

The Shrinking Backup Window

Or

How to Get 10 Pounds of Data Into a 5 Pound Bag

Tim Jones - President/CTO, TOLIS Group, Inc.



What is a Backup?

- According to the dictionary
- A reserve or substitute
- A copy of a program or file that is stored separately from the original

What is a Backup?

... but a seemingly more appropriate definition under our data loads may actually be:

- An overflow or accumulation caused by clogging or a stoppage

Why Don't We Backup?

- We don't need to
- We don't have an Infrastructure
- It's easier to recreate the data
- We don't have enough time
- ... any more?

Why Don't We Backup?

- We Don't Need To
 - The work I do on a computer isn't that important
 - I only use my computer to play games
 - I have all the original software disks.

Why Don't We Backup?

- We Don't Have An Infrastructure
- The data are on too many different systems
- We only have one tape drive and we use it to backup the web server
- We don't have a budget to put an infrastructure in place

Why Don't We Backup?

- It's Easier To Recreate the Data
- Uhhh ?

Why Don't We Backup?

- We Don't Have Time
- The Backups require too much manual attention
- There is more data to backup per day than the amount of time with no users on the systems
- Tape drives are too slow



Why Don't We Backup?

- Time is the biggest factor for most organizations today!



Planning to Reduce Time Requirements

- Where are the primary business/operational data stored? There are two usual locations:
 - On the users' local disks
 - Shared server volumes

Planning to Reduce Time Requirements

- Local Storage
 - Do you know what data on the local disk is important?
 - Can your backup tool locate and pull the necessary data onto a central backup location?
 - Can the data be moved to a centralized shared server storage?

Planning to Reduce Time Requirements

- Shared Server Storage
 - Are the data stored in a logical, hierarchical manner?
 - Are multiple copies of the same data being stored?
 - How much of the data is actually accessed?

Planning to Reduce Time Requirements

- In Summary - What do you REALLY need to backup?

Tape Vs. Disk

- Disk Positives:
- Per disk capacities are increasing while prices are coming down
- Firewire and USB interfaces allow portability
- Hot-Swap or Removable disks allow exchange and off-site storage

Tape Vs. Disk

- Disk Negatives:
 - Fragile when moving or storing offsite
 - “Stick-tion” when left unpowered for extended periods
 - In RAID environments, order of disks must be maintained
 - Disks can be usurped from backup to filesystem duty

Tape Vs. Disk

- Tape Positives:
 - Very large capacities per tape
 - Easily stored offsite
 - Very long shelf life for archiving
 - No “stick-tion”

Tape Vs. Disk

- Tape Negatives:
- High cost of entry
- Slower speeds*
- Sequential access
- Requires specialized software
- Restoring is a pain**

The Best of Both Worlds

- Disk to Disk to Tape (D2D2T)
- Enables High-performance to disk
- Allows tape backup with lower backup window overhead
- Provides more robust offsite storage

(D2D)2T

Client Push

- Client systems send their data to the centralized storage server
- rsync
- tar
- pax
- BRU

(D2D)2T

Server Pull

- Server pulls appropriate data from clients to local server disk
- Amanda
- BRU Server
- NetBackup

(D2D)2T

- Some dedicated D2D Devices:
- TOLIS Group bruAPP
- Certance CP3100
- Overland Data REO
- Chi Corp Virtual Tape
- Others ...

D2D(2T)

- Server moves data to tape from local disk
- Most backup tools



(D2D2T)

- Amanda (Open Source Software)
- BRU Server (Commercial Software)
- Certance CP3100 (Commercial Hardware)

D2D Considerations

- Backups are still usually local
- Disk failure within the disk array can cause unrecoverable data loss
- Low cost disks don't offer the life expectancy of high-end disks

D2D2T

Improvements

- Maintains the performance of D2D and offers the reliability, growth, and archival storage of D2T





BRU Server

- True Client Server Architecture
- Client support for most popular operating systems*
- Linux and Mac OS X servers (Solaris coming)
- D2T, D2D, and D2D2T support in one solution
- Fully verified and audit-able backups to disk and tape





BRU Server

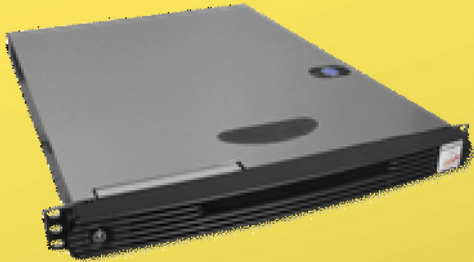
- Any server-mounted volume may be used for disk Stage - full quota support provided
- Supports SCSI, Fibre-Channel, Firewire, and USB Tape drives
- Supports SCSI, Fibre-Channel, and Firewire Libraries



Introducing bruAPP



- Client Server Backup Appliance
- 5 minutes from box to first backup
- Available in Rack mount or deskside configurations
- 250GB to 1TB currently available
- BRU Server fully installed, configured, and ready to run.



Thank You

For more information on TOLIS Group, Inc.
products visit:

<http://www.tolisgroup.com>

For more information on storage and backup
please visit:

<http://searchstorage.techtarget.com/>