

Backing Up SAS [®] Files

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PROC COPY is an excellent tool for backing up a small number of SAS direct access data files, but it is tedious to use when a large number of files is involved. This situation is common at mainframe installations where many users are continually creating or deleting files. Most file managers confronted by this circumstance have tried to use a system utility to dump entire disk volumes to magnetic tape. Unfortunately, for many systems, changing the storage device results in scrambled direct access files.

An inelegant solution is to view the volume table of contents (VTOC) of each disk, and record the dataset name of each SAS file. The names are then transcribed to DD statements in the JCL preceding a PROC COPY procedure. Submitting this program on a regular schedule saves disk files to tape, for use in disaster recovery operations.

A better solution is to let SAS base software read the VTOC of each disk volume, allowing the computer to identify the SAS data files to be backed up. The SAS program can be asked to write the JCL, including those tedious DD statements with all of those file names. A FILE and PUT combination stores the

backup program code onto a partitioned data set member (PDS), for later execution.

The JCL must then be followed by the all important PROC COPY routine. Again, a PUT statement helps write the PROC COPY code. A MACRO loop may be designed to control the number of PROC COPY commands written, so as to match the number of files being backed up. Of course each COPY clause must refer back to the appropriate pair of DD statements, previously created.

We now have two programs: a backup program, which is written to a PDS member, when the initiating program is executed. Submitting the PDS member, then causes the backup program to execute.

An additional refinement can reduce the number of program submissions to just one. The PDS, containing the backup program, may be sent to the internal reader of the computer, so that it is executed at the end of the initiating program. This one single job can be submitted by clerical staff to run overnight, thereby securing all SAS data files in the installation.

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