

Cisco MDS 9506/9509/9513 Multilayer Directors, and MDS 9216, 9216A and 9216i Multilayer Fabric Switches.

IBM Storage and Server Interoperability Matrix

Last update: January 22, 2007

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Cisco MDS 9506/9509 Multilayer Directors and MDS 9216/9216A/9216i Multilayer Fabric Switches

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Notes:

1. The **MDS 9506/9509** Multilayer Directors and **MDS 9216/9216A/9216i** Fabric Switches latest [firmware level is 3.0\(3\)](#). The latest firmware level for FICON or Intermix fabrics is **3.0(3)**.
2. Information on the installation and safety requirements for the **MDS 9506/9509 Multilayer Directors and MDS 9216/9216A/9216i/9020** Fabric Switches can be found at: [Cisco MDS 9000 Series Multilayer Switches Instruction Guide](#).
3. Switch Module information and available combinations can be found at: [Cisco MDS 9000 Family Fibre Channel Switching Modules](#).
4. Information on configuration for the Cisco MDS 9000 Series can be found at: [Cisco MDS 9000 Series Configuration Guides](#).
5. Maximum ISLs (physical hops): 7 (maximum 1 Longwave ISL)
6. Information on **MDS 9000 Storage Services Module** can be found at <http://www.cisco.com/en/US/products/ps6293/index.html>
7. Information on **MDS 9000 Caching Service Module** can be found at: <http://www.cisco.com/en/US/products/ps6007/index.html>
8. Technical support on **SAN file system** can be found at: <http://www-03.ibm.com/servers/storage/software/virtualization/sfs/interop.html>
9. Technical support on **SAN Volume Controller (SVC)** can be found at: <http://www-03.ibm.com/servers/storage/support/software/sanvc/>
10. Extended Buffer to Buffer Credits using 10Gb ISL line cards not supported.
11. Daylight Savings Time Change can be found at http://www.cisco.com/en/US/products/ps5989/products_configuration_guide_chapter09186a0080664c0e.html

Cisco MDS switches, by default, are set to Universal Daylight Time (UDT). If customers have not manually updated the MDS switch to conform with Daylight Savings Time (DST), then nothing further is required.

Customers that have adjusted for Daylight Savings Time can manually update the DST start and end dates with the following instructions. Information taken from www.cisco.com initial configuration website. .

Adjusting for Daylight Saving Time or Summer Time

You can configure your switch to adjust for daylight saving time (or summer time). By default, MDS SAN-OS does not automatically adjust for daylight saving time. You must manually configure the switch to adjust to the daylight saving time.

For example, following U.S. standards, you can have the switch advance the clock one hour at 2:00 a.m. on the first Sunday in April and move back the clock one hour at 2:00 a.m. on the last Sunday in October. You can also explicitly specify the start and end dates and times and whether or not the time adjustment recurs every year.

To enable the daylight saving time clock adjustment, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.

Step 2	<p>switch(config)# clock timezone <i>timezone_name hour_offset_from_UTC</i> <i>minute_offset_from_UTC</i></p> <p>Example: switch(config)# clock timezone PST -8 0</p> <p>switch(config)# no clock timezone</p>	<p>Offsets the time zone as specified.</p> <p>This example sets the U.S. Pacific standard offset time as negative 8 hours and 0 minutes.</p> <p>Disables the time zone adjustment feature.</p>
Step 3	<p>switch(config)# clock summer-time <i>daylight_timezone_name start_week</i> <i>start_day start_month start_time</i> <i>end_week end_day end_month end_time</i> <i>daylight_offset_inminutes</i></p> <p>Example: switch(config)# clock summer-time PDT 1 Sunday April 02:00 5 Sunday October 02:00 60 switch(config)#</p> <p>switch(config)# no clock summer-time</p>	<p>Sets the daylight savings time for a specified time zone. The start and end values are as follows:</p> <ul style="list-style-type: none"> • Week ranging from 1 through 5 • Day ranging from Sunday through Saturday • Month ranging from January through December <p>The daylight offset ranges from 1 through 1440 minutes, which are added to the start time and deleted time from the end time. This example adjusts the daylight savings time for the U.S. Pacific daylight time by 60 minutes starting the first Sunday in April at 2 a.m. and ending the last Sunday in October at 2 a.m.</p> <p>Disables the daylight saving time adjustment feature.</p>
Step 4	<p>switch(config)# exit switch#</p>	<p>Returns to EXEC mode.</p>
Step 5	<p>switch# show running-config include summer-time</p>	<p>Verifies the time zone configuration.</p>



Note In 2007, the U. S. the daylight saving time adjustment changes to start on the second Sunday in March and end on the first Sunday in November. You can update the configuration of your switch to accommodate this change using the following command:

```
switch(config)# clock summer-time daylight_timezone_name 2 Sunday March 1  

02:00 Sunday  

November 02:00 60
```

ESS Connectivity

1. Please see **IBM TotalStorage Enterprise Storage Server** [Interoperability Matrix](#) for Licensed Internal Code (LIC) level.
2. For **PPRC FC Direct**, FC-CWDM and FCIP support see table 4 of ESS **Interoperability Matrix**.

IBM [System z](#) Models z900, z990, G5/G6 and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	IBM z/OS level 1.4.1 or later FICON or FICON Express Channel: Longwave: G5/G6: <ul style="list-style-type: none"> • FC-2314 zSeries: <ul style="list-style-type: none"> • FC-2315 • FC-2319 Shortwave: G5/G6: <ul style="list-style-type: none"> • FC-2316 zSeries: <ul style="list-style-type: none"> • FC-2318 • FC-2320 	Available ¹ Cascading: Maximum of 1 hop (Inter Switch Links) is supported. Taking the CUP off-line prior to a concurrent software update. zSeries I/O Connectivity

IBM [System z](#) Models z800, z890, z900, z990, and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	UnitedLinux (FCP) <ul style="list-style-type: none"> • 1.0 (SP2) ² Longwave <ul style="list-style-type: none"> • FC 2315 • FC 2319 Shortwave <ul style="list-style-type: none"> • FC 2318 • FC 2320 	Available.

¹ When the Cisco switch is to be used in a FICON/Open intermixed environment, the user should manage the fabric from the Cisco Device and Fabric Managers. Disable host port control with the following procedure.

From the switch Device Manager Window:

1. Go to FICON ->
2. Select VSANs ->
3. Find "Port Control by", then Uncheck the left hand side box labeled "Host"

The user still has the capability of using IBM's SA OS/390 application for viewing the FICON related portions of the fabric.

It is recommended that network-admin privilege be strictly controlled.

² SLES 8 for IBM zSeries 32-bit and 64-bit Server

IBM [System p](#) and RS/6000 Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	AIX 5L HACMP³	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.
	Linux⁴ <ul style="list-style-type: none"> • SuSE Linux Enterprise Server • Red Hat Enterprise Linux 	Available.

IBM RS/6000 SP Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	AIX 5L PSSP⁴	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

³ See **ESS** Interoperability matrix for **AIX**, **HACMP** and **PSSP** support information.
<http://www.storage.ibm.com/hardsoft/products/ess/supserver.htm>

⁴ Details for Linux support on pSeries and RS/6000 can be found at:
http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

IBM [System i](#) Servers

Description	Platform/Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none">• 750• 800• F10/F20	OS/400 Linux	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. System i SAN information

IBM [System x](#) and other Intel-based Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	Microsoft Windows 2000 Microsoft Windows 2003	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix
	Novell Netware	Available.
	Red Hat Enterprise Linux Advanced Server SuSE Linux Enterprise Server (SLES) UnitedLinux	Available.

SUN microsystems Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	Solaris	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	HP-UX	Available. IBM TotalStorage Enterprise Storage Server Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

DS8000 Connectivity

Please see **IBM TotalStorage DS 8000 [Interoperability Matrix](#)**

1. For Licensed Internal Code (LIC) level.
2. For **PPRC** FC Direct, FC-CWDM and FCIP support see table 4 of ESS **Interoperability Matrix**.

IBM [System z](#) Models z900, z990, G5/G6, and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	IBM z/OS level 1.4.1 or later FICON or FICON Express Channel: Longwave: G5/G6: <ul style="list-style-type: none"> • FC-2314 zSeries: <ul style="list-style-type: none"> • FC-2315 • FC-2319 Shortwave: G5/G6: <ul style="list-style-type: none"> • FC-2316 zSeries: <ul style="list-style-type: none"> • FC-2318 • FC-2320 	Available ⁵ Cascading: Maximum of 1 hop (Inter Switch Links) is supported. Taking the CUP off-line prior to a concurrent software update. zSeries I/O Connectivity

IBM [System z](#) Models z800, z890, z900, z990, and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage Enterprise Storage Servers IBM 2105 Model <ul style="list-style-type: none"> • 750 • 800 • F10/F20 	UnitedLinux (FCP) Longwave <ul style="list-style-type: none"> • FC 2315 • FC 2319 Shortwave <ul style="list-style-type: none"> • FC 2318 • FC 2320 	Available.

⁵ When the Cisco switch is to be used in a FICON/Open intermixed environment, the user should manage the fabric from the Cisco Device and Fabric Managers. Disable host port control with the following procedure.

From the switch Device Manager Window:

1. Go to FICON ->
2. Select VSANs ->
3. Find "Port Control by", then Uncheck the left hand side box labelled "Host"

The user still has the capability of using IBM's SA OS/390 application for viewing the FICON related portions of the fabric.

It is recommended that network-admin privilege be strictly controlled.

IBM [System p](#) and RS/6000 Servers

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	AIX 5L HACMP⁶	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.
	Linux⁷	Available.

IBM RS/6000 SP Servers

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	AIX 5L PSSP⁴	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

⁶ See **ESS** Interoperability matrix for **AIX**, **HACMP** and **PSSP** support information.
<http://www.storage.ibm.com/hardsoft/products/ess/supserver.htm>

⁷ Details for Linux support on pSeries and RS/6000 can be found at:
http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

IBM [System i](#) Servers

Description	Platform/Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none">• 8100 Model 921• 8300 Model 922• 8300 Model 9A2	IBM System i Models OS/400 Linux	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. System i SAN information

IBM [System x](#), Netfinity Servers and other Intel-based Servers

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	Microsoft Windows 2000 Microsoft Windows 2003	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix
	Novell Netware	Available.
	Red Hat Enterprise Linux Advanced Server SuSE Linux Enterprise Server (SLES) UnitedLinux	Available.

SUN Microsystems Servers

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	Solaris	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
IBM TotalStorage EDS 8000 Series IBM Model <ul style="list-style-type: none"> • 8100 Model 921 • 8300 Model 922 • 8300 Model 9A2 	HP-UX	Available. IBM TotalStorage DS 8000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

DS6000 Connectivity

Please see **IBM TotalStorage DS 6000 [Interoperability Matrix](#)**

3. For Licensed Internal Code (LIC) level.
4. For **PPRC** FC Direct, FC-CWDM and FCIP support see table 4 of **ESS Interoperability Matrix**.

IBM [System z](#) Models z900, z990, G5/G6, and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	IBM z/OS level 1.4.1 or later FICON or FICON Express Channel: Longwave: G5/G6: <ul style="list-style-type: none"> • FC-2314 zSeries: <ul style="list-style-type: none"> • FC-2315 • FC-2319 Shortwave: G5/G6: <ul style="list-style-type: none"> • FC-2316 zSeries: <ul style="list-style-type: none"> • FC-2318 • FC-2320 	Available ⁸ Cascading: Maximum of 1 hop (Inter Switch Links) is supported. Taking the CUP off-line prior to a concurrent software update. zSeries I/O Connectivity

IBM [System z](#) Models z800, z890, z900, z990, and z9 109

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	UnitedLinux (FCP)⁹ Longwave <ul style="list-style-type: none"> • FC 2315 • FC 2319 Shortwave <ul style="list-style-type: none"> • FC 2318 • FC 2320 	Available.

⁸ When the Cisco switch is to be used in a FICON/Open intermixed environment, the user should manage the fabric from the Cisco Device and Fabric Managers. Disable host port control with the following procedure.

From the switch Device Manager Window:

1. Go to FICON ->
2. Select VSANs ->
3. Find "Port Control by", then Uncheck the left hand side box labelled "Host"

The user still has the capability of using IBM's SA OS/390 application for viewing the FICON related portions of the fabric.

It is recommended that network-admin privilege be strictly controlled.

⁹ SLES 8 for IBM zSeries 32-bit and 64-bit Server

IBM [System p](#) and RS/6000 Servers

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	AIX 5L HACMP ¹⁰	Available. IBM TotalStorage DS 6000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.
	Linux ¹¹	Available.

IBM RS/6000 SP Servers

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	AIX 5L PSSP ⁴	Available. IBM TotalStorage DS 6000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

¹⁰ See **ESS** Interoperability matrix for **AIX**, **HACMP** and **PSSP** support information.
<http://www.storage.ibm.com/hardsoft/products/ess/supserver.htm>

¹¹ Details for Linux support on pSeries and RS/6000 can be found at:
http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

IBM [System i](#) Servers

Description	Platform/Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	OS/400 Linux	Available. IBM TotalStorage DS 6000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. System i SAN information

IBM [System x](#) and other Intel-based Servers

Description	Operating Systems	Additional Information
<p>IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800</p>	<p>Microsoft Windows 2000 Microsoft Windows 2003</p>	<p>Available.</p> <p>IBM TotalStorage DS 6000 Interoperability Matrix</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>IBM Server Proven Interoperability matrix</p>
	<p>Novell Netware</p>	<p>Available.</p>
	<p>Red Hat Enterprise Linux</p> <p>SuSE Linux Enterprise Server (SLES)</p> <p>UnitedLinux</p>	<p>Available.</p>

SUN Microsystems Servers

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	Solaris	Available. IBM TotalStorage DS 6000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
IBM TotalStorage DS 6000 Series IBM 1750 Model • DS 6800	HP-UX	Available. IBM TotalStorage DS 6000 Interoperability Matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

DS4000 Connectivity

For the most current supported HACMP, PSSP, GPFS/RVSD configurations see the important notices and Readme files posted on:

- <http://www-03.ibm.com/servers/storage/disk/ds4000/ds4800/index.html>
- <http://www-1.ibm.com/servers/storage/support/disk/ds4500/>
- <http://www-1.ibm.com/servers/storage/support/disk/ds4400/>
- <http://www-1.ibm.com/servers/storage/support/disk/ds4300/>
- <http://www-1.ibm.com/servers/storage/support/disk/ds4100/>
- <http://www-1.ibm.com/servers/storage/support/fastt/fastt500.html>
- <http://www-1.ibm.com/servers/storage/support/fastt/fastt200.html>

IBM [System p](#), RS/6000 and RS/6000-SP Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • DS4800 • DS4500 • DS4400 • DS4300 • Dual Controller • Turbo 	AIX 5L HACMP, PSSP (see note #0 page 20)	Available. IBM TotalStorage DS 4000 Storage Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix
	Linux ¹²	Available.

¹² Details for Linux support on pSeries and RS/6000 can be found at: http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

IBM [System x](#) and other Intel-based Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • DS4800 • DS4500 • DS4400 • DS4300 <ul style="list-style-type: none"> • Dual Controller • Single Controller • Turbo 	Microsoft Windows 2000 Microsoft Windows 2003	Available. IBM TotalStorage DS 4000 Storage Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix
	Novell Netware	Available.
	Red Hat Enterprise Linux	Available.
	United Linux 1.0	Available.

SUN Microsystems Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • DS4800 • DS4500 • DS4400 • DS4300 <ul style="list-style-type: none"> • Dual Controller • Single Controller • Turbo 	Solaris	Available. IBM TotalStorage DS 4000 Storage Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • DS4800 • DS4500 • DS4400 • DS4300 <ul style="list-style-type: none"> • Dual Controller • Single Controller • Turbo 	HP-UX	Available. IBM TotalStorage DS 4000 Storage Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix. IBM Server Proven Interoperability matrix

IBM [System p](#), RS/6000 and RS/6000-SP Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • FAStT500 • FAStT200 	AIX 5L HACMP, PSSP (see note #0 page 20)	Available. IBM TotalStorage FAStT Storage Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.
	Linux ¹³	Available.

IBM [System x](#) and other Intel-based Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • FAStT500 • FAStT200 	Microsoft Windows 2000 Microsoft Windows 2003	Available. IBM TotalStorage FAStT Storage Interoperability matrix IBM Server Proven Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.
	Red Hat Enterprise Linux United Linux 1.0	Available.

¹³ Details for Linux support on pSeries and RS/6000 can be found at:
http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

SUN microsystems Servers

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • FAST500 • FAST200 	Solaris	Available. IBM TotalStorage FAST Storage Interoperability matrix IBM Server Proven Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
IBM TotalStorage Storage Servers <ul style="list-style-type: none"> • FAST500 • FAST200 	HP-UX	Available. IBM TotalStorage FAST Storage Interoperability matrix IBM Server Proven Interoperability matrix Fibre Channel Host Bus Adapter firmware and driver level matrix.

TAPE Connectivity

IBM 9672 Enterprise G5, G6 and [System z](#)

Description	Operating Systems	Additional Information
<p>IBM TotalStorage Enterprise Tape Controller 3592 Model J70, C06</p> <p>FICON Attachment Longwave:</p> <ul style="list-style-type: none"> • FC-3434 (2 Gb) <p>Shortwave:</p> <ul style="list-style-type: none"> • FC-3435 (2 Gb) <p>IBM TotalStorage Enterprise Automated Tape Library 3494</p> <p>IBM TotalStorage Virtual Tape Server 3494-B10/B20 in Standalone or Peer to Peer configurations</p> <p>IBM TotalStorage Enterprise Tape Drive Frame 3590 Model A14</p> <p>IBM TotalStorage Silo Compatible Tape Drive Frame</p>	<p>IBM 9672 Enterprise G5 or G6 and zSeries Servers</p> <p>FICON Channel Card Longwave:</p> <p>G5/G6:</p> <ul style="list-style-type: none"> • FC-2314 <p>zSeries:</p> <ul style="list-style-type: none"> • FC-2315 • FC-2319 <p>Shortwave:</p> <p>G5/G6:</p> <ul style="list-style-type: none"> • FC-2316 <p>zSeries:</p> <ul style="list-style-type: none"> • FC-2318 • FC-2320 	<p>Available. ¹⁴</p> <p>Cascading: Maximum of 1 hop (Inter Switch Links) is supported.</p> <p>Taking the CUP off-line prior to a concurrent software update.</p>

¹⁴ When the Cisco switch is to be used in a FICON/Open intermixed environment, the user should manage the fabric from the Cisco Device and Fabric Managers. Disable host port control with the following procedure.

From the switch Device Manager Window:

1. Go to FICON ->
2. Select VSANs ->
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The user still has the capability of using IBM's SA OS/390 application for viewing the FICON related portions of the fabric.

It is recommended that network-admin privilege be strictly controlled.

IBM [System z](#) Models z800, z900, and z9 109

Description	Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library.</p> <p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>All 3494 rules apply. i.e. ESCON/FICON owned drives cannot co-exist in the same frame as Open Systems drives.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>SLES 8 for IBM zSeries 32-bit and 64-bit Server</p> <p>FICON or FICON Express Channels with FCP enablement firmware</p> <p>Longwave</p> <ul style="list-style-type: none"> • FC 2315 • FC 2319 <p>Shortwave</p> <ul style="list-style-type: none"> • FC 2318 • FC 2320 	<p>Available.</p> <p>zSeries Support of Fibre Channel FCP Channels</p>

IBM [System p](#), RS/6000 and RS/6000-SP Servers

Description	Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library, rack mounted or Silo Compatible Frame.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library or Silo Compatible Frame.</p>	<p>AIX 5L</p>	<p>Available.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>Please review RMSS Technical Support Site.</p>
<p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>Linux ¹⁵</p>	<p>Available.</p>

¹⁵ Details for Linux support on pSeries and RS/6000 can be found at: http://www-1.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf

IBM [System i](#) Servers

Description	Platform/Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library or rack mounted.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library.</p> <p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>OS/400¹⁶ Linux</p>	<p>Available.</p> <p>System i SAN information.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>Please review RMSS Technical Support Site.</p>

¹⁶ Required PTF MF32002

IBM [System x](#) and other Intel-based Servers

Description	Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library, rack mounted or Silo Compatible Frame.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library or Silo Compatible Frame.</p>	<p>Microsoft Windows 2000</p> <p>Microsoft Windows 2003 Server</p>	<p>Available.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>IBM Server Proven Interoperability matrix</p> <p>Please review RMSS Technical Support Site.</p>
<p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>Red Hat Enterprise Linux</p> <p>United Linux 1.0</p>	<p>Available.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>Please review RMSS Technical Support Site.</p>

SUN Microsystems Servers

Description	Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library, rack mounted or Silo Compatible Frame.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library or Silo Compatible Frame.</p> <p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>Solaris</p>	<p>Available.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>Please review RMSS Technical Support Site.</p>

Hewlett-Packard Servers – HP- UX

Description	Operating Systems	Additional Information
<p>Enterprise Tape System 3592 J1A, C06 in a 3494 or 3584 Tape Library, rack mounted or Silo Compatible Frame.</p> <p>Enterprise Tape System 3590 E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library or Silo Compatible Frame.</p> <p>Enterprise Tape System TS1120 (3952 E05) tape drive.</p> <p>TS3310 Tape Library with Native Ultrium 3 drives</p> <p>Ultrium 3584 UltraScalable Tape Library with Native FC Ultrium 2 and 3 drives only</p> <p>Ultrium 3583 Scalable Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3582 Tape Library with Native FC Ultrium 2 and 3 drives.</p> <p>Ultrium 3581-2U IBM LTO Tape Autoloader</p> <p>Virtualization Engine TS7510</p>	<p>HP-UX</p>	<p>Available.</p> <p>Fibre Channel Host Bus Adapter firmware and driver level matrix.</p> <p>Please see the readme file for any restrictions.</p> <p>Please review RMSS Technical Support Site.</p>

NETWORK ATTACHED STORAGE ([NAS](#))

Cisco MDS 9506/9509 Multilayer Director and MDS 9216/9216A/9216i Multilayer Fabric Switch are interoperable with:

- NSeries 3700, 5200, 5500 – Supported with 2.1(2e); 9513 in Test
- NAS Gateway 300G
 - 5196 Model G02
 - 5196 Model G27
- NAS Gateway 500
 - 5198 Model 001

IBM eServer Blade Center ([BC](#))

Information on interoperability and Technical Support can be found at [IBM eServer Blade Center](#).

Description	Blade Switch Module Firmware	Cisco MDS 9000 SAN Family
Qlogic 2-port FCSM	2.0.1.9	3.0(3)
Qlogic 6-port FCSM	4.1.0.22	2.1(2e)
Qlogic 10/20 port FCSM	5.1.1.10	3.0(3)
Optical Pass-Thru Module	N/A	N/A
Brocade 2/6 port FCSM	5.03a	3.0(3)
Brocade 10/20 port FCSM	5.03a	3.0(3)
McData 6/10/20 port FCSM	5.1.1.10*	3.0(3)

Heterogeneous SAN support

The following configurations support InterVSAN Routing with or without NAT support

IBM Switch	Support Firmware	Interop Modes
IBM 3534-F08, 2109-F16	3.1.3a	1, 2, 3
IBM 2109-F32, M12	4.0.2d, 4.1.1, 4.1.2b	1
	4.2.0b, 4.2.2a	1, 3
IBM 2109-F32	4.4.0f	1, 2, 3
IBM 2109-F32, M48	5.0.1d, 5.0.3	1, 2, 3
IBM 2032-064, 2027-140, 2031-224, 2031-232	7.0, 7.0.1, 8.0	1, 4
InRange/CNT FC/9000	4.00.04.06	None

Mode 1 – Standard Interop Mode; Mode 2 – Legacy Switch Mode, Brocade PID=0; Mode 3 – Legacy Switch Mode, Brocade PID=1; Mode 4 – Native Mode

* McData 10/20 port FCSM using McData Fabric Mode is NOT supported with Cisco MDS 9000 family products