Seagate® Nytro™ WarpDrive™ 6301 Application Acceleration Card

Quick Installation Guide

Version 1.2
August 2013

DB11-000151-02

Revision History

Version and Date	Description of Changes
Version 1.2, August 2013	Third release of the document.
Version 1.1, January 2013	Second release of the document.
Version 1.0, September 2012	First release of the document.

© 2014, Seagate Technology LLC All rights reserved.

Publication number: DB11-000151-02 August 2013

Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Nytro, ***ProductNameShort*** and SeaTools are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners.

No part of this publication may be reproduced in any form without written permission of Seagate Technology LLC. Call 877-PUB-TEK1(877-782-8351) to request permission.

When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual quantities will vary based on various factors, including file size, file format, features and application software. Actual data rates may vary depending on operating environment and other factors. The export or re-export of hardware or software containing encryption may be regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit www.bis.doc.gov), and controlled for import and use outside of the U.S. Seagate reserves the right to change, without notice, product offerings or specifications.

Seagate® Nytro™ WarpDrive® 6301 Application Acceleration Card Quick Installation Guide

1 Product Information for the Nytro WarpDrive 6301 Card

The Nytro WarpDrive 6301 card includes the following product models.

Table 1 ***ProductNameShort* Card Product Models**

Device Name	Model Name
ProductNameShort	NWD-BFH6-1200
ProductNameShort	NWD-BFH8-1600
ProductNameShort	NWD-BFH8-3200

2 Hardware Installation for the Nytro WarpDrive 6301 Card

To install the Nytro WarpDrive 6301 card, follow these steps:

1. **Unpack the ***ProductNameShort*** card and inspect it for damage.** Unpack the card in a static-free environment and follow good antistatic grounding procedures. Remove the ***ProductNameShort*** card from the antistatic bag, and carefully inspect it for damage. If you notice any damage, contact Seagate, or your reseller support representative.

   NOTE Back up your data before changing your system configuration.

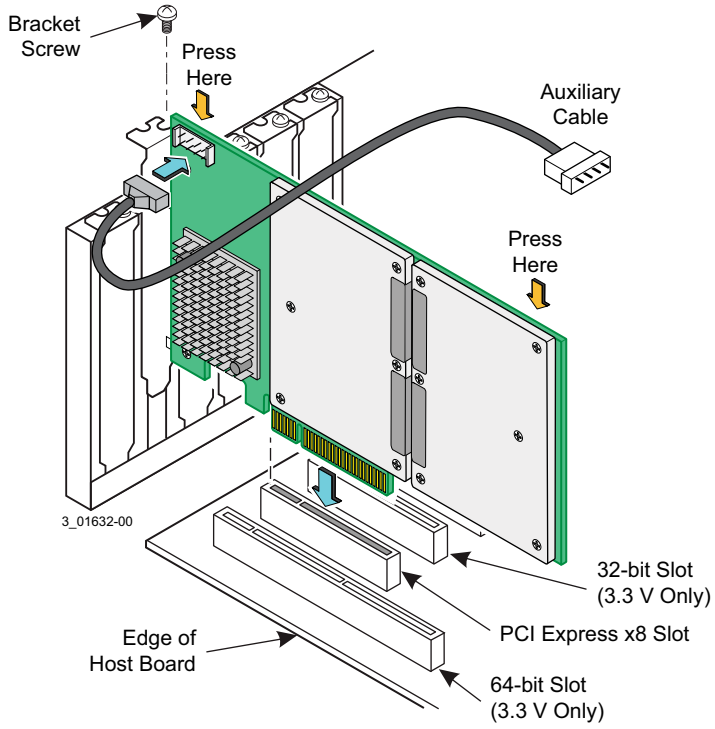
2. **Prepare the server.** Turn off the server, and disconnect the power cords from the power supply. Remove the cover from the chassis.

   WARNING To avoid electrical shock, disconnect the server from the main power and from any networks before you install the card.

3. **Insert the ***ProductNameShort*** card in an available PCI Express® (PCIe®) slot.** Locate an empty PCIe slot. Remove the blank bracket panel on the server chassis that aligns with the empty PCIe slot. Save the bracket screw, if applicable.
   Align the card to the PCIe slot. Press down gently, but firmly, to properly seat the card in the slot. The following figure shows how to insert the card in a PCIe slot.

   NOTE Make sure that the PCIe slot is capable of providing 75 W of power. Otherwise, install the auxiliary power cable shown in the following figure.

Figure 1 Card Installation for the Nytro WarpDrive 6301 Card



NOTE The shape, size, and locations of components on your ***ProductNameShort*** card might vary from this illustration.

4. For highest performance, make sure that the PCIe slot is PCIe 3.0 and make sure that it has an electrical width of 8 lanes.

CAUTION The location must meet the 300 LFPM (linear feet/minute) minimum airflow requirement.

5. **Secure the bracket to the system's chassis.** Install the bracket screw, if applicable, or engage the system retention mechanism to secure the card to the system's chassis.
6. **Replace the cover, reconnect the power cords, and power up the system.** Replace the server's cover, reconnect the power cords, and reconnect any network cables. Turn on the power.

The ***ProductNameShort*** card hardware installation is complete.

NOTE For all server types, do not ship the 6301 card installed or mounted inside a server. Ship the card separately and install the card into the server at its final destination. This prevents potential damage during shipment. If the card is shipped installed in a server and is damaged during shipment, the applicable warranty is void.

3 New Windows Driver Installation

The Seagate drivers for Windows Server® 2012 (x86, x64, or IA64), and Windows Server 2008 (x86, x64, or IA64)are available online at the link listed in step 1.

To load the Seagate driver during a new Windows system installation, you can boot directly from the Microsoft® installation CD-ROM.

To install a new Windows operating system and its appropriate device driver, follow these steps:

1. Follow the links on the Seagate USB drive to download the Windows driver from the Seagate website, http://www.seagate.com/support/downloads/
2. Copy the appropriate driver files onto the server.
3. Open the file and follow the directions in the `seagate_sss_[OperatingSystemName].txt` file.

4 Existing Windows Driver Installation

The following steps contain a sample driver installation for Windows Server 2008. Nytro WarpDrive cards have inbox driver support at Windows. Additional versions of Windows drivers are available online. Consult the `ReadMe.txt` file for each driver. The Seagate drivers for Windows Server 20012 (x86, x64, or IA64) and Windows Server 2008 (x86, x64, or IA64) are available online. Use the following procedure to install or upgrade the driver onto an existing Windows Server 2008 system.

> **NOTE** When you add an Seagate SAS Gen2/Gen3 adapter to an existing system installation, the new adapter is automatically detected at the next reboot. When the Device Driver Wizard appears at boot, click on the **Next** button and continue with step 8.

1. Boot Windows Server 2008 and log on as a user with Administrator privileges.
2. Click the **Start** button, then right-click the **My Computer** entry in the menu.
3. Click the **Properties** selection.
4. Click the **Hardware** tab, then click the **Device Manager** button.
5. Click the **+** to the left of the Storage Controllers line. Find the adapter desired for the driver upgrade and double-click the entry. Click on the **Driver** tab.
6. Information on the currently installed driver is displayed, and you can view additional driver details by clicking the **Driver Details** button.
7. Click the **Update Driver** button to update the existing driver. The Hardware Update Wizard begins.
8. Click the **Install from a list or specific location** button to select it, then click the **Next** button.
9. Click the **Don't search, I will choose the driver to install** button to select it, then click the **Next** button.
10. Click the **Have Disk** button and type the path to the driver, or click the **Browse** button. Select the location for the driver package that matches the processor architecture of the system (x86, x64, or IA64). After you establish the path to the driver, click the **OK** button.
11. Select the driver from the list and click the **Next** button.
12. Click the **Next** button again to start the driver update. In some cases, a message displays indicating that this driver has not passed logo testing. This message informs you that a nonsigned driver is being installed.

> **NOTE** Drivers are digitally signed by the Microsoft Windows Hardware Quality Lab (WHQL) on completion of logo testing. Because of the time lag between the general customer release by Seagate of Windows drivers and the completion of WHQL logo testing, some drivers distributed with adapters or downloaded from the www.seagate.com website might not be digitally signed.

13. Click the **STOP Installation** button to cancel the installation if a nonsigned driver is not desired. You will not be able to install the ***ProductNameShort*** card.
    or
    Click the **Continue Anyway** button to continue the installation.

    The system loads the driver from the Windows Server 2008 driver disk. A message box might display that indicates that the target (existing) driver is newer than the source (upgrade) driver.
14. Click **No** to cancel the driver upgrade at this point.
    or
    Click **Yes** to continue the installation.

    The system copies the driver to the system disk. For any adapter other than the boot adapter, the updated driver becomes active immediately. For the boot adapter, a message box displays that indicates that you must reboot your system for the new driver to take effect.
15. Click the **Finish** button to complete the driver upgrade.

Download the latest Windows drivers from the Seagate website. Consult the Windows `ReadMe.txt` file available online with the driver if more detail is needed.

5 Linux Driver Installation

Download the latest Linux drivers from Seagate website. Nytro WarpDrive cards have in-kernel driver support. Consult the Linux `ReadMe.txt` file available online with the driver. To find and open the readme file, click the plus sign next to the title of the driver on the download page.

Seagate provides open source drivers in the following ways:

- Precompiled binaries to add to an existing installation using driver update disks or RPMs for selected distributions.
- Fusion-MPT™ source to add or update any distribution.

6 FreeBSD Driver Installation

Download the latest FreeBSD® drivers from the Seagate website. Consult the FreeBSD `ReadMe.txt` file available online with the driver. To find and open the readme file, click the plus sign next to the title of the driver on the download page.

Seagate provides open source drivers in the following way:

- Precompiled binaries to add to a supported installation using pre-compiled `.ko` files.

7 VMware Driver Installation

7.1 VMware ESX4.1

Download the latest VMware® ESX4.1 driver from the following Seagate website (To find and open the readme file, click the plus sign next to the title of the driver on the download page.):
http://www.seagate.com/support/downloads/

7.2 VMware ESX5.0/VMware ESX5.1

Nytro WarpDrive cards have in-box driver support with VMware. Use the following steps to load the drivers:

1. Boot from the VMware CD and the WarpDrive is detected and the drivers automatically load. You can view the compatibility list of Seagate WarpDrives on the VMware site here:
http://www.vmware.com/resources/compatibility/search.php?deviceCategory=io
2. To find an updated driver and installation instructions go to the VMware download site:
https://my.vmware.com/web/vmware/downloads
3. Register and log in to download the drivers. After logging in, search for mpt2sas to view available drivers on the VMware site.
4. After you download the driver zip file, consult the ReadMe.txt file for all installation instructions.

8 Technical Support

For assistance installing, configuring, or using the Nytro WarpDrive 6301 card, contact Seagate Technical Support.

E-mail: support@seagate.com

Phone: 1-800-732-4283 (North America)
+00-800-4732-4283 (International)

Website: www.seagate.com/support

8.1 Global Service+ Support

Global Services+ is a premium service for Nytro WarpDrive products that delivers exclusive technical support as well as accelerated replacement capabilities.

For more information on Global Services+ and online support and services, visit:
http://www.seagate.com/about/contact-us/technical-support/

Available services include:

- Presales & Technical support
- Global Support Services telephone numbers & business hours
- Authorized Service Centers

For information regarding Warranty Support, visit: http://www.seagate.com/support/warranty-and-replacements/

For information regarding data recovery services, visit:
http://www.seagate.com/services-software/data-recovery-services/

For Seagate OEM and Distribution partner portal, visit: http://www.seagate.com/partners/

For Seagate reseller portal, visit: http://www.seagate.com/partners/my-spp-dashboard/

Seagate Technology LLC
AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000
ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888
EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16-18 rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

Publication Number: DB11-000151-02, Version 1.2
August 2013