backup features, depending on the specific device model.
- **End users**: HybridBoost empowers normal users to utilize either Cloud Sync/Backup/Archive depending on the specific device model.

Authentication

Before accessing HybridBoost, follow these steps:

1. Click on the HybridBoost button on the top toolbar.
2. Enter the account's password.
3. Decide whether to keep access to HybridBoost without entering the password again until the account log out or close the utility.

***Note**: If the admin hasn't changed the default account password or users haven't set a password while using the OS account to log in, HybridBoost cannot be used. The icon on the top right side of the dashboard allows users to switch between the lock and unlock settings.*

Calculate the cloud service fee

To determine which cloud service meets their needs, users can estimate their annual storage usage and monthly download rate by viewing the dynamic bar chart rank list.

1. In HybridBoost, go to the HybridBoost Planner page.
2. Drag the Storage Usage range (100-2000 GB) and the monthly download range (0-100%) bars to make edits to the chart.
3. Hovering over each cloud service bar displays detailed pricing information on the tooltip.

Task Status of Cloud and Rsync Features

- Running: When a task is running, its progress percentage is shown in the list, and the user cannot edit, delete, restore, or retrieve the task until it completes.
- Standby: Users can initiate tasks immediately using the ‘Do Now’ button, except for Cloud Sync, which does not have this option.
- Stopped: If the user stops the task, they need to manually click the restart button to resume the scheduled task.
- Error: The error reason will be shown on the list. Users can either restart the task to check if the short-term error is fixed or duplicate the cloud service error for further internet research.

***Note**: Rsync (Remote Sync/Backup feature) is exclusive to the admin. Both the admin and normal users can access cloud features based on their devices. The admin cannot view other users’ cloud task Versions, Browsers, and Logs, and they cannot edit other users’ task settings. Users’ cloud credentials are also invisible to the admin.*

Cloud Task Configuration

Add a Cloud Space

Before creating a Cloud task, you must add a Cloud Space:

1. In HybridBoost, go to the Cloud Space page, and click Create Cloud Space.
2. Follow the instructions of the wizard to finish creating Cloud Space.

***Note**: The limitation number of Cloud Spaces is 50.*

There are two types of validation: OAuth and Keys. This depends on what kind of cloud service.

- OAuth: The web browser will pop up a web page and direct to the cloud service authorization page. Give consent and close the web page. Return to the utility and complete any required input fields.
- Keys: Prepare specific key requirements for corresponding cloud services. Click Validate and complete any required input fields.

Cloud services available include:

- Amazon S3
- Azure Blob
- Google Cloud
- Wasabi

Cloud services planning includes:

- Alibaba Cloud
- Frame.io
- Backblaze
- Dropbox
- Google Drive
- OneDrive
- MinIO
- OpenStack Swift

Rename a Cloud Space

1. In HybridBoost, go to the Cloud Space page, and click on the Cloud Space to show the sidebar.
2. Click on the pen icon button located in the upper right corner of the sidebar, next to the Cloud Space name.
3. Type in the new Cloud Space name and then press Enter.

Pin a Cloud Space

Users could pin the Cloud Space as a filter option

1. In HybridBoost, go to the Cloud Space page, and click on the Cloud Space to show the sidebar.
2. Use the Pin icon button in the sidebar's upper right corner to pin the Cloud Space.
3. Click the Pin icon button again to unpin the Cloud Space when needed.

Review the tasks linked to the Cloud Space

1. In HybridBoost, go to the Cloud Space page, and click on the Cloud Space to show the sidebar.
2. Click on the checkmark-in-a-circle icon button located in the upper right corner of the sidebar.
3. A dialog will display the list of tasks associated with the Cloud Space.

Delete a Cloud Space

1. In HybridBoost, go to the Cloud Space page, and click on the Cloud Space to show the sidebar.
2. Use the Trashcan icon button in the sidebar's upper right corner to delete the Cloud Space.
3. Type "Confirm" to confirm the deletion of this Cloud Space, and then click on the "Delete" button.

***Note**: Before deleting the Cloud Space, review the linking-up task carefully. Once the Cloud Space is deleted, it is not possible to recover the attached cloud tasks.*

Create a Cloud Task (Sync/Backup/Archive)

1. In HybridBoost, go to Cloud Sync/Backup/Archive page, and click Create task.
2. Follow the instructions of the wizard to finish creating the Cloud task.

***Note**: Below is a description of the limited number of Cloud tasks and their respective task states.*

Cloud Sync task: One device supports a total of 30 tasks for all users. It can run up to 5 Real-time Cloud Sync tasks and 5 Regular Cloud Sync tasks simultaneously. Cloud Backup and Cloud Archive tasks take precedence over Cloud Sync tasks in terms of priority.

Cloud Backup task: One device accommodates a total of 3 tasks for all users combined, with the capability to run up to 1 Cloud Backup task at a time.

Cloud Archive task: One device accommodates a total of 3 tasks for all users combined, with the capability to run up to 1 Cloud Archive task at a time.

Cloud Sync Task Settings

- Cloud Sync task name:
    - All digit is not allowed
    - Only alphabet, digit, underscore, and hyphen characters are permitted
    - The length name is 1-31
- Action: Sync, Upload and Download
- Conflict Policy: When there are conflicting files with the same name user can choose to Rename, Overwrite the files.
- Schedule and timing:
    - Real-time: The task will initiate whenever changes are detected on either the local or remote side.
    - Regular: The task will be scheduled to initiate hourly, daily, weekly, and monthly at the specified times.
- Throttle transfer bandwidth: Users have the flexibility to set their desired maximum upload/download bandwidth.
- Filter: Three types of filters are available for use. File maximum size, Exclude file type, and Exclude data modified more than a certain number of days ago.

Cloud Backup Task Settings

- Cloud Backup task name:
    - All digit is not allowed
    - Only alphabet, digit, underscore, and hyphen characters are permitted
    - The length name is 1-31
- Schedule and timing:
    - Manual: The task will begin whenever the user clicks the “Do Now” button. Additionally, there is a checkbox option to execute the task after the wizard has finished.
    - Regular: The task will be scheduled to initiate daily, weekly, and monthly at the specified times.
- Version policy:
    - Preserve all versions: Preserve up to a maximum of 32 versions.
    - Preserve the newest version: Enter a number up to 32 to preserve the specified amount of

the latest versions.

- Preserve for the custom time period: This option can only be applied when the Schedule and Timing option is set to “Regular.”

- Rule: Performing an integrity check after the backup process.

***Note**: Enabling integrity checks will require extra time and likely additional cloud service charges.*

- Throttle transfer bandwidth: Users have the flexibility to set their desired maximum upload/download bandwidth.
- Filter: Three types of filters are available for use. File maximum size, Exclude file type, and Exclude data modified more than a certain number of days ago.

Cloud Archive Task Settings

- Cloud Archive task name:
  - All digit is not allowed
  - Only alphabet, digit, underscore, and hyphen characters are permitted
  - The length name is 1-31
- Schedule and timing:
  - Manual: The task will begin whenever the user clicks the “Do Now” button. Additionally, there is a checkbox option to execute the task after the wizard has finished.
  - Regular: The task will be scheduled to initiate daily, weekly, and monthly at the specified times.
- Preserve data on source: Select whether to delete data on the source or not.
- Rule:
  - Compression: Reduce data size by compressing it.
  - Encryption key: The encryption key can be used to encrypt files only when the compression option is checked. If the key is lost or forgotten, you can’t decrypt the archived data.
- Throttle transfer bandwidth: Users have the flexibility to set their desired maximum upload/download bandwidth.
- Filter: Three types of filters are available for use. File maximum size, Exclude file type, and Exclude data modified more than a certain number of days ago.

Restore one version of Cloud Backup

1. In HybridBoost, go to the Cloud Backup page, and select the Cloud backup task which has the version you need
2. Select "Version" to open the Backup Version Management page, choose the wanted version, and then select "Restore".
3. Choose the path for the restored data

***Note**: The restore process is visible on the Cloud Backup task list and cannot be interrupted, only discarded. This discard action might cause local data corruption.*

Restore System Configuration of Cloud Backup

1. In HybridBoost, go to the Cloud Backup page, and select the Cloud Backup task which has the system configuration version you need
2. Select "Version" to open the Backup Version Management page, select the wanted version, Team config, or Team account file, and then proceed to click "Restore".
3. Confirm the warning dialog to restore the system config

***Note**: After the restore, users can review the modified settings on WebPAM. The restored config file in the local path will be deleted following the import process.*

Retrieve Cloud Archive data

1. In HybridBoost, go to the Cloud Archive page, and select the Cloud Archive task which has the data you need
2. Select "Browser" to open the Archive Browser page, choose the data in the wanted date, and then select "Retrieve".
3. Choose the path for the retrieved data

***Note**: The retrieving process is visible on the Cloud Archive task list and cannot be interrupted but can only be discarded. This discard action might cause local data corruption.*

Relink a Task of Cloud Backup (in the next SR)

1. In HybridBoost, go to the Cloud Backup page, and click Relink Task.
2. Follow the instructions of the wizard to finish Relink the Cloud Backup task.

***Note**: Ensure there are previous backup versions in the cloud storage to relink with. After relinking the task, it's advisable to restore a version, especially if the local path differs from the original task.*

Rsync Task Configuration

Create a Rsync Task (Remote Sync/Backup)

1. In HybridBoost, go to the Rsync page, and click Create Remote Sync/Backup task.
2. Follow the instructions of the wizard to finish creating the Rsync task.

***Note**: The number of tasks on one device is up to 30 for Remote Sync and Remote Backup combined. Up to 1 task can run at a time.*

Task Settings

Remote Sync

- Remote Sync task name:
  - All digit is not allowed
  - Only alphabet, digit, underscore, and hyphen characters are permitted
  - The length name is 1-31
- Action: Upload and Download
- Schedule and timing:
  - Manual: The task will begin whenever the user clicks the "Do Now" button. Additionally, there is a checkbox option to execute the task after the wizard has finished.
  - Regular: The task will be scheduled to initiate daily, weekly, and monthly at the specified times.

- Rule: Transfer compression and Remove extra files at the destination
- Throttle transfer bandwidth: Users have the flexibility to set their desired maximum bandwidth.
- Filter: Two types of filters are available for use. File maximum size, Exclude file type.

Remote Backup

- Remote Backup task name:
    - All digit is not allowed
    - Only alphabet, digit, underscore, and hyphen characters are permitted
    - The length name is 1-31
- Schedule and timing:
    - Manual: The task will begin whenever the user clicks the “Do Now” button. Additionally, there is a checkbox option to execute the task after the wizard has finished.
    - Regular: The task will be scheduled to initiate daily, weekly, and monthly at the specified times.
- Version policy:
    - Preserve all versions: Preserve up to a maximum of 32 versions.
    - Preserve the newest version: Enter a number up to 32 to preserve the specified amount of the latest versions.
    - Preserve for the custom time period: This option can only be applied when the Schedule and Timing option is set to “Regular.”
- Rule: Performing an integrity check after the backup process.

***Note**: Enabling integrity checks will require extra time and likely additional cloud service charges.*

- Throttle transfer bandwidth: Users have the flexibility to set their desired maximum upload/ download bandwidth.
- Filter: Three types of filters are available for use. File maximum size, Exclude file type, and Exclude data modified more than a certain number of days ago.

Restore one version of Rsync Backup

1. In HybridBoost, go to the Rsync page, and select the Remote Backup task which has the version you need
2. Select "Version" to open Remote Backup Version Management > Select the desired version and then proceed to click "Restore".
3. Choose the path for the restored version.

***Note**: Data restoration will overwrite files with the same name in the designated restore-to folder. The restore process is visible on the Cloud Backup task list and cannot be interrupted, only discarded. This discard action might cause local data corruption.*

Relink a Task of Rsync Backup

1. In HybridBoost, go to Relink page, and click Relink Remote Backup.
2. Follow the instructions in the wizard to finish Relink the Remote Backup task.

***Note**: Ensure there are previous backup versions in the client-server directory to relink with. After relinking the task, it's advisable to restore a version, especially if the local path differs from the original task. Please be mindful not to relink more than one task to the same directory. It can result in inconsistencies in backup version management.*

Rsync CLI

Backup or sync data from Linux device to PegasusPro:

PegasusPro the latest service release (SR23) supports Rsync with SSL transfer encryption. Users still can use normal rsync. If users want to use Rsync with SSL transfer encryption, please use Rsync version 3.2.7 or newer.

The Rsync command will be:

```
rsync-ssl -av [source path] rsync://[rsync account]@[rsync server IP]:874/Module

rsync -av [source path] rsync://[rsync account]@[rsync server IP]:[rsync port]/Module
```

For example:

```
rsync-ssl -av /FS/TeamVolume_01/asdasd/ rsync://rsync-user@10.88.1.250:874/ssl_backup/

rsync -av /FS/TeamVolume_01/asdasd/ rsync://rsync-user@10.88.1.250:873/backup
```

Contacting Technical Support

PROMISE offers Web Support 24/7 and local Phone Support during normal business hours for VTrak N Series:

For Web Support, click here: https://support.promise.com. For telephone support, click here: http://www.promise.com/ContactUs

Please be sure to register your product at PROMISE eSupport (https://support.promise.com)

The information below is required for troubleshooting. Please register this information or have it readily available at the time of your support call.

Serial number - Located on label toward rear of chassis

RMA Methods

1. Cross Ship

   For this method, Credit card information is required for security purposes. The replacement item is first sent to you (customer). Thirty (30) days, from the day of shipment, are allowed for returning the defective unit. If the defective part is not returned within the allowed 30days, your credit card will be charged the MSRP of the replacement part(s) shipped.

2. Return and Replace

   Credit card information is not needed for this method. Once your request for an RMA is approved, an RMA number will be emailed to you along with specific shipping instructions. Product(s) must be returned in its original packaging (inner and outer box). If you do not have the original packaging contents please contact PROMISE Technical Support. All RMA are shipped standard ground to your location.

   See “Returning the Product For Repair” on page 80 for more details.

Return ONLY the specific product covered by the warranty. Do not ship cables, manuals, CDs, etc.

Please return the product to your dealer or retailer or Contact PROMISE technical support for instructions before shipping the product.

Please check PROMISE E-Support: https://support.promise.com for full instructions before shipping the product.

You must follow the packaging guidelines for returning products:

- Use the original shipping carton and packaging
- Include a summary of the product's problem(s)
- Write an attention line on the box with the RMA number
- Include a copy of your proof of purchase

You are responsible for the cost of insurance and shipment of the product to PROMISE. Note that damage incurred due to improper transport or packaging is not covered under the Limited Warranty.

When repairing returned product(s), PROMISE may replace defective parts with new or reconditioned parts, or replace the entire unit with a new or reconditioned unit. In the event of a replacement, the replacement unit is under warranty for the remainder of the original warranty term from purchase date, or 30 days, whichever is longer.

PROMISE pays for outbound standard shipping charges only. You must pay for any additional shipping options, such as express shipping and return of the defective part or unit.

Your Responsibilities

You are responsible for determining whether the product is appropriate for your use and will interface with your equipment without malfunction or damage. You are also responsible for backing up your data before installing any product and for regularly backing up your data after installing the product. PROMISE is not liable for any damage to equipment or data loss resulting from the use of any product.

Returning the Product For Repair

If you suspect a product is not working properly, or if you have any questions about your product, contact our Technical Support staff, and be ready to provide the following information:

- Product model and serial number (required)
- Return shipping address
- Daytime phone number
- Description of the problem
- Copy of the original purchase invoice

The technician helps you determine whether the product requires repair. If the product needs repair, the technician issues an RMA (Return Merchandise Authorization) number.

IMPORTANT
Obtain an RMA number from Technical Support before you return the product and write the RMA number on the label. The RMA number is essential for tracking your product and providing the proper service.

Limited Warranty

PROMISE Technology, Inc. ("PROMISE") warrants that this product, from the time of the delivery of the product to the original end user:

a) all components for a period of three (3) years;

b) will conform to PROMISE's specifications;

c) will be free from defects in material and workmanship under normal use and service.

This warranty:

a) applies only to products which are new and in cartons on the date of purchase;

b) is not transferable;

c) is valid only when accompanied by a copy of the original purchase invoice.

This warranty shall not apply to defects resulting from:

a) improper or inadequate maintenance, or unauthorized modification(s), performed by the end user;

b) operation outside the environmental specifications for the product;

c) accident, misuse, negligence, misapplication, abuse, natural or personal disaster, or maintenance by anyone other than a PROMISE or a PROMISE-authorized service center.

Disclaimer of other warranties

This warranty covers only parts and labor, and excludes coverage on software items as expressly set above.

Except as expressly set forth above, PROMISE disclaims any warranties, expressed or implied, by statute or otherwise, regarding the product, including, without limitation, any warranties for fitness for any purpose, quality, merchantability, non-infringement, or otherwise. PROMISE makes no warranty or representation concerning the suitability of any product for use with any other item. You assume full responsibility for selecting products and for ensuring that the products selected are compatible and appropriate for use with other goods with which they will be used.

PROMISE does not warrant that any product is free from errors or that it will interface without problems with your computer system. It is your responsibility to back up or otherwise save important data before installing any product and continue to back up your important data regularly.

No other document, statement or representation may be relied on to vary the terms of this limited warranty.

PROMISE's sole responsibility with respect to any product is to do one of the following:

a) replace the product with a conforming unit of the same or superior product;
b) repair the product.

PROMISE shall not be liable for the cost of procuring substitute goods, services, lost profits, unrealized savings, equipment damage, costs of recovering, reprogramming, or reproducing of programs or data stored in or used with the products, or for any other general, special, consequential, indirect, incidental, or punitive damages, whether in contract, tort, or otherwise, notwithstanding the failure of the essential purpose of the foregoing remedy and regardless of whether PROMISE has been advised of the possibility of such damages. PROMISE is not an insurer. If you desire insurance against such damage, you must obtain insurance from another party.

Some states do not allow the exclusion or limitation of incidental or consequential damages for consumer products, so the above limitation may not apply to you.

This warranty gives specific legal rights, and you may also have other rights that vary from state to state. This limited warranty is governed by the State of California.