

Isilon Supportability and Compatibility Guide

Reference Guide

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CHAPTER 1

Isilon Supportability and Compatibility Guide

This guide provides supportability and compatibility information for Isilon software and hardware.

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Introduction

Refer to this guide for supportability and compatibility information for Isilon hardware and software products.

Isilon recommends that customers run the Target Code version of OneFS. A OneFS release is designated as Target Code after it satisfies specific criteria, which includes production time in the field, deployments across all supported node platforms, and other quality metrics. To ensure that your clusters are running the most stable and reliable version of OneFS, upgrade to the latest Target Code available for the OneFS family that meets your business needs.

Target Code represents minimum OneFS release recommendations and does not account for unique storage workflows. When considering which version of OneFS to adopt, be sure to review your business needs with your Isilon account representative. You may also want to install a later version of OneFS to take advantage of new or improved functionality.

For the list of Target Code versions of OneFS, see [Current Isilon Software Releases](#).

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CHAPTER 2

Software

This section contains information about Isilon software compatibility.

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OneFS upgrade compatibility

This section lists available OneFS upgrade compatibility information.

To successfully plan for and perform a OneFS upgrade, you must follow the procedures detailed in the appropriate OneFS Upgrade Planning and Process Guide:

- [OneFS 7.x Upgrade Planning and Process Guide](#)
- [OneFS 8.0.0 - 8.1.0 Upgrade Planning and Process Guide](#)

Rolling and simultaneous upgrades are supported for all upgrades from OneFS 8.0.1 to OneFS 8.1.0. Rolling upgrades are performed by default. For complete information about supported upgrade paths for OneFS 8.1.0, see the [OneFS 8.0.0 - 8.1.0 Upgrade Planning and Process Guide](#).

If you are upgrading from OneFS 7.1.x or earlier to OneFS 7.2.0.0 or later, check the NFS exports for non-UTF-8 encoded file or directory names. For information, refer to the appropriate Upgrade Planning and Process Guide for your upgrade path.

See the [OneFS Upgrades - Isilon Info Hub](#) for complete information.

For information about support for simultaneous and rolling upgrades, refer to the release notes for the version of OneFS that you are installing.

You can only upgrade directly to OneFS 7.2.1 from OneFS 7.1.1.4 or later, or OneFS 7.2.0.2 or later. See [Upgrade Paths to OneFS 7.2.1.0](#) for complete information.

You can only upgrade directly to OneFS 8.0.0 from OneFS 7.1.1.4 through 7.1.1.7, or OneFS 7.2.0.2 through 7.2.0.4, or OneFS 7.2.1.0 through OneFS 7.2.1.1. See the [Isilon OneFS 8.0.0.0 Release Notes](#) for complete information about supported upgrade paths.

You can download the latest version of OneFS for your cluster from the [EMC Online Support](#) website.

For more information about how OneFS addresses the convergence of Big Data and Enterprise IT, visit the [Isilon OneFS Operating System](#) web page.

For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

Isilon SyncIQ

This section describes the versions of OneFS that can be synchronized using SyncIQ.

SyncIQ delivers extremely fast replication of millions of files and terabytes of data over the WAN and LAN. SyncIQ enables replication jobs to be parallelized and evenly distributed across all sending and all receiving nodes in the Isilon storage clusters.

Note

Features available in newer versions of OneFS might not work in earlier versions of OneFS when you sync newer OneFS versions to earlier versions.

Customers who are running MigrationIQ on their Isilon cluster are encouraged to upgrade to SyncIQ. MigrationIQ has been discontinued, and its functionality has been incorporated into SyncIQ. Contact Isilon Technical Support if you want to make this transition.

For information about SyncIQ, see the [Isilon SyncIQ](#) web page.

Isilon SyncIQ compatibility

The table in this section shows the versions of OneFS that can be synchronized using SyncIQ.

Target cluster running OneFS

Source Cluster	7.1.x	7.2.x	8.0.x
OneFS 7.1	*	*	*
OneFS 7.2	*	*	*
OneFS 8.0.x	*	*	*

Isilon InsightIQ

This section describes OneFS and InsightIQ compatibility.

InsightIQ is an off-cluster performance and analytics tool that identifies performance bottlenecks in a cluster.

Depending on the version of OneFS that the monitored cluster is running, certain InsightIQ features might not be available. For information about InsightIQ, see the Isilon InsightIQ webpage.

You can access the InsightIQ application through any current web browser that supports sophisticated graphics. For more information about supported browsers, see the “Web browsers” section in this document.

The InsightIQ web application interface is optimized for a screen that is 1,280 pixels wide.

Note

OneFS 8.0.0 File System Analytics (FSA) statistics are compatible only with InsightIQ 4.0 and later releases.

InsightIQ and OneFS compatibility

InsightIQ	OneFS 7.1.x	OneFS 7.2.x	OneFS 8.0.x	OneFS 8.1.x
InsightIQ 3.0.x	*			
InsightIQ 3.1.x	*	*		
InsightIQ 3.2.x	*	*		
InsightIQ 4.0.x	*	*	*	*
InsightIQ 4.1.x	*	*	*	*

InsightIQ upgrade paths

The following table lists the upgrade options for InsightIQ. InsightIQ 3.2.x and later can be upgraded directly to InsightIQ 4.1.1.

Upgrade to InsightIQ								
Upgrade from	2.5.x	3.0.x	3.1.x	3.2.x	4.0	4.0.1	4.1	4.1.1
InsightIQ 2.0.x	*							

Upgrade to InsightIQ								
InsightIQ 2.1.x	*							
InsightIQ 2.5.x		*						
InsightIQ 3.0.x			*					
InsightIQ 3.1.x				*				
InsightIQ 3.2.x					*	*		*
InsightIQ 4.0						*	*	*
InsightIQ 4.0.1							*	*
InsightIQ 4.1.0								*

Isilon SupportIQ

The table in this section lists the compatible versions of OneFS and the Isilon SupportIQ remote support module.

The Isilon SupportIQ module allows Isilon Technical Support personnel to gather diagnostic data about the cluster with your permission. It is included with the OneFS operating system through OneFS 7.2.x. EMC ESRS is the preferred remote support service.

The SupportIQ module is deprecated as of OneFS 8.0.

OneFS Compatibility		
	7.1.x	7.2.x
SupportIQ	*	*

EMC Secure Remote Support (ESRS)

The table in this section lists the compatible versions of OneFS and EMC Secure Remote Support (ESRS).

EMC Secure Remote Support (ESRS) provides remote support capability for your Isilon cluster. ESRS enables technical support personnel to remotely manage your Isilon cluster to troubleshoot an open support case with your permission.

ESRS is a proactive, IP-based, bi-directional remote servicing capability for customer Dell EMC products. ESRS is secure, high speed, and operates 24x7.

See the ESRS section in the [OneFS 7.1 FAQ](#) for more information.

ESRS	OneFS 7.1.0	OneFS 7.1.1	OneFS 7.2.0	OneFS 7.2.1	OneFS 8.0.x	OneFS 8.1.x
ESRS Gateway 2.x	*	*	*	*	*	*
ESRS Gateway 3.x (VE)	*	*	*	*	*	*

Note

ESRS Gateway 3.x is required for the feature enhancements available in ESRS for OneFS 8.1.x.

OneFS/VMware ESXi compatibility

The table in this section lists the compatible versions of OneFS and VMware ESXi.

Note

The Isilon for vCenter plug-in is not available and not supported after August 31, 2016. For information about the support and service lifecycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

	OneFS Storage Certification for NAS		
	7.1.x	7.2.x	8.0.x
ESXi 5.5	*	*	*
ESXi 6.0	*	*	*
ESXi 6.5	*	*	*

Isilon SRA for VMware SRM

The table in this section lists the compatible versions of OneFS, Isilon Storage Replication Adapter (SRA) for VMware, and VMware vCenter Site Recovery Manager (SRM).

Isilon Storage Replication Adapter (SRA) enables VMware vCenter Site Recovery Manager (SRM) to manage the replication of VMware ESX server virtual machines running on Isilon clusters.

VMware SRM facilitates the migration and disaster recovery of virtual machines stored on Isilon clusters. Isilon SRA enables VMware vCenter SRM to automatically manage the setup, testing, and failover components of the disaster recovery processes for Isilon clusters. You can manage the replication of virtual machines (VMs) stored on one Isilon cluster to another Isilon cluster.

Before you can install the Isilon Storage Replication Adapter (SRA) for VMware vCenter Site Recovery Manager (SRM), you must set up two vCenter servers. These vCenter servers are referred to as the primary and secondary sites. You must then pair the primary and secondary sites through VMware SRM and create a VMware datastore on the primary site that resides on an Isilon cluster.

For more information, see the [Isilon SRA for VMware SRM Release Notes](#).

Note

Where provided, an exact OneFS version number indicates the minimum version of OneFS that is required.

OneFS Compatibility				
VMware - SRM 2.0	7.0.x**	7.1.x	7.2.x	8.0.x
ESXi 5.1	*	7.1.1		
ESXi 5.5		7.1.1	*	Certified for SRM 2.0 with IPv6 only
ESXi 6.0			7.2.0	*
ESXi 6.5				*

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

VAAI NAS plug-in for OneFS

The table in this section lists the compatible versions of OneFS, the VMware vSphere API for Array Integration (VAAI) plug-in for OneFS, and VMware ESXi.

The VMware vSphere API for Array Integration (VAAI) integrates VMware vSphere with an Isilon cluster to clone virtual disks, to create thick virtual disk files, and to monitor disk space.

The OneFS operating system uses VAAI to perform certain storage and management operations for VMware ESXi hypervisors. VAAI increases the speed at which virtual machine (VM) operations are performed for VMs that are stored on Isilon clusters.

To install the VMware vSphere API for Array Integration (VAAI) plug-in for OneFS, your cluster must be running OneFS 7.0 or later. VAAI 1.1, VAAI 1.2, VAAI 1.2.1, VAAI 1.2.2, and VAAI 1.2.3 are functionally equivalent.

VAAI 1.2 requires VMware ESXi 5.5. VAAI 1.2.1 requires VMware ESXi 5.5 or VMware ESXi 6.0.

For more information, see the [Isilon Plug-ins for VMWare](#) webpage on the [EMC Online Support](#) website.

OneFS Compatibility				
ESXi Version	7.0.x**	7.1.x	7.2.x	8.0.x
ESXi 5.5		VAAI 1.2	VAAI 1.2.1	VAAI 1.2.2
ESXi 6.0			VAAI 1.2.1 VAAI 1.2.3	VAAI 1.2.1 VAAI 1.2.2 VAAI 1.2.3
ESXi 6.5				VAAI 1.2.1 VAAI 1.2.2 VAAI 1.2.3

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

VMware vSphere API for Storage Awareness (VASA)

The table in this section lists the compatible versions of OneFS, the VMware vSphere API for Storage Awareness (VASA), and VMware ESXi.

OneFS supports the following VASA versions using the specified VMware ESXi versions.

OneFS Compatibility				
	7.0.x**	7.1.x	7.2.x	8.0.x
VASA 1.0-ESXi 5.0	*			
VASA 1.0-ESXi 5.1	*	*		
VASA 1.0-ESXi 5.5	*	*	*	*
VASA 1.0-ESXi 6.0		*	*	*
VASA 1.0 - ESXi 6.5				*

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

EMC Storage Analytics (ESA) module for Isilon

The table in this section lists the compatible versions of OneFS and EMC Storage Analytics (ESA) for Isilon.

EMC Storage Analytics (ESA) links VMware vRealize Operations Manager with the EMC Adapter, also referenced as EMC Storage Analytics Connector, to monitor and analyze the performance and health of storage applications.

An Isilon adapter instance is bundled within the EMC Adapter and collects the performance metrics for an Isilon cluster. You can install ESA and configure the Isilon adapter instance by following the instructions in the EMC Storage Analytics Installation and User Guide. See the [EMC Storage Analytics for Isilon Technical Note](#) for details.

OneFS Compatibility		
ESA Module for Isilon	7.2.1	8.0.x
ESA Module for Isilon 4.0	*	*

IsilonSD Edge

The table in this section lists the compatible versions of IsilonSD Edge, IsilonSD Management Server, and VMware ESXi and vCenter Server.

VMware vCenter and ESXi Versions	Supported IsilonSD Management Server Versions	Supported OneFS VM Versions
5.5 Update 2	1.0.0, 1.0.1, 1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later
5.5 Update 3	1.0.1, 1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later
6.0	1.0.1, 1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later
6.0 Update 1	1.0.1, 1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later
6.0 Update 2	1.0.1, 1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later
6.5	1.0.2	8.0.0.0 and later, 8.0.1.0 and later, 8.1.0 and later

See the *IsilonSD Edge With IsilonSD Management Server Release Notes* corresponding to your management server version for the latest supportability information.

Authentication providers

The table in this section lists the compatible versions of remote authentication providers and OneFS.

OneFS supports the following remote authentication providers to verify that users attempting to access the cluster are who they claim to be. For information about how to connect OneFS to an authentication provider, see the [OneFS Administration Guide](#). For information about how to connect OneFS 7.x to LDAP and Active Directory in combination, see [How to connect Isilon OneFS 7.x to LDAP and Active Directory](#).

Authentication Provider	Application	Notes
Kerberos	MIT Kerberos 1.7 and later	<p>OneFS 8.0.0.0 and later releases support the following Kerberos encryption types :</p> <ul style="list-style-type: none"> • AES256-CTS • AES128-CTS • DES-CBC-CRC • DES-CBC-MD5 • RC4-HMAC <p>OneFS releases earlier than 8.0.0.0 do not support</p>

Authentication Provider	Application	Notes
		Kerberos AES256 or AES128 encryption.
LDAP	Open LDAP 2.4.x Oracle DSADM 11.1.1.7.0 and later Microsoft Active Directory: <ul style="list-style-type: none"> Windows Server 2012 R2 Windows Server 2012 Windows Server 2008 R2 Windows Server 2008 Windows 2003 R2 (OneFS 7.x and earlier) 	
NIS	NIS ypserv 2.19 and later	
Windows Active Directory	<ul style="list-style-type: none"> Windows Server 2012 R2 Windows Server 2012 Windows Server 2008 R2 Windows Server 2008 Windows 2003 R2 (OneFS 7.x and earlier) 	<p>OneFS does not support the following features in Active Directory environments:</p> <ul style="list-style-type: none"> File Integrity Levels Claims Based Identity and Access Control <p>OneFS supports Security Identifier (SID) history beginning in 8.0.1 and later releases, and 8.0.0.3 and later releases.</p>

Supported clients

The table in this section lists the clients supported by OneFS.

OneFS supports the following clients. Clients running OS X can connect to an Isilon cluster using the NFS or SMB protocol.

Supported Clients
Any NFS client that complies with the published NFSv3 or NFSv4.0 protocol standards.
Any SMB client that complies with the SMB2 or SMB3 protocol specifications.
EMC Isilon tests the following SMB clients: <ul style="list-style-type: none"> Windows 7 Windows 8.1 Windows 10 Windows Server 2008 Windows Server 2008 R2

Supported Clients
<ul style="list-style-type: none"> Windows Server 2012 OS X 10.9 OS X 10.10 OS X 10.11

Mac OS X

Clients running Mac OS X can connect to an Isilon cluster using the NFS or SMB protocol. To take advantage of SMB2 features such as color tagging files with Mac OS X 10.11, enable the SMB2 extensions.

Note

* OS X 10.4 (Tiger) is compatible with OneFS only over NFS. OS X 10.4 over SMB is not supported.

Unsupported clients

The table in this section lists the clients that are not supported by OneFS.

Unsupported Clients
Windows NT 4.0
AIX (Native SMB Client)
HPUX (Native SMB Client)
Any other SMBv1 client that uses only ASCII for setup and teardown

Web browsers

The OneFS and InsightIQ web interfaces support most modern web browsers with JavaScript, cookies, and SSL enabled. Adobe Flash is required to view charts.

The OneFS and InsightIQ web interfaces were tested with the following web browsers. OneFS and InsightIQ might work with different browsers or newer browser versions that have not been tested for compatibility. You should exercise caution before using an unsupported browser.

Browser	OneFS Compatibility
Chrome	Use the latest stable version of Chrome.
Firefox	Use the latest stable version of Firefox.
Internet Explorer	Internet Explorer 8 (works with OneFS 7.0) Internet Explorer 9, 10 (works with OneFS 7.0, 7.1, 7.2, 8.0) Internet Explorer 11 (works with OneFS 8.0)
Safari (Mac OS X)	Safari 5.1, 6 (works with OneFS 7.0, 7.1, 7.2, 8.0)

Browser	InsightIQ Compatibility
Chrome	Use the latest stable version of Chrome.
Firefox	Use the latest stable version of Firefox.
Internet Explorer	Internet Explorer 10 (works with IIQ 3.0, 3.1) Internet Explorer 11 (works with IIQ 3.2, IIQ 4.x)
Microsoft Edge	Use the latest stable version of Microsoft Edge.
Safari (Mac OS X)	Safari 5 (works with IIQ 2.5, 3.0, 3.1) Safari 8 (works with IIQ 3.2) Safari 9 (works with IIQ 4.0) Safari 10 (works with IIQ 4.0, 4.1)

Note

To access InsightIQ 2.5 and earlier through Internet Explorer, you must first install the Google Chrome Frame plug-in. If InsightIQ cannot detect the plug-in, an installation prompt appears the first time that you attempt to access InsightIQ through Internet Explorer.

Google is discontinuing support for Chrome Frame. Later versions of InsightIQ will allow you to access InsightIQ through Internet Explorer without requiring the Chrome Frame plug-in.

Apache HTTP Server

The table in this section lists the versions of the Apache HTTP server that are supported by OneFS.

OneFS supports Apache HTTP Server. Version 2.2.x is recommended. Support for Apache HTTP Server 1.3.x was removed in OneFS 6.0.

Apache Version	OneFS Compatibility			
	7.0.x**	7.1.x	7.2.x	8.0.x
Apache HTTP Server 2.2.x	*	*	*	*

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

Aspera Enterprise Server

The table in this section lists the versions of Aspera Enterprise Server that are supported by OneFS.

Each version of the OneFS operating system might require a different version of Aspera Enterprise Server. The following table lists the versions of Aspera Enterprise

Server that are compatible with OneFS. For more information, see the white paper [Aspera Enterprise Server for EMC Isilon](#).

To download Aspera, go to the [Aspera Enterprise Server for Isilon](#) web site.

For information about installing and upgrading Aspera in OneFS 8.0.0 and later, see the [OneFS 8.0.0 Upgrade Planning and Process Guide](#).

OneFS Compatibility				
Aspera Version	7.1.x	7.2.x	8.0.x	8.1.0.x
Aspera 2.7				
Aspera 3.0				
Aspera 3.1	*	*		
Aspera 3.4.6	*	*		
Aspera 3.6.0		7.2.1.3		
Aspera 3.6.2			*	
Aspera 3.7.3				*

Migration tools

OneFS supports migrating data onto Isilon clusters through built-in data migration tools. The tables in this section list the migration tools that are compatible with OneFS.

You can migrate data from NetApp storage systems through the `isi_vol_copy` tool and you can migrate data from VNXs through the `isi_vol_copy_vnx` tool. The following tables list the compatible versions of the OneFS `isi_vol_copy` command and NetApp Data ONTAP® and the OneFS `isi_vol_copy_vnx` command and DART, and VNXOE systems.

Note

The `isi_vol_copy` command is not supported for migration from NetApp Clustered Data ONTAP (CDOT)® systems. The `isi_vol_copy_vnx` command is not supported for migration from VNXe systems.

Where provided, an exact OneFS version number indicates the minimum version of OneFS that is required.

See the [Isilon OneFS Migration Tools Guide](#) for complete information.

Table 1 NetApp Data ONTAP® migration tools compatibility

OneFS Compatibility				
NetApp Data ONTAP®	7.0.x**	7.1.x	7.2.x	8.0.x
7.0.x	*	*	*	*
7.1.x	*	*	*	*

Table 1 NetApp Data ONTAP® migration tools compatibility (continued)

	OneFS Compatibility			
NetApp Data ONTAP®	7.0.x**	7.1.x	7.2.x	8.0.x
7.2.x	*	*	*	*
7.3.x	*	*	*	*
8.0.x 7-mode: 32-bit volumes	*	*	*	*
8.0.x 7-mode 64- bit volumes	7.0.1.11	7.1.0.3	*	*
8.1.x 7-mode 32- bit volumes	*	*	*	*
8.1.x 64-bit volumes	7.0.1.11	7.1.0.3	*	*
8.2.x 32-bit volumes	*	*	*	*
8.2.x 64-bit volumes	7.0.1.11	7.1.0.3	*	*

Table 2 VNX migration tools compatibility

	OneFS Compatibility			
VNX	7.0.x**	7.1.x	7.2.x	8.0.x
DART 5.6	7.0.2**	*	*	*
DART 6.0		*	*	*
VNXOE for File 7.x		*	*	*
VNXOE for File 8.x		*	*	*

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

File transfer applications

OneFS supports the `rsync` open source file transfer utility. The table in this section lists the compatible versions of OneFS and `rsync`.

The `rsync` utility is an open source utility that provides incremental file transfers between Unix-based systems using an SSH connection. `rsync` is supported as a standard Unix-level program.

Where provided, an exact OneFS version number indicates the minimum version of OneFS that is required.

rsync Version	OneFS Compatibility				
	7.0.x**	7.1.x	7.2.x	8.0.0.x	8.0.1
rsync 2.6.9					*
rsync 3.0.2	*	*	*	*	
rsync 3.0.9	*	*	*	*	

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

OneFS Simulator

This section lists the system requirements for installing OneFS Simulator virtual nodes.

OneFS Simulator is a virtual version of the physical storage nodes that you can deploy in a physical infrastructure.

Before you install a virtual node, verify that your system meets the requirements for the virtual version of OneFS. At least three virtual nodes are required to create an Isilon OneFS virtual cluster.

Virtual nodes are for demonstration purposes only and are ineligible for support or repair by Isilon Technical Support.

Component	Value	Notes
RAM	<p>Minimum of 2 GB RAM for a virtual node . This is the default requirement. 6 GB RAM recommended per virtual node per ESXi host</p> <hr/> <p>Note</p> <p>A minimum of 2.5 GB RAM per virtual node is required for a fully populated virtual cluster.</p>	<p>Virtual nodes might not function correctly if they do not meet the recommended memory requirements.</p> <hr/> <p>Note</p> <p>Other nodes that are added to your virtual environment to provide services such as the Active Directory domain controller service or DNS service, will have additional memory requirements.</p>
Processor	VT-capable processor	Virtualization technology must be enabled in the BIOS.
Hard drive	42 GB of disk space per virtual node for a fully populated virtual cluster.	
Operating system	<p>The following operating systems have been tested for and validated for the installation:</p> <ul style="list-style-type: none"> Microsoft Windows (recommended) 	All of the procedures in this guide are based on the Microsoft Windows operating system. Some of the steps in the procedures might differ based on your host operating system.

Component	Value	Notes
	<ul style="list-style-type: none"> • Ubuntu 12.04.5 and 14.04 (Linux) • CentOS 6.6 (Linux) 	
Virtual infrastructure	<p>Standalone components:</p> <ul style="list-style-type: none"> • VMware Server • VMware Fusion • VMware Workstation • VMware Player <p>VMware vSphere components:</p> <ul style="list-style-type: none"> • VMware ESXi 5.5, 6.0, 6.5 <hr/> <p>Note</p> <p>The supportability of VMware ESXi 5.5 with OneFS 8.1.0.0 has not been extensively tested. Keep this in mind as you use this version of ESXi with OneFS 8.1.0.0.</p>	<p>Install at least one standalone component.</p> <p>If you are installing VMware Workstation, VMware Player, or VMware Fusion, make sure that the external network is configured as a bridged network and not as a nat network. This configuration allows the clients to access the virtual nodes.</p> <p>VMware Player is available at: http://www.vmware.com/products/player/</p>

OneFS Anti-virus compatibility

Isilon OneFS supports the ICAP standard.

IsilonOneFS supports all anti-virus software that follows the ICAP standard.

CHAPTER 3

Protocols

This chapter includes the following topics.

- [File system protocols](#)..... 24
- [HDFS \(Hadoop\)](#)..... 24
- [SNMP](#)..... 25
- [Isilon with iSCSI](#)..... 25

File system protocols

The tables in this section list the file system protocols that are compatible with OneFS.

OneFS supports the Network File System (NFS) and Server Messenger Block (SMB) file system protocols. For information about how to configure NFS and SMB for OneFS, see the [OneFS Administration Guide](#) for your OneFS version.

Note

Where provided, an exact OneFS version number indicates the minimum version of OneFS that is required.

NFS

NFS is a client and server application that lets users view and optionally store and update files on a network as if the files were saved in a local file directory. The NFS protocol is designed to be independent of the computer, operating system, network architecture, and transport protocol.

NFS	OneFS Compatibility			
	7.0.x**	7.1.x	7.2.x	8.0.x
NFS 2	*	*		
NFS 3	*	*	*	*
NFS 4.0	*	*	*	*

SMB

SMB is an Internet protocol used by Windows computers to share files, printers, and serial ports.

SMB	OneFS Compatibility			
	7.0.x**	7.1.x	7.2.x	8.0.x
SMB 1	*	*	*	*
SMB 2	*	*	*	*
SMB 2.1	*	*	*	*
SMB 3		7.1.1	*	*

**This version of OneFS is no longer supported. For information about the support and service life cycle dates for Isilon hardware and software products, see the [Isilon Product Availability Guide](#).

HDFS (Hadoop)

OneFS supports many distributions of the Hadoop Distributed File System (HDFS).

Hadoop is an open source software project that enables distributed processing of large data sets—Big Data—across clusters of servers. Hadoop is perfect for situations where you want to quickly and cost-effectively run analytics that are deep and computationally extensive.

Hadoop distributions are updated independently of OneFS and on their own schedules.

For the latest information about Hadoop distributions that OneFS supports, see [Supported Hadoop Distributions in OneFS](#) on the [EMC Community Network \(ECN\)](#).

For information about how Isilon Scale-out NAS can be used to support a Hadoop data analytics workflow, see [Hadoop on Isilon Scale-out NAS](#).

SNMP

OneFS supports the Simple Network Management Protocol (SNMP). This section lists the compatible versions of SNMP and OneFS.

Simple Network Management Protocol (SNMP) is a popular protocol for network management. You can use SNMP to remotely monitor hardware components (for example, fans, hardware sensors, power supplies, and disks) and software or subsystems for network-connected devices (for example, network interfaces, servers, switches, and CPU use). You can enable SNMP monitoring on individual nodes on your cluster. You can also monitor cluster information from any node.

For information about how to configure SNMP for OneFS, see the [OneFS Administration Guide](#).

SNMP	OneFS Compatibility		
	7.1.x	7.2.x	8.0.x
SNMP1			
SNMP 2c	*	*	*
SNMP 3	*	*	*

Isilon with iSCSI

The following table lists the iSCSI initiators that are supported by the OneFS implementation of iSCSI.

These limitations apply:

- MC/S (Multiple Connections per Session) is not supported.
- iSCSI host bus adapters (HBAs) are not supported.
- iSNS (Internet Storage Name Service) protocol is supported on Microsoft Windows for use by the Microsoft iSNS Server service only.

Note

Support for iSCSI is deprecated as of OneFS 8.0.0.0.

Operating System	iSCSI Initiator	OneFS Compatibility		
		7.1.x	7.2.x	8.0.x
Microsoft Windows 2003	Microsoft iSCSI Initiator	*	*	
Microsoft Windows 2008	Microsoft iSCSI Initiator	*	*	

Operating System	iSCSI Initiator	OneFS Compatibility		
		7.1.x	7.2.x	8.0.x
Microsoft Windows 2008 R2	Microsoft iSCSI Initiator	*	*	
Red Hat Enterprise Linux 5	Linux Open-iSCSI Initiator	*	*	
VMware ESX 4.0 and ESX 4.1	iSCSI Initiator	*	*	
VMware ESXi 4.0 and ESXi 4.1	iSCSI Initiator	*	*	

CHAPTER 4

Hardware

The tables in this section contain OneFS and hardware compatibility information.

- [OneFS and node compatibility](#)28
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- [Drive, node, and OneFS compatibility](#) 31
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OneFS and node compatibility

The tables in this section list compatible versions of OneFS and Isilon nodes. Where provided, an exact version number indicates the minimum version of OneFS that is required.

Isilon Generation 6 platforms

The following are Isilon Generation 6 platforms. Generation 6 node types require OneFS 8.1.0 and later releases.

- F-Series (F800)
- H-Series (H400, H500, H600)
- A-Series (A200, A2000)

Isilon Generation 4 and Generation 5 platforms

The following are Isilon Generation 4 and Generation 5 platforms.

- S-Series – The answer for ultra-performance primary storage, purpose-built for high transactional and IOPS-intensive applications.
- X-Series – Strikes the right balance between large capacity and high-performance, an ideal solution for high throughput and high concurrency applications.
- NL- and HD-Series – Designed to provide cost-effective, highly scalable near-line storage.

Note

S210 and X410 node types require OneFS 7.1.1.4 or later releases. Creating new clusters that include S210 or X410 node types or adding S210 nodes to existing clusters with versions earlier than OneFS 7.1.1.4 is not supported. S210 and X410 nodes have internal components not supported in earlier versions of OneFS.

Isilon EX nodes are capacity extension nodes that do not run OneFS.

For information about OneFS and node compatibility in OneFS 7.2 and later releases, see the Node Compatibility (Equivalency) and SSD Compatibility in OneFS 7.2 and Later - Isilon Info Hub.

Isilon S-Series and X-Series nodes

Node	OneFS Compatibility			
	7.1.x	7.2.x	8.0.x	8.1.0.0
S200	*	*	*	*
S210	7.1.1.4 +	*	*	*
X200	*	*	*	*
X210		7.2.1.0	*	*
X400	*	*	*	*
X410	7.1.1.4 +	*	*	*
IQ 9000X	*			
IQ 10000X-SSD	*	*	*	

Node	OneFS Compatibility			
	7.1.x	7.2.x	8.0.x	8.1.0.0
IQ 12000X	*			
IQ 32000-SSD	*	*	*	
IQ 36000X	*	*	*	
IQ 72000X	*	*	*	

+ OneFS 7.1.1.3 and earlier releases are not supported on S210 or X410 nodes. For more information, see [article 201217](#) on the [Dell EMC Customer Support](#) site.

Isilon NL-Series and HD-Series nodes

Node	OneFS Compatibility			
	7.1.x	7.2.x	8.0.x	8.1.0.0
HD 400		*	*	*
NL 400	*	*	*	*
NL 410		7.2.1.0	*	*
IQ 108NL	*	*	*	
IQ 36NL	*			
IQ 72NL	*			

Isilon backup and performance accelerator nodes

Where provided, an exact version number indicates the minimum version of OneFS that is required. For example, the A100 accelerator nodes are compatible with OneFS 7.1.x and later.

Node	OneFS Compatibility			
	7.1.x	7.2.x	8.0.x	8.1.0.0
A100 Backup Accelerator	*	*	*	*
A100 Performance Accelerator	*	*	*	*
IQ Backup Accelerator-x	*	*	*	
IQ Performance Accelerator-x	*	*	*	

Node class compatibility

Node class compatibility enables you to deploy a newer-generation node to a SmartPools node pool that contains nodes from an earlier generation.

If the node classes are compatible, you can join a newer-generation node to an existing cluster of earlier-generation nodes while having the newer-generation node

become a member of an existing node pool. For example, if your cluster has a node pool that is made up of Isilon X200 nodes, you can define a compatibility that enables you to add an X210 node to the same node pool.

OneFS supports compatibilities for S200/ S210, X200/X210, X400/X410, and NL400/ NL410 nodes.

Node class compatibilities apply to OneFS 7.2 and later releases. The requirements are:

- Same node series (S, X, or NL)
- Same number of HDDs, SEDs, and SSDs
- Same HDD and SSD layouts
- Compatible node generations must have a compatible memory configuration
- SSD capacity must be the same in OneFS 7.2
- SSD capacity does not have to be the same in OneFS 7.2.1 (SSD Compatibility feature)
- Compatible RAM

The following tables list the compatible Isilon node classes in OneFS 7.2.1.

Table 3 S200/S210 Compatibility

S200 RAM	S210 RAM
24 GB	32 GB
48 GB	64 GB
96 GB	128 GB
	256 GB

Table 4 X200/X210 Compatibility

X200 RAM	X210 RAM
6 GB	Not available
12 GB	
24 GB	24 GB
48 GB	48 GB

Table 5 X400/X410 Compatibility

X400 RAM	X410 RAM
24 GB	32 GB
48 GB	64 GB
96 GB	128 GB
192 GB	256 GB

Table 6 NL400/NL410 Compatibility

NL400 RAM	NL410 RAM
12 GB	Not available
24 GB	24 GB
48 GB	48 GB

Drive, node, and OneFS compatibility

This section contains information about the types and brands of drives that are compatible with Isilon nodes and OneFS.

For information about the brands of drives that are compatible with Isilon nodes and OneFS, contact your Isilon sales representative or Isilon Technical Support. For information about how drives are arranged in a node, or how to replace a drive, refer to the hardware documentation for your brand of node. Hardware documentation is available from the [EMC Online Support](#) website.

Your cluster must either be running the required version of OneFS or have a patch installed that enables that drive type. Your cluster is compatible with an SSD model if it is running OneFS 7.1.0.3 or later.

Install *patch-141264* to OneFS 7.1.0 to add support for automatically detecting unsupported SSD devices and for updating the firmware of unsupported drives.

SSD drive storage

The table in this section lists the solid state drives that are compatible with OneFS.

Drive Information	Compatible Nodes	Firmware Revision
HGST, 100 GB, HUSL4010BSS600	S200, S210, X200, X400, X410, IQ 5000S-SSD, IQ 10000X-SSD, I+B2:B39Q 32000X-SSD	A1D0
HGST, 100 GB, HUSL4010ASS600	S200, X200, X400, IQ 5000S-SSD, IQ 10000X-SSD, IQ 32000X-SSD	A18M
HGST, 200 GB, HUSMM1620ASS200	S200, S210, X200, X400, X410	A18M
HGST, 200 GB, HUSMM8020ASS200	S200, S210, X200, X400, X410	A210
HGST, 200 GB, HUSL4020BSS600	S200, S210, X200, X400, X410	A1D0
HGST, 200 GB, HUSL4020ASS600	S200, S210, X200, X400, X410	A18M
HGST, 400 GB, HUSMM1640ASS200	S200, S210, X200, X400, X410	A204

Drive Information	Compatible Nodes	Firmware Revision
HGST, 400 GB, HUSMM8040ASS200	S200, S210, X200, X400, X410	A210
HGST, 400 GB, HUSL4040BSS600	S200, S210, X200, X400, X410	A1D0
HGST, 400 GB, HUSL4040ASS600	S200, S210, X200, X400, X410	A182, A18M, A18M
HGST, 800 GB, HUSMM1680ASS200	S200, S210, X200, X400, X410, NL400	A204
HGST, 800 GB, HUSMM8080ASS200	S200, S210, X200, X400, X410, NL400	A210
HGST, 800 GB SED, HUSMM1680ASS205	HD400, NL400, X200, X400, X410	C322
HGST, 1.2 TB, HUC101812CSS200	S200, S210	A9C1
HGST 1.6 TB, HUSMM1616ASS200	S200, S210, X200, X400, X410	A204
HGST, 800GB SED, HUSMM1680ASSS205	S200, S210, X200, X210, X400, NL400, NL410, HD400	D252, D326
HGST, 1.6TB SED, HUSMM1616ASS205	S210, X410, NL400/NL410, HD400	D344
Micron, 200 GB, P300- MTFDDAC200SAL	S200, S210, X200, X400, X410	1
Samsung REX, 400 GB, S1635N04EMC400	S200, S210, X200, X210, X400, X410, NL400, NL410, HD400	EQS3
Samsung REX, 800 GB, S1635N08EMC800	S200, S210, X200, X210, X400, X410, NL400, NL410, HD400	EQS3
Samsung REX, 1.6 TB, S1635N16EMC1600	S200, S210, X200, X210, X400, X410, NL410, HD400	EQS3
STEC, 200 GB, M8ISB2B-200UC	S200, S210, X200, X400, X410	2832
Samsung REX, 400 GB, PA35N400EMC400	A200, A2000	EQL3
Samsung REX, 800 GB, PA35N800EMC800	NL410, HD400, H400	EQL3
Samsung REX, 1.6 TB, PA35N1T6EMC1600	NL410, HD400, F800, H400, H500, H600	EQL3
Samsung REX, 3.2TB, PA35N3T2EMC3200	F800, H400, H500, H600	EQL3
Samsung REX, 15.36TB, PA33N15TEMPC15T3	F800	EQHA

Embedded flash storage

The table in this section lists the embedded flash drives that are compatible with OneFS.

Drive Information	Compatible Nodes	Firmware Revision
Netlist, 8 GB, SSD 8GB-001	S200, X200, X400, X410, NL400, IQ 108NL, IQ 108000X	S5FAM017, S5FAM018
Netlist, 8 GB, SSD 8GB-002	S200, X200, X400, X410, NL400, IQ 108NL, IQ 108000X	S9FM01.6
SanDisk, 8 GB, SSD P4 8GB	S200, X200, X400, X410, NL400, IQ 108NL, IQ 108000X	SSD 8.00, SSD 8.10
Smart Modular, 8 GB, iSATA SGSLM3E8GBM01ISI	S200, X200, X400, X410, NL400, IQ 108NL, IQ 108000X	Ver7.02k
Smart Modular, 8GB, iSATA SG9SLM3B8GBM11ISI	S200, X200, X400, NL400, IQ 108NL	Ver7.02k, Ver7.02w
Smart Modular, 8 GB, iSATA SG9SLM3E8GBM11ISI	S200, X200, X400, X410, NL400, IQ 108NL, IQ 108000X	Ver7.02w, Ver7.02k
SmartModular, 32 GB, mSATA SG9MST3D32GBM01	S210, X410	Ver7.02w
SmartModular, 32 GB, mSATA SGMST3D32GBM11ISI	S210, X410	Ver7.02w
SmartModular XP+, 32 GB mSATA SHMST6D032GHM11MC 118000100	HD400, NL410, S210, X210, X410	S8FM08.2
SmartModular XP+, 32 GB SHSLM6B032GHM11EMC	NL400, X200, X400, X410, 108NL	S8FM08.2
SmartModular XP+, 32GB S- S 8GB SHSLM6BA08GHM11EMC	NL400, X200, X400, X410, 108NL	S8FM08.2
SmartModular 10* 32GB S-S 8GB SHSLM6BA08GLM21EMC	NL400, X200, X400, X410, 108NL	1120
SmartModular 64GB S-S 32GB SHMST6DA32GLM21EMC	S210, X210, X410, NL410, HD400	1120
SmartModular 64GB SHSLM6B032GHM11EMC (Journal Protection Drive)	H600, H500, H400, A200, A2000	1120
SmartModular 128GB SHM2S6D128GLM21EMC (Journal Protection Drive)	F800	1120

Drive Information	Compatible Nodes	Firmware Revision
Intel S3500 80GB SSDSCKHB080G4M (Journal Protection Drive)	F800, H600, H500, H400, A200, A2000	EM05

SAS hard disk drives

The table in this section lists the SAS hard disk drives that are compatible with OneFS.

Drive Information	Compatible Nodes	Firmware Revision
HGST, 300 GB, HUC106030CSS600	S200	A430
HGST, 600 GB, HUC106060CSS600	S200	A430
HGST, 300 GB, HUC109030CSS600	S200	A5B0
HGST, 300 GB, HUC10603 CLAR300	A100	C330
HGST, 300 GB, HUC106030CSS600	S200	A430
HGST, 600 GB, HUC106060CSS600	S200	A430
HGST, 300 GB, HUC109030CSS600	S200	A5B0
HGST, 300 GB, HUC10603 CLAR300	A100	C330
HGST, 300 GB, HUC10903 CLAR300	A100	C600
HGST, 600 GB, HUC109060CSS600	S200	A5B0
HGST, 900 GB, HUC109090CSS600	S200	A5B0
HGST, 1.2 TB, HUC101212CSS600	S200	A469
HGST, 1.2 TB, HUC101812CSS200	S200, S210	A703, A9C1
HGST, 450 GB, HUS156045VLS600	5000S-SSD	A760
HGST, 6 TB, HUS726060ALA640	NL400, HD400	AHIST1EZ
Seagate, 300 GB, ST9300605SS	S200	IS00
Seagate, 300 GB, ST300MM0006	S200, S210	0003

Drive Information	Compatible Nodes	Firmware Revision
Seagate, 300 GB, ST930060 CLAR300	A100	CS18, S19
Seagate, 300 GB, ST300MM0 CLAR300	A100	LS17
Seagate, 600 GB, ST9600205SS	S200	IS00
Seagate, 600 GB, ST600MM0006	S200, S210	0003
Seagate, 900 GB, ST9900805SS	S200	IS00
Seagate, 900 GB, ST900MM0006	S200, S210	0003
HGST, 600GB, HUC101860CSS200	H600	L9H0
HGST, 1.2TB, HUC101812CSS200	H600	L9H0

SATA HDD drive storage

The table in this section lists the SATA HDD drives that are compatible with OneFS.

Drive Information	Compatible Nodes	Firmware Revision
HGST, 500 GB, HDS725050KLA360	X200, X400, NL400, IQ 6000X, IQ 12000X, IQ Performance Accelerator-x	K2A0AD1A
HGST, 500 GB, HUA722050CLA330	X200, X400, NL400, IQ 6000X, IQ Performance Accelerator-x	JP20A3PA
HGST, 1 TB, HUA722010CLA330	X200, X400, NL400, IQ 36NL, IQ 10000X-SSD, IQ 12000X, IQ 32000X-SSD, IQ 36000X	JP40A3PA
HGST, 1.2 TB, C10K1800	S200, S210	A9C1
HGST 1.6 TB, HUSMM151CLAR1600		C342
HGST, 2 TB, HUA722020ALA330	X200, X400, NL400, IQ 72NL, IQ 72000X	JKAOA3PA
HGST, 2 TB, HUA723020ALA640	X200, X400, NL400, IQ72NL, IQ 72000X	MK70AA50
HGST, 2 TB, HUS724020ALA640	X200, X400, NL400, IQ 72000X, IQ 72NL	MF60AC50
HGST, 2TB, HUS726020ALN610	X400, NL400, X410, NL410	A5EIT922

Drive Information	Compatible Nodes	Firmware Revision
HGST, 3TB, HUS724030ALA640	X200, X400, NL400, IQ 72000X, IQ 72NL	MF6OAC50
HGST, 3 TB, HUA723030ALA640	X200, X400, NL400, IQ 108NL, IQ 108000X	MKAOAA50, MKA0A580
HGST, 3 TB, HUS724040ALA640	X200, X400, NL400, IQ 72000X, IQ 72NL	MF8OAC50 MFAOAC50
HGST, 4 TB, HUS724040ALA640	X400, NL400, NL400, IQ72000X, IQ 72NL	MFAOAC50
HGST, 4TB, HUS724020ALA640	X200, X400, NL400, IQ72000X, IQ 72NL	MF6OAC50
HGST, 4TB, HUS726040ALN610	X400, NL400, X410, NL410	A5EIT922
HGST, 6TB, HUS726060ALN610	HD410, HD400	APEIT922
HGST, HC6TB, HUS726060ALA640	HD410, HD400	AHIST1EZ
HGST, 8 TB, HUH728080ALN600	HD410, HD400	A4GNT920 A4EIT921
HGST, 8TB, H5H72808CLAR8000	HD410, HD400	M9L0
Seagate, 3 TB, ST33000650NS	X200, X210, X400, NL400, NL410, IQ 108NL	0002 0006 C007
Seagate, 4TB, ST4000NM0063	X210, X400, X410, NL400, NL410	0006 C007
Seagate, 1 TB, ST1000NM0033-9ZM173	X200, X400, NL400, IQ 36NL, IQ 36000X, IQ 10000X-SSD, IQ 12000X, IQ 32000X-SSD	SNG4 EN06 EN07
Seagate, 1 TB MakaraBP, ST1000NM0055-1V410C	X200, X400, NL400, X210, X410, NL410	BL06
Seagate, 2 TB, ST2000NM0033-9ZM175	X200, X400, NL400, IQ 72NL, IQ 72000X	SNG4 EN06 EN07
Seagate, 2 TB MakaraBP, ST2000NM0055-1V4104	X200, X400, NL400, X210, X410, NL410	BL06
Seagate, 3 TB, ST3000NM0033-9ZM178	X200, X400, NL400, IQ 108NL, IQ 108000X	SNG4 EN06 EN07
Seagate, 3 TB MakaraBP, ST3000NM0005-1V410N	X200, X400, NL400, X210, X410, NL410	BL06
Seagate, 4 TB, ST4000NM0033-9ZM170	X400, NL400	SNG4 EN06 EN07
Seagate, 4 TB MakaraBP, ST4000NM0035-1V4107	X200, X400, NL400, X210, X410, NL410	BL06

Drive Information	Compatible Nodes	Firmware Revision
Seagate, 6 TB, ST6000NM0004-1FT17Z	S200, S210, X200, X210, X400, X410, NL400, NL410, IQ 108NL, HD400	EN05
STEC, 100 GB, MACH8 IOPS	5000S-SSD, 32000X-SSD	2828
Western Digital, 1 TB, WD1002FBYS-02A6B0	IQ 36NL, IQ 36000X	03.02C06
Seagate, 3 TB, ST3000NM0063	X200, X400, X410, NL400	0004 0006
Seagate, 3 TB, ST33000652SS	X200, X400, X410, NL400	A006
Seagate, 4 TB, ST4000NM0063	X400, X410, NL400	0004 0006
Seagate, 6 TB, ST6000NM0114	S200, S210, X200, X210, X400, X410, NL400, NL410, HD400	KF05
Seagate, 8TB, ST8000NM0045	H400, H500, A200	UG05
HGST, 2TB, HUS726020ALN610	H400, H500, A200	APGNT840
HGST, 4TB, HUS726040ALN610	H400, H500, A200	APGNT840
HGST, 8TB, HUH721008ALN600	H400, H500, A200	LHEMT290
HGST, 10TB, HUH721010ALN600	A2000	LHEMT290

Node firmware package updates

The table in this section lists the Node Firmware Packages that are compatible with Isilon nodes. For example, Node Firmware Package 9.3.4 is compatible with the S-Series, X-Series, NL-Series, A100, and HD400 nodes.

Node Firmware Packages are provided by Isilon Technical Support. For information about Node Firmware Packages, see the product documentation that is available from the [EMC Online Support](#) website.

Firmw are	S-Series	X-Series	NL-Series	A100	HD400	F-Series	H-Series	A-Series
1.0		*						
2.0	*	*	*					
3.0	*	*	*					
5.0	*	*	*					
5.1	*	*	*					

Firmw are	S- Series	X- Series	NL- Series	A100	HD400	F-Series	H- Series	A-Series
6.0	*	*	*					
6.1	*	*	*					
7.1	*	*	*					
8.0	*	*	*					
8.1	*	*	*					
8.2	*	*	*					
8.3	*	*	*					
9.0.1+	*	*	*	*				
9.2.2	*	*	*	*	*			
9.2.3	*	*	*	*	*			
9.3.1	*	*	*	*	*			
9.3.2	*	*	*	*	*			
9.3.3	*	*	*	*	*			
9.3.4	*	*	*	*	*			
9.3.5	*	*	*	*	*			
10.0.1	*	*	*	*	*	*	*	*

Note

Only update firmware with Node Firmware Package 10.0.1 if your cluster contains Generation 6 hardware or Gen 5 with 40G Ethernet cards. If your cluster does not contain Generation 6 hardware or Gen 5 with 40G Ethernet cards, update your firmware with Node Firmware Package 9.3.5.

Note

The S210, X210, X410, and NL410 nodes are compatible with Node Firmware Package 9.0.1 and later.

The F-Series, H-Series, and A200 and A2000 nodes are compatible with OneFS8.1.x and later releases.

Drive firmware package updates

Isilon drive firmware packages include the current release of firmware for all drives qualified by Isilon.

If your cluster is running OneFS 7.1.1 or later, update the drive firmware of nodes with bootflash drives by installing the latest Drive Support Package.

Drive Firmware Package updates are cumulative; all the drives in this table are compatible with Isilon software and hardware. Drive Firmware Packages are provided by Isilon Technical Support. Depending on the version of OneFS you are running, the

Drive Firmware Package might also include a patch to add support to OneFS for new drives.

For information about installing and applying Drive Firmware Packages—as well as information about preparing OneFS prior to updating drive firmware—see the [Isilon Drive Firmware Package Release Notes](#).

Drive support package updates

Isilon drive support packages contain drive firmware updates for Isilon clusters.

Installing the latest drive support package allows you to update the drive firmware to the latest supported revisions.

You can install a drive support package only if your cluster meets the following system requirements:

- The cluster must be running OneFS 7.1.1 or later.
- The cluster includes nodes that contain bootflash drives. Nodes from the following series contain bootflash drives: HD400,108NL, NL400, NL410, S200, S210, X200, X210, X400, X410.

Note

In OneFS 7.1.1 and later, firmware versions are managed through the Drive Support Package (DSP). The DSP enables you to install the latest firmware version on all versions of OneFS. See the release notes for the latest version of the DSP for details.

For information about installing and applying drive support packages—as well as information about preparing OneFS before updating drive firmware—see the [Isilon Drive Support Package Release Notes](#).

Note

Drive support packages are not supported on SSDs.

Supported Generation 6 front end NICs

The tables in this section list the supported and recommended Generation 6 front end network interface cards (NICs).

Application	Supplier	Supplier part #	Part #
10GE	Mellanox	MCX312C-XCCS	105-000-855-00
10GE	Intel	EX520DA2G2P5	105-000-843-00
40GE	Mellanox	MCX314A-BCCS	105-000-492-00
40GE	Intel	EXL710QDA2G1P5	105-000-844-00

Qualified Generation 6 optics for front end NICs

This section lists the Generation 6 optics that are qualified by Dell EMC for front end network interface cards (NICs).

Optic	Part #	Cable length(s) supported	Comments
10GE MultiMode SFP+ Optic	019-078-041	300M OM3 400M OM4	
40GE QSFP+ Optic	019-078-046	100M OM3 150M OM4	
40GE QSFP+ Cisco BiDi Optic *	QSFP-40G-SR-BD (Manufacturer part #)	100M OM3 150M OM4	Not sold by Dell EMC. Only qualified for use with qualified 40GE NICs and Cisco Switches.

Note

40GE NICs require the following minimum firmware level to support the Cisco BiDi Optics:

- Mellanox 2.36.5120
- Intel 5.05

Cables, switches, and compatible nodes

The tables in this section list the InfiniBand cables and switches that are compatible with Isilon nodes.

You can use different lengths of cable in combination on a single node.

Model #	Description	Type	Compatible Nodes	Compatible Switches
850-0035	Cable, IB DDR, CX4-CX4, 1M	Copper	S200, X200, X400, NL400, IQ- and IQ Accelerator-x nodes	Cisco/ TopSpin/SMC 7000/7008 series, Flextronics switches, Intel 90XX, 9120 series, Mellanox MTS2400 series*
850-0029	Cable, IB DDR, CX4-CX4, 3M	Copper	S200, X200, X400, NL400, IQ- and IQ Accelerator-x nodes	Cisco/ TopSpin/SMC 7000/7008 series, Flextronics switches, Intel 90XX, 9120 series, Mellanox MTS2400 series*

Model #	Description	Type	Compatible Nodes	Compatible Switches
850-0030	Cable, IB DDR, CX4-CX4, 5M	Copper	S200, X200, X400, NL400, IQ- and IQ Accelerator-x nodes	Cisco/ TopSpin/SMC 7000/7008 series, Flextronics switches, Intel 90XX, 9120 series, Mellanox MTS2400 series*
851-0201	Cable, IB DDR, CX4-CX4, 8M	Copper	S200, X200, X400, NL400, IQ- and IQ Accelerator-x nodes	Cisco/ TopSpin/SMC 7000/7008 series, Flextronics switches, Intel 90XX, 9120 series, Mellanox MTS2400 series*
851-0153*	Cable, IB Hybrid, QSFP-CX4, 1M	Copper	S-, X-, NL-, and IQ- nodes IQ Accelerator-x nodes, A100	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0154*	Cable, IB Hybrid, QSFP-CX4, 3M	Copper	S-, X-, NL-, and IQ- nodes IQ Accelerator-x nodes, A100	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0155*	Cable, IB Hybrid, QSFP-CX4, 5M	Copper	S-, X-, NL-, and IQ- nodes IQ Accelerator-x nodes, A100	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0156*	Cable, IB Hybrid, QSFP-CX4, 6M	Copper	S-, X-, NL-, and IQ- nodes All IQ Accelerator-x nodes, A100	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0173*	Cable, IB Hybrid, QSFP-CX4, 10M	Copper	S-, X-, NL-, and IQ- nodes IQ Accelerator-x nodes, A100	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0208	Cable, IB QDR, QSFP-QSFP, 1M	Copper	S210, X410, A100, HD400, X210, NL410, F800, H400, H500, H600, A200, A2000	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series

Model #	Description	Type	Compatible Nodes	Compatible Switches
851-0209	Cable, IB QDR, QSFP-QSFP, 3M	Copper	S210, X410, A100, HD400, X210, NL410, F800, H400, H500, H600, A200, A2000	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0210	Cable, IB QDR, QSFP-QSFP, 5M	Copper	S210, X410, A100, HD400, X210, NL410, F800, H400, H500, H600, A200, A2000	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0211	Cable, IB QDR-QSFP/ QSFP-ACT OPT-10M	Optical	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0222**	Transceiver/ Optic/SFP+/SR/ 40Gbe	N/A	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0224	Cable, IB MPO, Transceiver, 10M	Optical	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0225	Cable, IB MPO, Transceiver, 30M	Optical	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0226	Cable, IB MPO, Transceiver, 50M	Optical	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series
851-0227	Cable, IB MPO, Transceiver, 100M	Optical	S210, X410, A100, HD400, X210, NL410	Intel/Glogic 12200/12300/12800 Series, Mellanox 8/18/36 port QDR Series

* Use a hybrid QSFP-CX4 cable to connect InfiniBand switches with CX4 ports to nodes that have QSFP ports (A100, S210, and X410).

** Two 851-0222 transceivers are needed for every cable order for 851-0224, 851-0225, 851-0226, and 851-0227.

Ethernet compliant switches

Isilon nodes support industry-standard 1 GbE and 10 GbE switches for front end/client-side networking. Ethernet switches should meet the following minimum requirements:

- Include non-blocking switch fabric
- Support jumbo frames

Generation 6 10GE qualified backend ethernet cables (NIC-compatible qualification)

This section lists the 10GE NIC-compatible backend ethernet cables qualified for Generation 6 hardware by Dell EMC.

The backend ethernet cables listed in this section have been qualified by Dell EMC to be compatible with the NICs and optics listed, and only with the NICs and optics listed. Dell EMC does not qualify front end cables. For more information, contact your Isilon representative or Isilon Technical Support.

Orderable part #	Assembled cable part #	Optic part # (if applicable)	Cable type	Active/Passive	Connector	Length	Application
851-0262	038-003-728-01	N/A	Copper	Passive	SFP+	1m	10Ge
851-0263	038-003-729-01	N/A	Copper	Passive	SFP+	3m	10Ge
851-0264	038-004-730-01	N/A	Copper	Passive	SFP+	5m	10Ge
851-0266	038-004-153	019-078-041	Optical	Passive	LC	10m	10Ge
851-0267	038-004-154	019-078-041	Optical	Passive	LC	30m	10Ge
851-0268	038-004-155	019-078-041	Optical	Passive	LC	50m	10Ge
851-0269	038-004-156	019-078-041	Optical	Passive	LC	100m	10Ge
851-0270	038-004-591	019-078-041	Optical	Passive	LC	150m	10Ge
851-0278	038-004-506-03	N/A	Copper	Passive	QSFP to SFP	1m	Breakout: 40Ge/10Ge (4)
851-0279	038-004-507-03	N/A	Copper	Passive	QSFP to SFP	3m	Breakout: 40Ge/10Ge (4)

Orderable part #	Assembled cable part #	Optic part # (if applicable)	Cable type	Active/Passive	Connector	Length	Application
851-0280	038-004-508-03	N/A	Copper	Passive	QSFP to SFP	5m	Breakout: 40Ge/10Ge (4)

Generation 6 40GE qualified backend ethernet cables (NIC-compatible qualification)

This section lists the 40GE NIC-compatible backend ethernet cables qualified for Generation 6 hardware by Dell EMC.

The backend ethernet cables listed in this section have been qualified by Dell EMC to be compatible with the NICs and optics listed, and only with the NICs and optics listed. Dell EMC does not qualify front end cables. For more information, contact your Isilon representative or Isilon Technical Support.

Orderable part #	Assembled cable part #	Optic part #	Cable type	Active/Passive	Connector	Length	Application
851-0253	038-002-064-01	Optic N/A	Copper	Passive	QSFP+	1m	40Ge
851-0254	038-002-066-01	Optic N/A	Copper	Passive	QSFP+	3m	40Ge
851-0255	038-002-139-01	Optic N/A	Copper	Passive	QSFP+	5m	40Ge
851-0274	038-004-214	019-078-046	Optical	Passive	MPO	1m	40Ge
851-0275	038-004-216	019-078-046	Optical	Passive	MPO	3m	40Ge
851-0276	038-004-217	019-078-046	Optical	Passive	MPO	5m	40Ge
851-0224	038-004-218	019-078-046	Optical	Passive	MPO	10m	40Ge
851-0225	038-004-219	019-078-046	Optical	Passive	MPO	30m	40Ge
851-0226	038-004-220	019-078-046	Optical	Passive	MPO	50m	40Ge
851-0227	038-004-221	019-078-046	Optical	Passive	MPO	100m	40Ge
851-0277	038-000-139	019-078-046	Optical	Passive	MPO	150m	40Ge

SFP transceivers for Generation 4 and Generation 5 nodes

The table in this section lists SFP/SFP+ transceivers that have been certified by Isilon or have been reported by other sources to work with Isilon nodes.

Note

Because of the quantity and variety of SFP/SFP+ transceivers that exist, Isilon cannot test or qualify all the transceivers that are available. It is possible that some SFP/SFP+ transceivers that have been reported to work by other sources might not work in all environments. You should contact your Isilon sales representative if you have any questions.

The following are the supported network interface cards (NICs) and compatible nodes.

NICs	Compatible Nodes
Chelsio	S200, X200, X400, NL400, 36NL, 72NL, 108NL
QLogic/Broadcom	S210, X210, X410, NL410, HD400
Intel	A100 Performance Accelerator

Manufacturer	MFR Part #	Isilon Part #	Isilon Certified	Type	Works with NIC
Avago	AFBR709AS MZ-E2		Yes	Optical, Multimode [SR]	Chelsio
Chelsio	SM10G-SR	047-0001-01	Yes	Optical, Multimode [SR]	Chelsio
Finisar	FTLX8571D3B CL SR	047-0001-01	Yes	Optical, Multimode [SR]	Chelsio
JDSU	PLRXPL-SC-S43-41B	047-0001-01	Yes	Optical, Multimode [SR]	Chelsio
Arista Networks	CAB-SFP-SFP Rev 0002 (1, 2 meter)		No	TwinAx, Passive	Chelsio
Brocade	57-0000075-01		No	Optical, Multimode [SR]	Chelsio
Chelsio	SM10G-LR		No	Optical, Single mode [LR]	Chelsio
Cisco	QSFP-4SFP10G-CU5M(5)		No	TwinAx, Passive	Chelsio

Manufacturer	MFR Part #	Isilon Part #	Isilon Certified	Type	Works with NIC
	meter) [Quad cable]				
Cisco	SFP-H10GB-ACU10M Rev 02 & Rev B (10 meter)		No	TwinAx, Passive	Chelsio
Cisco	SFP-H10GB-CU3M Rev A0 (3 meter)		No	TwinAx, Passive	Chelsio
Cisco	SFP-H10GB-CU5M (5 meter)		No	TwinAx, Passive	Chelsio
Finisar	FTLX8571D3B CL LR		No	Optical, Multimode [SR]	Chelsio
JDSU	PLRXPL-SC-S43-22N		No	Optical, Multimode [SR]	Chelsio
Juniper	740-030077 Rev 1 & Rev A (3 meter)		No	TwinAx, Passive	Chelsio
Merge Optics	TRX10GVP20 10		No	Optical, Multimode [SR]	Chelsio
Molex	75752-2301 (3 meter)		No	TwinAx, Passive	Chelsio

SR: short range

LR: long range

Known SFP transceiver incompatibilities

The following SFP transceivers are known to be incompatible with Isilon nodes.

Manufacturer	MFR Part #	Description
Cisco	SFP-H10GB-ACU7M	Does not work with newer Isilon nodes with QLogic NIC cards, such as S210 nodes.
Amphenol	571540007 Rev K (1 meter)	Does not work with OneFS 8.0.x and later releases.
Amphenol	571540002 Rev K (3 meter)	Does not work with OneFS 8.0.x and later releases.

Mellanox-approved 10GE cables and optics for Generation 6 hardware

This section lists the 10GE cables and optics that Mellanox has approved for use with Generation 6 hardware. These cables and optics have not been qualified by Dell EMC.

Orderable part #	Description
CAB-SFP-SFP-1M	Passive copper cable, SFP+, 10 Gb/s, 1m
CAB-SFP-SFP-2M	Passive copper cable, SFP+, 10 Gb/s, 2m
CAB-SFP-SFP-3M	Passive copper cable, SFP+, 10 Gb/s, 3m
CAB-SFP-SFP-5M	Passive copper cable, SFP+, 10 Gb/s, 5m
XDL-TWX0101	Brocade passive copper cable, SFP+, 10 Gb/s, 1m
XDL-TWX0301	Brocade passive copper cable, SFP+, 10 Gb/s, 3m
XDL-TWX0501	Brocade passive copper cable, SFP+, 10 Gb/s, 5m
SFP-H10GB-CU1M	Cisco SFP+ cable
SFP-H10GB-CU3M	Cisco SFP+ cable
SFP-H10GB-CU5M	Cisco SFP+ cable
MC2309124-007	QSFP-4SFP10G
SFP-10G-SR	CISCO 10GBASE-SR SFP Module
MC2309124-007	QSFP-4SFP10G
0NWGTV	SFP+ to SFP+ copper cable 1M
0C4D08	SFP+ to SFP+ copper cable 1M
0V250M	SFP+ to SFP+ copper cable 1M
0NMMT9	SFP+ to SFP+ copper cable 1M
053HVN	SFP+ to SFP+ copper cable 3M
05CWK6	SFP+ to SFP+ copper cable 3M
00F1VT9	SFP+ to SFP+ copper cable 3M
00358VV	SFP+ to SFP+ copper cable 5M
05CN56	SFP+ to SFP+ copper cable 5M
0V492M	SFP+ to SFP+ copper cable 5M
0W25W9	SFP+ to SFP+ copper cable 5M
0J90VN	40GbE QSFP+ to QSFP+ copper cable 5M
TCPM2	QSFP+ to 4xSFP+ copper cable 1M
27GG5	QSFP+ to 4xSFP+ copper cable 3M

Orderable part #	Description
P8T4W	QSFP+ to 4xSFP+ copper cable 5m
0WTRD1	Dell 10Gb SR SFP+ Opt
C4D08	Force 10passive copper cable, SFP+, 10 Gb/s, 1m
53HVN	Force 10passive copper cable, SFP+, 10 Gb/s, 3m
5CN56	Force 10passive copper cable, SFP+, 10 Gb/s, 5m
J9281B	HP X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable
J9283B	HP X242 10G SFP+ SFP+ 3m DAC Cable
J9285B	HP X242 10G SFP+ SFP+ 7m DAC Cable
JD096B	HP X240 10G SFP+ SFP+ 1.2m DAC Cable
JD095B	HP X240 10G SFP+ SFP+ 0.65m DAC Cable
JD097B	HP X240 10G SFP+ SFP+ 3m DAD Cable
JD096C	HP X240 10G SFP+ SFP+ 1.2m DAC Cable
JD095C	HP X240 10G SFP+ SFP+ 0.65m DAC Cable
JD097C	HP X240 10G SFP+ SFP+ 3m DAD Cable
487649-B21	HP BLc SFP+ .5m 10GbE Copper Cable
487652-B21	HP BLc SFP+ 1m 10GbE Copper Cable
487655-B21	HP BLc SFP+ 3m 10GbE Copper Cable
537963-B21	HP BLc SFP+ 5m 10GbE Copper Cable
487658-B21	HP BLc SFP+ 7m 10GbE Copper Cable
AP784A	HP 3m C-series Passive Copper SFP+ Cable
AP785A	HP 5m C-series Passive Copper SFP+ Cable
AP818A	HP 1m B-series Active Copper SFP+ Cable
AP819A	HP 3m B-series Active Copper SFP+ Cable
455883-B21	HP BLc 10Gb SR SFP+ Opt
455886-B21	HP BLc 10Gb LR SFP+ Opt
J9150A	HP X132 10G SFP+ LC SR Transceiver
J9151A	HP X132 10G SFP+ LC LR Transceiver
AJ839A	HP 50m Multi-mode OM3 LC/LC FC Cable
AJ838A	HP 30m Multi-mode OM3 LC/LC FC Cable
AJ837A	HP 15m Multi-mode OM3 LC/LC FC Cable
AJ836A	HP 5m Multi-mode OM3 LC/LC FC Cable
AJ834A	HP 1m Multi-mode OM3 LC/LC FC Cable

Orderable part #	Description
AJ833A	HP 0.5m Multi-mode OM3 LC/LC FC Cable
JG329A	HP X240 40G QSFP+ to 4x10G SFP+ 1m
JG330A	HP X240 40G QSFP+ to 4x10G SFP+ 3m
JG331A	HP X240 40G QSFP+ to 4x10G SFP+ 5m
JD095C	HP X240 10G SFP+ SFP+ 0.65m DAC Cable
90Y9425-N28500A	IBM-Amphenol SFP+ 1m
46K6184-L36836B	IBM-Amphenol SFP+ 5m
46K6183-L36836B	IBM-Amphenol SFP+ 3m
44X1371-N31295E	IBM-Amphenol SFP+ 7m
95Y1634-N31295E	IBM SFP+ to SFP+ copper cable 5M
44x1368-N31295E	IBM SFP+ to SFP+ copper cable 0.5M
46K6182-L36836B	IBM SFP+ to SFP+ copper cable 1M
46K6183-L36836B	IBM SFP+ to SFP+ copper cable 3M
46K6184-L36836B	IBM SFP+ to SFP+ copper cable 5M
QFX-SFP-DAC-1M	SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 1 m
QFX-SFP-DAC-3M	SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 3 m
QFX-SFP-DAC-5M	SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 5 m
740-021308	Juniper 10GE SFP+ module
MC2309124-004	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 4M
MC2309124-005	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 5M
MC2309124-006	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 6M
MC2309124-007	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 7M
MC2309130-001	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 1M
MC2309130-002	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 2M
MC2309130-003	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 3M
MC2309130-00A	Mellanox Passive Copper Cable ETH 10GBE 10GbE QSFP TO SFP+ 0.5M
MC2609125-004	Mellanox Passive Copper Hybrid Cable ETH 40GBE TO 4X10GBE QSFP TO 4X SFP+ 4M

Orderable part #	Description
MC2609125-005	Mellanox Passive Copper Hybrid Cable ETH 40GBE TO 4X10GBE QSFP TO 4X SFP+ 5M
MC2609130-001	Mellanox Passive Copper Hybrid Cable ETH 40GBE TO 4X10GBE QSFP TO 4X SFP+ 1M
MC2609130-002	Mellanox Passive Copper Hybrid Cable ETH 40GBE TO 4X10GBE QSFP TO 4X SFP+ 2M
MC2609130-003	Mellanox Passive Copper Hybrid Cable ETH 40GBE TO 4X10GBE QSFP TO 4X SFP+ 3M

Mellanox-approved 40GE cables and optics for front-end use with Generation 6 hardware

This section lists the 40GE cables and optics that Mellanox has approved for front-end use with Generation 6 hardware. These cables and optics have not been qualified by Dell EMC.

Orderable part #	Description
40GbE QSFP+ to QSFP	QSFP+ copper cable 3M
40GbE QSFP+ to QSFP	QSFP+ copper cable 5M
QSFP-H40G-CU1M	Cisco QSFP 40GbE cable
QSFP-H40G-CU3M	Cisco QSFP 40GbE cable
QSFP-H40G-CU5M	Cisco QSFP 40GbE cable
QSFP-40G-SR4	CISCO 40G QSFP Module
05NP8R	40GbE QSFP+ to QSFP+ copper cable 1M
00FC6KV	40GbE QSFP+ to QSFP+ copper cable 3M
0RF2MY	Dell 40GbB QSFP module
10093084-200AHFLF	FCI QSFP 0.75m 40GbE cable
10093084-2005HFLF	FCI QSFP 0.5m 40GbE cable
10093084-2010HFLF	FCI QSFP 1m 40GbE cable
NWGTV	Force 10 passive copper cable, QSFP, 40 Gb/s, 1m
V492M	Force 10 passive copper cable, QSFP, 40 Gb/s, 5m
GP-QSFP-40GE-1SR	Force10 - Dell 40GbB QSFP module
JG325B	HP X140 40G QSFP+ MPO SR4 Transceiver
JG325A	HP X140 40G QSFP+ MPO SR4 Transceiver
JG326A	HP X240 40G QSFP+ QSFP+ 1m DAC Cable
JG327A	HP X240 40G QSFP+ QSFP+ 3m DAC Cable

Orderable part #	Description
JG328A	HP X240 40G QSFP+ QSFP+ 5m DAC Cable
00D5802-N13445C	IBM 40GbE QSFP+ to QSFP+ copper cable 1M
BN-QS-QS-CBL-3M	IBM 40GbE QSFP+ to QSFP+ copper cable 3M
BN-QS-QS-CBL-5M	IBM 40GbE QSFP+ to QSFP+ copper cable 5M
MC2210126-004	Mellanox Passive Copper Cable ETH 40GBE 40GbE QSFP 4M
MC2210126-005	Mellanox Passive Copper Cable ETH 40GBE 40GbE QSFP 5M
MC2210128-003	Mellanox Passive Copper Cable ETH 40GBE 40GbE QSFP 3M
MC2210130-001	Mellanox Passive Copper Cable ETH 40GBE 40GbE QSFP 1M
MC2210130-002	Mellanox Passive Copper Cable ETH 40GBE 40GbE QSFP 2M
MC2210310-XXX	Mellanox Active Fiber Cable ETH 40GBE 40GbE QSFP from 3M up to 100M
MC2210411-SR4L	Mellanox Optical Module 40GbE QSFP MPO 850NM UP TO 30M
BN-CKM-QP-SR4	BN-CKM-QP-SR4 Blade 40GbB QSFP module
QSFP-40G-SR-BD	Cisco 40G BD Module

Mellanox-tested switches for front-end use with Generation 6 hardware

This section lists the switches that have been tested by Mellanox for front-end use with Generation 6 hardware. These switches have not been tested or qualified by Dell EMC.

For more information, contact your Isilon representative.

Speed	Orderable part #	Description
10/40GbE	7050Q	16-port 40Gb Switch
10/40GbE	7050S	48-port 10Gb/40Gb Switch
10/40GbE	3064	48-port 10Gb/40Gb Switch
10/40GbE	S5000	10GbE switch
10/40GbE	Juniper EX3500	Juniper 10/40GB ETH switch
10/40GbE	MSX1024B-1BFS SwitchX [®] -2 based	48-port SFP+ 10GbE, 12 port QSFP 40GbE, 1U Ethernet switch

Speed	Orderable part #	Description
10GbE	Brocade 8000	Brocade 10GB ETH switch
10GbE	Nexus 822	Cisco Nexus B22 FEX Blade switch
10GbE	5548 Cisco	10GB ETH switch
10GbE	8024F	10GbE switch
10GbE	8132F	10GbE switch
10GbE	Force10 MXL	Dell Force10 MXL 10/40GbE Blade switch
10GbE	PTM	Dell 10GbE KR PTM
10GbE	8164F	10GbE switch
10GbE	Fujitsu 10GbE	Ethernet Switch 24 ports, 20xCX4 and 4xQSFP
10GbE	HP ProCurve 6600-24XG	24-port 10GbE switch
10GbE	Juniper EX2500	Juniper 10GB ETH switch
10GbE	Juniper EX4550	Juniper 10GB ETH switch
10GbE	MSX1016X-1BFR	SwitchX™ based 64-port SFP + 10GigE, 1U Ethernet switch
10GbE	516733-B21	HP ProCurve 6120XG 10GbE Ethernet Blade Switch
10GbE	6125XLG Blade Switch	HP 6125XLG 10/40G Ethernet Blade Switch
10GbE	538113-B21	HP 10GbE Pass-Through Module (PTM)
10GbE	B22	IBM B22 10 Gigabit Scalable Switch Module
10GbE	EN4093	IBM PureFlex System Fabric EN4093 10 Gigabit Scalable
10GbE	Juniper QFX3500	Switch Module
10GbE	MSX1036B-1BFR	Juniper 10GbE ETH switch
10GbE	7050QX	SwitchX™ based 36-port QSFP 40GigE 1U Ethernet
10GbE	3016	Cisco 40GB ETH switch
10GbE	3132Q	Cisco 40GB ETH switch
40GbE	S6000	32-port 40Gb Switch
40GbE	689638-B21	Mellanox SX1018HP Enet Switch 40G Ethernet
40GbE	IBM G8316	IBM 40GB RackSwitch G8316
40GbE	90Y3477	BM Flex System EN6131 40Gb Ethernet Switch

Speed	Orderable part #	Description
40GbE	JuniperQFX5100	Juniper40GB ETH switch

Intel-approved optics and cables for front-end use with Generation 6 hardware

This section lists the cables and optics that are approved by Intel for front-end use with Generation 6 hardware. These cables and optics have not been qualified by Dell EMC.

The following cables and optics are the only Intel cables and optics that Intel has qualified for use with Dell EMC Generation 6 hardware. The cables and optics listed in this section are approved only for front-end use with Generation 6 hardware.

Intel Ethernet QSFP+ Twinaxial cables	
Cable length (meters)	Product code
1	XLDACBL1
3	XLDACBL3
5	XLDACBL5

Intel Ethernet QSFP+ Breakout cables	
Cable length (meters)	Product code
1	X4DACBL1
3	X4DACBL3
5	X4DACBL5

Intel Ethernet QSFP+ optic product codes	
Optic	Product code
SR4 Optic	E40GQSFP5R
LR4 Optic	E40GQSFP5LR

The following table lists the 10GE cables approved for front-end use with Generation 6 hardware by Intel.

Intel Ethernet SFP+ Twinaxial cable product codes	
Cable length (meters)	Product code
1	XDACBL1M
3	XDACBL3M
5	XDACBL5M

The following table lists the 10GE optics approved for front-end use with Generation 6 hardware by Intel.

Intel Ethernet SFP+ Optic product codes	
Configuration	Product code
SR Optic	E10GSFPSR
LR Optic	E10GSFPLR