SCI StorInt™ Dispatch
Announcing IBM new high-end and midrange Disk systems , new Tape systems, and new Tivoli FlashCopy capabilities

IBM had a slew of product announcement this past month introducing a new version of their DS8700 Disk Subsystem using the latest PowerPC architecture, a new DS5000 Disk Systems with high density drive enclosure and channel package, a new TS7700 Virtualization Engine with a high density library frame, and new application aware Tivoli Storage FlashCopy Manager services.

Next generation of DS8700 Disk Subsystem

IBM has updated the DS8700 to use the latest round of IBM PowerPC (POWER6) hardware. This includes higher processing speeds, new faster internal PCI Express internal fabric and faster device adapter ASICs.

All this nets out to over a 150% improvement in sequential workloads and a 100% improvement in random workloads. Cache size is also increased and now supports up to 384GB of cache.

The new PCI Express internal fabric provides for concurrent upgradeability, and faster throughput making the new DS8700 ready to support 8GFC sometime next year. Also power efficiency has been improved to now support over 50% more IOPS/Watt.

IBM also indicated they will support automated data migration for extents (1GB granularity) to be announced next spring, which can help optimize data placement for solid state drives. They already have many tools available today to move volumes or LUNs around within the storage subsystem for both the open and z/OS environments.

IBM also announced enhancements to their full disk encryption support for the DS8700. The new enhancements support PCI-DSS requirements for both disk and self-encrypting tape environments.

New mid-range disk solutions

In addition, IBM announced enhancements to their midrange disk lines. Specifically, IBM has new features for the DS5300 and DS5100 to support SSDs, GigE iSCSI, a new high-density disk enclosure EXP5060 with 60 3.5" disk drives in a 4U form factor, somewhat similar to the HP 70 drive enclosure in 5U. Also they announced 32 and 64GB cache options and support for up to 448 drives on the DS5100.

IBM's SSDs are from STEC and use the 73GB FC attached drive. The new iSCSI adapter card supports dual ported GigE interfaces for up to 98K random reads and 23K random writes using 256 drives. Also the new iSCSI adapter cards support up to 920MB/s sustained disk reads or 640MB/s sustained write throughput. With the new iSCSI adapter cards the DS5000 can intermix any pair of 8GFC, 4GFC and now GigE iSCSI cards on the same disk subsystem.

Figure 1 EXP5060 High density drive enclosure

The new high density EXP5060 drive enclosure supports online maintenance of any shelf drives while IO activity continues on other drives in the shelf. The new enclosure allows up to 448 disk drives to be attached to the DS5000 subsystems when intermixed with the standard drive enclosure EXP5000 or up to 480 drives when using EXP5060 high-density enclosures only.

IBM also announced a new DS3950 Express model. The express model supports two configuration bundles, available for channel sales only outside the US.

TS7700 Virtualization Engine

The latest TS7700 Virtualization Engine for the mainframe environment supports new configuration options that allow up to four clusters within a grid to replicate to one another for business continuance and disaster recovery. Data replication techniques provide a real-time (synchronous) or delayed (asynchronous) copy of data on one or more peer TS7700 Virtualization Engines. In the event of a failure or the need to service one of the TS7700 systems, customer applications may continue to access all logical volumes through the remaining operational TS7700s.

Also, the TS7700 now supports intermix of TS720 and TS7740 models within the same grid allowing two, three or four site grid configurations to be configured with any combination of TS7740's and TS7720's. Recall that the TS7720 is a disk cache only and has no physically attached tape, whereas the TS7740 has both disk cache and physically attached tape libraries.

The TS7700 will now support logical WORM for newly created volumes which means that an admin can define volumes which are WORM only and the TS7700 will enforce the security constraint for that volume.

TS3500 high density tape frame

IBM also announced support for over 20K LTO tape cartridges or over 15K 3592 tape cartridges when using high density tape frames in a System Storage TS3500 Tape Library. The Sun SL8500 library currently supports only up to 10K T10K or LTO cartridges.

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New application-aware Tivoli Storage FlashCopy Manager services

Tivoli Storage FlashCopy Manager now supports application aware flash copies for Oracle, DB, and SAP running on AIX and SQL Server and Exchange Server running on Microsoft Windows platforms. This is similar to NetApp's SnapManager© services.

FlashCopy Manager will quiesce the application, flush any internal buffers, issue the appropriate IBM disk subsystem FlashCopy request and restart the application automatically without operator intervention. Also FlashCopy manager will identify volumes or LUNs in a consistency group used by an application. Consistency groups are copied together in order to an application consistent copy of the data.

Announcement significance

IBM continues to make incremental enhancements across their storage product lines. Application FlashCopy services should make using FlashCopy a snap for supported applications.

The new DS8700 with the latest generation POWER6 is a good update but when compared to what EMC has done with the V-Max, it looks a bit subdued. Some would say that this was because EMC had many more issues to overcome with the old DMX architecture that they solved with V-Max. Nonetheless, IBM did stress that the current DS8700 uses 93% of the same code as the prior generation DS8000, which EMC does not claim for the V-Max. Also the new midrange offerings are a good step forward.

The new Tape Virtualization systems are another good extension of the present product lines. IBM seems to be increasing market share in the mainframe tape virtualization space. In the meantime, all the churn at Sun-Oracle must be helping as well.

Silverton Consulting, Inc. is a Storage, Strategy & Systems consulting services company, based in the USA offering products and services to the data storage community

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