
SpinServer Supported Storage Release Notes

Version 2.5.2

215-01066

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Introduction

This document provides information about the storage products that are supported by the SpinServer®. Storage products from vendors other than Network Appliance™ require a legacy storage license from Spinnaker Networks®. For additional information about supported storage products, contact your NetApp® representative.

Where indicated, this document also provides notes and tips for configuring a storage product with a SpinServer system. If you require additional assistance with configuring storage products, contact Technical Support as detailed in “Contacting Technical Support” on page 5.

Network Appliance

The following Network Appliance storage products are supported:

Table 1. Supported Network Appliance storage products

Product name and model	SpinFS® version required	Storage license required?
SpinStor® 200 (Spinnaker Networks product)	2.1 or later	No
FAS270c	2.5 or later	No
DS14mk2 FC	2.5 or later	No
NearStore® R200	2.5.1 or later	No

Notes

- Ensure that all FAS270c and R200 storage appliances are running Data ONTAP™ 6.5.2 or later.

The following notes apply to the NearStore R200:

- Verify that one HBA on the R200 is configured for target mode, not for initiator mode. If both HBAs are configured for initiator mode, contact your NetApp representative for a replacement HBA. Use the target-mode HBA to connect to the SpinServers and the initiator-mode HBA to connect to disk shelves.
- When creating a SpinServer storage pool on an R200 in FCP mode, note that a storage pool striped across multiple LUNs uses the smallest LUN size as the size of all of the LUNs. For instance, if you create a storage pool from three 300-GB LUNs and one 100-GB LUN, the storage pool considers all of the LUNs to be 100 GB, resulting in a

storage pool of 400 GB, not 1 TB. NetApp recommends that you make all LUNs the same size so that a storage pool uses all of the storage available on its constituent LUNs.

- Perform the following steps to configure the R200 into the SpinServer system. For information on configuring the R200, see the *Data ONTAP Block Access Management Guide for FCP*.

1. Configure volumes and LUNs on the R200 according to the Data ONTAP documentation. NetApp recommends leaving the `/vol1/vol10` volume as a two-disk RAID 4 group with no LUNs, and then creating other volumes from 14-disk RAID-DP groups. See the Data ONTAP documentation for recommendations about hot-spare disks.

2. On each SpinServer that is to be connected to the R200, obtain all channels' worldwide names (WWNs) by entering the following command:

```
spinserver::> system hardware fibrechannel show
```

3. Configure an initiator group (igroup) for the SpinServers on the R200, then add the channels' WWNs to the igroup. The R200 must export its LUNs to each WWN obtained in Step 2.

4. Map the LUNs to the SpinServers' igroup on the R200.

5. Issue a LIP reset on each SpinServer channel by entering the following command:

```
spinserver::> system hardware fibrechannel lipreset \  
-ssid spinserver -channel channel_number
```

6. Verify that the LUNs are visible to the SpinServers by entering the following command:

```
spinserver::> storage units show
```

The output of the command lists the storage units (LUNs) that are visible to the SpinServer.

Hitachi Data Systems®

The following Hitachi Data Systems (HDS) storage products are supported:

Table 2. Supported Hitachi Data Systems storage products

Product name and model	SpinFS version required	Storage license required?
Hitachi Data Systems 9100	2.5.1 or later	Yes
Hitachi Data Systems 9600	2.5.1 or later	Yes

Product name and model	SpinFS version required	Storage license required?
Hitachi Data Systems 9910	2.5.1 or later	Yes

Notes

- For the SpinServer to see LUNs with IDs greater than decimal number 31, open the SpinServer's `/etc/modules.conf` file in a text editor and add the following line:

```
options spinfcd maxLuns=96
```

- Each port on the HDS product exports its own WWN. If the HDS product is configured so that each port is connected to the same set of disk drives, the SpinServer sees the same set of LUNs on each port but displays them as different LUNs. To prevent this problem, open the SpinServer's `/etc/modules.conf` file in a text editor and add the following lines:

```
above spinfcd spinfcdExtNetApp
above spinfcdExtNetApp spinfcdExtHitachi
```

IBM®

The following IBM storage products are supported:

Table 3. Supported IBM storage products

Product name and model	SpinFS version required	Storage license required?
IBM TotalStorage FASTT 900 Storage Server	2.5.2 or later	Yes

Notes

- During configuration of an IBM FASTT and a SpinServer, a storage unit (LUN) that is discovered by the SpinServer can sometimes be marked with an error value of `true` in the output of the **storage units show** command. If this occurs, the storage unit is not available for use in a storage pool. To correct this situation, use the **storage units clearerror** command to clear the error on the storage unit before creating the storage pool.
- When a volume is created on the IBM storage array, the array assigns one of two RAID controllers as the preferred path for that volume. Each volume appears as a storage unit on the SpinServer. Use the **storage units modify** command on the SpinServer to set the primary channel that the SpinServer uses for that storage unit. This ensures that each storage unit is accessed through the correct Fibre Channel port on each SpinServer. If the primary channel is not set, performance can be severely degraded, although the SpinServer system continues to serve files.
- If you are using an IBM storage array in a high-availability (HA) configuration, failure of a single SpinServer Fibre Channel cable or port can degrade performance

significantly, although the SpinServer system continues to serve files. To avoid performance degradation, observe the following recommendations:

- Watch for alerts from the SpinServer regarding loop-down events. You can set up notifications for loop-down events by using the **event** commands.
- Watch for alerts from the storage array regarding the storage pool being accessed over the non-preferred path. The storage array's Event Monitor can be used to send notifications about automatic volume transfers, which occur during this situation.
- If either a loop-down event or an automatic volume transfer occurs, correct the situation by changing the preferred path on the SpinServer or fixing the Fibre Channel link between the SpinServer and the storage array.

StorageTek®

The following StorageTek storage products are supported:

Table 4. Supported StorageTek storage products

Product name and model	SpinFS version required	Storage license required?
StorageTek D178 Disk Subsystem	2.5.2 or later	Yes

Notes

- When a volume is created on the StorageTek storage array, the array assigns one of two RAID controllers as the preferred path for that volume. Each volume appears as a storage unit on the SpinServer. Use the **storage units modify** command on the SpinServer to set the primary channel that the SpinServer uses for that storage unit. This ensures that each storage unit is accessed through the correct Fibre Channel port on each SpinServer. If the primary channel is not set, performance can be severely degraded, although the SpinServer system continues to serve files.
- If you are using a StorageTek storage array in a high-availability (HA) configuration, failure of a single SpinServer Fibre Channel cable or port can degrade performance significantly, although the SpinServer system continues to serve files. To avoid performance degradation, observe the following recommendations:
 - Watch for alerts from the SpinServer regarding loop-down events. You can set up notifications for loop-down events by using the **event** commands.
 - Watch for alerts from the storage array regarding the storage pool being accessed over the non-preferred path. The storage array's Event Monitor can be used to send notifications about automatic volume transfers, which occur during this situation.
 - If either a loop-down event or an automatic volume transfer occurs, correct the situation by changing the preferred path on the SpinServer or fixing the Fibre Channel link between the SpinServer and the storage array.

Contacting Technical Support

You can contact Technical Support 24 hours a day and seven days a week.

By E-mail

Send e-mail queries to support@netapp.com.

By Phone

In North America, call toll free at +1-888-4-NETAPP or +1-888-463-8277. Press the * (star) key for SpinServer support.

Outside North America, find the toll-free number for your region at www.netapp.com/support/contact.html.

By Web

Open a Web browser and go to now.netapp.com.