



D-Link System, Inc.™

xStack Storage DSN-1000/2000/3000/4000/5000 series

v2.9.1.16 Release Notes

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1 Introduction

Note: For the remainder of this document, issues that pertain to the following products:

DSN-1100-10
DSN-2100-10
DSN-3200-10 & DSN-3400-10
DSN-4100 & DSN-4200
DSN-5110-10 & DSN-5210-10 & DSN-5410-10

will be identified as DSN-1000/2000/3000/4000/5000 series. Issues pertaining to specific products will be called out with those product's names.

D-Link Systems, Inc.™ is pleased to announce the next firmware version release, V2.9.1 for the DSN-1000/2000/3000/4000/5000 series products. Version 2.9.1 is not a mandatory upgrade, although it is highly recommended. However, version 2.8.0 was a **mandatory** upgrade for all existing customers, because of the number of new features and fixes in that version. These release notes identify what is included and what limitations have been identified as part of this new software release.

	<p>Any system that is running v1.5.1 firmware or earlier must first be upgraded to version 1.6.x, and then upgraded to this new version.</p> <p>Note: The upgrade from firmware V1.6.1 to this new version requires the installation of a new and improved system kernel. It is recommended that you copy your system configuration (LAGs, LUNs, targets, etc.) down on paper manually and have it available when the upgrade is complete. Please review your final configuration to make sure they match your previous settings. Make changes if necessary.</p>
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1.1 Purpose

This document identifies supported functionality in the version 2.9.1 software release, and what errata and caveats that may affect the operation of the products. This document is not a product specification, nor does it specify the total functionality of the D-Link product family.

1.2 Related Documents

DLink XStack Storage Management Center Software User's Guide
D-Link Command Line Interface User's Guide

1.3 Update and Installation Requirements

The v2.9.1 software release is available as an initial factory installation and a field upgrade for the following products:

- **DSN-1100** running v2.0.x, v2.5.x, v2.6.x, v2.7.x, v2.8x or v2.9x software
- **DSN-2100** running v1.6.x, v2.0.x, v2.5.x, v2.6.x, v2.7x, v2.8x or v2.9x software
- **DSN-3200 or 3400** running v1.6.x, v2.0.x, v2.5.x, v2.6.x, v2.7, v2.8x or v2.9x software
- **DSN-4100 or 4200** running v2.9x (this software is the initial release version)
- **DSN-5110, 5210 or 5410** running v2.5.x, v2.6.x, v2.7, v2.8x or v2.9x software

Any systems that are running v1.5.1 software or earlier must first be upgraded to version 1.6.x, and then upgraded to v2.9.0. For more information about the software upgrade process, please refer to your existing system documentation (**Please see section titled “Upgrading Software”** in the xStack Storage Management Center Software User’s Guide).



The v2.9.1 software release requires that the **Java Runtime Environment 6 (JRE 6) Release 1.6.0.0, or later** (<http://java.com>) is installed on the system that will serve as the management host. The Java Runtime Environment software must be installed prior to the first connection to the xStack Storage Management Center.

2 Product Features and Enhancements

All of the existing product features from previous versions are included in this release, including support for running the xStack Storage Management Center from a host system with Windows XP, Windows Server 2003, Windows Server 2008, Windows Server 2008 R2, Windows Vista or Windows 7. Note that D-Link xStack Storage products that are running firmware v2.9.0 cannot be managed by earlier versions of the xStack Storage Management Center.

The following are new or updated features that have been added since the v2.8.0 general release.

2.1 Support for the new DSN-4000 Series family of products

This release includes support for the new D-Link xStack Storage DSN-4000 Series. This new system is a single-controller RAID system that supports SATA or SAS drives, and up to four DSN-4000 expansion array enclosures for dynamic storage capacity expansion.

2.2 RS-232 Serial Port Baud-Rate Change

All newly-manufactured controllers that have version 2.9.0 installed at the factory will have the baud rate set to 115,200 bps instead of 9600 bps. Existing DSN-1000/2000/3000 Series products that were originally manufactured with an earlier version of software will continue to operate at 9600 bps.

2.3 New Volume Types in the Volume Creation Window

The following new volume types have been added to the Volume Creation Wizard, both of which will create a Parity (RAID-5) volume:

- IP Surveillance
- Virtual Disk Storage

2.4 Fixes in Version 2.9.0

The following issues that existed in version 2.8.2.2 (and earlier) have been fixed in this release:

- Unable to create a Stripe-Mirror (RAID-10) volume with a stripe width larger than 8 using the Java GUI (although it was possible to create such a volume through the CLI)
- No alert e-mail message was sent when a battery failure occurred
- Inserting a new disk into the same slot where a previous disk had failed due to "**SMART Threshold Exceeded**" would also be reported as "**Failed**", even though the new disk was good
- The "**Advanced Features for Windows**" installation link did not appear on the Default Web Page when using the FireFox browser on a Windows host system
- Various software instabilities resulted in a "**bug-check**" condition and caused the system to restart, which caused temporary loss of access to volumes

2.5 New Features and Fixes in Version 2.9.1

2.5.1 Event Log Entry with Battery Register Values When a Battery Fails

A new Event Log entry will be added when a battery fails, to provide more detailed information about the cause of the battery failure.

2.5.2 Increased Timeout Duration

The timeout duration for charging a battery has been increased from six (6) hours to eight (8) hours, to prevent a battery from being incorrectly reported as “Failed.”

2.5.3 Installation of “Advanced Features for Windows” on Windows 7

The InstallShield tools have been upgraded to allow the Advanced Features for Windows to be installed on Windows 7 platforms (specifically the VDS Hardware Provider).

2.5.4 Updated Link on the “Get Java” web page

The URL link for downloading the Java Run-Time Environment has been changed to reflect the new website location (<http://java.com> instead of <http://java.sun.com>)

2.5.5 Fixes

The following issues that existed in version 2.9.0.11 (and earlier) have been fixed in this release:

- When using DSN-5XXX controllers with different MAC address ranges, the controllers would fail to bind with an error message of “**Slam Dunk**”
- Extraneous fan speed changes occurred on a DSN-4100/4200 when an invalid temperature reading was received from an Expansion Array
- Invalid temperature warnings were generated on a DSN-4100/4200 when a temperature value of 44 degrees C was obtained from an Expansion Array, even though the maximum temperature for that enclosure is 51 degrees C
- Some minor spelling errors appeared in some of the messages on the RS-232 serial console
- The queue depth for SATA drives that support NCQ was incorrectly set to zero in version 2.9.0.11
- Changing the password for a user or administrative account did not get validated correctly in the **System Administration** → **User Accounts** tab
- Excessive Event Logs entries for “**Persistent Reserve In**” and “**Persistent Reserve Out**” filled-up the Event Log when using VMware or Hyper-V clustered environments
- The system did not shutdown when a JBOD enclosure exceeded its maximum temperature threshold

3 Software Upgrade Procedure

For any existing DSN-1000/2000/3000/4000/5000 series system that is running software version 1.6.x, v2.0.x, v2.5.x, v2.6.x, v2.7.x, 2.8.x or 2.9.x, you should obtain one of the following binary files from the D-Link support website. (For USA and the respective product, the software image can be downloaded from the **Support Resources->Additional Downloads** page of D-Link’s public website at <http://www.dlink.com>.)

System Type	File Name	File Size	Comments
D-Link DSN-2100/3200/3400	FUFI 2 9 1 16.DLink DSN2100 DSN3200 DSN3400	39,603,337 bytes	DSN-2100/3200/3400
D-Link DSN-1100	FUFI 2 9 1 16.DLink DSN1100	39,716,579 bytes	DSN-1100
D-Link DSN-4100/4200	FUFI 2 9 1 16.DLink DSN4100 4200	39,602,384 bytes	DSN-4100 & 4200
D-Link DSN-5110/5210/5410	FUFI 2 9 1 16.DLink DSN5110 DSN5210 DSN5410	39,826,988 bytes	DSN-5110 & 5210

Note: If your host system is running Windows XP, be sure to disable the Windows firewall before starting the firmware upgrade.



- After a successfully upgrading your system to the V2.9.1 release, be sure to save a new Configuration File by using the following procedure:
1. From within the Management Center GUI, click on the “System Administration” item for your specific system in the View panel
 2. Click on the “Settings” tab
 3. Click on the “General” leaf (if it is not already selected)
 4. Click on the “Save” button below the “xStack Storage Configuration” heading
 5. Navigate to where you wish to save the configuration file and enter the filename
 6. Click on “Save”

3.1 Upgrade for systems that are running version 2.x

Use the following procedure from the xStack Storage Management Center to install this new software image:

1. Select **System Administration** in the upper-left frame
2. Select the “**Control**” tab
3. Click on the **Upgrade** button
4. Browse for the software image file that you wish to upload, then click **Open**.
5. In response to the prompt “**After new software is uploaded, the remote system will be shutdown and restarted. Are you sure you want to do this?**”, click **OK** to proceed.
6. A progress bar will appear to show the progress of the software upload process.
7. After the software image is uploaded, a message prompts you to restart the system so that the new software image can take effect, and you should click **OK**.
8. After the system restarts (approximately 4 minutes), launch your web browser at the Management Port IP address and download the new Management Center GUI.



If your DSN-5X10-10 system is equipped with dual controllers, the software upgrade process will automatically upgrade both controllers as the same time if they are in a “**Bound**” state. However, you should not attempt to perform a software upgrade if the controllers are not in a Bound state.

3.2 Upgrade for systems that are running version 1.6

Use the following procedure from the version 1.6 Management Center to install this new software image:

1. Select the **Physical Resources** tab in the left-most frame
2. Select the **System** item under Physical Resources
3. In the menu bar, select **View**, then select **Software Upgrade**
4. In response to the prompt “**Upgrading the software will require a restart of your system; Do you want to continue?**”, click **OK**
5. Browse for the software image file that you wish to upload, then click **Open**.
6. A progress bar will appear to show the progress of the software upload process.
7. After the software image is uploaded, a message prompts you to restart the system so that the new software image can take effect, and you should click **OK**.
8. When the system restarts, the Management Console GUI will be closed, and you would wait approximately 4 minutes for the system to complete the restart process without interruption.



After upgrading from v1.6.x, your system will present the new Graphical User Interface and new Target Creation paradigm that were implemented in version 2.0.0. You must also install the Java 6 Run-Time Environment for your host system in order to use the new GUI.

3.3 Upgrade for systems that are running v1.5.x or earlier

All systems that are running version 1.5.x or earlier must first be upgraded to version 1.6.x. (For USA and the respective product, the software image can be downloaded from the **Support Resources->Additional Downloads** page of D-Link's public website at <http://www.dlink.com>.)

4 Known Issues and Limitations

4.1 DSN-5000 Series Airflow Optimization

To ensure proper airflow and cooling of the system, every drive slot in the primary enclosure and any expansion enclosure must contain either a drive carrier with a hard disk drive installed or a drive filler with no hard drive installed. There should be no empty drive slots or empty drive carriers installed. Both of the controller bays on the rear of the DSN-5000 Series Primary Array should contain either a controller or a blank-off plate. Similarly, both of the controller bays on the rear of the DSN-5000 Expansion Array should contain either an I/O Module or a blank-off plate.

4.2 VDS Hardware Provider

Support for the 32-bit version of Microsoft Virtual Disk Service (“VDS”) is available for Windows 2003 Server only, which allows you to use any VDS-based applications (such as Microsoft’s **DiskRaid** utility or **Storage Manager for SANs**) to configure and manage any D-Link xStack Storage system.

Microsoft’s VDS subsystem does not support the creation of Network Portals. Therefore the iSCSI network configuration must be performed using the Startup Wizard or the Management Center GUI. For more detailed information, refer to the *Virtual Disk Services Guide* and the related Microsoft documentation for DiskRaid and Storage Manager for SANs.

4.3 iSCSI Initiator Support for Windows 2000

We no longer provide iSCSI initiator support for Windows 2000, since Microsoft no longer provides support for that version. However, it is still possible to run the Management Console GUI from a Windows 2000 client.

4.4 Reverting to Earlier Versions

If you must return your system to an earlier version of software, you can click on the “**Use Alternate Version**” button, and the system will restart using the earlier version. However, be sure that all background tasks (such as parity volume initialization, volume reconfiguration or volume scan) have completed before clicking on the “**Use Alternate Version**” button. If the system does not restart automatically, you may need to restart the system manually.



IMPORTANT: For any DSN-5000 primary array systems that were originally manufactured with version 2.8.0 software (or later), it is not possible to install an earlier version of software. Attempting to do so may cause your system to become unusable.

4.5 Reconfiguring the Volume Chunk Size through the CLI

The ability to change the chunk size of a volume when using the CLI “**reconfigure**” command in the **volume** context is not supported in this version.

4.6 Micro-Rebuild Feature is Disabled for SATA Drives

The Micro-Rebuild feature is disabled for SATA drives in this release due to instabilities that exist with that feature. This feature may be re-activated in some future software release.

4.7 Browser Incompatibility with Google Chrome & Apple Safari

The Default Web Page does not function correctly with the Chrome and Safari browsers due to some known bugs in those browsers. In particular, the Default Home Page will always jump to the “**Need Java**” page, even if the latest Java Run-Time Environment (JRE) is installed. Therefore we do not recommend using the Google Chrome or Apple Safari browsers with these storage system products. Instead, you should use Internet Explorer or any other Mozilla-based browser.