

SCI StorInt™ Dispatch – EMC080225 Announcing DLm and New RecoverPoint features

EMC announced a new Disk Library product targeted at the mainframe space and they have enhanced RecoverPoint their CDP and CRR appliance with new Clariion write splitting.

Disk Library mainframe (DLm)

Once again the mainframe space is in the news. DLm is EMC's product to compete with Sun StorageTek VSM and IBM Ts7700 and VTS products. DLm supports emulation of up to 256 tape drives per virtual tape engine (VTE), two to four VTEs per subsystem and up to 190TB of raw disk capacity. A DLm virtual cartridge can be up to 2TB in size and the DLm emulates a virtually unlimited number of virtual cartridges. The product also supports standard IDRC outboard hardware compression and the backend storage is RAID protected SATA disk drives. The DLm emulates IBM 3480, 3490 and/or 3590 tape drives. The product ships with either four or eight FICON channels or alternatively can be configured to support six or 12 ESCON channels, based on two or four VTEs. One can also attach up to two real tape drives to support physical cartridge exporting.

This product grew out of a successful Bus-Tech based product which was sold through the EMC select program. However this new DLm brings full EMC support behind it.

One key factor is that a virtual tape cartridge is stored as a file on the backend disk. As such, virtual cartridges only take up disk space when written and by definition can be shared across all virtual tape drives. The DLm provides virtually unlimited tape volumes.

Throughput per DLm is rated at 600MB/s native and hardware compression can double these numbers. Currently Sun's VSM 5 throughput is ~610MB/s and IBM's TS7700 R1.4 is rated at 600MB/s so DLm competes well in performance.

Missing from today's DLm is remote replication capabilities. TS7700 R1.4 supports three way, IP based replication where one master TS7700 can be replicated to two satellite TS7700's. VSM only supports two way replication capability. EMC did preannounce two way remote replication capability to be available Q3'08, based on IP using asynchronous replication.

VSM and VTS have always been high margin products. Although these products have a number of applications, their use in batch processing seems a good fit for DLm. In this application, data is read from virtual tape, processed by an application and then written out to another virtual tape. Using DLm for these applications provides a number of advantages:

- Real tape had problems with relatively small volumes taking up a large capacity cartridge. Volume stacking solved this but added complexity. With DLm data never leaves disk and volume stacking is a non-issue.

- Real tape has media life issues. As tape cartridges are read and written they degrade and must be replaced with fresh media. There is no real tape use in the DLm so media life is a non-issue. Although disk drives can also degrade. For either media type, redundancy reduces data loss exposure, e.g. for disk, RAID and for tape, data copies must be used to minimize data loss.
- Real tape has higher mechanical failures. Tape drives and robotics ultimately fail and depending on library version may or may not be disruptive to fix. DLm with no real tape drive/automation is less likely to fail and is also completely non-disruptive to fix.

RecoverPoint Enhancements

A new RecoverPoint Clariion CX3 based write splitter is now available which eliminates the need for host software modifications or intelligent fabric switch hardware for write splitting. This provides for a much simpler RecoverPoint installation and much less expensive implementation than the intelligent fabric. With the new CX3 splitter, one can use host-, fabric-, or controller-based write splitting with RecoverPoint. In addition the CX3 splitter now supports other operating systems especially VMware's VMFS and RD mode I/O. Also, any of the splitter approaches can be used at the target or the source for a replication consistency group. In addition to the new splitter, new support for 4Gb/s FC and enhanced JAVA GUI were announced to make RecoverPoint easier and faster to use.

EMC also announced a new RecoverPoint capability that supports concurrent CDP and CRR for the same consistency group. In this case both the local and remote site have independent copies of the data as well as independent copies of the journal used to support CDP/CRR. This allows for increased flexibility to deal with partial failures at the local or remote sites.

Announcement significance

The mainframe continues as a lucrative market. Given the limited physical tape support available with DLm (two SCSI tape drive attachments) it's unlikely to replace much use of VSM and TS7700. Also DLm's lack of de-duplication makes using this product for backup less likely. Nonetheless, mainframe batch processing is probably responsible for 95% of all the bills produced monthly and mainframe customers have more than enough money to spend on any technology that can help them do batch better.

The RecoverPoint announcements were less exciting but show a continuing push with this technology and an increasingly tighter integration with EMC's traditional storage product lines. All of which make this technology easier to use and more valuable to EMC's install base.

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