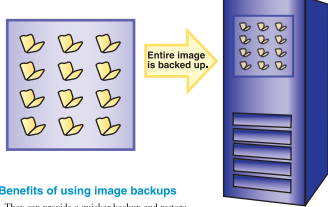


CLIENT OPERATIONS

IMAGE BACKUPS

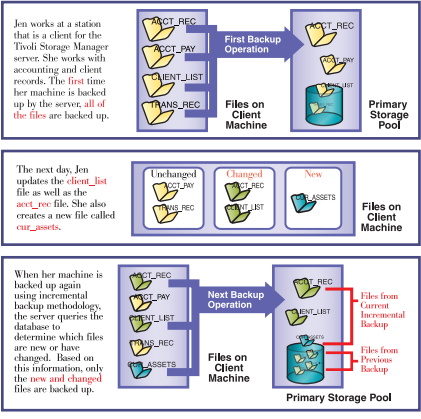
An image backup is the backup of an entire Tivoli Storage Manager file system or raw logical volume as one object. Instead of backing up individual files, a point-in-time "photograph" is taken and sent to the backup server.



- Benefits of using image backups**
- They can provide a quicker backup and restore than the file-by-file method.
 - They provide a point-in-time picture of your file system.
 - Data is restored to the same state as it was when the last backup was performed.
 - A backup image can be restored to recover from a corrupted file system.
 - They conserve resources on the server during backup because only one entry is required for the whole image.

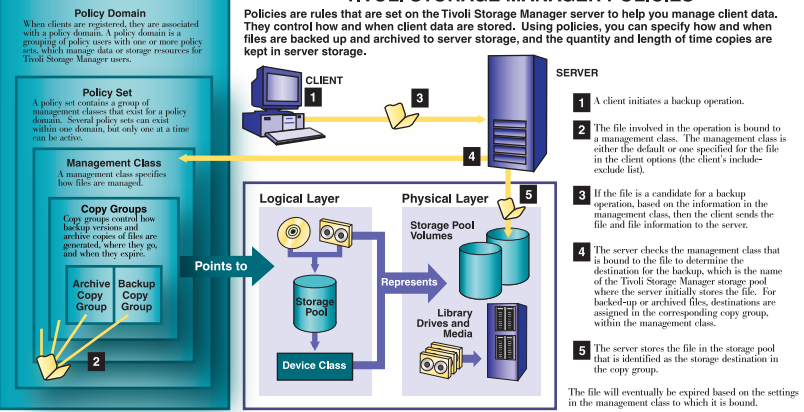
PROGRESSIVE BACKUPS

Tivoli Storage Manager uses progressive (or incremental) backup methodology in which the first backup operation backs up everything and each backup operation after that backs up only new or changed client files.



TIVOLI STORAGE MANAGER POLICIES

Policies are rules that are set on the Tivoli Storage Manager server to help you manage client data. They control how and when client data are stored. Using policies, you can specify how and when files are backed up and archived to server storage, and the quantity and length of time copies are kept in server storage.



INCLUDE-EXCLUDE LIST

The include-exclude list is a set of references that allows a high level of control over which files are backed up.

Kate has been assigned two big projects. She works on Project 1 almost every day, and several of the files she is working on are full of critical information. They need to be backed up often. Kate spends some time working on Project 2. She saves all important data in one folder called MAIN, which also needs to be backed up often. Kate occasionally saves some personal files and information to her work computer, but does not worry about this information getting backed up.

Kate decides to create an include-exclude list to only back up files with critical data. This will help eliminate some of the time and server resources required for her backup operations.

When Kate's machine starts a backup operation, the client checks her include-exclude list.

The list is checked from the bottom up, so the first thing the client sees is that all of the files in the PROJ1 directory are included for the backup.

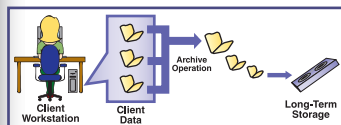
Kate wants to include the folder MAIN in the backup operation, but exclude everything else in the PROJ2 directory.

Because include-exclude statements are processed from the bottom up, Kate added an include statement for the MAIN folder before adding an exclude statement for everything else in the PROJ2 directory.

The last statement in Kate's include-exclude list includes the directory KATE, and all of its files from being backed up.

ARCHIVING DATA

You can use the archive process to copy client data to server storage for long-term storage. This might be useful for compliance with legislative retention requirements.



The length of time an archive copy file is kept depends on a value defined in the archive copy group. At the end of that time, it is expired.

To free up space, you can choose to delete the files from the client workstation after they are archived.

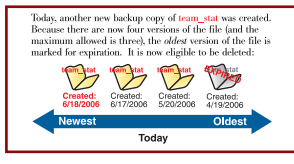
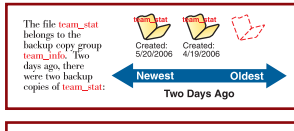
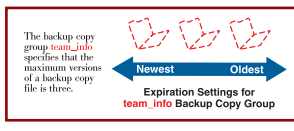
The client can access the archived files in long-term storage when they are needed.

EXPIRATION

You can use Tivoli Storage Manager to delete backed up files after a certain period of time or after a certain number of versions of a file exists. Expiration is based on criteria you define in the backup or archive copy group.

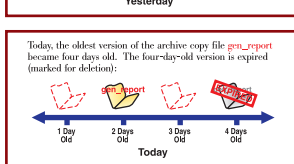
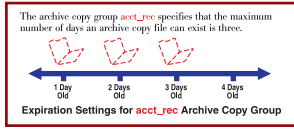
Backup Copy Expiration

For backup copy groups, expiration of backup copy files is based on the maximum number of versions of the copy file that can exist before the oldest version is marked for deletion.



Archive Copy Expiration

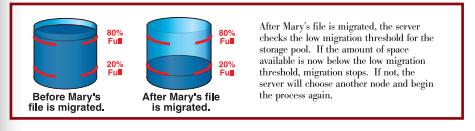
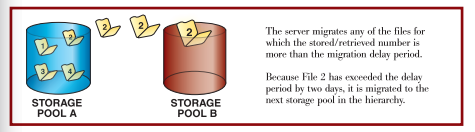
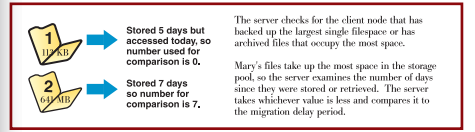
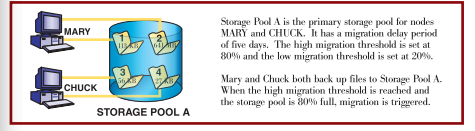
For archive copy groups, expiration of files is based on the number of days an archive copy file can exist before it is expired (marked for deletion).



MAINTAINING THE SERVER

MIGRATION

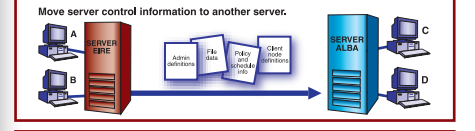
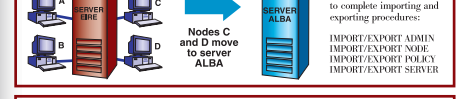
The Tivoli Storage Manager server can move data from a primary storage pool to another storage pool to help maintain free space. This is normally done to ensure that space is available for regularly scheduled backup events. Migration thresholds can be established to trigger automatic migration. This helps maintain sufficient free space in the primary storage pool.



IMPORTING and EXPORTING

Tivoli Storage Manager allows you to move client data to a different server. You can use this function for load balancing or server migrations.

To relieve a server of some workload and improve performance, you can:



There are two methods for importing and exporting data:

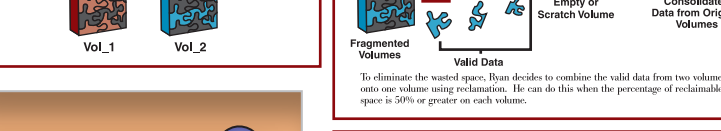
1. Export directly to another server on the network. This will allow an immediate import process without the need for compatible sequential device types between servers.
2. Export to sequential media and later import the information to another server that has a comparable device type.

RECLAMATION

Reclamation is the process of copying valid data from two or more fragmented sequential access volumes to one new sequential access volume.

Ryan uses sequential access volumes to back up his data. When filespace and files expire or are deleted from his sequential media storage, real or virtual "empty spaces" appear. New files cannot be written to these spaces because sequential media can only be written from beginning to end.

This wasted (reclaimable) space increases the time that restores take as well as the number of volumes needed to store data.

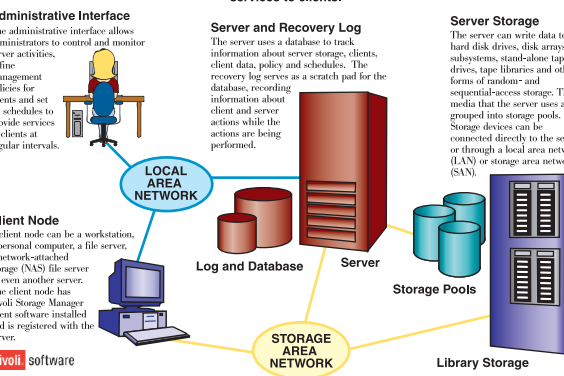


After the reclamation operation, Ryan typically returns the old volumes to scratch status.

OVERVIEW

Tivoli Storage Manager Components

The Tivoli Storage Manager server program provides backup, archive and space management services to clients.



CHECKING IN VOLUMES

There are a few ways to check in and add storage volumes or cleaning tapes to the server inventory. The server cannot use a volume that physically resides in a library until it has been checked in.

For volumes that are not labeled:

- To keep scratch status, use the LABEL LIBVOLUME command with CHECKIN=SCRATCH.
- For private volumes, use LABEL LIBVOLUME with CHECKIN=PRIVATE.

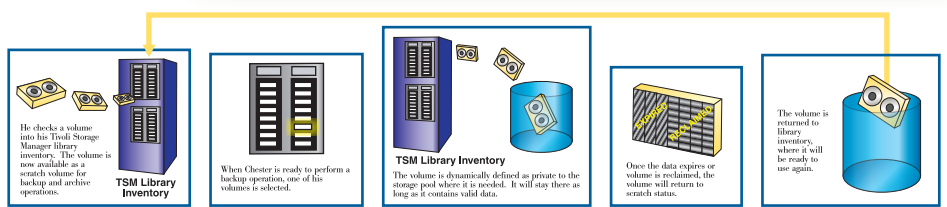
For volumes that are already labeled:

- To keep scratch status, use the CHECKIN LIBVOLUME command with STATUS=SCRATCH.
- For private volumes, use CHECKIN LIBVOLUME with STATUS=PRIVATE.

Volumes that are not labeled can also be checked in by utilizing the AUTOLABEL feature. With AUTOLABEL enabled, volumes are first checked in. Then, upon first use of the volume, a label will be assigned based on the barcode value.

SCRATCH VOLUMES

Scratch volumes are labeled volumes that are empty or contain no data. They are available for immediate use in backup and other operations.



SERVER STORAGE

STORAGE DEVICE MANAGEMENT

Storage devices and media are represented by objects that you define in the server database. These objects contain information about devices and media.

