Fast/Backup

Fast/Backup is a plug compatible replacement for the Model 204 DUMP and RESTORE commands that provides a substantial performance improvement. Fast/Backup also provides functionality that simply is not available in general purpose operating system utilities. Fast/Backup is vital for Model 204 shops that need to operate in a true "7 by 24" mode, and it can shave valuable hours off of the batch cycles for other shops.

The Model 204 DUMP command takes a snapshot of a Model 204 file that can later be restored by a RESTORE command. However, there are several problems associated with the standard DUMP and RESTORE commands.

The DUMP and RESTORE commands use the standard Model 204 database I/O routines and buffer management algorithms. This results in inefficient I/O and significant disruption to the performance of other users while an online dump or restore operation is taking place.

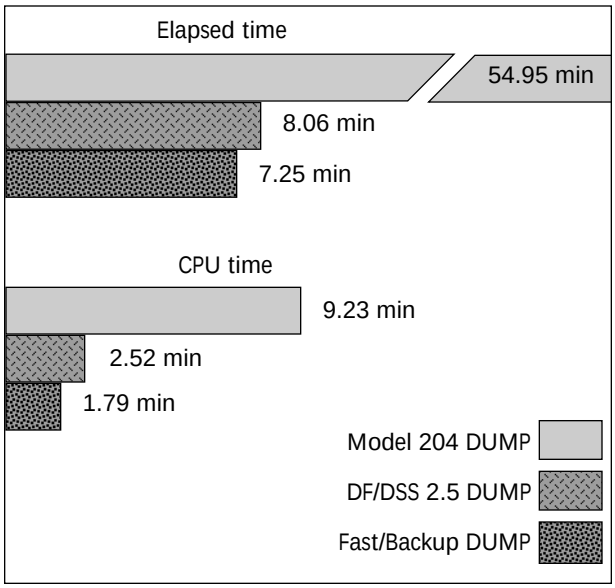
Further, use of multivolume tape files is impractical for online dump and restore operations. When a tape mount request is outstanding, all processing in the Model 204 address space is suspended and all users wait for the mount to be satisfied. The address space also waits during the rewind of each tape volume.

Although general purpose operating system backup and restore utilities can perform faster backups in batch mode than Model 204 DUMP and RESTORE, they can only do so as long the the database is not open. Furthermore, because Model 204 files have a special proprietary format, these general purpose utilities cannot perform the following functions :

- take a backup while a Model 204 file is participating in an updating transaction,
- rename a Model 204 file,
- change the number and size of a Model 204 file's datasets,
- alter the physical page order to activate or deactivate "skewing",
- move a Model 204 file from one device to a different type of device

Fast/Backup Solves These Problems

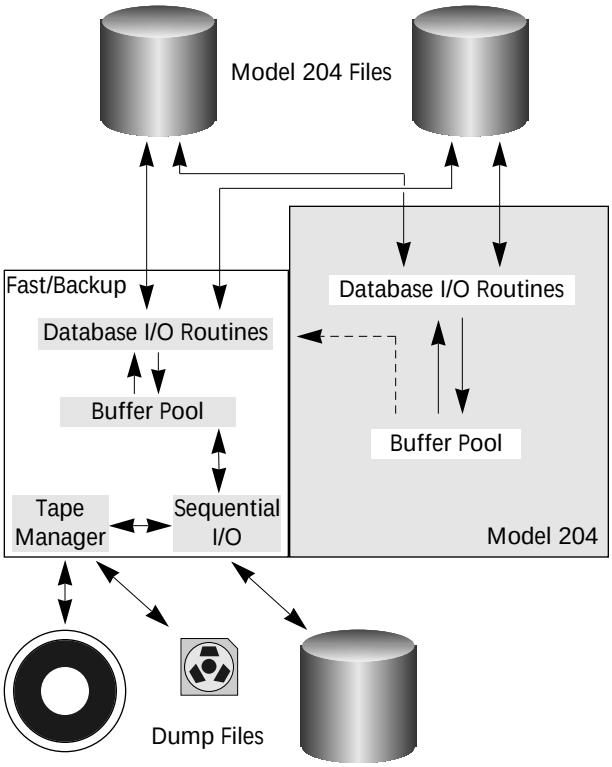
Fast/Backup delivers superior performance while drastically reducing interference with the response times of other online Model 204 users. Fast/Backup executing online is faster than highly optimized batch utilities such as DF/DSS!



Fast/Backup Performance Improvement

Tests against a one gigabyte Model 204 file showed that the stock DUMP command took 54.95 minutes, DF/DSS 2.5 volume dump took 8.06 minutes, and Fast/Backup took 7.25 minutes elapsed time. Fast/Backup consumed eighty percent less CPU than the stock DUMP command. Similar results were achieved when testing restore performance.

Fast/Backup uses its own above the line buffer pool in conjunction with the high performance algorithms such as full track read and write. Sophisticated tape volume management avoids interrupting online Model 204 users. Fast/Backup therefore minimizes the impact upon other users when its dump and restore functions are used online.This is a critical benefit to continuously executing onlines with the practical implication that backups can be performed more frequently.



The Fast/Backup dump command only accesses the Model 204 buffer pool to retrieve the contents of pages that have been updated by the online. The vast majority of data moves directly from the Model 204 database file to the Fast/Backup buffer pool and on to the sequential output file. This eliminates interference with online applications that would be caused by filling the Model 204 buffer pool with pages from the database file being dumped.

Summary

- Fast/Backup can reduce the time required for Model 204 file backups by a factor of seven.
- Fast/Backup can reduce the CPU consumption associated with backup of Model 204 files by a factor of five.
- Fast/Backup eliminates the adverse performance effects of performing online backups.
- Fast/Backup enables online dump and restore using tape volumes, freeing up valuable DASD for 7 by 24 shops.
- Fast/Backup eases practical restrictions on when backups may be taken.
- Fast/Backup is faster than DF/DSS and FDR, while still providing the benefits of online backups.

Fast/Backup runs under Model 204 version 2.1 and later. It is available under MVS and VM/CMS operating systems.

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