SCI StorInt™ Dispatch – Brocade090127
Announcing Brocade DCX-4S

This Silverton Consulting (SCI) Storage Intelligence (StorInt™) Dispatch provides a summary of Brocade's recent announcement of their DCX-4S and other items.

DCX-4S

Brocade is enjoying significant success with their 8Gb fibre channel DCX Backbone, first released in January 2008 and proving to be its fastest ramping modular switch in Brocade's history. Their newest addition to this product family is the DCX-4S, which is a four horizontal slot version of the bigger DCX model, but with full backbone-class performance, energy efficiency, and advanced functionality. The DCX-4S also offers high-speed Inter Chassis Links (ICLs) which can cross link a DCX-4S to its bigger brother, the DCX or to another DCX-4S. This can be used to provide more scalable and flexible backbone configurations at the network core and edge.

The new DCX-4S can provide half the number of ports (192 FC/FICON ports) and switch throughput (1.536Tb/s) of the larger 384-port DCX model. Each DCX-4S slot can support a Fibre Channel blade with from 16 to 48 8GFC ports, or an application blade such as the Fabric Encryption blade or the Brocade Application blade for EMC RecoverPoint, which are also supported by the DCX model. The DCX-4S can connect to Brocade B- and M-Series SAN fabrics without disruption and with common management. And its multiprotocol architecture is designed to support emerging Converged Enhanced Ethernet (CEE) and Fibre Channel over Ethernet (FCoE) protocols through the addition of a future blade.

Fabric Operating System Virtual Fabrics

Brocade is also introducing their Virtual Fabric support in its Fabric Operating System (FOS) that provides for partitioning a physical switch into multiple logical switches. Virtual Fabrics are very useful for isolating SAN traffic via independent logical switches managed as separate entities. Some use cases for Virtual Fabrics include for mainframes, isolating FICON from FC traffic, for SAN consolidation, retaining segregated management, and for multi-fabric environments, growth can be managed from a pool of physical ports.

Physical ports can be dynamically allocated to a logical switch offering flexible scalability. Brocade also mentioned that support for Virtual Fabrics was provided in their 8G FC ASIC and as such, any switch with this ASIC could support Virtual Fabrics. Today, the DCX, DCX-4S, 5300 and 5100 support the feature. Older products and/or other switches not using the feature can interoperate with Virtual Fabrics by connecting to a single Virtual Fabric.

Silverton Consulting
Strategy, Storage & Systems
P.O. Box 492|Broomfield, CO 80038-0492|
720-221-7270|info@silvertonconsulting.com

Fabric level encryption

As for encryption, Brocade also announced support for the HP Secure Key Management appliance and support for IPv6. Also announced was support for NetVault/BakBone 8.1 and HP Data Protector 6.0 backup applications. More interesting perhaps, Brocade also announced support for encrypting tape with compression.

HBA announcements

Brocade is announcing support for quality of service (QoS) configurations and SAN boot auto-configuration capabilities for their HBA product line. Brocade's HBA is now qualified by EMC, HDS, LSI Corp., and Xiotech and can now be sold by most of them.

HBA port/NPIV-id QoS can be specified to be High, Medium, or Low and be maintained throughout a QoS enabled Brocade switching fabric. As such, VMs using NPIV-ids can have their port QoS move with their VM as it is Vmotioned throughout a VMware data center. Such QoS support can limit the cross VM/system performance impact of logical or physical link problems.

SAN boot auto-configuration supports a switch defined automatic configuration of an HBA port at boot time. Historically, this was maintained in HBA non-volatile memory and as such was somewhat hard to change and error prone. With this new capability, the HBA port boot characteristics are defined at the fabric level and are downloaded whenever a boot request is issued to the HBA. Current OSs supported by SAN boot auto-configuration includes Windows, Linux, and VMware servers.

Announcement significance

The DCX-4S takes Brocade's latest switch technology to the mid-market and in the process makes for a much more flexible fabric configuration. More interesting is their relative success and high adoption rate of the DCX series of products. Unclear if this reflects the adoption of 8GFC in the enterprise, the relative need for more switch ports/bandwidth, or some need for DCX advanced features. Most likely a combination of all the above are driving adoption. How this will play out in the mid market is TBD.

As for the HBA business, one reason Brocade cited for getting into the HBA business was advancing HBA features would require tighter integration with the switching fabric. However, SCI feels this is more a statement of a lack of standards than a real constraint.

Finally data at rest encryption for tape and disk is now available everywhere, i.e. from the host/server, standalone appliance, fabric switch, storage subsystem or disk/tape device.

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

Silverton Consulting
Strategy, Storage & Systems
P.O. Box 492|Broomfield, CO 80038-0492|
720-221-7270|info@silvertonconsulting.com