SCI StorInt™ Dispatch – FalconStor080122
Announcing FalconStor VTL5 Enterprise Edition

This Silverton Consulting (SCI) Storage Intelligence (StorInt™) Dispatch provides a summary of FalconStor's latest VTL5 Enterprise Edition product announcement.

VTL5 Summary

FalconStor is taking de-duplication technology to the next level with the introduction of its SIR clustering capabilities fully integrated with its latest edition of FalconStor VTL for the enterprise. VTL5 Enterprise Edition supports a 4-node cluster called the Single Instance Repository (SIR). De-duplication is done in a "concurrent overlap" fashion.

VTL 5 architecture

VTL scales up to 8 nodes as a single group of 4 VTL HA pairs. Each node of the VTL is capable of ~1.2GB/s sustained throughput, totaling 9.6 GB/s. SIR clusters can be configured today from 1 to 4 servers (in an N+1 configuration) with up to a maximum of 256TB of disk storage. Data is de-duplicated across all the servers in a SIR cluster.

FalconStor performs de-duplication processing in a "concurrent overlap" mode. This means de-duplication can begin as soon as a virtual tape volume is closed and need not wait for the backup process to complete. Also, depending on the amount of cluster nodes/processing power devoted to de-duplication, several volumes can be de-duplicated in parallel.

Also, VTL5 does de-duplication at the sub-file or "chunk" level. A "chunk" is SIR configurable from one to many data blocks long. Sub-file de-duplication can more effectively factor modified files identifying chunks that are unique and those that are duplicate. By doing this, VTL5 provides better de-duplication and consumes less storage for modified files.

VTL5 supports remote office replication to a central data center. De-duplication is done locally at the remote site and then globally (across remote site replicas) at the central site. As such, only unique data is sent from the remote sites to the central site. When a remote site starts to send a "chunk" of data, a signature is computed over the data chunk and this is then sent to the central site to be compared to all other chunk signatures.

- If the signature is unique the data is unique and must be sent
- If the signature is a duplicate, the data is a duplicate and is not sent

This conserves network bandwidth for sending unique data.

In addition, VTL5 supports "data at rest" encryption. Data encryption is done when transferring data to physical media. Secured data is exported to physical tape. FalconStor provides key management for this "data at rest" encryption.

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

Furthermore, FalconStor VTL will support Symantec's Net Backup APIs providing for management of VTLs. This allows Net Backup administrators to directly manage VTL activity, export real tape volumes, monitor de-duplicated space consumption and other VTL specific activities. As such, use of these APIs should simplify the administration of VTL5 and should lead to quicker adoption of VTL5 in Net Backup environments.

Finally, FalconStor has one of the longest lists of VTL supported tape drives, media, and libraries in the industry. FalconStor also OEMs their product to a number of vendors, most notably IBM, EMC, and Sun which means their interoperability matrix is validated by some of the most thorough test groups available.

Announcement significance

VTL de-duplication is heating up. SCI has long felt that FalconStor was a bit behind the competition with their prior offerings. With VTL5 Enterprise Edition, FalconStor now comes much closer to parity and even beyond current competition, in some respects.

De-duplication's processing intensity and throughput overhead has historically limited its application to data centers below the enterprise class. Today, FalconStor's VTL5 goes a long way to eradicating this limitation.

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