

This document provides installation steps for racking, cabling, and setting up the Nexsan UNITY™ NV6000 Storage System, and cabling all Nexsan storage components for power and data/host connectivity. For additional documentation please visit <http://www.nexsan.com/support/support-unity/>

### Taking delivery

Your UNITY™ shipment includes the UNITY™ NV6000. Check to ensure no damage has been sustained to the packaging in transit. If anything appears to be damaged, you should file a damage claim with your reseller.

### Hardware overview

The main components of the UNITY™ NV6000 are shown in these front and rear view diagrams:

Front view



Rear view




Item	Name	Description
A	Drawer latch	Top left and right. To slide HDD drawer out of storage enclosure.
B	Drawer lock	Middle left and right. Locks the drawer into the chassis.
C	Rack lock	Bottom left and right. Locks the system into a rack.
D	Power button	Main power to add or remove power supply to the server.
E	Status LEDs	Network activity, heat, HDD, fan, and power conditions.
F	UID Button/LED	To help locate the server in racks and server banks.
1	Power supply module	2,600W redundant power supply with C19 plug.
2	1x PCI-E 3.0 x16 HHHH	Slot3, from CPU2. HHHH = half height, half length.
3	Fan	6x Hot-swap counter-rotate fans.
4	Serial port	COM port for serial communication support.
5	VGA Port	For VGA display or monitor.
6	1x PCI-E 3.0 x16 HHHH	Slot2, from CPU1.

Item	Name	Description
7	1x PCI-E 3.0 x8 HHHH	Slot1, from CPU1.
8	IPMI LAN port	For remote access, monitoring, and management.
9	USB 3.0 ports (2)	Can support USB-enabled devices such as keyboard, mouse, USB/SATA DVD drive, or flash drive.
10	Dual RJ45 10GbE LAN Ports	<ul style="list-style-type: none"> <li>• Top port, LAN2: Management Interface (nx99).</li> <li>• Bottom port, LAN1: Primary data network interface (nx0). If additional NIC HBA is available, both interfaces are nx99.</li> </ul>

## 1 Prepare for installation

- A Carefully read safety notices on [page 8](#).
- B Ensure ahead of time that you have a suitable rack; see [Rack and enclosure specifications](#) on [page 8](#).
- C Ensure that you have a Phillips screwdriver.
- D Have someone assist you during installation.

 **CAUTION:** Acclimate new disk drives to room temperature for two hours before you install them.


## 2 Unpack the UNITY™ NV6000

- A Remove all the components from the packaging. Reach under the chassis to pull it free from the foam insert.  
Do NOT lift the UNITY™ NV6000 chassis from its packaging using the drawer handles or attached rails.
- B Place the components on an anti-static surface until you are ready to use them.

### UNITY™ NV6000 package contents

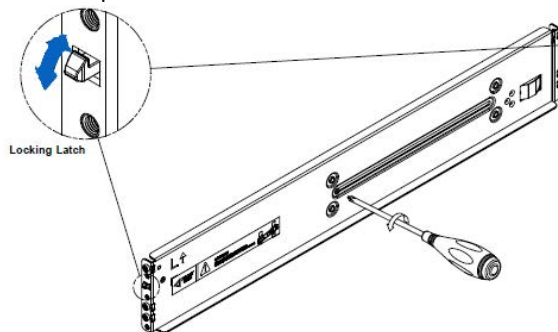
- One UNITY™ Storage System (with front bezel)
- 2 outer-rack rail assemblies (inner-chassis rails are already installed)
- 4 mounting screws with 4 washers to attach outer-rack rails to the rack (1 on the front and 1 on the back for both the left and right rail assemblies)
  - 2 long screws to secure the chassis to the rack from the front (attached to the chassis)
- Up to sixty SAS drives. (Check that the components included in your shipment correspond to your packing slip.)
- Two power cords
- One electrostatic discharge (ESD) wrist strap

## 3 Rack the UNITY™ NV6000

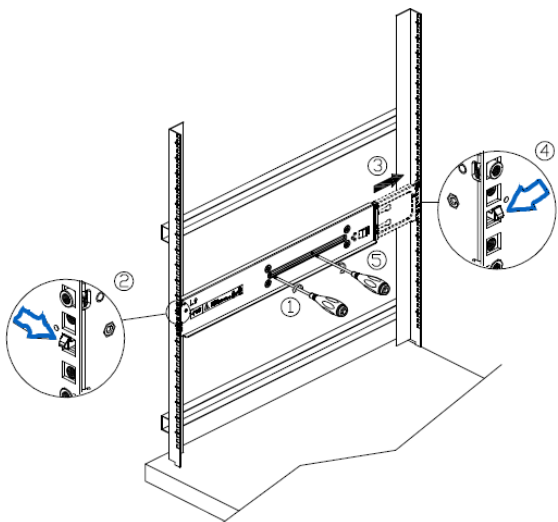
 **CAUTION:** Physical installation requires two people.

### ► Step 1: Install the rails onto the rack

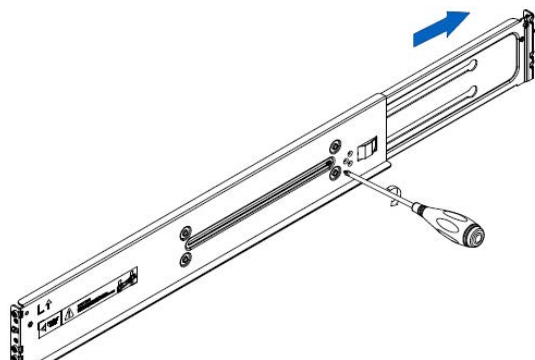
- A To mount the rails, first extend them by releasing the inner rails from the outer rails. Using a screwdriver, loosen the screws holding the inner rail in place inside the outer rail.



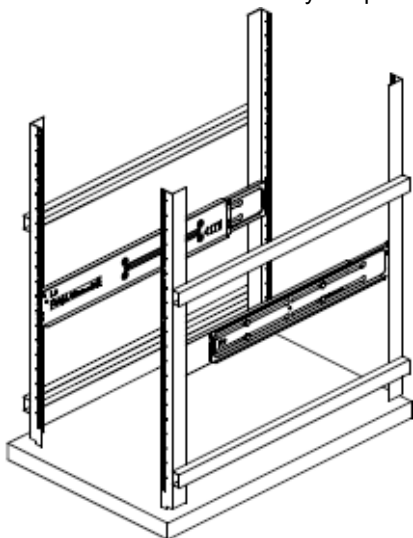
- B Mount the front end of the rail by pushing the outer rail latch through one of the square holes on the front of the rack.
- C Pull the inner rail out of the outer rail until it reaches the rear of the rack.
- D Mount the rear end of the rail by pushing the inner rail latch through one of the square holes on the rear of the rack. Take care to use the proper holes so that the rail is level.



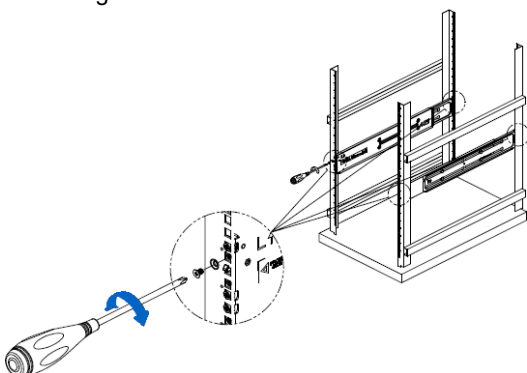
**E** Secure the length of the extended rail by tightening the screws into the holes closer to the inner rail.



**F** Repeat the preceding steps for the other rail, making sure it is mounted at the same height as the first installed rail so that they are parallel.



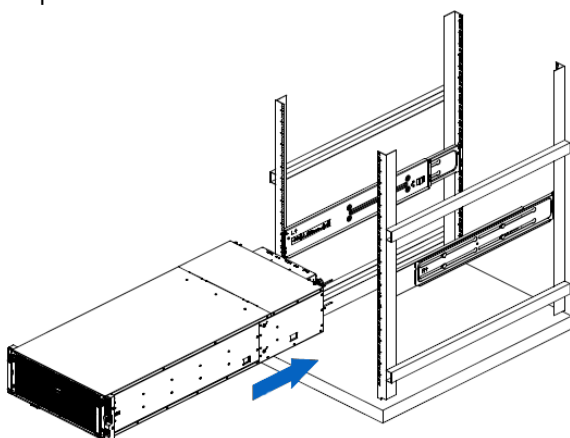
**G** Secure the rails to the rack by installing screws into the square holes on the front and rear of the rack aligned with the rail holes.



## ► Step 2: Installing the chassis into the rack

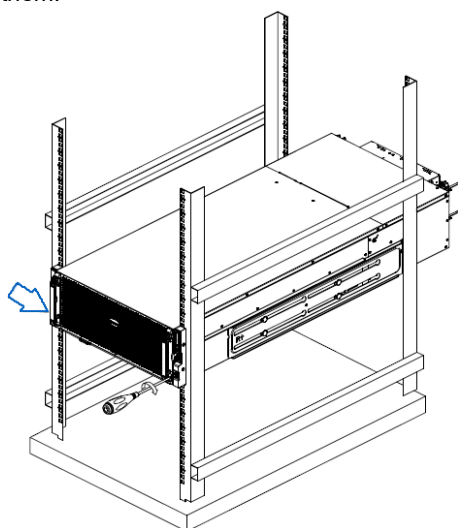
**A** Align the sides of the chassis with the front of the rails.

**B** Slide the chassis into the rails, keeping the pressure even on both sides.



**C** Push the chassis all the way into the rear of the rack until side brackets on the front of the chassis touch the front of the rack.

**D** Secure the front of the chassis to the front of the rack by tightening screws through the chassis bracket holes and the rack holes aligned with them.



## ► Step 3: Loading the HDDs into the chassis on a rack



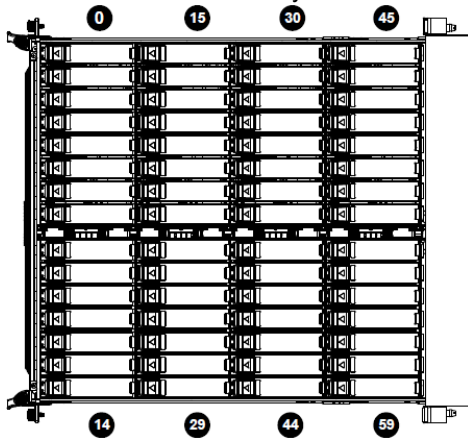
**CAUTION:** Put on the ESD wrist strap before starting:

**A** Slip the wrist loop over your hand (left or right), then tighten the loop against your wrist.

**B** Attach the clip end of the anti-static wrist strap to a properly grounded metal surface.

### Logical drive locations:

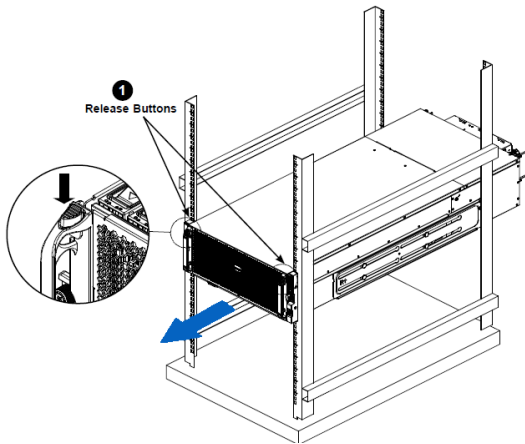
- HDDs are numbered from left to right when viewed from the front of the system.



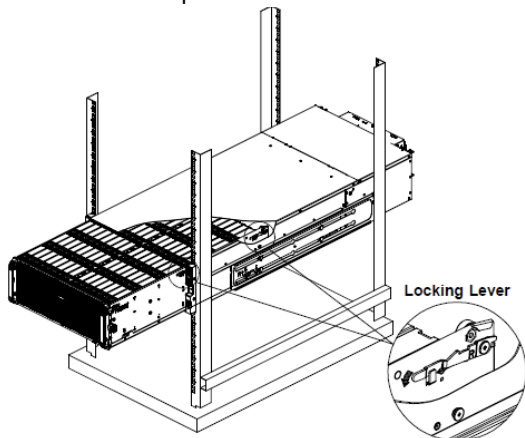
### Hard drive installation:

- The drives are mounted in drive carriers to simplify their installation and removal from the chassis.

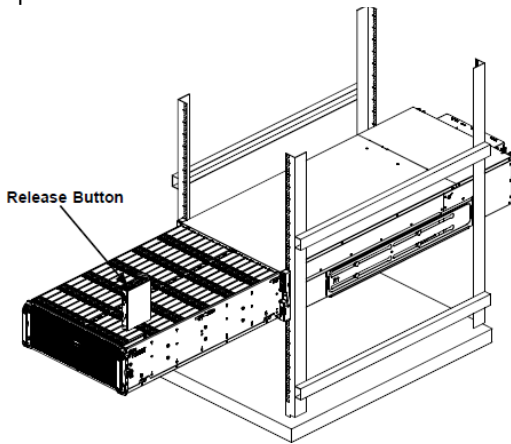
- A** Press the release buttons on both of the front handles downward simultaneously and pull the drive drawer handles forward from the rack.



- B** Pull open the chassis so that a locking lever on each side of the chassis aligns with the front of the chassis cover and front of the rack, then press the lever down on each side to lock the open part of the chassis in place.



- C** HDDs and their carriers can be loaded into the chassis, or removed from the chassis by pressing their release buttons to eject their handles and then pulling the drives out by the handles. Close the hard-drive carrier handle to lock the drive in place.



## 4 Connect the UNITY™ NV6000

This section describes the steps for connecting the network and power cables. See the connections diagram below.

### ► Step 1: Connect network cable to IPMI

- A** For remote access, monitoring and hardware management, plug an Ethernet cable into the dedicated IPMI LAN port, on back panel top right.
- B** Repeat this step on the second controller.

### ► Step 2: Connect peripherals & monitor (optional)

- A** Connect input devices such as keyboard and mouse using the USB ports.
- B** If required connect monitor to VGA port.

### ► Step 3: Connect the network cables

- A** For management access on the nx99 interface, plug an Ethernet cable into the on-board **TOP** LAN2 port on controller as shown.
- B** For data access on nx0, plug an Ethernet cable into the **BOTTOM** LAN1 Ethernet port (or if using an add-on Ethernet HBA, at minimum the bottom port must be connected).
- C** Repeat this step on the second controller.

### ► Step 4: Connect your power supply

- A** Each UNITY™ NV6000 PSU must be connected to your storage rack's source of power, for continuous power and controller connectivity.
- B** Using the two supplied power cords, connect each PSU to main power, making sure to fold down the power cord retaining clip over each one.

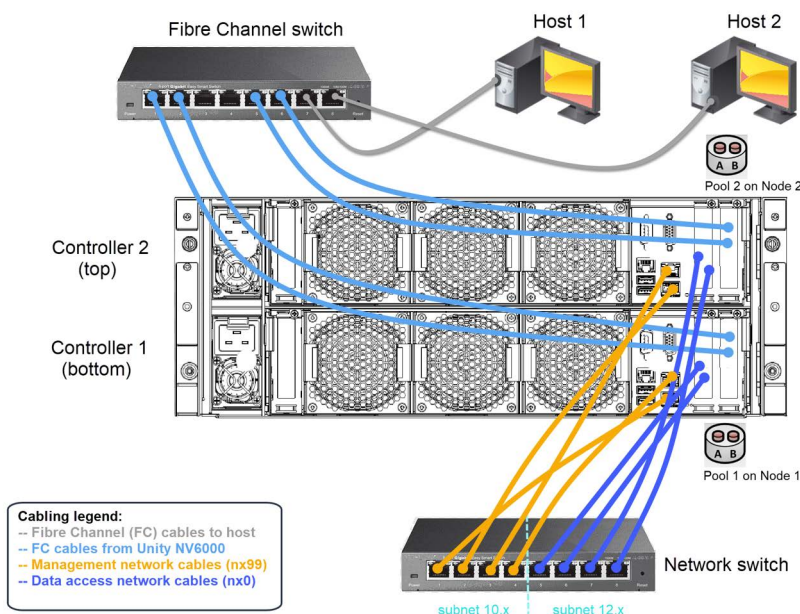


## ► Step 5: Connect to hosts

Under the required LUN (Logical Unit Number) mask configuration, when connecting the UNITY™ NV6000 to a Fibre Channel switch, each host has at least one connection to that switch, creating multiple paths to the LUN. For a given LUN, all the paths on


the owning controller are optimized and all the paths on the other controller are non-optimized.

File systems can be accessed from the virtual network interface, bound to the owning controller dynamically.



## 5 Power on UNITY™ components

### ► Step 1: Power on the UNITY™ NV6000

- Press and hold the power buttons located on the upper right front panel of the chassis until the power LEDs lights up. 
- Verify that the power LEDs on the back of right of the chassis are illuminated in solid green, to ensure that the controller nodes are receiving power and the power modules are functioning properly.
- Verify that the drive carriers LEDs are illuminated in green.

**D** If all LEDs indicate normal operation status, reattach the front bezel to the UNITY™ NV6000 main unit:

- Remove the bezel from its packaging.
- Hook the left end of the bezel onto the chassis.
- Fit the free end of the bezel onto the chassis.
- Turn the key lock at the right end of the bezel to the lock position to secure the bezel to the chassis.

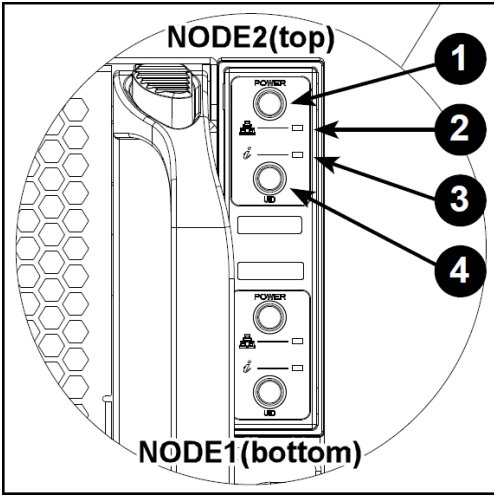
**IMPORTANT:** If a drive carrier activity LED does not light up, check to make sure the corresponding drive is properly seated in the chassis.

## 6 Monitor the UNITY™ Storage System

This section describes the front panel LEDs that help you to monitor the Nexsan UNITY™ Storage System.

### Control panel LEDs

The two control panels located on the front right side of the UNITY™ system have several LEDs. These LEDs provide you with critical information related to the corresponding node. See diagram and table below.



LED	Indication
-----	------------

**1** **Power**  
Indicates power is being supplied to the system's power supply module. This LED is illuminated when the system is operating.



**2** **NIC**  
Indicates network activity on the LAN port when flashing.



LED	Indication
-----	------------

**3** **Universal Information**

- Continuously on and red* Indicates:
  - an overheat condition has occurred.
  - an HDD(s) status has changed.
- Blinking red (1Hz)* indicates fan failure. An overheat condition, which may be caused by cables obstructing the airflow in the system or the ambient room temperature being too high. Check the routing cables and make sure that all fans are connected and operating normally. You should also check to make sure that the chassis covers are installed.
- Blinking red (.25 Hz)* indicates power failure. Check for a non-operational power supply. The second power supply module takes the load and keeps the system running, but the failed module should be replaced as soon as possible.



**4** **Unit ID (UID)**  
Used to turn on or off the blue UID LED to easily locate the server in racks and server banks. *Solid blue* indicates the UID was activated locally. *Blinking blue* indicates UID was activated remotely.



### Hard drive carrier indicators

Each hard drive carrier has two LED indicators: activity&status. The status indicator functions in RAID configurations. For non-RAID configs, it remains off.

Hard Drive Carrier LED Indicators			
	Color	Blinking Pattern	Behavior for Device
Activity LED	Blue	Solid on	Indicates a SAS drive
	Blue	Off	Indicates a SATA drive
	Blue	Blinking	Drive is actively being accessed
Status LED	Red	Solid on	Drive failed
	Red	Blinking at 1Hz	RAID is rebuilding
	Red	Blinking at 3Hz	Indicates a hot spare
	Red	Blinking at 4Hz	Locates a drive
	Red	Off	Idle

## 7 Configure the Management Interface (nx99)

Configure network settings for the management interface (nx99) using the nxadmin CLI (Command Line Interface).

**NOTE:** It is strongly recommended to configure the management interface (nx99) on a different subnet from the primary data network interface (nx0). In a flat network environment, it is acceptable to configure both interfaces on the same subnet.

## ► Configure the Management Interface (nx99) using the nxadmin CLI

- Connect to the UNITY™ NV6000 using input devices, see *Step 2: Connect peripherals & monitor (optional)* on page 4.
- When connected, type `nxadmin` to log on.
- Type the default nxadmin password: `PASSWORD` (all upper-case).
- Type `setip`.

```
Nexsan UNITY IP Configuration Utility
- Use the Enter key or the arrow keys to navigate between fields
- Use the Tab key to navigate between fields and buttons
- Selecting OK prompts the system to validate all IP settings
  even if changes were not made

Default Gateway      :
Domain Name         :
DNS Server 1       :
DNS Server 2       :
Management Interface (nx99)
  Controller 1 Physical IP :
  Controller 2 Physical IP :
  Management Virtual IP   :
  Subnet Mask             :
Primary Data Interface (nx0)
  Controller 1 Physical IP :
  Controller 2 Physical IP :
  Intersite Virtual IP    :
  Resource Group 1 Virtual IP :
  Resource Group 2 Virtual IP :
  Subnet Mask             :
```

- Type IP addresses for the management interface; use the Tab key to navigate between fields.  
**NOTE:** Do not set the network settings for the primary data network interface (nx0); you configure this interface in the UNITY™ System Configuration wizard.
- Tab to the `<Validate>` option and press Enter.
- Once validation completes, tab to the `<OK>` option and press Enter.

## 8 Set up the UNITY™ NV6000

### ► Start the initial setup

- Open Google Chrome.
- In the address bar, type the UNITY™ NV6000 Management Virtual IP address in the browser address bar and press **ENTER**.
- Read the terms of the license agreement.
- Click the **I accept the terms of the license agreement** check box and click the **Next** button to continue.

### ► Set the password for the UNITY™ Administrator

The UNITY™ NV6000 is shipped with the built-in UNITY™ Administrator account, `nxadmin`.

- Enter the new password and retype it to confirm, then click the **Set Password** button.

Set Unity Administrator (nxadmin) account password

Unity includes a built-in Administrator (nxadmin) account. This account has unrestricted access.

New Password:

Confirm Password:

SET PASSWORD

The UNITY™ System Configuration wizard opens.

### ► Step 1: Configure UNITY™ System properties

Enter the UNITY™ System information.

- Enter a **UNITY™ System Name**.
- Optionally, select a **Server Time Zone**.
- Optionally, select **UNITY™ CallHome** settings.
- Click the **Next** button to continue.

### ► Step 2: Configure network settings

- Enter IP addresses for the Primary Data Network Interface (nx0).

Properties Network Settings IPMI Settings Allocate Storage

Primary Data Network Interface (nx0) Management Interface (nx99) Gateway and DNS (for all network interfaces)

Controller 1 ( ES156190-001-01 ) Controller 1 ( ES156190-001-01 ) Default Gateway:

000.01.002.003 000.01.002.003 000.01.002.003

Controller 2 ( ES156190-001-02 ) Controller 2 ( ES156190-001-02 ) Preferred DNS Server:

000.01.002.003 000.01.002.003 000.01.002.003

Intersite Virtual IP: Management Virtual IP: Alternate DNS Server:

000.01.002.003 000.01.002.003 000.01.002.003

Pool Resource Group 1 Virtual IP: Subnet Mask: APPLY

000.01.002.003 000.01.002.003

Pool Resource Group 2 Virtual IP:

000.01.002.003

In the examples shown, with the exception of the subnet mask, the last digit of the network addresses increments from 0 to 10 (or 190 to 200). This practice is a useful standard if you need to manage multiple systems.

- Verify the Management Interface (nx99) IP addresses, ideally on a separate subnet.

**NOTE:** It is strongly recommended to configure the two management interfaces on separate subnets. In a flat network environment, it is acceptable to configure both interfaces on the same subnet.

- Verify the Gateway and DNS addresses for all network interfaces.

**NOTE:** The Default Gateway address should be in the same domain as the Primary Data Network (nx0).

- Click the **Next** button to continue.

### ► Step 3: Configure IPMI settings

This step prompts you to configure the Intelligent Platform Management Interface (IPMI) settings. To enable IPMI for UNITY™, you must connect a network cable to the dedicated IPMI GbE LAN port on the back top left of each controller of the UNITY™ Storage System enclosure.

- Enter IP addresses for Controller 1, Controller 2, and the IP Subnet and IPMI Gateway.

**B** Enter and confirm the IPMI password.

Properties Network Settings

IP Address (Controller 2):  
000.01.002.003

IP Address (Controller 1):  
000.01.002.003

IP Subnet:  
000.01.002.003

IPMI Gateway:  
000.01.002.003

Password:  
\*\*\*\*\*

**C** Click the **Next** button to continue.

## ▶ Step 4: Allocate storage

This step prompts you to allocate RAID storage.

II Settings Allocate Storage Verify Settings

ASSIGNED STORAGE SYSTEMS	REMOVE
NST5000X (2)	← REMOVE CONFIGURE
NSTvm (1)	← REMOVE CONFIGURE

**A** Click **Allocate** to assign the storage system to the UNITY™ NV6000.

**B** Click **Configure** to specify RAID settings. Recommended RAID set levels, number of RAID sets, hot spares, and volume names are preconfigured.

**C** Click the **Apply** button to apply the RAID settings and then repeat for the second controller.

**D** Click the **Next** button to continue.

## ▶ Step 5: Verifying configuration settings

In this step, review the summary of the settings you have set up.

- To change a configuration setting, click the step identifier at the top of the System Configuration wizard panel to go back to a specific step. For example, if you want to change the UNITY™ System name, click the Step 2 icon.
- To finalize the UNITY™ Storage System setup, click **Create**.

## ▶ Step 6: Applying configuration settings

The System Configuration wizard applies your settings, displaying the progress as the wizard configures UNITY™.

- To change a configuration setting, click the step identifier at the top of the System Configuration

wizard panel to go back to a specific step. For example, if you want to change the UNITY™ System name, click Step 2.

- When UNITY™ System configuration is complete, you can open the **Add Storage Pool** wizard, OR
- Click **No I'm finished** to close the wizard.

UNITY™ opens and displays the dashboard, where you can view Cluster Status, Events, Storage System statistics, Storage Pools, File Systems, and LUNs.

## ▶ What's next

Please see the *UNITY™ Setup Guide* included with your UNITY™ System for basic setup instructions for

- Authentication
- Adding a storage pool, file system and LUN
- Mounting an iSCSI LUN on a Windows client
- Mapping a CIFS file system to a Windows client

## ⚠ Safety notices

- This equipment must be installed and operated in compliance with local laws and regulations.
- Ensure that the ambient temperature at the installation is between 5°C (41°F) and 30°C (86°F). If the temperature at the site is not actively regulated, ensure that daily and seasonal temperature changes will not result in the ambient temperature going outside these limits.
- Always fully stabilize racks with wall anchors or stabilizing legs, or both, before mounting Nexsan storage enclosures on the rack.
- Situate the rack so that full air flow at both the front and the rear of Nexsan storage enclosures is possible.
- Ensure that the floor beneath the mounting rack has enough load-bearing capacity to support the rack and all mounted components.
- Always fully secure all rack-mounting hardware when installing Nexsan storage enclosures in a rack. Insufficient rack-mount support may allow the unit to fall onto other rack-mounted hardware or onto the floor, potentially damaging equipment or causing injury to nearby personnel.

## Rack and enclosure specifications

- 4U enclosure height. Rack must have square holes
- 6.9"/175mm (H) x 17.6"/447mm (W) x 34.1"/866mm (D).
- Gross weight 171lbs(77.3kg), all drives installed.

## Power requirements

- AC Input:
  - Voltage 200-240V. Current 15-12.5A max.
  - Frequency 50-60Hz.
- DC Output:
  - 2600W.
  - Voltages: +12V(216A max), 12Vsb(3.5A max)

# NEXSAN

Part number: P0450188. Rev: B. Release Date: December 2023.  
**Related Documentation:** Nexsan Unity™ Hardware Maintenance Guide, Nexsan Unity™ Software User Guide, Nexsan Unity™ Help, Nexsan Unity™ nxadmin CLI Reference Guide.

## Technical Support

By Email: [support@nexsan.com](mailto:support@nexsan.com)

By Web: <http://www.nexsan.com/support/support-unity/>

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