IMPROVING ISILON SYNCIQ REPLICATION WITH CONNECTRIX MP-7810B

Move Data Faster Over Distance – Improve Bandwidth Utilization – Enhance Data Security

**Dell EMC Isilon SyncIQ**

Simple, efficient, and scalable, Dell EMC™ Isilon™ SyncIQ™ data replication software provides data intensive businesses with a multi-threaded, multi-site solution for reliable disaster protection.

All businesses want to protect themselves against unplanned outages and data loss. The best practice is typically to create and keep copies of critical data, so it can always be recovered. There are many approaches to creating and maintaining data copies. The right approach depends on the criticality of the data to the business and its timeliness and how long the business can afford to be without it.

As the sheer amount of data requiring management grows, it puts considerable strain on a company's ability to protect its data. Backup windows shrink, bottlenecks emerge, and logical and physical divisions of data fragment data protection processes. The result is increased risk with storing data and the growing complexity in managing it.

Isilon SyncIQ offers powerful, flexible, and easy-to-manage asynchronous replication for collaboration, disaster recovery, business continuance, disk-to-disk backup, and remote disk archiving.

**Dell EMC Connectrix MP-7810B**

Long distance WAN connections provide inherent challenges for high speed replication. With more distance, WAN connections have more latency – particularly for less expensive connections that may not be following a direct path between sites. In addition, there is always some amount of packet loss on WAN connections. Latency and packet loss are "mortal enemies" to achieving high replication throughput.

The Dell EMC Connectrix MP-7810B provides an ideal connectivity solution for Isilon SyncIQ replication over long distance connections.

The MP-7810B solves connectivity problems over challenging networks with technology that compresses, optimizes, and accelerates replication traffic; and provides secure, strong encryption.

**ESSENTIALS**

- Long distance WAN connectivity provides inherent challenges for high speed replication
- The Connectrix MP-7810B connects Isilon clusters across long distance WAN using IP Extension, a proven storage transport technology which optimizes the transport of storage over long distance WAN connections
- Move Data Faster: technologies such as WAN-Optimized TCP and High Efficiency Encapsulation enable replication traffic leveraging the MP-7810B to achieve dramatically higher throughput when latency and packet loss is present – such as with long distance WAN connections
- Improve Bandwidth Utilization: Enterprises can improve bandwidth utilization when replicating Isilon traffic with the Connectrix MP-7810B’s comprehensive bandwidth management technologies
- Enhance Data Security: The Dell EMC Connectrix MP-7810B has built-in 256-bit AES strong encryption for replication traffic, performed at full line rate
Move Data Faster Over Distance

The MP-7810B connects Isilon clusters across long distance WAN and optimizes transmission of replication traffic. When SyncIQ replication is directed to the MP-7810B platform, replication traffic is marshaled efficiently through the WAN, providing improved performance as compared to Isilon clusters talking natively.

All replication solutions are sensitive to latency and packet loss, including the Isilon SyncIQ solution.

With IP Extension, the Dell EMC Connectrix MP-7810B includes a number of technologies specifically designed to accelerate replication throughput through long distance connections. Extension is a proven storage transport technology which optimizes the transport of storage over long distance WAN connections and includes IP Extension which optimizes IP storage flows. With WAN-Optimized TCP and High Efficiency Encapsulation, replication traffic leveraging the MP-7810B platform achieves dramatically higher throughput when latency and packet loss is present. This allows customers to significantly reduce replication times and meet tight Service Level Agreements (SLAs).

Improve Bandwidth Utilization

Dedicated long distance WAN connections can be costly. One of the ways to save money is to use shared long-distance connections, but that presents special challenges. On shared WAN connections, some traffic may interfere with other traffic, leaving all users dissatisfied. Replication solutions connected natively over the WAN often try to maximize replication traffic by spinning up a large number of TCP sessions. That can result in higher throughput but can negatively impact other traffic-utilizing that same WAN connection.

The Dell EMC Connectrix MP-7810B provides comprehensive bandwidth management technologies to make replication over a shared WAN effortless. The platform provides compression technology, which provides higher throughput while consuming less bandwidth, at typically 4:1 compression. (Note: compression rates depend on actual customer data and varies depending on many factors, including existing compression). In addition, bandwidth controls allow the MP-7810B to be a good citizen on shared connections, making it easy to control bandwidth consumption and stay within prescribed limits.

Finally, Adaptive Rate Limiting (ARL) provides a dynamic solution to address variability in bandwidth consumption throughout the day. With ARL, you can configure bandwidth minimums and maximums. During times of high WAN utilization, the MP-7810B stays at its prescribed minimum, but at times when other WAN traffic goes idle, the MP-7810B dynamically expands its bandwidth consumption making use of idle bandwidth – up to the prescribed maximum. This optimizes utilization of costly bandwidth and allows users to optimize utilization.

Enhance Data Security

Maintaining security on replication traffic is critically important. Companies never have physical security of their long-distance WAN; thus such connections provide many possible points where traffic could be tapped or intercepted. Replication traffic is particularly important traffic to protect: if a bad actor taps into a replication stream between two sites, eventually they may breach enough data to do significant damage. The Dell EMC Connectrix MP-7810B has built-in 256-bit AES strong encryption for replication traffic. Since the encryption is performed in hardware, the MP-7810B performs encryption at full line rate with no impact to replication throughput. This
allows you to ensure that all replication traffic is protected and that any exposure in-flight is mitigated. If a bad actor taps into the replication traffic, they will only see the strongly encrypted data streams.

For more information on how the Connectrix MP-7810B optimizes Isilon replication traffic over distance, please download more information (list location).

**Dell EMC Connectrix MP-7810B**

The 1RU MP-7810B is the latest addition to the Connectrix B-Series SAN Extension family. The MP-7810B combines Fibre Channel switching and routing capabilities with powerful hardware-assisted IP Extension and Fibre Channel over Internet Protocol (FCIP) traffic forwarding over IP wide area networks (WAN). The MP-7810B complements the existing MP-7840B and SX6 Extension Blade as a lower cost, lower end offering in the Connectrix Extension portfolio. The MP-7810B has twelve 32Gb capable Fibre Channel ports and six 1/10GbE SFP+ ports. Maximum WAN bandwidth for the MP-7810B is 2.5Gbps.

The MP-7810B comes in two models:

1. **Connectrix Model MP-7810B Base configuration includes:**
   - 4 ports of Gen 6 (32 Gb/s) capable Fibre Channel that are populated with (4) 16 Gb/s SFP optic
   - 6 ports of 1 Gb Ethernet (SFP) and 2 ports of 1 Gb Copper (RJ-45). Usable for WAN/LAN. Only 6 active Ethernet ports at once.
   - IPsec (AES 256) and Adaptive Rate Limiting (ARL)

2. **Model MP-7810B-EP Full configuration includes:**
   - 12 ports of Gen 6 (32 Gb/s) capable Fibre Channel populated with (12) 16 Gb/s SFP optics
   - 6 ports of 1 Gb or 10 Gb Ethernet and 2 ports of 1 Gb Copper (RJ-45). Usable for WAN/LAN. Only 6 active Ethernet ports at once.
   - Fabric Vision, Extension Trunking, Fibre Channel Trunking, 10 GbE ports, Integrated Routing, IPsec, and Adaptive Rate Limiting (ARL)

Also, the Base MP-7810B can be upgraded to the Full MP-7810B with an upgrade license – Connectrix model MP-7810B-8PODKIT which:

- Enables 10 Gb Ethernet and 8 Fibre Channel ports - Includes (8) 16 Gb/s SFP
- Increases WAN capacity to 2.5 Gb/s

**Summary**

In a data-driven work, data protection and collaboration with remote locations is critical. Whether it’s supporting follow-the-sun workflows across multiple geographies or ensuring time-sensitive RPO and RTO’s for high-availability data center redundancy, your data replication architecture is time sensitive and requires protection against WAN performance issues. Dell EMC Isilon and Dell EMC Connectrix MP-7810B ensure your SyncIQ workflow will deliver reliable, on-time performance. For more information on the Dell EMC Connectrix series of IP switches, please see the [Dell EMC Connectrix product website](#).