Optimize replication and enhance business continuity with Dell MD3 SAN array series and Silver Peak replication acceleration

The advanced data protection features in MD3 series storage combined with Silver Peak WAN acceleration enables organizations to:

- Protect critical data with snapshots and remote replication
- Replicate more data over existing WAN infrastructure
- Extend remote replication distance while maintain RPO
- Save costs by avoiding a WAN bandwidth upgrade

The Dell™ PowerVault™ MD3 array series provides ideal entry-level storage for use in environments that require high availability and high performance without sacrificing ease of use. Designed for flexibility, the MD3 arrays support a range of drive types, enclosures and RAID levels all within a single array.

To ensure business continuity and meet Recovery Point Objectives (RPOs), storage administrators must frequently replicate data to a recovery site. The MD3 array series includes optional data protection capabilities like Snapshots and remote IP replication to ensure data is protected in a secure, remote location. Additionally, the arrays also feature tight integrations with leading hypervisors and operating system platforms to streamline replication tasks and ensure reliable recoveries.

However, as data is replicated over a Wide Area Network (WAN), a number of conditions can adversely affect replication performance and the ability to meet RPOs. As replication is stretched over longer distance, three factors impact throughput:

- Distance (latency) can significantly affect replication performance because the longer the distance, the longer the remote site takes to respond to the primary site during replication
- WAN quality (packet loss) can also affect replication performance
- Bandwidth is also a factor for replication throughput. If there is more data to replicate in a given period of time and bandwidth isn’t sufficient, the RPO will be missed

To address these WAN replication issues, Silver Peak VRX replication acceleration software uses real time network optimization techniques to increase replication throughput over the WAN. Silver Peak VRX software provides the following advantages when deployed in conjunction with the MD3 series IP replication:

- Maximize available bandwidth through real-time, network byte level de-duplication and compression. Silver Peak looks at recurring data patterns within data blocks and matching patterns across all IP applications that share a WAN link, not just MD3 traffic. This is critical when replication traffic shares the WAN with other applications, like file, email and web.
- Extend replication distance by minimizing transport protocol chattiness over the WAN. With Silver Peak and Dell MD3 series replication, source and target devices can be placed anywhere, ensuring business needs are not hampered by network limitations.
- Prioritize replication traffic and guarantee available bandwidth, so that voice, video, data and storage traffic can all coexist on one converged network. Silver Peak VRX software complements Dell’s MD3 replication with traffic shaping techniques that guarantee available bandwidth for replication traffic.
• Fix packet delivery issues so replication can be placed on low cost shared WANs, like Multi Protocol Label Switching (MPLS) and Internet VPNs
• Secure data in transit using Silver Peak IPsec encryption
• Simplify deployment and troubleshooting with real-time dashboards that collect and display network conditions and monitor the performance of Dell replication traffic over the WAN.

Dell MD3 array series and Silver Peak
In joint lab testing conducted by Dell and Silver Peak, the combined Dell MD3 arrays and Silver Peak solution delivered on average 6x better replication performance for customers. As an example, testing with a 45 Mbps WAN connection and 40 ms latency (approximately from Atlanta, GA to Dallas, TX), the Dell MD3 series replication throughput increased from 3 GB/hr to 19.5 GB/hr. The time to replicate a 20 GB data set would be reduced from approximately 6.5 hours to 1 hour—which could be the difference between meeting or not meeting your RPO.

By deploying Dell PowerVault MD3 series optional remote replication with Silver Peak VRX software, enterprises can meet and reduce their RPOs, lower disaster recovery costs, and extend distances between replication sites. The Silver Peak - Dell solution does all of this across the widest variety of WAN conditions—saving costs and providing headroom for future growth. Dell PowerVault MD3 and Silver Peak can help you eliminate the challenges that undermine off site data replication.

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For more information, go to Dell.com/PowerVaultMD3

Figure 1. Dell PowerVault MD3 arrays and Silver Peak VRX optimize multi-site replication.