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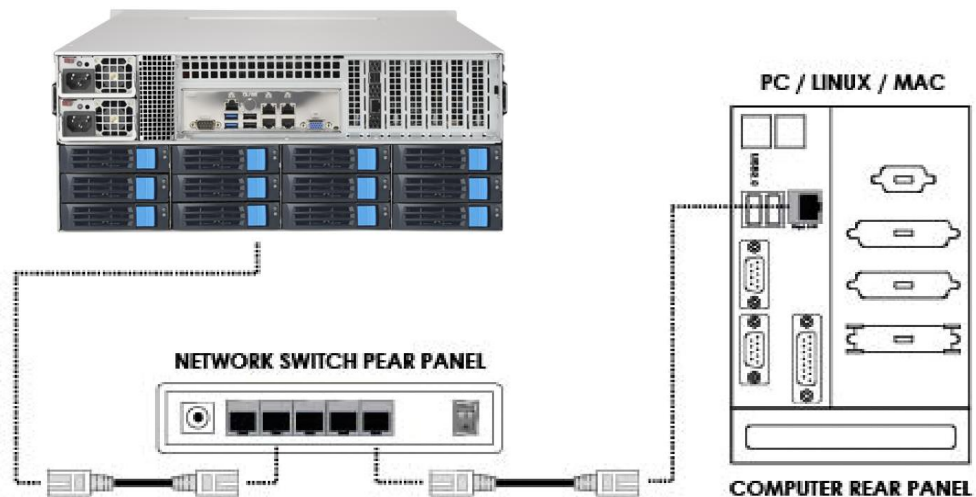
HARDWARE INFORMATION

PACKAGE CONTENTS

EliteNAS Storage unit x1
Power Cords x2
Manual / CD x1
Removable Tray Modules (Screws Included) - For EN208L12 x8
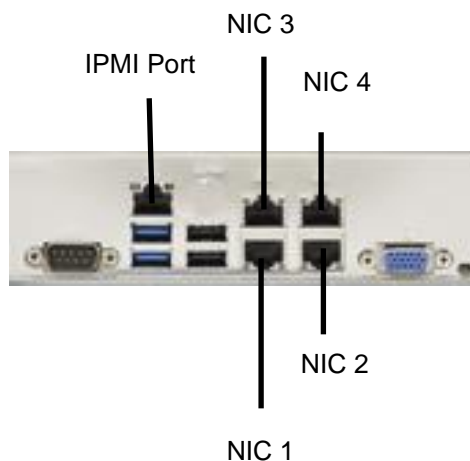For EN212L12 x12
For EN316L12 x16
For EN424L12 x24
For EN436L12 x36

NOTE: Please contact Sans Digital in case of missing or damaged items.
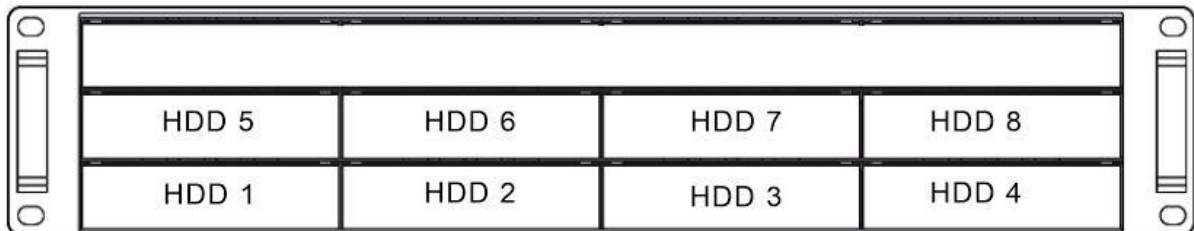
HAREWARE CONNECTION DIAGRAM

EN436L12 Example

Backplane Details

HARD DRIVE INSTALLATION

1. Push the Blue button on the right-side of the hard drive tray to the left releasing the hard drive tray handle.
2. Pull on the tray handle to remove the tray from the enclosure.
3. Place a hard drive into the tray and line it up with the holes on the hard drive tray.
4. Fasten the hard drive to the tray using the provide screws and a Philips screw driver.
5. Place the tray back into the enclosure and lock the tray by pushing in the tray handle until it clicks into place.

HARD DRIVES LOCATION DIAGRAM

EN208L12

HDD 5	HDD 6	HDD 7	HDD 8
HDD 1	HDD 2	HDD 3	HDD 4

EN212L12

HDD 2	HDD 5	HDD 8	HDD 11
HDD 1	HDD 4	HDD 7	HDD 10
HDD 0	HDD 3	HDD 6	HDD 9

EN316L12
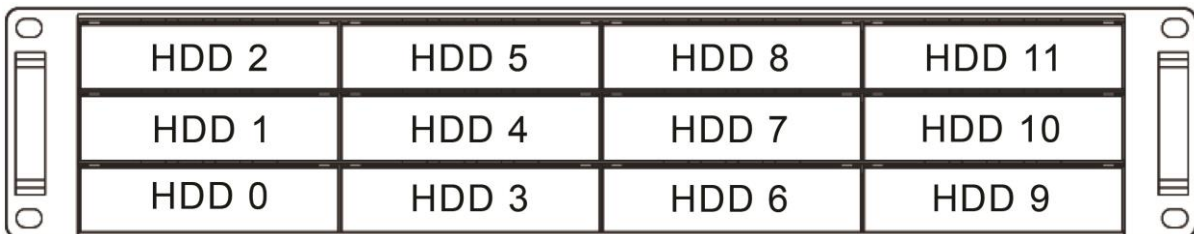
HDD 3	HDD 7	HDD 11	HDD 15
HDD 2	HDD 6	HDD 10	HDD 14
HHD 1	HDD 5	HDD 9	HDD 13
HDD 0	HDD 4	HDD 8	HDD 12

EN424L12

HDD 5	HDD 11	HDD 17	HDD 23
HDD 4	HDD 10	HDD 16	HDD 22
HDD 3	HDD 9	HDD 15	HDD 21
HDD 2	HDD 8	HDD 14	HDD 20
HDD 1	HDD 7	HDD 13	HDD 19
HDD 0	HDD 6	HDD 12	HDD 18

**EN436L12 -
FRONT**

HDD 5	HDD 11	HDD 17	HDD 23
HDD 4	HDD 10	HDD 16	HDD 22
HDD 3	HDD 9	HDD 15	HDD 21
HDD 2	HDD 8	HDD 14	HDD 20
HDD 1	HDD 7	HDD 13	HDD 19
HDD 0	HDD 6	HDD 12	HDD 18

BACK

HDD 2	HDD 5	HDD 8	HDD 11
HDD 1	HDD 4	HDD 7	HDD 10
HDD 0	HDD 3	HDD 6	HDD 9

DEFAULT SETTINGS:

> LAN Port#1 IP address: **DHCP**
> Administrator Username: **root**
> Password: **0000** (4 zeros)

INITIAL SETUP – Assigning IP to the Unit

1. Connect the NAS unit to your network (connect the RJ45 network cable to the LAN port 1 as shown in the diagram below), power the unit on and allow it approximately two (2) minutes to boot up.

NIC 1
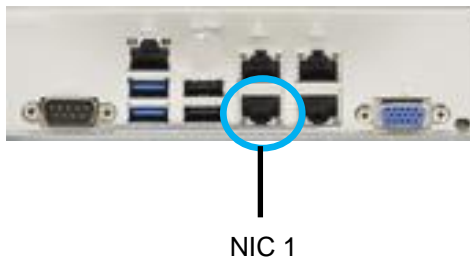
2. Go to a computer that connected to the same network as the NAS unit. Insert the included CD into the CD-ROM drive of the computer. Copy the "NAS-Finder.exe" to the computer and run "NAS-Finder.exe" to locate the NAS unit. This software will allow you to assign an IP address to the NAS unit.

3. After executing the NAS-FINDER program, a box will appear with the main menu.
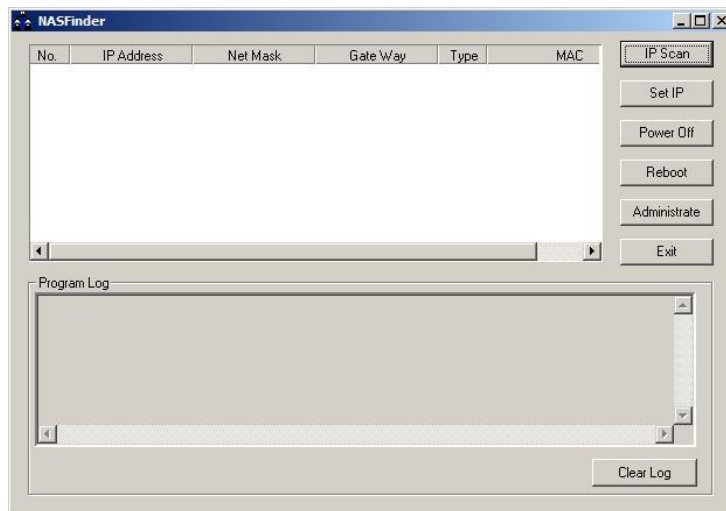
4. To view client (NAS unit) information, press the IP Scan button. The dialog box will display each detected NAS unit along with their network settings. A number is assigned to each detected unit, starting from #1. In the example below, Client #1, an EliteNAS unit is detected, with IP address 192.168.0.200.
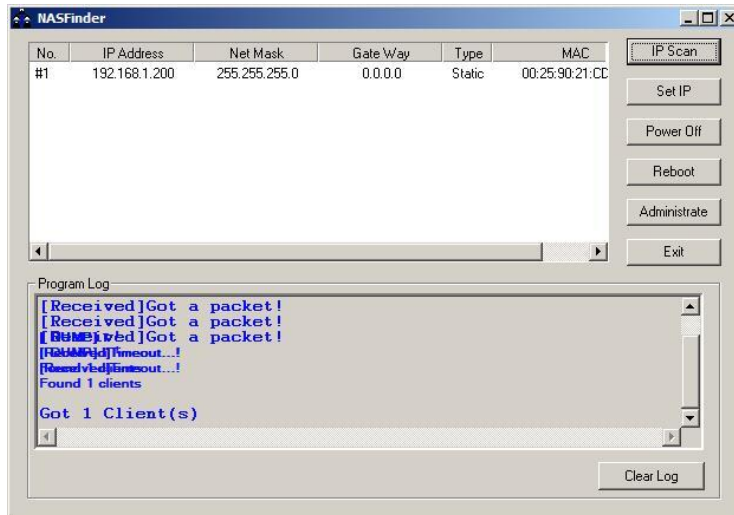
NOTE: Information, such as MAC address, IP address, NETMASK and etc, may be different from system to system.

NOTE: DHCP is pre-defined for LAN port-1. DHCP is used to quickly assign a local IP to the NAS unit. Changing the IP address to a static IP address is strongly recommended for daily operations.

You may change the IP once you have logged in under the Network -> TCP/IP Tab.

Console Login – Assigning IP to the NAS from the Console

If the NAS unit could not be detected via the NAS-Finder Utility, console login could be used for detection by conneting a keyboard and monitor to the NAS unit. (**Note: IPMI also available. For detail, please refer the last section of this manual.)**

NIC 1

USB Keyboard

Monitor
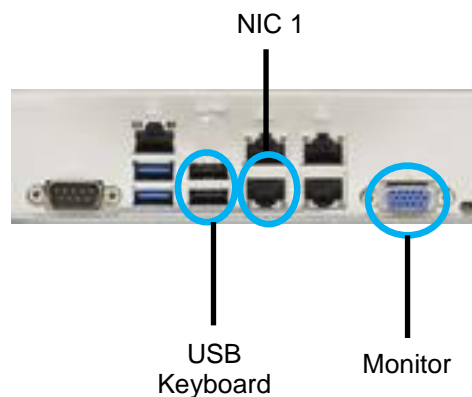
Power on the NAS unit and command line interface will prompt the user to enter a username and a password. The default settings are as below:

Username: root
Password: 0000

1. To assign an IP address to LAN Port-0, type the following:

    #ifdown eth0
    #ifconfig eth0 **10.1.1.100**
    #ifconfig eth0 netmask **255.255.255.0**
    #ifup eth0

The above command will assign the LAN Port IP to: 10.1.1.100 and assign Netmask to: 255.255.255.0. Change the IP address and network mask (numbers in bold) to your network settings.

2. To display current Gateway setting, type the following:

   #route

   To assign a Gateway address to LAN Port-0. type the following:

   #route add default gw **10.1.1.1**

   The above command will assign the Gateway address to 10.1.1.1. Please change the Gateway address (numbers in bold) to your network setting.

Web Login (http/https Login)

Once the IP address has been set, you could now access the Administrator GUI remotely. In a web browser, type in the assigned IP address (or simply type: 'EliteNAS') and enter the following username and password:

   User ID: root
   Password: 0000

Volume Management

Before Getting Started

1, **Assign IP to the EliteNAS unit**, please follow the quick start guide and setup using NAS-Finder utility.

2, **Connect the NAS from Web GUI**, if you have problem to connect, make sure the **Java Runtime** is installed. It allows the managing station (such as your laptop) to communicate with the NAS during NAS reboot, and gives the accurate countdown to auto-reconnect with the Web GUI. Java Runtime can be found in the manual CD.

3, From your managing station, open up the Web Browser, and type in the IP address which you defined from the **NAS-Finder** in such as: **192.168.1.128**
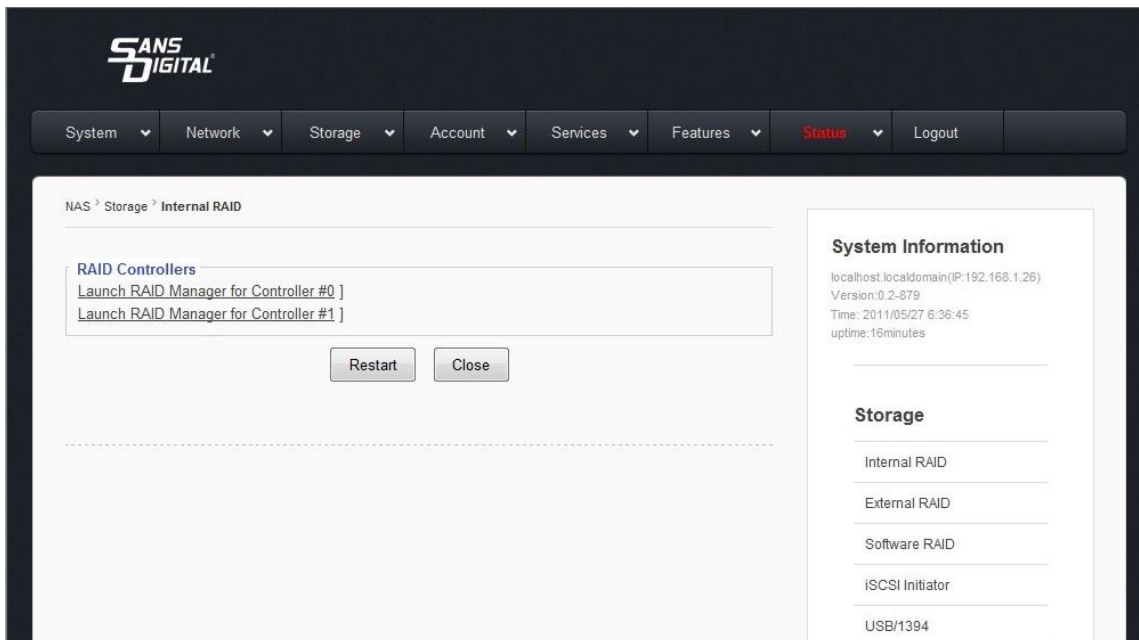
   Login ID: root
   Password: 0000

Setup Volume Sharing

Step-1: **Select "Storage" -> Internal RAID**

Step-2: **Select the controller for creating the RAID. In this example, you have 2 controllers. Please select the controller accordingly.**

⚠ Note: For more details on the RAID controller, please refer to the **\MANUAL\RAID_User-Guide** on the CD.

This will bring up the RAID controller GUI.

Default RAID Web GUI Login:

User ID: **admin**
Password: **0000**

The RAID controller card setup interface will open a new window. Please create the volume by the following:

A, Create RAIDset Group by select "RaidSet Functions" -> "Create Raid Set"
B, Create Volume(s) set by select "VolumeSet Functions" -> "Create VolumeSet"

⚠ **Note:** If the volume size is Greater Than 2TB, please select "64bit LBA" option.

C, Volume Initialization will start now. The process will take hours before it finish. Alternative, you can use background initialization, which allow you to use the volume while initialization.
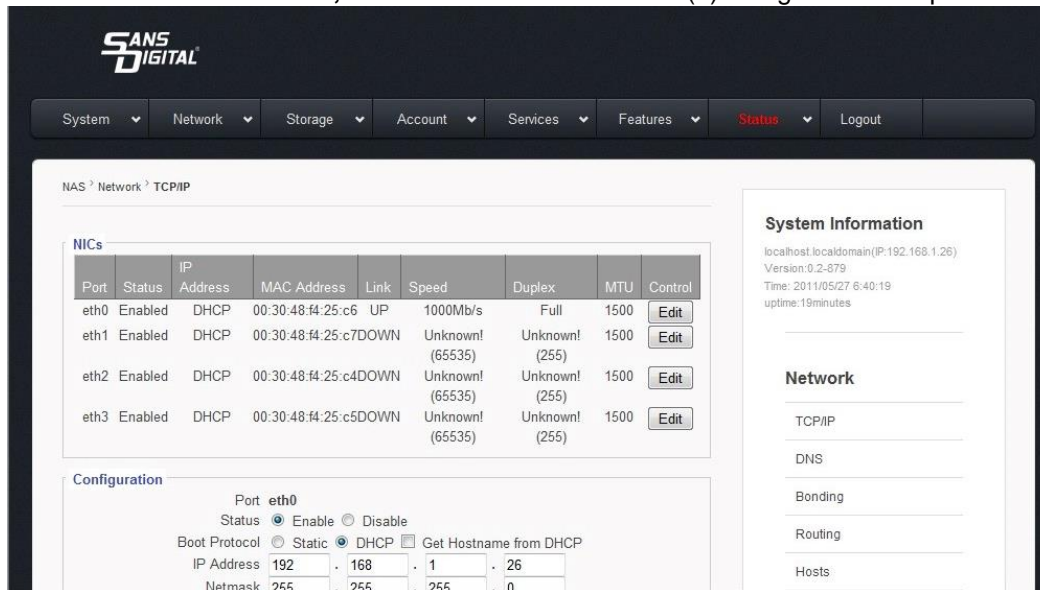
After Volume created, please close the RAID controller windows and click "**Restart**" for the volume(s) to take effect.
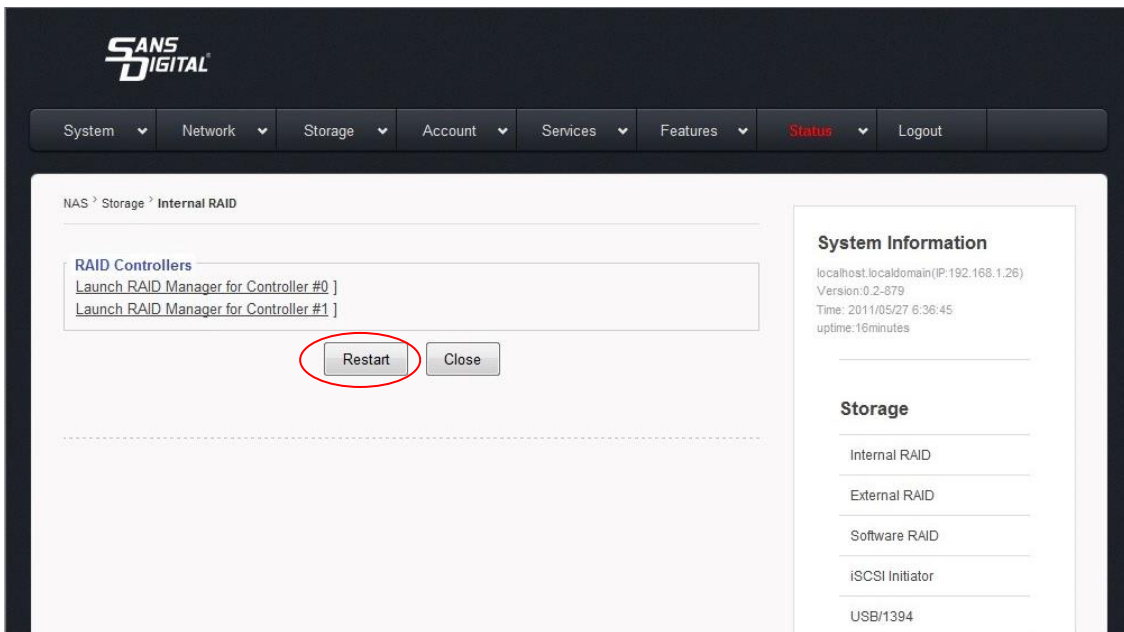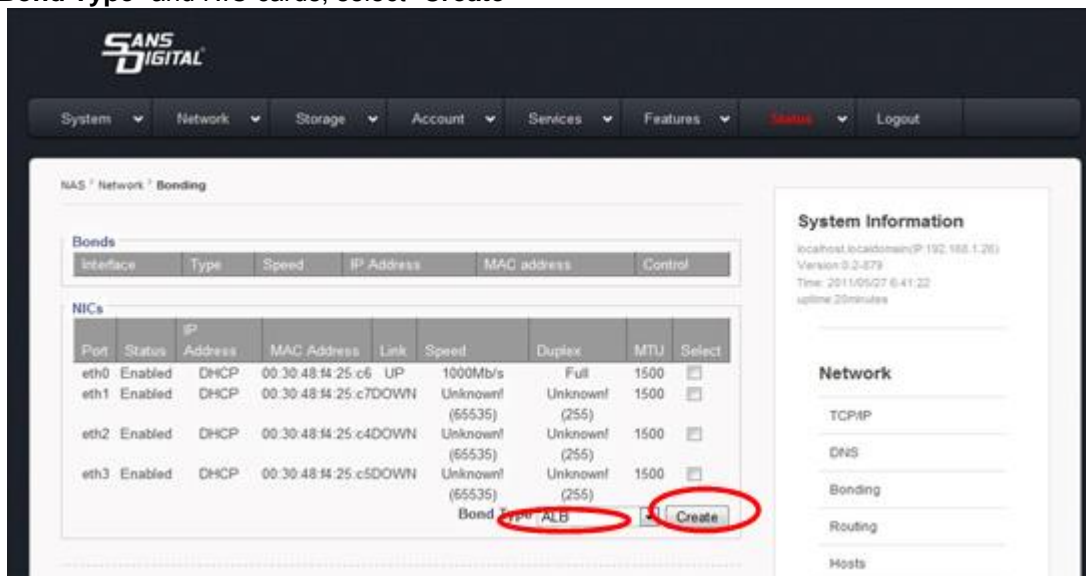

Note: For more details on the RAID controller, please refer to the **\MANUAL\RAID_User-Guide** on the CD.

Step-3: Setup Network Interface, bonding and Network Services

1, **After the EliteNAS restarted, Select "Network" "TCPIP"** (1) Assign IP to NIC ports

2, Configure NIC ports Bonding (teaming) Mode under "**Network -> Bonding**". After select the "**Bond Type**" and NIC cards, select "**Create**"

3, Enable/Disable Network services/protocols under their Networking Section. You can choose from the following:

Service -> SMB / CIFS - Workgroup/Domain/ADS service for Windows clients
Service -> NFS – NFS service and NIS Service
Service -> AFP / AppleTalk – AFP Service
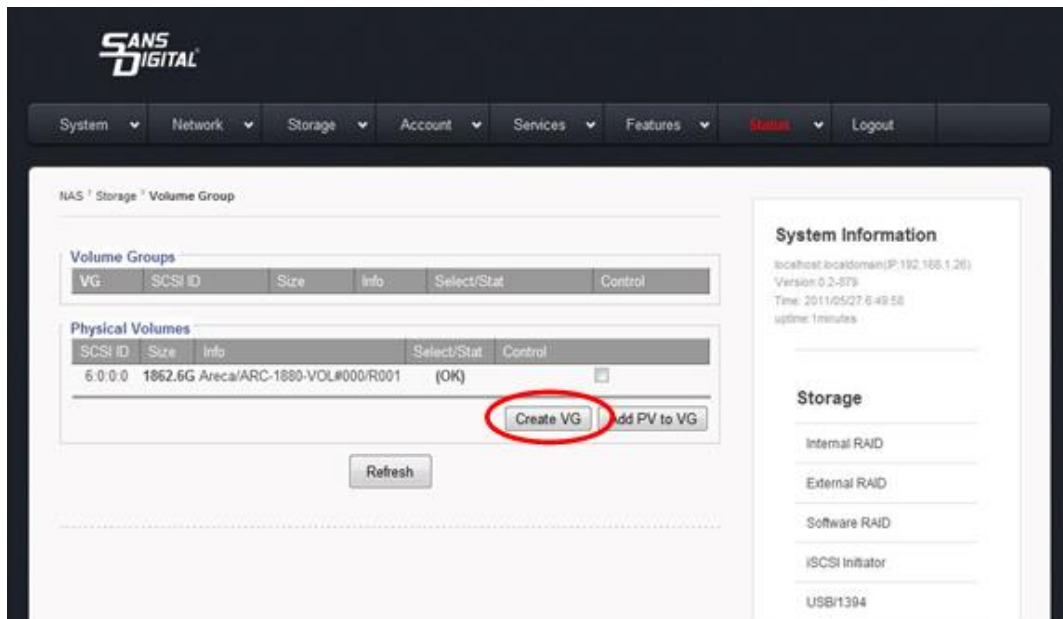**Service -> iSCSI** – iSCSI Service
Feature -> DHCP – Enable DHCP services
Feature -> FTP – Enable
FTP Services

By default, CIFS service is enabled, if you want to disable it, please refer to the NAS-Administrator Guide for detail.

Step-4: Convert Raw Volume (RV) to Physical Volume (PV) and Logical Volume (LV)

Select "Storage Manager", "Volume Group Manager"

PV – Physical volume; It is the Volume that EliteNAS writes the signature on and allow to create Logical Volume.

LV – Logical volume; Network Shares or iSCSI Target Volumes will be built on top of it.

After you created the RAID Volume, there will be a **PV** available. Put a check mark on the "**OK**", and click "**Create LV**". Select **"OK"** to confirm.

Step-5: Setup Logical Volume (LV)

Select "Storage" -> "Logical Volume". LV is the NAS share folder, or the iSCSI target. Enter the desire setting for the NAS setting, such as Share Name, Sizes and description and press **"Create".**

⚠ **Note**: the **Volume-Name** (LV name) will be your network share name. The **Volume size** (LV size) will be your network share size.
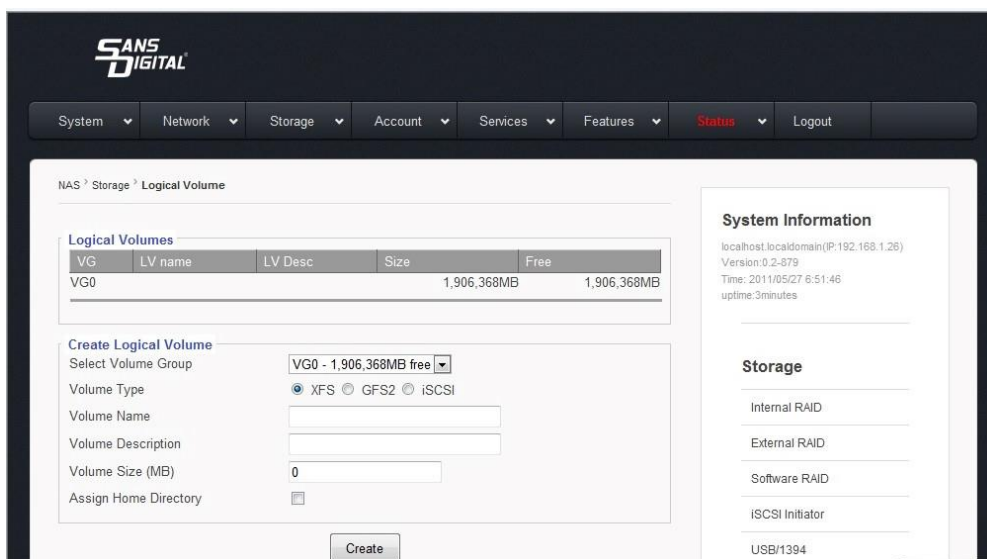
After the Logical Volume setup, the unit is ready to start sharing. The following example will allow administrator to create and share under Microsoft Windows Workgroup and Mac (AFP) Clients environment. More information on different environments can be found **MANUAL\NAS_ADMIN_Guide.**

1, Windows Workgroup Client and Mac Clients User Setup

Select "Account", "Local User", Create Users

⚠ **Note:** This is for Windows Workgroup clients (who is not a Domain user or ADS user), and also for Mac clients only. Domain or ADS user will requires to setup the Domain / ADS information under **"Account", "ADS"**

2, Select "Service" -> "SMB/CIFS"

A, Pick a Volume (Network Share), and click **"Edit"**
B, Assign the desired user to the "Assigned User List".

⚠ **Note:** By assigning a user specifically to the "Assigned User List", it will deny all other users who are not on the "Assigned User List".

⚠ **Note**: "**Read/Write**" =/= "**Full control**". User with "Read/Write" privilege can read and write files in the volume/share, but the user can not delete the file(s).

Please restart the unit after the first user setup to take the effect.
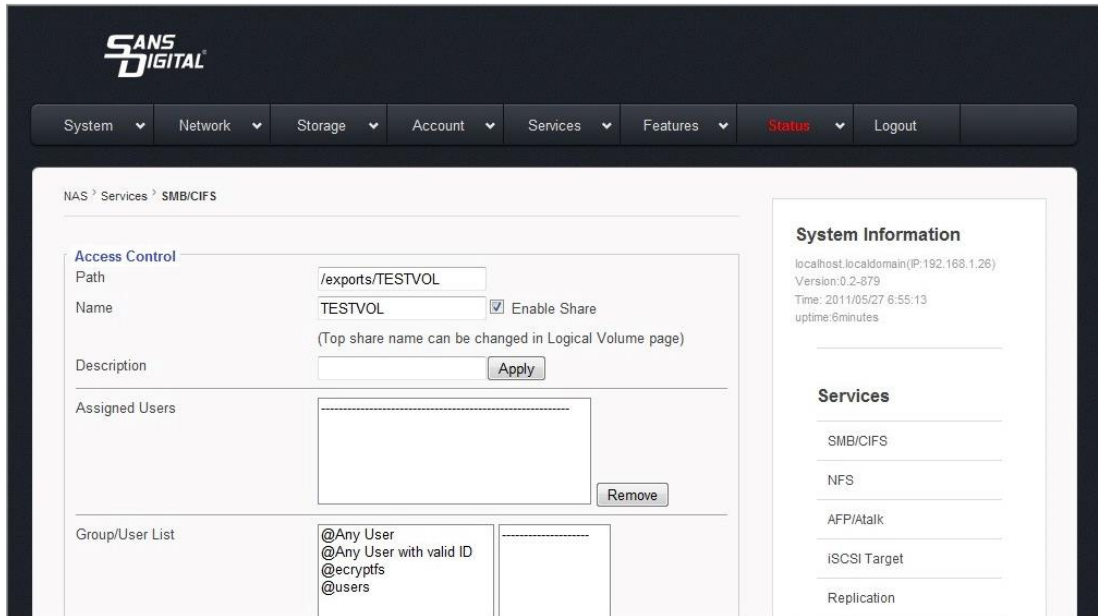
3, Access the Share/Volume on the NAS from Windows Client

From a Windows Client, launch the **Windows Explorer**
AT the Address Bar, type: \\IP\vol_1   (such as: \\192.168.1.128\vol_1) or \\EliteNAS\vol_1

Where IP (192.168.1.128) is what you assigned to the NIC on the NAS, and "vol_1" is the volume/share name you created during **Step5, Setup Logical Volume (LV)**.

The unit is sharing a Logical Volume to client. If more sharing is required, please repeat **Step-5, Setup Logical Volume (LV)**.

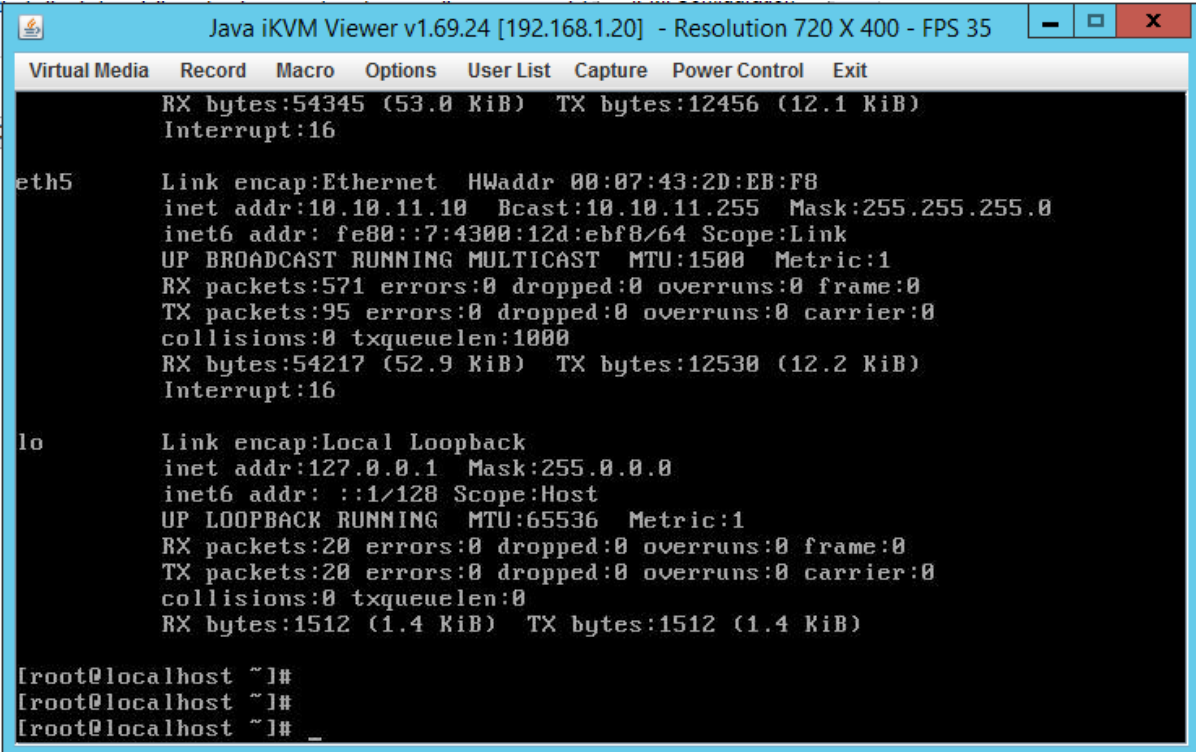| STEP #1 **Locate the NAS & Assign IP**	Execute "NAS-Finder.exe" to locate the NAS	Enter "2" to display default NAS info (IP)	Use Web Browser to point to the IP	Login and move to "Network Setting"	Assign Static IP to NIC-0

STEP #2 **Create RAID Volume**	Go to "Storage Manage" –> "RAID Manager"	Create RAID array	Wait for initialization to finish (It may take 3 - 8 hours depending on the capacity)

STEP #3 **Create Logical Volume**	Go to "Storage Manage" –> "Volume Group Manager"	Select "RV" Create "PV" from "RV" (RV = Raw Volume PV = Physical Volume)	Go to "Storage Manager" –> "Logical Volume Manager" Provide a Name, Select FileSystem "XFS" or "iSCSI" Define volume size/capacity Click "Create"

STEP #4 **Create Users & Access Rights**	Go to "User & Access" –> "Local User Management" Create User(s)	Go to "User & Access" –> "Access Control - Microsoft" Select the Volume Select the User/Group Assign Access Rights	Perform "Access Control - Local" later if you need to for detail ACL controls.

STEP #5 **Map the Network Share**	Go to a network client	Open Windows Explorer or "My Network Place"	In the address bar, key in: \\IP_of_the_NAS	Map this network share with a Drive Letter

REPLACE LOCAL KEYBOARD AND MONITOR – IPMI and SSH/TELNET

IPMI – Intelligent Platform Management Interface

IPMI is an IP and WEB based management interface allowing the NAS unit to remote power on, power down, reset as well as remote control using Console Redirection. Console Redirection replace local keyboard and monitor, using WEB based interface instead of physically keyboard and monitor connection, to allow administrator remotely access the NAS's CLI as if they are in front of the unit.
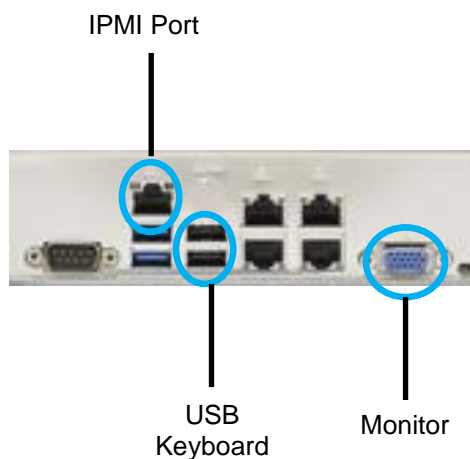

Each EliteNAS L12 series equipped with a dedicated IPMI port. To use IPMI feature, you will need to connect the IPMI port to your network, and setup IP address.

To enable IPMI:

1, Connect keyboard and monitor to setup IP address in the BIOS. Connect IPMI Port to your network switch. It is recommended to separate to have different subnet than your data network.

2, Power on the NAS unit, press <Del> to go into the BIOS. The key legends is on the right hand side of the panel, and you can use up, down, left, right arrow keys to navigate.

3, Go to IPMI submenu, select BMC Network Configuration.

4, Change to "Yes" for system BIOS to automatically reset the following IPMI settings upon next system boot.

5, **Configuration Address Source** (**Available when the item above - Update IPMI LAN Configuration is set to Yes).** Use this item to select the IP address source for this computer. If Static is selected, you will need to enter the IP address to the system manually in the field. If DHCP is selected, the units will search for a DHCP (Dynamic Host Configuration Protocol) server attached to the network and request the next available IP address for this computer.

6, IP address and other information will show in the BIOS, or when you reboot. **This is the IP address that use on the WEB interface for log-in.**

Note: JAVA Runtime is required. Please install it before the next step.

7, Using a WEB browser in the same IPMI network, type the IP address. The log-in screen will appear with the following default username and password:

Default Username: ADMIN (case sensitive)
Default Password: ADMIN (case sensitive)

Please Login

Username ADMIN

Password •••••

login

8, After log-in, you can Power On, Power Down and Reset the unit remotely. You can also use Console Redirection for CLI management to replace local console login using monitor and keyboard.

SSH & Telnet Login

By default, SSH and Telnet logins are enabled. SSH and Telnet logins are used to replace local console login using monitor and keyboard. In order to enable or disable these features, login using a local console and type the following:

To Disable Telnet:

```
#mv /etc/xinetd.d/telnet /root
#service xinetd restart
```

To Disable SSH:

```
# service stop sshd
# chkconfig --level 345 sshd off
```

To Enable SSH:

```
# chkconfig --level 345 sshd on
# service start sshd
```

To use SSH or TELNET, a client program is required. PUTTY is the recommended application for SSH and TELNET.

Please download PUTTY at: http://www.putty.org/