

File and Image Backups Compared

Backup Defined

Backup, in IBM® Tivoli® Storage Manager terms, means creating an additional copy of a data object to be used for recovery.

A data object can be a file, a user-defined data object such as a database table, or an entire file system (image).

Backup Types

Of the three backup types to be covered, two work on files (incremental and selective), while the other works on images (image).

File Backups

- **Incremental** – Automated backup of only files that have changed since the last backup. This backup is usually run on a schedule.
- **Selective** – Backup of files that are selected by the user, regardless of whether the files have changed since the last backup. This allows users to protect a subset of their data independent of the normal incremental backup process.

Image Backups

This is a full volume backup that allows backup of an entire file system or raw volume as a single object. One key difference from the file backups is that single files or directories cannot be restored, only the entire image.

IBM® Tivoli® Storage Manager enables you to back up a file system or raw logical volume as a single object from your client machine. The Tivoli Storage Manager client accomplishes this by dynamically loading an image plug-in utility that sends the object to the server using the IBM® Tivoli® Storage Manager API. This capability is currently available for the AIX®, HP/UX®, Solaris®, Linux, and Windows® clients and can be used on a logical volume whether or not there is an associated file system.

Logical volume backup has the advantages of improved backup and restore speeds. It also conserves server resources because the entire backup is treated as a single object and individual files are not processed during backup or restore.

Similar to the standard incremental and selective backup filtering options, you can include specific logical volumes and assign a management class to image objects. In addition, you may exclude file systems or a raw device from being backed up by specifying it in the client include/exclude list.

Image Backup Benefits

An image backup provides the following benefits:

- Provides a quicker backup and restore than a file-by-file backup, as there is no overhead involved in creating individual files.
- Conserves resources on the server during backups, because only one entry is required for the image.
- Provides a point-in-time picture of your file system, which is useful if your enterprise needs to recall that information.
- Restores a corrupt file system or raw logical volume, restoring data to the same state it was when the last logical volume backup was performed.

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