

Top Reasons to Upgrade your Connectrix Fibre Channel Storage Network

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Improve performance and enhance security

Dell Connectrix provides a complete line of Fibre Channel storage networking products for your Storage Area Network (SAN). Keep your Fibre Channel network up to date to experience optimal performance, security enhancements and reliability for your critical application environment. With 20+ years of designing, implementing and maintaining the world's most business-critical storage networking infrastructures, the Connectrix brand characterizes industry leadership in storage networking.

1 All flash storage systems require a deterministic network with low latencies

Connectrix systems deliver low latency, deterministic behavior and scalability with unmatched six 9s reliability. In addition, port speed and port density have increased to 64Gb/s Fibre Channel, allowing a greater number of devices attached per floor tile and rack unit height, thereby allowing greater efficiencies in space, power and cooling.

2 Non-volatile Memory Express (NVMe) protocol was designed for all flash storage systems

The NVMe protocol was designed to replace the SCSI protocol and allows end users to get the maximum benefit from Solid State Drives (SSDs). Today, the NVMe protocol is widely used in HBAs, servers and storage systems making it possible for you to think about introducing end-to-end Fibre Channel NVMe in your SAN to get the most out of your all flash storage arrays.

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3 Don't let your legacy SAN become the bottleneck in your all flash storage environment

Flash storage is transforming the data center, but storage speeds mean nothing if I/O bottlenecks prevent businesses from achieving their potential. Your storage network needs to keep pace with the demands of all flash storage systems. Connectrix delivers up to 64 Gigabit per second (Gb/s) Fibre Channel speeds and all 16-, 32- and 64Gb Connectrix platforms are NVMe/FC capable for even more performance with no hardware upgrades required.

4 Newer Fibre Channel directors and switches deliver compelling new technologies with enhanced security

Technology included with newer Fibre Channel directors and switches supports the following enhancements:

- SAN-based Analytics
- Reporting for NVMe/FC
- Automatic detection of degraded SAN performance
- Increased scale for VMware environments
- Increased IOPs
- Increased Buffer Credits help overcome performance degradation and congestion due to buffer credit loss
- Secure optics

Today's Connectrix systems also include Forward Error Correction (FEC) which enables recovery from bit errors in ISLs enhancing transmission reliability and performance. Buffer credit loss is now detected and automatically recovered providing protection against performance degradation and it enhances application availability.

5 Accelerate application performance and drive positive business outcomes with end-to-end NVMe/FC

With an end-to-end modern storage network, you will be able to leverage the full capacity of your all flash storage investment with reduced latency, improved SLAs, single vendor integration and support. End-to-end NVMe means the NVMe protocol is used within the server, across the SAN (using NVMe/FC) to the front end of the storage, and then within the storage system itself. Although the storage itself is largely responsible for this performance boost, the NVMe protocol plays an important role by allowing IO Parallelism using Multiple Queues. Also, the protocol is relatively lightweight when compared to SCSI. In other words, given the same footprint, NVMe allows your SAN to deliver more throughput for your applications.

6 Connectrix provides new automated congestion management

The 64Gb platforms of the Connectrix B-Series, support a set of features known as Autonomous SAN. Autonomous SAN provides self-learning, self-optimizing and self-healing capabilities. The self-optimizing capability automatically make decisions for better traffic prioritization and congestion management, so you uncover the full potential of your infrastructure/

Eliminate SAN congestion with Connectrix MDS Series Dynamic Ingress Rate Limiting (DIRL). DIRL enables the slower and the faster application servers to coexist in the same fabric without affecting each other, and this innovation allows them to drive all flash arrays to their full potential. DIRL it's not dependent on end devices, doesn't need a special license, is simple to use—and available on your existing Connectrix MDS switches with only a software upgrade.

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7 | Get CloudIQ Cloud-based Monitoring and Analytics for Connectrix

Dell CloudIQ is a free, cloud-based tool used to monitor the health of your Dell storage and your Connectrix SAN. You can use CloudIQ from a browser or the CloudIQ mobile app for Android and iPhone. Monitor the health of your Connectrix SAN from anywhere!

8 | Integration with the latest Dell Storage tested by E-Lab

For peace of mind and faster deployment, server operating systems, HBAs, Connectrix systems and Dell Storage arrays are thoroughly tested for interoperability and qualification by Dell E-Lab. E-Lab Navigator is the central repository for the 20+ million tested configurations. With one million+ queries annually, with 48,000+ annual downloads and 50,000 unique visitors, use E-Lab Navigator with your favorite browser or download the E-Lab Navigator App from the Apple or Google Store.

9 | Still curious about a SAN upgrade? Get a free Live Optics with SAN Health assessment

To help you make the best decisions about your storage network environment, please consider our free, Live Optics with SAN Health assessment. Live Optics provides a custom report on the health of your SAN. Click [here](#) to download.

10 | Upgrading your SAN is a great time to do housekeeping and improve security

Refreshing your storage network environment provides a great opportunity to clean up your old configuration data, like your old zoning database. This will also make your storage network more secure as the operating systems for Connectrix platforms are enhanced regularly to address potential security vulnerabilities.

Learn more about the Dell Live Optics SAN Health Assessment

[SAN Health Video](#)