

Dilemma: Backups

A Global Financial services firm in NYC was experiencing long and unreliable backups. The pain points that ICI focused on were the overall backup windows, aged hardware, simplification and performance of backup processes.

ICI Case Study #23

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Current Backups

The existing backup and recovery environment is compromised of two backup servers. All server environments are covered by the Arcserve software including Exchange, File shares, banking applications and workstations

Backup Windows

The backup windows for a full backup is over 50 Hours for one set of fulls on core server. This window is totally unacceptable and needs to be brought down to under 24 hours.

Outdated Hardware

The STK TimberWolf 9730 is an outdated library that has no direct upgrade path. The current drives, DLT7000, are the largest and fastest tape drives supported in the unit. This unit needs to be swapped out for a newer technology to allow for support, upgradeability and performance.

Backup performance

Based on the manufacturers performance specifications from STK the 9730 library will sustain 72 GB per hour throughout based on the 2 DLT7000 tape drives and SCSI 2 connections. Unfortunately the backups are not able to complete in a decent window because of the method of backups and the hardware

Workstation Backups

The backup and restoration of end user workstations is a time consuming and complicated process. This is because of a diverse user driven environment. Restoration of the complete desktop needs to be seamless and easy to complete. As of today there is no easy way to perform a desktop restore

Backup assessment

ICI recommended that the customer engage ICI to perform a formal backup assessment to validate pain points and to determine the solution(s) and steps that the customer will need to undertake to achieve a viable, stable and scalable solution

Proposed solution:

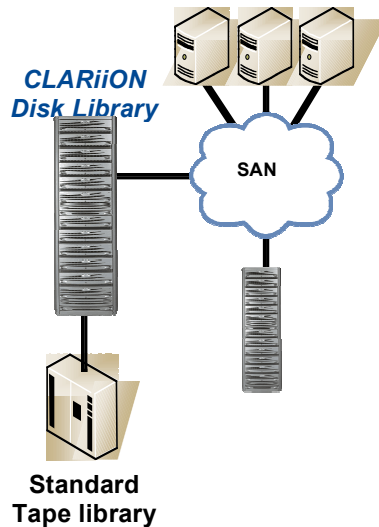
The first and most prevalent recommendation was the purchase of an EMC CDL DL-310. This will replace the 2 STK 9730 libraries and will allow for a truly robust, high performance, and feature rich backup environment. The EMC CDL will allow backups to achieve significantly higher throughput based on the fact the DL-310 can achieve speeds of 15GB per minute vs. the 1.2GB per minute achieved by the STK 9730.

When the EMC CDL is configured then multiple virtual tape drives can be configured so the customer can maximize the backup environment allowing Arcserve to backup multiple clients at the same time.

Technology features:

- IP based replication between two EMC CDL's,
- Automatic archiving to physical tape library / Not Dead End Storage
- 3 to 1 compression on backups,
- Ability to emulate up to 512 virtual tape drives

- Write Cache Consolidation
 - GUI based Management
- Application / backup hosts**



New physical tape library

The STK 9730 libraries are severely outdated and need to be replaced. Currently we will need to retain one of the STK 9730 libraries for retrieval of old backups, but moving forward we should look

into LTO tape technology. The recommended tape library unit is an ADIC i500 with LTO3 tape drives. These drives are fast, very reliable and very large. This is an excellent tape technology to reduce offsite costs and allow the customer to maintain an offsite retention policy.

The ADIC i500 library is a viable compliment to the EMC CDL because of its speed, tape size and upgradeability. The ADIC will be able to grow with the CDL environment for the future and because the ADIC is solely being used to offsite tapes, the slot count can be very low.

Backup software enhancements

Along with all of the above recommendations the customer needed to purchase some add on modules to truly make all this work. The modules are:

- SAN Option – This allows the backup servers to backup via a Storage Area Network, which is how the EMC CDL is attached.
- Backup Server Module – This module can be used for servers such as the Exchange servers' backup directly to the CDL. This is instead of RM/SnapView.
- File Image Option – For Userfiles. Allows the backup server to backup a large

filesystem with many small files. This is the major issue for Userfiles.

All of these modules are recommended solutions but one of the major upgrades needed to the Arcserve environment is a new backup server platform and version upgrade. The version of Arcserve is also old, still version 9 and needs to be upgraded to v11.1.

Workstation Backup and Restores

It is clear that there are many different viable solutions. No matter what solution is put in place unless there is a policy put in place to ensure all user data is stored on a server then backups will always be necessary. This centralized file share feature can be accomplished by an Active Directory feature called Folder Redirection. This AD feature allows the administrators the ability to redirect any and all of the users' shortcuts and documents to a centralized server. Once this is complete, the desktop should only ever be changed with administrator based updates, not by users.

Viable solutions for customer*

- *Monthly imaging of the workstations and HA hardware - Customer has developed a plan to utilize a product called Acronis True Image and RAID configured hard drives to accomplish a fully redundant and restorable workstation.*
- *VMware Ace – ACE is a VMware product that creates a transportable, restorable, upgradeable image that can be run on any server and helps to centrally manage user's desktops. The Ace product allows the customer to create an image for each user so that it can be installed very quickly and efficiently on any hardware in the environment. In case of a hardware failure, the administrators will have to load the virtual desktop on any other workstation and replace the old one. This is a painless process and very quick.*

- * **(Unfortunately this is a phased process and until the customer can move to the new methodology for desktops Arcserve backups will still need to be completed)**

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