# SCI StorInt™ Dispatch - IBM071022

## Announcing new features: DS8000, SVC, TS7520 and VFM

This Silverton Consulting (SCI) Storage Intelligence (StorInt™) Dispatch provides a summary of IBM's recent storage system announcement for new DS8000 Series microcode, SVC 4.2.1, TS7520, and VFM products.

## DS8000 announcement summary

IBM released a new level of microcode for their high-end enterprise class disk storage. The new microcode improves performance and included LUN striping (called Storage Pool Striping) spreading a host volume across all RAID groups in a subsystem, new adaptive sequential read ahead (called adaptive multi-stream pre-fetching [AMP]) optimizing sequential read activity primarily for sequential workloads, and finally, z/OS Global Mirror Multiple Reader supporting parallel read processing for XRC sidefile read support.

In addition to the above new functionality was also released including Dynamic Volume Extension that supports LUN/Volume expansion with minimal operator intervention, a new separately licensed, space efficient FlashCopy SE that supports minimal space reservation FlashCopy, and finally a new storage management console (System Storage Productivity Center [SSPC]) preloaded with IBM Total Storage Productivity Center Basic Edition with an option to add TPC Standard Edition. SSPC will become the standard disk storage management console.

## SVC 4.2.1 announcement summary

For SVC, IBM announced incremental FlashCopy which re-copies data by only replicating changes since last copy, Cascaded FlashCopy which provides a copy of copies, dynamic configurable copy services which provides for increased amount of data that can be in a copy services group and more flexible configuration of that capacity, and finally, SVC now supports up to 8PB of external disk virtualization.

There was some discussion on the recent HDS USP-V SPC-1 benchmark results. It should be noted that IBM has published SPC-1 performance results for many versions of SVC including 1.1, 1.2, 3.2 and 4.2 while this is the first formal HDS SPC-1 result for any HDS storage let alone USP-V.

Comparing the SPC-1 results (see www.storageperformance.org) both SVC 4.2 and HDS USP-V are pretty impressive. SVC 4.2.1 topped out at 272K SPC-1 IOPs while HDS USP-V only hit 200K SPC-1 IOPs. For these benchmarks USP-V used internal storage while SVC only supports external storage. HDS had 256GB of cache while the 4 I/O groups (8 SVC servers) had only 64GB total SVC server cache. However SVC results did not include any cache in the 16-DS4700's, which were configured with up to 2GB write cache each. For 16-DS4700s this amounts to an additional 32GB of cache, resulting in a combined 96GB of cache for the SVC against 256GB cache for the HDS - a somewhat more comparable cache size.

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## TS7520 announcement summary

IBM announced support of 750GB SATA disk drives providing up to 1.3PB in storage capacity and support for IBM LTO-4 tape transports. The TS7520 can support up to 4.8GB/s performance, increased virtual address space including up to 512 virtual libraries, 4096 virtual tape transports, and 256K virtual tape volumes. Optionally the TS7520 supports data and control path failover as well as network replication for disaster recovery.

## VFM announcement summary

VFM is an OEM product and provides global name space as well as file migration services across heterogeneous file server and NAS products. Also announced was a Migration Edition to simplify file server migration - a down market version of VFM. VFM support for Windows depends on DFS and Unix depends on Automount to supply name space and file migration services.

## Announcement significance

The DS8000 microcode release is available free of charge to all current customers and makes some very interesting performance improvements to sequential read and other workloads.

IBM mentioned that 60% of SVC goes to SMB customers looking to save on storage admin activity and 75% through IBM business partners. This is counter-intuitive and says much about the difficulty of managing storage and the price/availability of storage administrators in the SMB market.

One interesting item from the TS7520 announcement is that Tivoli Storage Manager can now run on the TS7520 server and doing this should reduce network traffic for backup activity and server requirements. This is a logical extension of current capabilities.

VFM is a logical move. NetApp IBM's partner had already offered this product to their customers. NAS products easily proliferate and some form of virtualization to help manage multiple NAS products has quickly become a necessity.

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