

IBM_DS4000_Flash_Copy_D_Oct06

1a

The IBM DS4000 Fabric Storage Manager makes it easy to create instantaneous point-in-time copies to be used for a variety of business-critical purposes including backup, application testing, vaulting, or feeding data warehouses. In this example, we will demonstrate how Flash Copy for DS4000 can be used to greatly reduce the backup window for a database application.

1b

Normally, when a database system is placed into hot backup mode, the underlying database files are backed-up to tape or other media. As databases grow, the amount of time in hot backup mode can increase from hours into days. The major concern with hot backup mode is that the database can be vulnerable to failure since all database update activity is held in memory while the disk copy completes. With Flash Copy, the backup window is limited to just minutes.

2a

We will begin our demonstration by placing our database in hot-backup, or write-suspend mode.

2b

Going to the DS4000 Fabric Storage Manager, we right-click on the Database volume and select Create Flashcopy Logical Drive.

2c

First, we name the Flash and repository drives, in this case we call the Flash **Database Copy** and the repository **Database Repository**.

2d

Since Flashcopy for DS4000 is a space efficient, point-in-time copy implementation utilizing copy-on-write technology, only the repository drive is physically created. It will be used to store any changes that may occur while the Flash Copy relationship is established.

2e

The repository drive can be any percentage of the base logical drive. As a general rule, if the changes to the base drive will be minimal or the Flashcopy will only be established for a short amount of time, then a smaller percentage is warranted. However, if the base drive will undergo a large amount of change or be established for a long period of time then a larger percentage should be chosen. Since this will be used for a backup and the database is small, we will enter 10 percent.

2f

IBM Servers and Storage Demos

IBM DS4000 Flashcopy

We are then given a summary of our FlashCopy relationship and will click Finish to begin the copy process.

2g

Our Flash Copy is now complete.

3a

Here, we see our Flashcopy logical drive as well as our Repository. Notice that the repository drive is only 5 Gigabytes, or 10% of our 50 Gigabyte base drive.

3b

We will now take our database application out of hot-backup mode so that normal database operation can resume.

3c

Next, we assign the Flashcopy volume to our backup host.

3d

Finally, we kick-off the backup operation utilizing IBM Tivoli Storage Manager.

4a

When the backup has completed we can choose to delete the Flash Copy relationship or disable it. In this case, we choose disable, so the Flashcopy can simply be re-established next time we perform a backup operation.

4b

With IBM Flashcopy for DS4000 companies can now have a powerful tool for reducing backup windows, and addressing other critical business needs. For more information on this and other IBM Solutions, Contact your nearest IBM Representative.