

# IBM TotalStorage® SAN Managed Hub 3534-1RU

## IBM Storage and Server Interoperability Matrix

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[ESS](#)

[FASTT](#)

[Tape](#)

[NAS](#)

### Notes:

1. [Firmware](#) version **2.6.2a** or later and Fabric Manager **4.1.1** are recommended.
2. [Reference Information](#).
3. [Advanced Security Feature](#) is available with firmware version 2.6.1 or later.
4. Secure Fabric OS - [Field Upgrade Process](#). ([Hints and Tips](#)).
1. Firmware version and operating mode for interoperability with [BladeCenter Servers](#) (page 10).
5. Any user of Quickloop should be advised to obtain a copy of the [Quickloop Best Practices Guide](#) and review the recommendations prior to setting up zoning.
6. **Entry Fabric Switch** feature code 7304 (eight-port switch with a single E\_Port).
7. Both tape and disk attached to the same HBA are not recommended.
8. We do not recommend attaching the NAS 300G to a **unzoned** switch configs.
9. Planned availability dates represent current estimates and are subject to change or withdrawal at any time without notice.

## ESS Connectivity

See IBM TotalStorage Enterprise Storage Server [Interoperability Matrix](#) for Licensed Internal Code (LIC) level.

### IBM iSeries Servers

Description	Platform/Operating Systems	Additional Information
<p><b>IBM TotalStorage <a href="#">Enterprise Storage Servers</a></b>  <b>IBM 2105 Model</b></p> <ul style="list-style-type: none"> <li>• E10/E20</li> <li>• F10/F20</li> </ul>	<p><b>IBM <a href="#">iSeries</a> Model</b></p> <ul style="list-style-type: none"> <li>• 270</li> <li>• 800</li> <li>• 810</li> <li>• 820</li> <li>• 825</li> <li>• 830</li> <li>• 840</li> <li>• 870</li> <li>• 890</li> </ul> <p><b>OS/400 V5R1 or later</b></p>	<p>Available</p> <p><b>Enterprise Storage Server <a href="#">Interoperability matrix</a></b></p> <p><b>Fibre Channel <a href="#">Host Bus Adapter</a> firmware and driver level matrix.</b></p> <p><b>iSeries SAN <a href="#">information</a></b></p>

**Notes:**

- For V5R1, multiple initiators (iSeries FC adapters) are supported in a zone/quick loop with a single ESS.
- Multiple ESS can be configured in zones/quick loops when attached to system running V5R2 or later.

**IBM xSeries, Netfinity Servers and other Intel-based Servers**

Description	Platform/Operating Systems	Additional Information
<p><b>IBM TotalStorage <a href="#">Enterprise Storage Servers</a></b>  <b>IBM 2105 Model</b></p> <ul style="list-style-type: none"> <li>• E10/E20</li> <li>• F10/F20</li> </ul>	<p><b>Microsoft Windows NT</b></p> <ul style="list-style-type: none"> <li>• Server 4.0</li> <li>• Server 4.0 Enterprise Edition</li> </ul> <p><b>Microsoft Windows 2000</b></p> <ul style="list-style-type: none"> <li>• Server</li> <li>• Advanced Server</li> <li>• Datacenter Server</li> </ul> <p><b>Microsoft Windows 2003</b></p> <ul style="list-style-type: none"> <li>• Standard Edition</li> <li>• Enterprise Edition</li> <li>• Datacenter Edition</li> </ul>	<p>Available</p> <p><b>Enterprise Storage Server <a href="#">Interoperability matrix</a></b></p> <p><b>Fibre Channel <a href="#">Host Bus Adapter</a> firmware and driver level matrix.</b></p>
	<p><b>Novell Netware</b></p> <ul style="list-style-type: none"> <li>• 4.2</li> <li>• 5.0</li> <li>• 5.1</li> </ul>	<p>Available</p>

**Notes:**

- IBM SAN Data Gateway (2108-G07) with all supported storage subsystems
- IBM SAN Data Router (2108-R03, 2108R3S) with all supported storage subsystems
- The Fibre Channel Managed Hub provides a Fibre Channel Arbitrated Loop for attaching host systems and storage devices. With zoning, multiple arbitrated loops can be created with a single FC Managed Hub.
- Up to two Fibre Channel Managed Hubs can be cascaded.
- In configurations with the IBM SAN Fibre Channel Switch (2109S08/S16), all host systems must be attached to the Switch, only storage systems and devices can be attached to the Fibre Channel Managed Hub.
- In configurations with the IBM SAN Data Gateway and Data Router, the Fibre Channel Managed Hub is supported only for distance extensions. Multiple initiators and targets on the same loop are not supported.
- Windows 2003 is not supported on the Emulex LP7000E, QLogic QLA2100F, and IBM P/N 01K7297 host adapters. Requires ESS LIC level 2.2.0, or later.

## FASTT Connectivity

1. We do not recommend attaching the **IBM FASTT** on the same Intel server as the **TotalStorage Enterprise Storage Server**. Both devices may be attached to the same switch.

### IBM [xSeries](#) and Netfinity Servers and other Intel-based Servers

Description	Platform/Operating Systems	Additional Information
<b>IBM TotalStorage Storage Servers</b> <ul style="list-style-type: none"> <li>• <a href="#">FASTT700</a></li> <li>• <a href="#">FASTT500</a></li> <li>• <a href="#">FASTT200</a></li> </ul>	<b>Microsoft Windows NT</b> <ul style="list-style-type: none"> <li>• Server 4.0</li> <li>• Server 4.0 Enterprise Edition</li> </ul> <b>Microsoft Windows 2000</b> <ul style="list-style-type: none"> <li>• Server</li> <li>• Advanced Server</li> </ul>	Available  <b>IBM TotalStorage FASTT Storage</b> <a href="#">Interoperability matrix</a>  <b>IBM Server Proven</b> <a href="#">Interoperability matrix</a>  <b>Fibre Channel <a href="#">Host Bus Adapter</a></b> firmware and driver level matrix.
	<b>Novell Netware</b> <ul style="list-style-type: none"> <li>• 5.1</li> <li>• 6.0</li> </ul>	Available
<b>IBM TotalStorage Storage Servers</b> <ul style="list-style-type: none"> <li>• <a href="#">FASTT700</a></li> </ul>	<b>Red Hat Linux</b> <ul style="list-style-type: none"> <li>• 7.x</li> <li>• 8.0</li> </ul> <b>Red Hat Enterprise Linux</b> <ul style="list-style-type: none"> <li>• 2.1</li> </ul> <b>United Linux 1.0</b> <ul style="list-style-type: none"> <li>• SuSE Linux Enterprise Server 8</li> <li>• Turbolinux Enterprise Server 8</li> <li>• Connectiva Enterprise Edition</li> </ul>	Available
<b>IBM TotalStorage Storage Servers</b> <ul style="list-style-type: none"> <li>• <a href="#">FASTT500</a></li> <li>• <a href="#">FASTT200</a></li> </ul>	<b>Red Hat Linux</b> <ul style="list-style-type: none"> <li>• 7.x</li> <li>• 8.0</li> </ul> <b>Red Hat Enterprise Linux</b> <ul style="list-style-type: none"> <li>• 2.1</li> </ul> <b>United Linux 1.0</b> <ul style="list-style-type: none"> <li>• SuSE Linux Enterprise Server 8</li> </ul>	Available

### SUN Microsystems Servers

Description	Platform/Operating Systems	Additional Information
<b>IBM TotalStorage Storage Servers</b> <ul style="list-style-type: none"> <li>• <a href="#">FAST700</a></li> <li>• <a href="#">FAST500</a></li> <li>• <a href="#">FAST200</a></li> </ul>	<b>Solaris</b> <ul style="list-style-type: none"> <li>• 2.6</li> <li>• 7</li> <li>• 8</li> </ul>	Available  <b>IBM TotalStorage FAST Storage</b> <a href="#">Interoperability matrix</a>  <b>IBM Server Proven</b> <a href="#">Interoperability matrix</a>  <b>Fibre Channel <a href="#">Host Bus Adapter</a></b> firmware and driver level matrix.

### Hewlett-Packard Servers

Description	Platform/Operating Systems	Additional Information
<b>IBM TotalStorage Storage Servers</b> <ul style="list-style-type: none"> <li>• <a href="#">FAST700</a></li> <li>• <a href="#">FAST500</a></li> <li>• <a href="#">FAST200</a></li> </ul>	<b>HP-UX</b> <ul style="list-style-type: none"> <li>• 11.0</li> <li>• 11i</li> </ul>	Available  <b>IBM TotalStorage FAST Storage</b> <a href="#">Interoperability matrix</a>  <b>IBM Server Proven</b> <a href="#">Interoperability matrix</a>  <b>Fibre Channel <a href="#">Host Bus Adapter</a></b> firmware and driver level matrix.

## TAPE Connectivity

### AVOID DYNAMIC ZONING CHANGES

As a recommendation, we advise that one avoid making zoning changes to your fabric while data is being transferred, if possible. There may be some risk in job interruption, especially with serial data during the Registered State Change Notifications (RSCN's) that are produced as a result of the zone change. Some HBA's are more prone to an interruption than others. Our experience has shown no data loss, however, some jobs may have to be restarted.

### IBM iSeries Servers

Description	Platform/Operating Systems	Additional Information
<p><b>Enterprise Tape System</b>  <a href="#">3590 E11/E1A and H11/H1A</a>                      with Native FC Tape Drives.                      Standalone or in a 3494 Tape Library.</p> <p><b>Ultrium <a href="#">3584 UltraScalable</a></b>                      Tape Library with Native FC Ultrium 1 and 2 drive models.</p> <p><b>Ultrium <a href="#">3583 Scalable</a></b> Tape Library with Native FC Ultrium 2 drives.</p> <p><b>Ultrium <a href="#">3583 Scalable</a></b> Tape Library with Integrated SDG Module.</p> <p><b>Ultrium <a href="#">3582</a></b> Tape Library with Native FC Ultrium 2 drives.</p>	<p><b>IBM <a href="#">iSeries Model</a></b></p> <ul style="list-style-type: none"> <li>• 270</li> <li>• 800</li> <li>• 810</li> <li>• 820</li> <li>• 825</li> <li>• 830</li> <li>• 840</li> <li>• 870</li> <li>• 890</li> </ul> <p><b>OS/400 V5R1 or later</b></p>	<p>Available</p> <p><b>Fibre Channel <a href="#">Host Bus Adapter</a></b> firmware and driver level matrix.</p> <p><b>iSeries SAN <a href="#">information</a></b></p>

**Notes:**

- For V5R1, multiple initiators (iSeries FC adapters) are supported in a QuickLoop zone with a single tape subsystem. The 3584 and 3590 are one tape device per tape subsystems. The 3583 can have 1 to 6 tape devices per subsystem.
- V5R2 or later support multiple tape devices in a fabric or QuickLoop zone. Fabric attach is preferred over QuickLoop for V5R2 and later.



**Intel Based NT, Windows 2000, and Linux Servers**

Description	Platform/Operating Systems	Additional Information
<p>Enterprise Tape System <a href="#">3590</a> E11/E1A and H11/H1A with Native FC Tape Drives. Standalone or in a 3494 Tape Library or Silo Compatible Frame</p> <p><b>Ultrium <a href="#">3584</a> UltraScalable</b> Tape Library with Native FC drives</p>	<p><b>Microsoft Windows NT</b></p> <ul style="list-style-type: none"> <li>• Server 4.0</li> <li>• Server 4.0 Enterprise Edition</li> </ul> <p><b>Microsoft Windows 2000</b></p> <ul style="list-style-type: none"> <li>• Server</li> <li>• Advanced Server</li> <li>• Datacenter Server</li> </ul>	<p>Available</p> <p><b>Fibre Channel <a href="#">Host Bus Adapter</a></b> firmware and driver level matrix..</p>
<p><b>Ultrium <a href="#">3583</a> Scalable</b> Tape Library with Native FC Ultrium 2 drives.</p> <p><b>Ultrium <a href="#">3583</a> Scalable</b> Tape Library with Integrated SDG Module</p> <p><b>Ultrium <a href="#">3582</a></b> Tape Library with Native FC Ultrium 2 drives.</p>	<p><b>Red Hat Enterprise Linux</b></p> <ul style="list-style-type: none"> <li>• 2.1</li> </ul> <p><b>SuSE Linux Enterprise Server (SLES)</b></p> <ul style="list-style-type: none"> <li>• 7</li> </ul>	<p>Available</p> <p>Please review <a href="#">RMSS Technical Support</a> Site.</p>

**Notes:**

- The 3584, because of its high data bandwidth, supports only with installation of Feature Code 7304.

## NETWORK ATTACHED STORAGE ([NAS](#))

SAN Managed Hub 3534 Model 1RU is interoperable with:

NAS Gateway 300G

- 5196 Model G01
- 5196 Model G02
- 5196 Model G26
- 5196 Model G27

## IBM eServer™ BladeCenter

### Supported Switch, Firmware Versions and Operating Mode.

	Blade SW Module Firmware	2109-S16 & S08 3534-1RU Firmware	2109-F16 3534-F08 Firmware	2109-F32 2109-M1 Firmware	2005-H08 & H16 2109-M1 Firmware
<b>BladeCenter</b>					
<b>2-port FC Switch Module</b>	1.x	v2.6.1c or later (Interop Mode)	v3.0.2q, v3.1.2a or later, (Interop Mode)	Not supported	Not supported
<b>2-port FC Switch Module</b>	2.x	v2.6.1c or later (Interop Mode)	v3.0.2q, v3.1.2a or later, (Interop Mode)	v4.1.2e or later (Interop mode)	v4.2.0b or later, (Interop Mode)
<b>Optical Pass-thru Module</b>		v2.6.1c or later (Interop Mode not required)	v3.1.1c or later (Interop Mode not required)	v4.1.2e or later (Interop Mode not required)	v4.2.0b or later, (Interop Mode not required)
<b>Brocade SAN Switch Module</b>	v4.2.1 or later	v2.6.1c or later, (Interop Mode not required)	v3.1.1c or later, (Interop Mode not required)	v4.1.2e or later, (Interop Mode not required)	v4.2.0b or later, (Interop Mode not required)