

Top Reasons to Upgrade your Storage Network to 32 Gigabits per second Fibre Channel

Improve overall performance

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Dell EMC Connectrix provides a complete line of storage networking products for traditional Storage Area Networks (SAN). Keep your network up-to-date to experience optimal performance and reliability for your critical application environment. With 20+ years of designing, implementing and managing the world's most business-critical storage networking infrastructures, the Connectrix brand epitomizes 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 32Gb/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 designed for all flash storage systems delivers ever lower latency

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 32Gb/s flash storage array.

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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 32 Gigabit per second (Gb/s) Fibre Channel speeds and all 32Gb/s Connectrix platforms are FC-NVMe ready for even more performance with no hardware upgrades required.

4 32Gb/s Fibre Channel directors and switches deliver compelling new technologies

Technology included with 32Gb/s Fibre Channel allows for the following enhancements:

- SAN-based Analytics can monitor, analyze and identify specific data to avoid errors, reduce bottlenecks and automate your networking resources
- Reporting for FC-NVMe
- 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

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

With an end-to-end modern 32Gb/s 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 FC-NVMe) 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 New automated congestion management

The Connectrix B-Series supports bottleneck detection to identify and alert administrators to device or ISL congestion as well any abnormal levels of latency in the fabric. Connectrix MDS Quality of Service (QoS) provides a buffer-to-buffer credit mechanism to provide enhanced traffic management. Connectrix B-Series Port Fencing and/or MDS Port Guard track errors on a port against a specified threshold and sends a warning. These features can be set to turn off the port when the threshold is exceeded to prevent endangering other traffic in the fabric.

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

Dell EMC CloudIQ is a free, cloud-based tool used to monitor the health of your Dell EMC 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 EMC Storage tested by E-Lab

For peace of mind and faster deployment, server operating systems, HBAs, Connectrix systems and Dell EMC Storage arrays are thoroughly tested for interoperability and qualification by Dell EMC 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 32G but not committed? Get a free SAN Health Assessment with Live Optics

To help you make the best decisions about your storage network environment, please consider our free, SAN Health and Network Assessment with Live Optics. SAN Health provides a customized report about your SAN.

10 | Upgrading your SAN – it's a great time to do housekeeping

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

Dell EMC SAN Health Assessment with Live Optics

[SAN Health Video](#)