



# Gridstore Storage Node Quick Start Guide

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## Welcome

Congratulations on your new Grid! This Quick Start Guide supports v.3.5 software and will help you get your Gridstore set up and running in just three easy steps. It will also guide you through managing and maintaining your Gridstore product.

## Before You Start

It's a good idea to check system, network and other important requirements. It's also important to request access to the Gridstore Support Portal and get an account so that you have access to the Gridstore Support documentation and technical support.

## Checking Operating Systems Supported

Operating systems supported for the vController software include the following:

- Windows Server 2012 (Datacenter & Standard)
- Windows Server 2012 R2 (Datacenter & Standard)
- Windows 2008 R2
- Windows 7 and 8 (64-bit only)

Note: All windows clients accessing Gridstore storage must have Windows .NET framework 3.5 service pack 1.

## Checking Network and Other Requirements

Network and other requirements for the Grid include the following:

- All Gridstore Nodes participating must be connected to a VLAN.
- The switch should be configured to allow multicast at least within the same segment or vLAN of the network where the Gridstore HCA is connected.
- **Disable Internet Group Management Protocol (IGMP)**
  - Gridstore Storage Nodes rely on IP multicast traffic for Grid formation, management and node failure detection. It is critical that all Gridstore Storage Nodes have the capability to transmit and receive multicast traffic, both between the Gridstore Storage Nodes themselves and all connected servers / clients.
- DHCP is not required but highly recommended in the network segment. Without DHCP enabled, an administrator would have to connect a laptop to the same network segment for initial configuration unless multicasts are allowed to cross the segments.
- There should be no firewall between the Gridstore and the clients. If there is, please ensure that ports 11000-11002, 231-331, 11011 and 12011 are open. The Grid will add exceptions for Gridstore services on Windows firewall.
- Switch enhancement features, such as rate limiting, traffic shaping or policies and Storm Control, should be turned off.
- Turning on IEEE 802.3X Flow Control on your switch is highly recommended.
- Clients are required to be physically connected (aka "wired") to the LAN as opposed to wireless
- All Storage Nodes are required to be connected to a UPS.

**All Gridstore clients \*must\* monitor the UPS for power failure indications, and be configured to power down and execute a clean shutdown 5 minutes before the exhaustion of the UPS battery when a power failure is detected.**

## Checking Box Contents

Check the box of your Gridstore Storage Node to ensure it contains all components in the list below.

- A GS-2000-04 or GS-2100-12 Gridstore Storage Node, which includes 2 or 3 TB drives and comes ready to rack mount.
- Sliding Rails Kit (rack mount rails and parts)
- One or two 7 ft. power cord(s)
- Gridstore Welcome letter
- Gridstore Storage Node Quick Start Guide (This Document)

## Setting up the Grid

In this section, you will set up a Grid. Note that a Grid consists of at least three Gridstore Storage Nodes.


Note: If you are adding Gridstore Storage Nodes to an existing Grid, see 'Adding Gridstore Storage Nodes to an Existing Grid' in the *Gridstore User's Guide* instead.

## Set Up Gridstore Storage Nodes

In this first step, you will rack mount, connect and power on the Gridstore Storage Nodes in your Grid.

Note that each Gridstore Storage Node comes ready to rack mount (rails need to be installed on destination rack).

Note: You need at least three Gridstore Storage Nodes in your Grid.

1. Rack mount the Gridstore Storage Nodes in the appropriate location in your datacenter.
2. For each Gridstore Storage Node, connect one end of the supplied Ethernet cable into the back of the unit, and the other end of the Ethernet cable into a switch.
3. For each Gridstore Storage Node, connect the appropriate end of the power cord into the power connection at the back of the Gridstore Storage Node, and connect the other end into a power source.
4. Press the power button  on the front of each Gridstore Storage Node to power it on.

All Gridstore Storage Nodes display a solid green light. After the nodes have fully booted (in about 3 minutes), you will be ready to install the Gridstore software, which will enable you to configure, manage and connect to the Grid.

## Install Gridstore Software

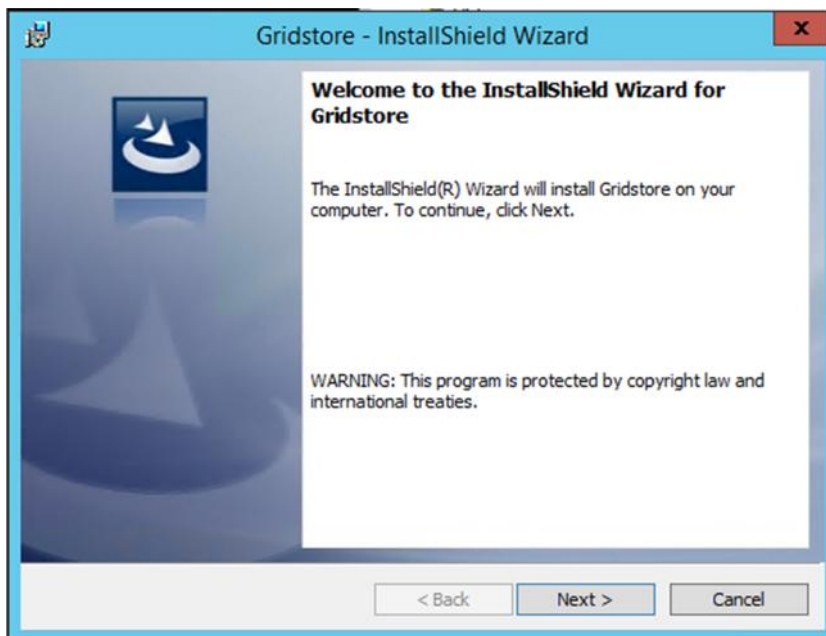
With three or more Gridstore Nodes connected to the network and powered on, you are ready to install Gridstore software. The installation file (.MSI file) for this software includes the vController software, which enables any supported host to access storage on the Grid, and GridControl, which is an MMC(Microsoft Management Control) snap-in used to configure and manage the Grid.

1. Request the Gridstore software from [support@gridstore.com](mailto:support@gridstore.com).
  - a. You should receive a download link for the requested software.
  - b. Click the Download link for the Gridstore software, and save the .MSI file to an appropriate location on your computer.

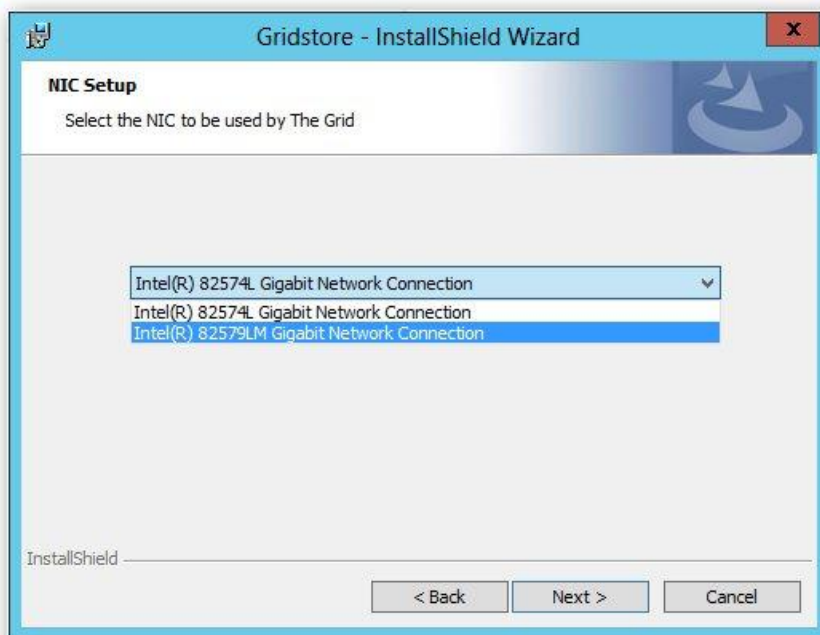
Warning! Do not rename the Gridstore installation file (.msi file). If you rename this file, it will fail to install.

2. After you have saved the installation file to your computer, double-click on it to install it on an administrative workstation.

The InstallShield Wizard opens



3. Click the Next Button and follow the instructions, clicking the Next button after each window until you reach the NIC Setup window.
  - a. Select the correct network interface that is used for access to the storage.



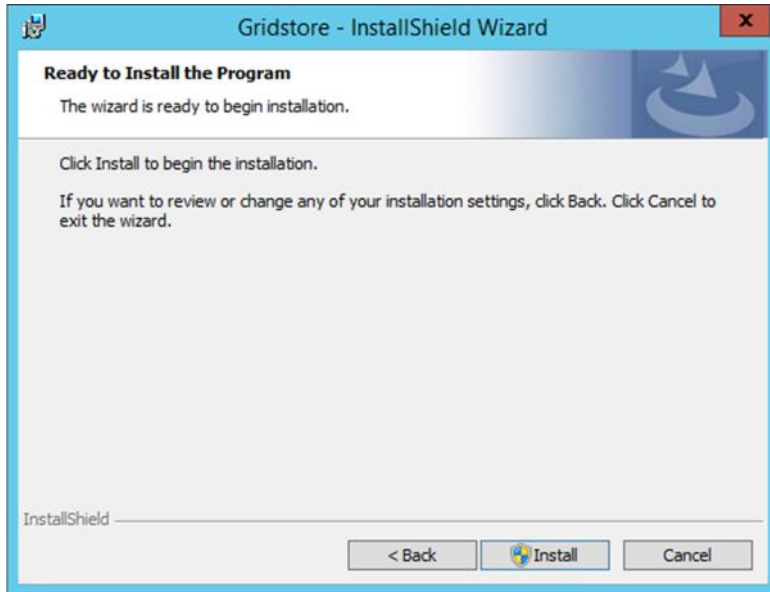
4. Click the Next Button and follow the instructions, clicking the Next button after each window until you reach the Install Setup Type window.

This window displays options for a complete or custom installation.

5. Select the **Complete** option.

Note: This option installs both the vController and GridControl MMC snap-in, which you need to configure and manage your Grid.

6. Click the Next button until you reach the Ready to Install Program window, and click the Install button.



Congratulations! You are ready to configure the Grid.

## Configure Gridstore Nodes

After setting up the Gridstore Nodes and installing the Gridstore Software, you are now ready to configure the Gridstore Nodes.

### Authentication

Gridstore 3.5 brings a new set of security features designed to keep your grid safe and secure.

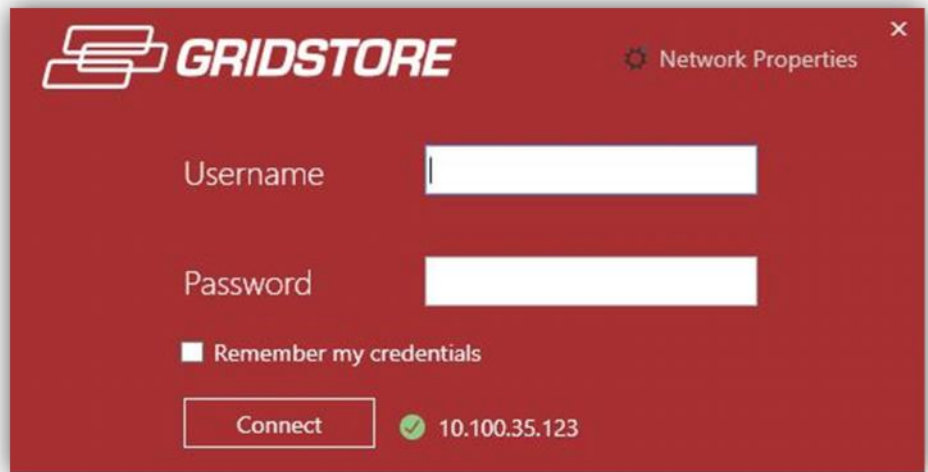
Now, whenever you launch GridControl, you will be prompted for a username and password to gain access to the Grid. Click the *Remember my credentials* checkbox if you wish for this host to remember your credentials.

Your Gridstore Customer Support specialist will help you identify the default username and password for your Grid.

In order to login, your local host must be able to communicate with the Storage Nodes in your grid. If you are able to communicate with at least 1 Storage Node, that Node's IP address will be visible next to the *Connect* button, accompanied by a green checkmark. If GridControl is unable to communicate with at least 1 Storage Node, then you will see *Disconnected From Nodes* next to the *Connect* button.



If GridControl fails to communicate with any of your Storage Nodes, verify that your Storage Nodes are turned on and are on a network accessible to your host. It may take a few minutes for your host to communicate with a Storage Node after rebooting or recently installing Gridstore on the Storage Node. Also verify that your Host's network properties are correct by visiting the Network Properties page, accessible on the top right corner of the login window. Gridstore Customer Support can help you setup up your Grid if you are having difficulty.



## Network Properties

Gridstore 3.5 verifies your credentials with the storage nodes within your grid, so it is important that your local host is using the correct network properties to be able to communicate with these storage nodes. The **Network Properties** page, accessible by clicking the *Network Properties* item at the top right of the login window, allows you to select the network card used by GridControl, as well as the IP address of the local host. The *Connect to IP* option allows you to submit your login request to a specific node; in most standard cases, you may ignore this feature.



Once you have made your changes, click the *Update* button. A popup dialog should appear in the upper right corner of the window notify you of the success of your updates. If you are having difficulty, please contact Gridstore Customer Support. Clicking the *Login Credentials* link at the top of the Network Properties page will take you back to the login page.

## Configuration

Once you have logged in to GridControl, the first thing you should do is configure your Storage Nodes' IP properties. Only once a Storage Node has been configured can storage can be allocated to that Storage Node in the form of vStores, vPools, etc. For this purpose, the first step once any Storage Node is added to the Grid, including when you are first setting up a new Grid, is to configure the newly added Storage Nodes. Storage Nodes are configured in the *Configuration* page.

### Initial Configuration

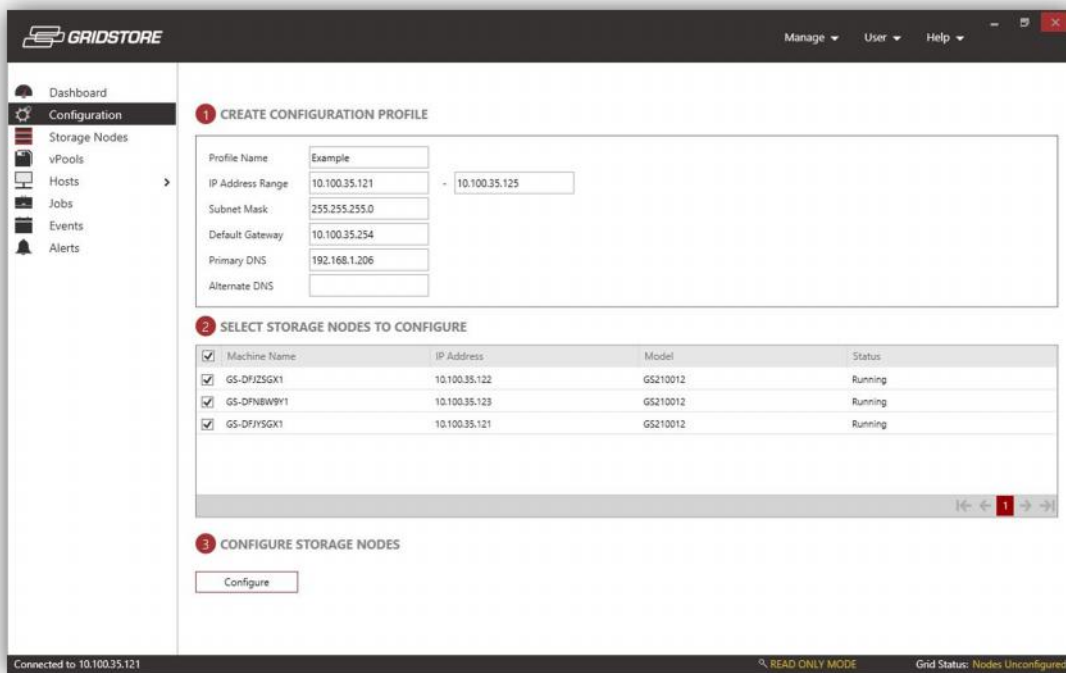
The initial configuration view of the Configuration page is visible when you first set up your Grid. At the top of the page, you fill in the settings for your configuration profile, including:

- Name of the profile\*
- Starting IP address\*
- Ending IP address\*
- Subnet Mask\*
- Default gateway
- Primary DNS
- Alternate DNS

\* = required

These settings will be assigned to your Storage Nodes. If a Storage Node already has an IP address in the IP address range (starting to ending), it will keep its IP address. An error will be thrown if there are not enough available IP addresses in the IP address range for all the Storage Nodes that are to be configured.

Once you have filled out the fields in the configuration profile, then select the Storage Nodes that you would like to configure. Click the *Configure* button to start the configuration. Once the configuration is complete, you are now ready to use the Grid!



The screenshot shows the GridStore Configuration page. The left sidebar contains navigation links: Dashboard, Configuration (selected), Storage Nodes, vPools, Hosts, Jobs, Events, and Alerts. The main content area is divided into three sections:

- 1 CREATE CONFIGURATION PROFILE**: A form with the following fields:
  - Profile Name: Example
  - IP Address Range: 10.100.35.121 - 10.100.35.125
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 10.100.35.254
  - Primary DNS: 192.168.1.206
  - Alternate DNS: (empty)
- 2 SELECT STORAGE NODES TO CONFIGURE**: A table with columns: Machine Name, IP Address, Model, and Status. All three rows are checked.

Machine Name	IP Address	Model	Status
<input checked="" type="checkbox"/> GS-DFJZSGX1	10.100.35.122	GS210012	Running
<input checked="" type="checkbox"/> GS-DFNBW9Y1	10.100.35.123	GS210012	Running
<input checked="" type="checkbox"/> GS-DFJYSGX1	10.100.35.121	GS210012	Running
- 3 CONFIGURE STORAGE NODES**: A single 'Configure' button.

The bottom status bar shows: Connected to 10.100.35.121, READ ONLY MODE, and Grid Status: Nodes Unconfigured.

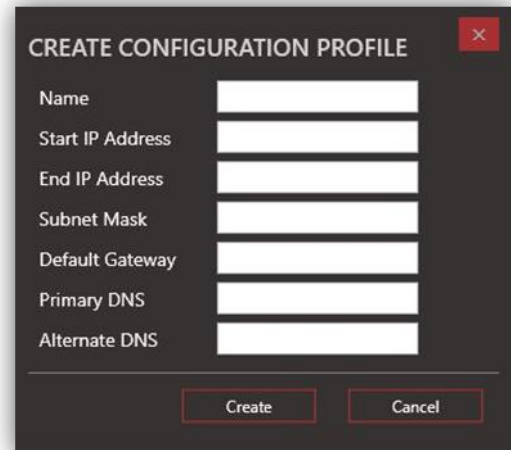
## Creating a Configuration Profile

To create a new configuration profile, open the *Manage* menu above the configuration profiles table in the Configuration Page and select the *Create* menu option. The *Create Configuration Profile* dialog will open, prompting you for the IP properties details of your new configuration profile.

The field forms include the following:

- Name of the profile\*
- Starting IP address\*
- Ending IP address\*
- Subnet Mask\*
- Default gateway
- Primary DNS
- Alternate DNS

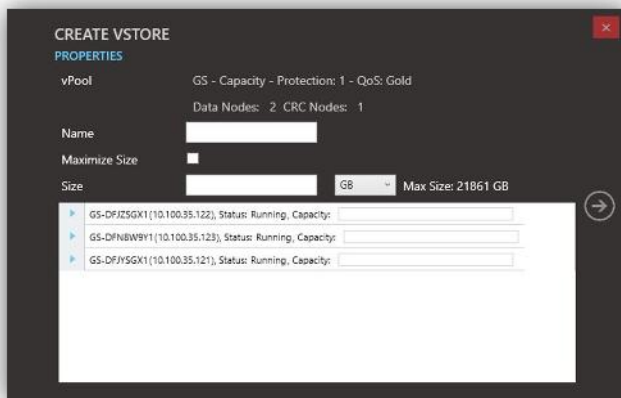
\* = required



After you have filled out the form, click the *Create* button to create the configuration profile.

## Creating a vStore

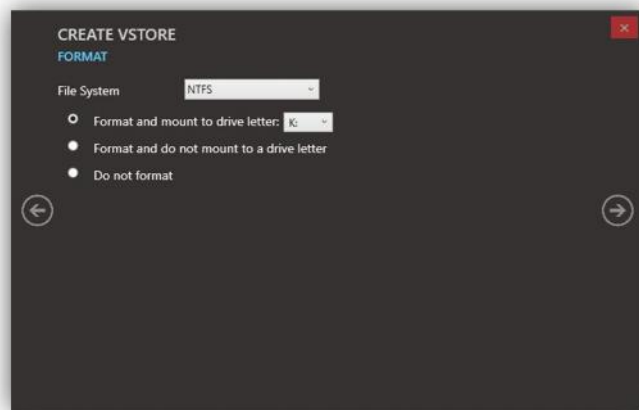
A vStore is created from the vPool page. There are two ways to open the *Create vStore* wizard. The first option is to right click a vPool, and select *Create vStore* from the context menu. The second option to open the vStore section's *Manage* menu (on the top right of the vStore table) and select *New*. Either way should launch the wizard below.



Node ID	Status	Capacity
GS-DFJZ5GX1(10.100.35.122)	Running	
GS-DPNIW9Y1(10.100.35.123)	Running	
GS-DFJY5GX1(10.100.35.121)	Running	

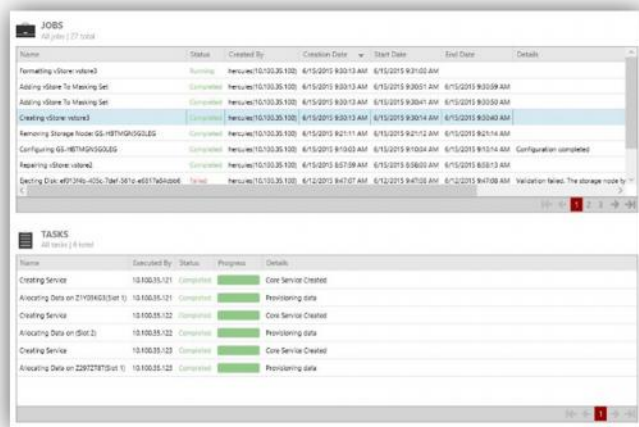
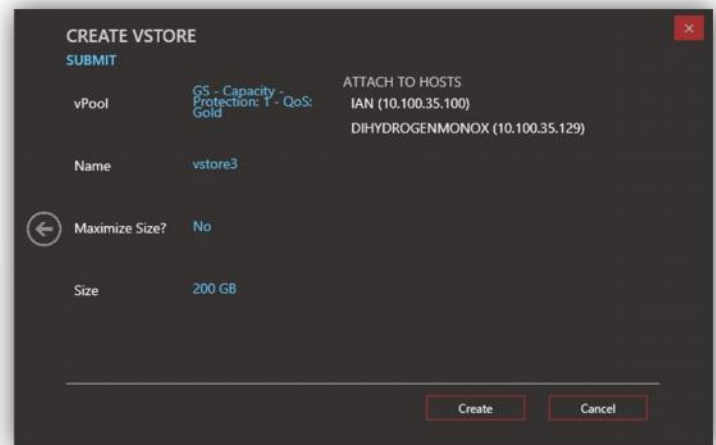
The *Create vStore* wizard has 4 different slides. Each slide allows you to configure different properties of your vStores. In the first slide (seen above) you are able to set the name of your new vStore. vStores names must be unique within the Grid. If you wish to make this vStore as large as possible, check the *Max Size* checkbox, else enter a valid integer for the size that you desire in the *Size* text field. Below the size text field, there is a table that allows you to visualize the impact of your new vStores on the allocated data on your Storage Nodes. When you are ready to continue to the next slide, click the right arrow button on the right side of the wizard.

The second slide allows you to attach this new vStore to hosts. There are no restrictions on how many hosts you may or may not select.



The third slide provides you a way to format this vStore upon creation. This slide is only visible if you chose at least 1 host to attach to in the previous slide, else it will be skipped over. You may decide to not format the vStore, format but not mount to a drive letter, or format and mount to a drive letter. You can also choose the file system; either NTFS or ReFS, depending on the operating system of the host that the vStore will be formatted on.

The fourth slide provides an overview of the options you picked in the previous slides. After confirming your options, select the *Create* button to begin building the vStore.



Finally, you may monitor the progress of your vStore's creation in the Jobs view. You should see a job for the creation of the vStore, a job for each of the hosts you are attaching the vStore to, and a job if you are formatting the vStore upon creation.

Congratulations! You are now ready to use your Grid!

## Technical Assistance

Contact Gridstore Support for Install Assistance.

- a. Email: [support@gridstore.com](mailto:support@gridstore.com)
- b. Web: <http://www.gridstore.com/support/>
- c. Telephone: 855-786-7065 (toll-free) or 650-316-5515 (internationally)

## Related Technical Documents

Related documentation is available on the Gridstore Support Portal, or contact your sales representative to get a copy.

- *Gridstore User's Guide*
- *Gridstore Release Notes*
- *Online Upgrade Guide*
- *UPS Support Guide*
- *vLUN Configuration Guide*
- *Quick Start Guides*
- *Pre-Installation Grid Checklist*
- *Pre-Installation HCA Checklist*

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