



Emulex Delivers High Performance to Data Deduplication Applications

Data Centers look to data deduplication technology to meet recovery time objectives

At a Glance

The growth of data appears to be unending. Some estimate that the number of bytes of data continues to double every 18 months. As a result, companies are forecasted to apply data reduction technologies, such as data deduplication, to at least 20% of all stored data by 2013. Eliminating redundant data during backup operations using data deduplication technology can significantly reduce storage requirements, improve bandwidth efficiency and help achieve recovery time objectives (RTOs). Whether a company deduplicates data at the source or in a storage appliance that backup software views as a tape library or networked storage target, Emulex delivers reliable and high-performance connectivity with its LightPulse® Fibre Channel 8Gb/s Host Bus Adapter (HBA).

Product

- Emulex LightPulse Fibre Channel 8Gb/s HBA

Solution Benefits

- Emulex LightPulse Fibre Channel 8Gb/s HBAs deliver superior performance for faster deduplication backups and recovery
- Emulex boasts the highest reliability in the industry with field-proven 10 million hours mean time between failure (MTBF)

Data Deduplication

Data center administrators have long known that their backups are inefficient due to backing up identical sets of data constantly. With backup windows shrinking or becoming non-existent, data deduplication is helping many data center administrators meet their RTOs. As disk costs continue to decline, many tape backup solutions are being replaced with a data deduplication solution, thereby improving backup and recovery times. In fact, according to the fall 2009 edition of *Storage Magazine's* Purchasing Plans survey, 21% of respondents are using data deduplication and 26% plan to incorporate it into their 2010 plans. Furthermore, 38% planned to increase their spending on deduplication.

Data deduplication is a method of reducing stored data by identifying duplicate data at the file, block or sub-block level and storing only one instance of the data. Although not all data can be deduplicated (for example, compressed data, such as pictures, voice and video files, and encrypted content), deduplication is an effective data reduction method for data sets that contain common bit strings. Data deduplication lowers storage costs since fewer disks are needed, and shortens backup/recovery times since there can be far less data to transfer and the data can be stored on disk versus tape.

Example—An email system might contain 100 instances of the same 1MB file attachment. If the platform is backed up or archived, all 100 instances are saved, requiring 100MB of storage space. With data deduplication, only one instance of the attachment is actually stored; each subsequent instance is just referenced back to the one saved copy. In this example, a 100MB storage demand could be reduced to only 1MB.

Depending on the type of data being deduplicated, data deduplication results in disk capacity reductions anywhere from 1/3 to 1/25 of the original physical disk requirement. It also offers secondary cost savings in power and cooling, network bandwidth usage reduction and, potentially, software licensing costs.

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The Emulex Solution

The high performance and extremely reliable Emulex LightPulse Fibre Channel 8Gb/s HBA is a critical component of data deduplication applications over a Storage Area Network (SAN). Data deduplication yields higher throughput, because once data is reduced, the effective bandwidth is increased by the deduplication ratio. That is, each input/output (I/O) activity moves more data for every read or write operation. The Emulex LightPulse Fibre Channel 8Gb/s HBA delivers the speed and reliability to most effectively complement data deduplication technology and meet RTOs.

Emulex has long delivered superior performance and reliability with its LightPulse 4Gb/s Fibre Channel HBA. To meet the needs of data centers with shrinking to non-existent backup windows and extremely sensitive data, the Emulex LightPulse Fibre Channel 8Gb/s HBA is the proven HBA of choice.

As new data deduplication technologies are evaluated, data center administrators using the Emulex LightPulse Fibre Channel 4Gb/s HBA can easily upgrade to the Emulex LightPulse Fibre Channel 8Gb/s HBA to double their deduplication backup and recovery speed. Data center administrators considering the Emulex LightPulse Fibre Channel 8Gb/s HBA for the first time can check the Emulex Interoperability site* for a list of the leading data center solution providers who have tested and approved Emulex Fibre Channel HBAs.

* www.emulex.com/support/interop.jsp

Emulex delivers:

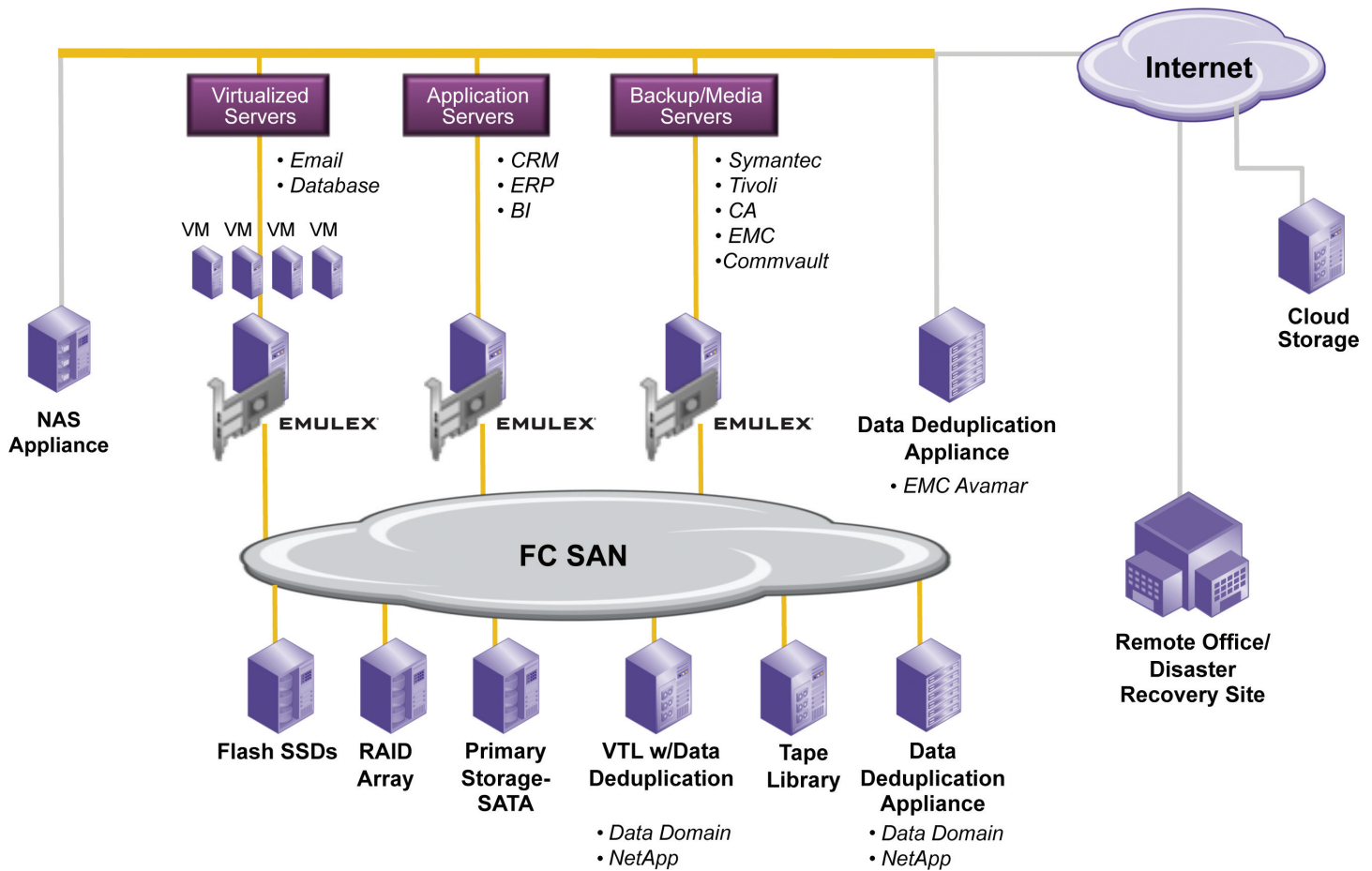
Superior HBA performance for faster deduplication backup and recovery

- 37% better transaction rates
- 33% more effective CPU utilization
- 127% greater second channel I/O transaction performance
- Better multi-port scalability

Higher availability for reliable deduplication backup and recovery

- Industry's most reliable HBA based on actual field return data
- 30% higher reliability over nearest competitor
- More than 10 million hours MTBF

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Summary

Redundant data that gets stored over and over again consumes a lot of unnecessary storage space (disk or tape), electricity (to power and cool the disk or tape drives) and bandwidth (for replication), creating many cost and resource inefficiencies within an organization. Data deduplication technology stores only one instance of duplicated data, greatly reducing backup time and increasing storage capacity optimization. For any data deduplication initiative, the Emulex LightPulse Fibre Channel 8Gb/s HBA delivers superior performance in both speed and reliability. Whether data is deduplicated at the source or in a storage appliance, the Emulex LightPulse Fibre Channel 8Gb/s HBA helps to ensure that RTOs are met.



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