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USE OF SAS® CODE TO CONTROL TSO BATCH JCL
by

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Narrative: TSO batch jobs consist of a number of individual steps to extract and format the data and the last step consolidates and summarizes the data. Normally, we don't want the batch job to continue if the input files are empty. However, if the final step is necessary to print the report (totals, etc) then we would want the batch job to execute to the last step.

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In the example before you, I have a similar situation; a number of individual steps and then a final summary step. However, the PLI program would abend with a return code of 2000, whenever it encountered an empty file.

My solution was to add a SAS step ahead of the PLI step and use the return code from SAS to execute or bypass the PLI program.

Details: Figure 1 shows the sysout of the batch job with the return code of 2000. The bottom section shows the error message received. The solution consists of the following:

1. Add a SAS step ahead of the abending step. The SAS program shown in figure 2, determines if the input file is empty and sets up an appropriate return code.
2. Add condition code to the PLI step such that it will execute whenever the input file is not empty. The system flushes this step, when the input file is empty and the job continues to the next step.

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Figure 3 shows the JCL before and after change.

Figure 4 shows the sysout for the successful bypass of the PLI step, when the input file was empty.

The End.

J E S 2 J O B L O G -- S Y S T E M B 3 9 0 -- N O

```

10.36.49 JOB14166 $HASP373 NIE8LDSP STARTED - INIT  DM - CLASS L - SYS B390
10.36.49 JOB14166 ACF9CCCD USERID NIE8      IS ASSIGNED TO THIS JOB
10.36.49 JOB14166 IEF403I NIE8LDSP - STARTED
10.37.05 JOB14166 - BHTI  -- JOB SUMMARY STATISTICS          -----TIMINGS (HH:M
10.37.05 JOB14166 -STEPNAME PROCSTEP PROGRAM      RC      EXCP      CPU      SRB
10.37.05 JOB14166 -GOHEY2          TSSJ07      2000      1442 00:00:00.50 00:00:00
10.37.05 JOB14166 IEF404I NIE8LDSP - ENDED
10.37.05 JOB14166 -NIE8LDSP ENDED.  NAME-M A MUJEEB          TOTAL CPU TIME=00
10.37.05 JOB14166 $HASP395 NIE8LDSP ENDED

```

----- JES2 JOB STATISTICS -----

RETURN CODE

```

13 JUN 1995 JOB EXECUTION DATE
      25 CARDS READ
      128 SYSOUT PRINT RECORDS
        0 SYSOUT PUNCH RECORDS
       10 SYSOUT SPOOL KBYTES
      0.27 MINUTES EXECUTION TIME

```

DETAILED ERROR MESSAGE

```

IBM534I  'ONCODE'=8094  PROTECTION EXCEPTION
      IN STATEMENT 90700 AT OFFSET +000072 IN A 'ENDF' ON-UNIT

```

FIGURE 1

```
/*  THIS PROGRAM SCANS THE FILE CALLED OUT AS DATAIN  
    FOR ANY DATA. IF THE DATASET IS EMPTY, IT RETURNS  
    A TRUE OR '00'. IF THE FILE CONTAINS DATA THEN IT  
    RETURNS A FALSE OR '01'.  */
```

```
DATA NEW;  
INFILE DATAIN END=EOF;  
INPUT;  
COUNT+1;  
IF EOF THEN DO;  
    IF COUNT GT 0 THEN DO;  
        ABORT 1;  
    END;  
END;  
END;
```

<pre> //GOHEY2 EXEC PGM=TSSJ07,REGION=2000K,TIME=1 //STEPLIB DD DISP=SHR,DSN=ENGR.PROD1 //IEFILE DD DSN=COML.G6655.D40,DISP=SHR //WIP DD DSN=TEST.WIPHEY2.DATA,UNIT=SYSDA,DISP=(OLD,KEEP) //FILE5 DD DSN=NIE8.TSSALL1.DATA,DISP=(OLD,KEEP) //FILE6 DD DSN=TEST.J07HEY2.DATA,UNIT=SYSDA,DISP=(NEW,CATLG), // SPACE=(TRK,(20,20),RLSE), // DCB=(RECFM=FBA,LRECL=133,BLKSIZE=23408) //SAVERPT DD SYSOUT=\$,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133) //POSTP DD DUMMY,DCB=BLKSIZE=1280 //PLOTtape DD DUMMY //NOMENPN DD UNIT=SYSDA,SPACE=(CYL,(1,2),RLSE),DISP=(NEW,DELETE), // DCB=(DSORG=DA,RECFM=F,LRECL=34,BLKSIZE=34) //WOF DD DUMMY,DCB=BLKSIZE=150 //SYSPRINT DD SYSOUT=\$ //PLIDUMP DD DUMMY /* </pre>		BEFORE
<pre> //STEP EXEC PROC=SAS //DATAIN DD DSN=TEST.WIPHEY2.DATA,DISP=SHR //SYSIN DD DSN=NIE8.JOB3.CNTL(ISITMPTY),DISP=SHR //FILE6 DD DSN=TEST.J07HEY2.DATA,UNIT=SYSDA,DISP=(NEW,CATLG), // SPACE=(TRK,(20,20),RLSE), // DCB=(RECFM=FBA,LRECL=133,BLKSIZE=23408) /* //***** //GOHEY2 EXEC PGM=TSSJ07,REGION=2000K,TIME=1, // COND=(0,EQ,STEP.C.SAS) //STEPLIB DD DISP=SHR,DSN=ENGR.PROD1 //IEFILE DD DSN=COML.G6655.D40,DISP=SHR //WIP DD DSN=TEST.WIPHEY2.DATA,UNIT=SYSDA,DISP=(OLD,KEEP) //FILE5 DD DSN=NIE8.TSSALL1.DATA,DISP=(OLD,KEEP) //FILE6 DD DSN=TEST.J07HEY2.DATA,UNIT=SYSDA,DISP=OLD //SAVERPT DD SYSOUT=\$,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133) //POSTP DD DUMMY,DCB=BLKSIZE=1280 //PLOTtape DD DUMMY //NOMENPN DD UNIT=SYSDA,SPACE=(CYL,(1,2),RLSE),DISP=(NEW,DELETE), // DCB=(DSORG=DA,RECFM=F,LRECL=34,BLKSIZE=34) //WOF DD DUMMY,DCB=BLKSIZE=150 //SYSPRINT DD SYSOUT=\$ //PLIDUMP DD DUMMY /* </pre>		AFTER

FIGURE 3

J E S 2 J O B L O G -- S Y S T E M B 3 9 0 -- N O

12.49.17 JOB17412 \$HASP373 NIE8LDSP STARTED - INIT DK - CLASS L - SYS B390
 12.49.17 JOB17412 ACF9CCCD USERID NIE8 IS ASSIGNED TO THIS JOB
 12.49.17 JOB17412 IEF403I NIE8LDSP - STARTED
 12.49.21 JOB17412 SMS500I NIE8LDSP,STEP,FILE6,TEST.J07HEY2.DATA INITIALIZED
 12.49.22 JOB17412 - BHTI -- JOB SUMMARY STATISTICS -----TIMINGS (HH:M
 12.49.22 JOB17412 -STEPNAME PROCSTEP PROGRAM RC EXCP CPU SRB
 12.49.22 JOB17412 -STEP SAS SASLPA 00 135 00:00:00.26 00:00:00
 12.49.22 JOB17412 -GOHEY2 TSSJ07 FLUSH 0 00:00:00.00 00:00:00
 12.49.22 JOB17412 IEF404I NIE8LDSP - ENDED
 12.49.22 JOB17412 -NIE8LDSP ENDED. NAME-M A MUJEEB TOTAL CPU TIME=00
 12.49.22 JOB17412 \$HASP395 NIE8LDSP ENDED

----- JES2 JOB STATISTICS -----

13 JUN 1995 JOB EXECUTION DATE

32 CARDS READ

266 SYSOUT PRINT RECORDS

0 SYSOUT PUNCH RECORDS

20 SYSOUT SPOOL KBYTES

0.09 MINUTES EXECUTION TIME

STEP BYPASSED