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Trevor Eddolls


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*Printed in England.*

# Cleaning up ‘orphaned’ temporary storage queues

## BACKGROUND

CICS application developers are taught early on to delete temporary storage queues as soon as they are no longer needed. Those of us who support CICS environments may observe, to our chagrin, that this recommendation often goes unheeded. When a site favours MAIN temporary storage over AUX, the result can be much wasted ECDSA. This article describes a method to log the creation of temporary storage queues by terminalID and, assuming it is safe to do so, delete those queues when the user signs off from CICS.

## LOGGING TS QUEUE CREATION

The temporary storage EXEC interface exit XTSEREQ provides a convenient mechanism to record the creation of temporary storage queues. Prior to the RDO TSMODEL capabilities provided in Transaction Server 1.3, XTSEREQ global user exits were commonly written to direct AUX temporary storage puts to MAIN or *vice versa*. For our purposes here, we will intercept TS WRITE operations and log TS queue creation in a user-maintained data table (UMT). The UMT is a logical choice because we anticipate relatively high volumes of data to which we need speedy direct access, and because the data is not useful beyond the life of the CICS region.

## SOURCE FOR XTSEREQ

```
*ASM XOPTS(CICS,SP,NOEDF)
         TITLE 'XTSEREQ GLOBAL USER EXIT'
         PRINT ON,NOGEN
         DFHUEXIT TYPE=EP,ID=XTSEREQ   gen standard user exit plist
         DFHUEXIT TYPE=XPIENV          gen XPI interface
         COPY DFHTSUED                 gen command level plist for TS
DFHEISTG DSECT
CMDRSP   DS    F
EXITRC   DS    F
CMDLEN   DS    H
CMDRID   DS    CL2Ø
CMDUSR   DS    CL8
```

```
         COPY  TSQLOG                        TSQLOG UMT record
GLUETSQ  DFHEIENT
GLUETSQ  AMODE 31
GLUETSQ  RMODE ANY
         LR    R2,R1                         address GLUE plist
         USING DFHUEPAR,R2
         LA    R15,UERCNORM
         ST    R15,EXITRC
         L     R7,UEPEXN                     get exit id addr
         CLI   Ø(R7),XTSEREQ                 is this our exit point?
         BE    CHKRECUR                      y - check recursion
         LA    R6,MSGBADXP                   n - point to msg
         BAL   R5,NOTIFY                         tell bad news
         B     GLUEXIT                           return
CHKRECUR DS    ØH
         L     R7,UEPRECUR                   get recursion count addr
         LH    R7,Ø(R7)                      pick up counter
         LTR   R7,R7                         recursive call to exit?
         BZ    CHKTSREQ                      n - evaluate ts request
         LA    R6,MSGRECUR                   y - point to msg
         BAL   R5,NOTIFY                         tell bad news
         B     GLUEXIT                           return
CHKTSREQ DS    ØH
         L     R4,UEPCLPS                    address CLPS
         USING TS_ADDR_LIST,R4               ... via reg 4
         L     R7,TS_ADDRØ                   address EID
         USING TS_EID,R7                     ... via reg 7
         CLI   TS_GROUP,TS_TEMPSTOR_GROUP    is this a ts request?
         BE    CHKTSPUT                      y - check tsq name
         LA    R6,MSGTSNOT                   n - point to msg
         BAL   R5,NOTIFY                         tell bad news
         B     GLUEXIT                           return
CHKTSPUT DS    ØH
         CLI   TS_FUNCT,TS_WRITEQ            are we talkin ts writeq?
         BNE   GLUEXIT                       n - nothing to do
         L     R4,TS_ADDR1                   get tsqname addr
*--------------------------------------------------------------------
*    Register 4 points to the tsqueue (8 bytes) or tsqname (16 bytes).
*    This is the place for customized exclude logic.  You don't want
*    to log TSQ creation for any queues not eligible for deletion, so
*    the code is along these lines:
*        CLC   Ø(8,R4),=C'????????'          can't delete this queue
*        BE    GLUEXIT                       so skip logging
*--------------------------------------------------------------------
LOG1     DS    ØH
         EXEC  CICS ADDRESS EIB(R11)
         OC    EIBTRMID,EIBTRMID             associated termid?
         BZ    GLUEXIT                       n - bypass logging
         EXEC  CICS ASSIGN                                           +
              USERID(CMDUSR)                                         +
              RESP(CMDRSP)
```

```
         MVC   TSQLOG_TRMID,EIBTRMID
         MVI   TSQLOG_TSQID,X'4Ø'          blank out ts queue/qname
         MVC   TSQLOG_TSQID+1(L'TSQLOG_TSQID-1),TSQLOG_TSQID
         LA    R8,8                        presume ts queue
         LA    R9,TSQLOG_TSQID
         CLI   TS_EIDOPT5,TS_QNAME_X       test if ts qname
         BNE   LOG2                        n - length is 8 bytes
         SLA   R8,1(Ø)                     y - bump length to 16
LOG2     BCTR  R8,RØ
         EX    R8,LOGMVC                   log queue/qname
         B     LOG3
LOGMVC   MVC   Ø(1,R9),Ø(R4)   <--  EXecuted instruction
LOG3     MVC   TSQLOG_DATE,EIBDATE         log date
         MVC   TSQLOG_TIME,EIBTIME         ... time
         MVC   TSQLOG_USER,CMDUSR          ... user id
         MVC   CMDRID,TSQLOG_KEY
         LA    R8,TSQLOG_REC_LEN
         STH   R8,CMDLEN
         EXEC  CICS WRITE                                              +
               FILE('TSQLOG')                                          +
               FROM(TSQLOG_RECORD)                                     +
               LENGTH(CMDLEN)                                          +
               RIDFLD(CMDRID)                                          +
               RESP(CMDRSP)
         B     GLUEXIT
NOTIFY   DS    ØH
         WTO   MF=(E,(R6))
         BR    R5
*
GLUEXIT  DS    ØH                          API GLUE exit return
         L     R15,EXITRC
         DFHEIRET RCREG=15
*        Messages:
MSGBADXP WTO   'GLUETSQ - Invalid exit point',ROUTCDE=(14),MF=L
MSGRECUR WTO   'GLUETSQ - Called recursively',ROUTCDE=(14),MF=L
MSGTSNOT WTO   'GLUETSQ - Called for non-TS request',ROUTCDE=(14),MF=L
         LTORG
         END   GLUETSQ
```

## SOURCE FOR TSQLOG DSECT

## Note: include this file layout as member TSQLOG in a SYSLIB PDS.

```
TSQLOG_RECORD  DS  CL36
               ORG TSQLOG_RECORD
TSQLOG_KEY     DS  CL2Ø
               ORG TSQLOG_KEY
TSQLOG_TRMID   DS  CL4
TSQLOG_TSQID   DS  CL16
TSQLOG_DATE    DS  PLØ4
```

```
TSQLOG_TIME    DS  PL04
TSQLOG_USER    DS  CL08
TSQLOG_REC_LEN EQU *-TSQLOG_RECORD
```

## RDO FILE DEFINITION FOR TSQLOG

Note: this definition can be repeated in as many regions as you employ the exit. Please adjust the Maxnumrecs parameter to meet your requirements.

```
CEDA  View File( TSQLOG   )
 File           : TSQLOG
 Group          : SUPPORT
 DEScription    : Base file for TSQLOG UMT
VSAM PARAMETERS
 DSNAme         : CICSTS.GLOBAL.BASE.TSQLOG
 Password       :                    PASSWORD NOT SPECIFIED
 RLsaccess      : No                 Yes | No
 LSrpoolid      : 1                  1-8 | None
 READInteg      : Uncommitted        Uncommitted | Consistent |
Repeatable
 DSNSharing     : Allreqs            Allreqs | Modifyreqs
 STRings        : ØØ2                1-255
 Nsrgroup       :
REMOTE ATTRIBUTES
 REMOTESystem   :
 REMOTEName     :
REMOTE AND CFDATATABLE PARAMETERS
 RECORDSize     : ØØØ36              1-32767
 Keylength      : Ø2Ø                1-255 (1-16 For CF Datatable)
INITIAL STATUS
 STAtus         : Enabled            Enabled | Disabled | Unenabled
 Opentime       : Firstref           Firstref | Startup
 DIsposition    : Share              Share | Old
BUFFERS
 DAtabuffers    : ØØØØ3              2-32767
 Indexbuffers   : ØØØØ2              1-32767
DATATABLE PARAMETERS
 TABLE          : User               No | CIcs | User | CF
 Maxnumrecs     : ØØØ65536           Nolimit | 1-99999999
CFDATATABLE PARAMETERS
 Cfdtpool       :
 TABLEName      :
 UPDATEModel    : Locking            Contention | Locking
 LOad           : No                 No | Yes
DATA FORMAT
 RECORDFormat ==> V                  V | F
OPERATIONS
 Add          ==> Yes                No | Yes
```

```
 BRowse       ==> Yes              No | Yes
 DELete       ==> Yes              No | Yes
 READ         ==> Yes              Yes | No
 UPDATE       ==> Yes              No | Yes
AUTO JOURNALLING
 JOurnal      ==> No               No | 1-99
 JNLRead      ==> None             None | Updateonly | Readonly | All
 JNLSYNCRead  ==> No               No | Yes
 JNLUpdate    ==> No               No | Yes
 JNLAdd       ==> None             None | Before | AFter | ALl
 JNLSYNCWrite ==> Yes              Yes | No
RECOVERY PARAMETERS
 RECOVery     ==> None             None | Backoutonly | All
 Fwdrecovlog  ==> No               No | 1-99
 BAckuptype   ==> Static           Static | Dynamic
SECURITY
 RESsecnum      : 00               0-24 | Public
```

## IDCAMS UTILITY STATEMENT TO DEFINE TSQLOG

```
 DEFINE CLUSTER(NAME(CICSTS.GLOBAL.BASE.TSQLOG)-
          INDEXED -
          TRK(1 1)-
          SHR(2 3)-
          VOLUME(??????) REUSE) -
        DATA(NAME(CICSTS.GLOBAL.BASE.TSQLOG.DATA)-
          CISZ(4096)-
          KEYS(20 0)) -
       INDEX(NAME(CICSTS.GLOBAL.BASE.TSQLOG.INDEX))
```

## DELETING TS QUEUE AT TERMINAL DELETION

With the above logging of TS queue creation in place, we can now associate queues with the user and terminal responsible for their creation. Since we have been careful to log only TS queues whose scope is limited to the individual terminal's CICS session, we should be able to delete any queues associated with the terminal when the user signs off. We will also need to delete all records in the TSQLOG UMT for this terminal at the same time. The logical place to do all of this is in the terminal autoinstall exit.

## SOURCE FOR DFHZATDX DELETE PROCESSING

Note: only relevant portions of the autoinstall URM are shown here.

```
DFHEISTG DSECT
```

```
RECLEN   DS    H
TSQLOG_START_KEY   DS ØCL2Ø
TSQLOG_START_TRMID DS  CL4
TSQLOG_START_TSQID DS  CL16
         COPY  TSQLOG                  layout for TSQLOG UMT record
         COPY  DFHTCUDS                commarea dsect
*
DFHZATDX CSECT
DFHZATDX RMODE ANY
         DFHREGS
         OC    EIBCALEN,EIBCALEN
         BZ    RETURN
         L     R2,DFHEICAP
         USING INSTALL_EXIT_COMMAREA,R2
         CLI   INSTALL_EXIT_FUNCTION,DELETE_CODE
         BE    DELETE_TERMINAL
         ....  ..................
DELETE_TERMINAL DS ØH
         USING DELETE_EXIT_COMMAREA,R2
         ....  ..................
         EXEC  CICS HANDLE CONDITION ERROR(RETURN)
         EXEC  CICS HANDLE CONDITION ENDFILE(RETURN)
         EXEC  CICS IGNORE CONDITION QIDERR
         MVC   TSQLOG_START_TRMID,DELETE_TERM_ID
         XC    TSQLOG_START_TSQID,TSQLOG_START_TSQID
         LA    R8,TSQLOG_REC_LEN
         STH   R8,RECLEN
         EXEC  CICS STARTBR                                          +
               FILE('TSQLOG')                                        +
               RIDFLD(TSQLOG_START_KEY)                              +
               GTEQ
         MVC TSQLOG_KEY(L'TSQLOG_TRMID+L'TSQLOG_TSQID),TSQLOG_START_KEY
DELTSQ   DS    ØH
         EXEC  CICS READNEXT                                         +
               FILE('TSQLOG')                                        +
               RIDFLD(TSQLOG_KEY)                                    +
               INTO(TSQLOG_RECORD)                                   +
               LENGTH(RECLEN)
         CLC   TSQLOG_TRMID,DELETE_TERM_ID
         BNE   RETURN
         EXEC  CICS DELETEQ TS                                       +
               QNAME(TSQLOG_TSQID)
         EXEC  CICS DELETE                                           +
               FILE('TSQLOG')                                        +
               RIDFLD(TSQLOG_KEY)
         B     DELTSQ
         ...   ..................
RETURN   DS    ØH
         EXEC  CICS RETURN
```

MRO CONSIDERATIONS

For the sake of simplicity, this discussion has assumed a single-region CICS environment. Obviously, things get a bit more complicated when TS queues are created in regions that are interconnected to the terminal-owning region. Fortunately, the terminal autoinstall program is invoked for installation and deletion of shipped terminals as well. So, the processing prescribed here to occur at terminal deletion could be applied to shipped terminal deletion in MRO environments. On the other hand, since storage constraint is typically less of a problem in MRO configurations, one may want to carefully weigh the housekeeping over-head before proceeding.

*Russell Hunt*
*Systems Programmer (USA)*


## Sending messages at CICS log-on

There are occasions when we need to broadcast a messages to CICS users. One way to do this is with the standard CMSG transaction. Another way is to send the message at CICS logon and/or logoff. To do this, one possible way is to replace the CICS good-morning transaction (CSGM) by our own. CSGM is declared in the SIT under GMTRAN, and is executed when a terminal is auto-installed in CICS. It is responsible for displaying the 'Welcome to CICS/ESA' screen or equivalent.

If you replace CSGM with your own transaction and associated program, you can send the user whatever initial screen or message you want. The only condition is that your transaction and program must be public to RACF, since the user has not yet signed-on at this stage.

The complete solution is implemented as follows:

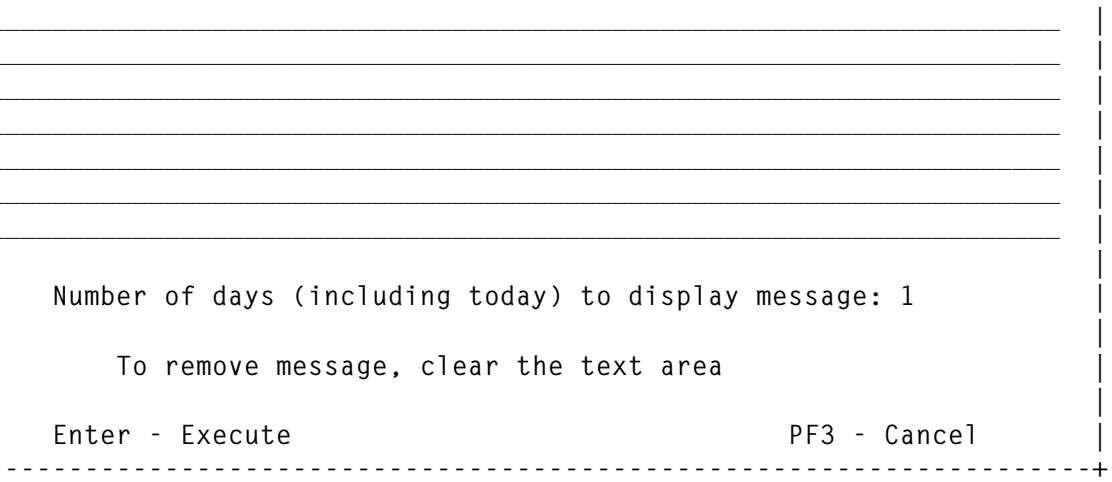
- Define to CICS a VSAM KSDS with a key of 3 bytes and a record length of 1000. This file will hold the message to display. The default key, in my example, is '000'.
- Define also the following programs and transactions:

  - Transaction MSGM and program MSGCP02. This transaction will replace CSGM in the SIT GMTRAN parameter. The program reads the VSAM file with key '000'.
  - If that record is not found, it means that there are no messages to display, and it launches the regular CICS transaction CSGM and exits. From the user's point of view, there is no difference to everyday log-ons.
  - If the record is found, the program verifies whether today is within the range of valid days. If it is not, then the message has expired, and the program deletes the record and proceeds as above for CSGM. For this reason, the VSAM file needs full public access under CICS and RACF.
  - If the day is still valid, then the message is sent to the screen and the transaction exits to CICS. After reading the message, the user can clear the screen and call the SIGN-ON transaction. This program has no BMS map associated. The message is sent as a clean 3270 datastream. For simple tasks like this, where no multiple sendings and receivings are involved, I prefer this approach.

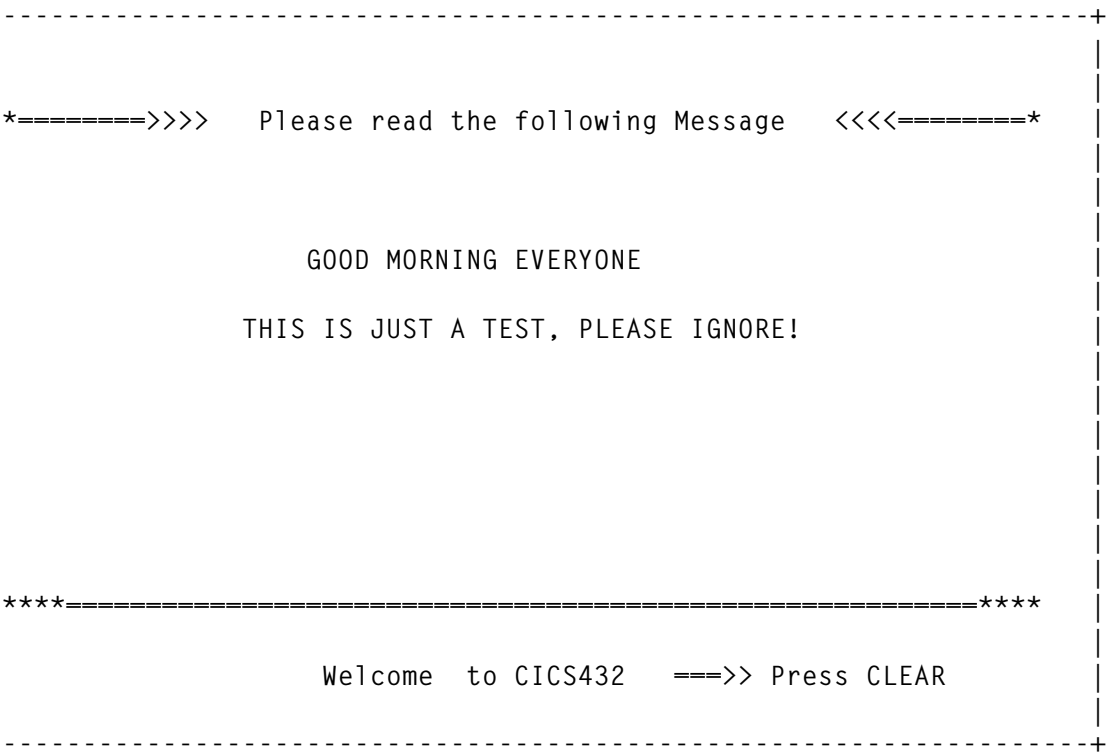
- Transaction MSGP , program MSGCP01, and mapset MSGCS01. They are responsible for the creation and maintenance of the messages, and their use should be appropriately restricted.

When you call MSGP, the associated program tries to read the file. If the record is there, it loads it to the mapset and displays it. If it isn't, then you have 12 empty lines, underscored for better visibility, where you can type your message. Don't worry about leaving the underscores in the lines, they will be removed from the message (and for that reason, an underscore cannot be part of the message!). The screen is shown below:

```
+------------------------------------------------------------------------+
|                     Message for CICS Sign-on                           |
|   Message text:                                                        |
|                                                                        |
| ______________________________________________________________________ |
| ______________________________________________________________________ |
| _____________________Good morning, everyone_____________________________ |
| ______________________________________________________________________  |
| _______________This is just a test, please ignore!_____________________  |
```




The message will be displayed for the user the same way you type it here, as shown below:




On the lower right corner, put the number of days that the message should be active. For example, if you only want the message to be displayed today, put one day. If you want it today and tomorrow, put two days. You don't have to take any action to delete an expired message. Program MSGCP02 takes care of that, as explained above.

If you wish to remove a message that you have previously set before it expires, just clear all the lines in the screen, This way, the record is

deleted from the file and no new record is written.

## MSGCP01 SOURCE CODE

```
 IDENTIFICATION DIVISION.
 PROGRAM-ID. MSGCPØ1.
*================================================================*
* This program is associated with transaction MSGP.             *
* This program prepares 'good-morning' messages for program     *
* MSGCPØ2. Messages are written to a VSAM KSDS file that must   *
* be accessible by CICS.                                         *
*                                                                *
*================================================================*
 ENVIRONMENT DIVISION.
 DATA DIVISION.
 WORKING-STORAGE SECTION.
*
 77  W-NDAYS     PIC 9(3).
 77  TRANSACTION PIC X(4)        VALUE 'MSGP'.
 77  FICNAME     PIC X(8)        VALUE 'FILEMSG '.
 77  FICLEN      PIC S9(4) COMP  VALUE +918.
 77  COMMAREALEN PIC S9(4) COMP  VALUE +1.
 77  MSGFL       PIC S9(4) COMP  VALUE +3Ø.
 77  MSGF        PIC X(3Ø) VALUE SPACES.
 77  MSGF1       PIC X(3Ø) VALUE 'THERE ARE NO ACTIVE MESSAGES'.
 77  MSGF2       PIC X(3Ø) VALUE '  *** MESSAGE  PREPARED ***'.
 77  MSGF3       PIC X(3Ø) VALUE 'ERROR - FILE IS CLOSED'.
*
 Ø1  COMMAREA    PIC X     VALUE LOW-VALUE.
*
 Ø1  EIB-DAYS.
      Ø2      EIBDAT     PIC  9(7) COMP-3.
      Ø2      EIBDATA    PIC  9(7).
      Ø2      EIBDATA-R  REDEFINES EIBDATA.
        Ø3    FILLER     PIC  X(4).
        Ø3    EIBDAYS    PIC  9(3).
*
 Ø1  FIC-RECORD   PIC X(918) VALUE LOW-VALUES.
 Ø1  FIC-RECORD-R REDEFINES FIC-RECORD.
     Ø2       FIC-KEY         PIC  999.
     Ø2       FIC-NDAYS       PIC  999.
     Ø2       FIC-LINES.
       Ø3     FIC-LINEØ1      PIC  X(76).
       Ø3     FIC-LINEØ2      PIC  X(76).
       Ø3     FIC-LINEØ3      PIC  X(76).
       Ø3     FIC-LINEØ4      PIC  X(76).
       Ø3     FIC-LINEØ5      PIC  X(76).
       Ø3     FIC-LINEØ6      PIC  X(76).
       Ø3     FIC-LINEØ7      PIC  X(76).
```

```
          Ø3     FIC-LINEØ8      PIC  X(76).
          Ø3     FIC-LINEØ9      PIC  X(76).
          Ø3     FIC-LINE1Ø      PIC  X(76).
          Ø3     FIC-LINE11      PIC  X(76).
          Ø3     FIC-LINE12      PIC  X(76).
      *
       Ø1  MSGCSØ1-COPY.
           Ø2   MSGCSØ1I PIC X(964) VALUE LOW-VALUES.
           Ø2   MSGCSØ1I-R REDEFINES MSGCSØ1I.
             Ø5     FILLER          PIC   X(12).
             Ø5     LINEØ1L   COMP  PIC   S9(4).
             Ø5     LINEØ1F         PIC   X(Ø1).
             Ø5     LINEØ1I         PIC   X(76).
             Ø5     LINEØ2L   COMP  PIC   S9(4).
             Ø5     LINEØ2F         PIC   X(Ø1).
             Ø5     LINEØ2I         PIC   X(76).
             Ø5     LINEØ3L   COMP  PIC   S9(4).
             Ø5     LINEØ3F         PIC   X(Ø1).
             Ø5     LINEØ3I         PIC   X(76).
             Ø5     LINEØ4L   COMP  PIC   S9(4).
             Ø5     LINEØ4F         PIC   X(Ø1).
             Ø5     LINEØ4I         PIC   X(76).
             Ø5     LINEØ5L   COMP  PIC   S9(4).
             Ø5     LINEØ5F         PIC   X(Ø1).
             Ø5     LINEØ5I         PIC   X(76).
             Ø5     LINEØ6L   COMP  PIC   S9(4).
             Ø5     LINEØ6F         PIC   X(Ø1).
             Ø5     LINEØ6I         PIC   X(76).
             Ø5     LINEØ7L   COMP  PIC   S9(4).
             Ø5     LINEØ7F         PIC   X(Ø1).
             Ø5     LINEØ7I         PIC   X(76).
             Ø5     LINEØ8L   COMP  PIC   S9(4).
             Ø5     LINEØ8F         PIC   X(Ø1).
             Ø5     LINEØ8I         PIC   X(76).
             Ø5     LINEØ9L   COMP  PIC   S9(4).
             Ø5     LINEØ9F         PIC   X(Ø1).
             Ø5     LINEØ9I         PIC   X(76).
             Ø5     LINE1ØL   COMP  PIC   S9(4).
             Ø5     LINE1ØF         PIC   X(Ø1).
             Ø5     LINE1ØI         PIC   X(76).
             Ø5     LINE11L   COMP  PIC   S9(4).
             Ø5     LINE11F         PIC   X(Ø1).
             Ø5     LINE11I         PIC   X(76).
             Ø5     LINE12L   COMP  PIC   S9(4).
             Ø5     LINE12F         PIC   X(Ø1).
             Ø5     LINE12I         PIC   X(76).
             Ø5     NDAYSL    COMP  PIC   S9(4).
             Ø5     NDAYSF          PIC   X(Ø1).
             Ø5     NDAYSI          PIC   9(Ø1).
           Ø2   MSGCSØ1O   REDEFINES  MSGCSØ1I.
             Ø5     FILLER          PIC   X(964).
```

```
*
 LINKAGE SECTION.
*================*
 Ø1  DFHCOMMAREA.
     Ø2   FILLER  PIC X.
*================================================================*
 PROCEDURE DIVISION.
*================================================================*
*
     MOVE EIBDATE TO EIBDAT
     MOVE EIBDAT  TO EIBDATA
     EXEC CICS HANDLE CONDITION
                     MAPFAIL (SEND-MESSAGE-RETURN)
                     NOTOPEN (FILE-CLOSED)
     END-EXEC
     IF EIBCALEN = Ø
        GO TO FIRST-TIME
     ELSE
        GO TO SECOND-TIME
     END-IF.
*
 FIRST-TIME.
*===========*
     EXEC CICS HANDLE CONDITION
                     NOTFND (SEND-INITIAL)
     END-EXEC
     MOVE 'ØØØ' TO FIC-KEY
     EXEC CICS READ DATASET (FICNAME)
                    INTO    (FIC-RECORD)
                    RIDFLD  (FIC-KEY)
                    LENGTH  (FICLEN)
     END-EXEC

     MOVE  FIC-LINEØ1  TO  LINEØ1I
     MOVE  FIC-LINEØ2  TO  LINEØ2I
     MOVE  FIC-LINEØ3  TO  LINEØ3I
     MOVE  FIC-LINEØ4  TO  LINEØ4I
     MOVE  FIC-LINEØ5  TO  LINEØ5I
     MOVE  FIC-LINEØ6  TO  LINEØ6I
     MOVE  FIC-LINEØ7  TO  LINEØ7I
     MOVE  FIC-LINEØ8  TO  LINEØ8I
     MOVE  FIC-LINEØ9  TO  LINEØ9I
     MOVE  FIC-LINE1Ø  TO  LINE1ØI
     MOVE  FIC-LINE11  TO  LINE11I
     MOVE  FIC-LINE12  TO  LINE12I

     SUBTRACT EIBDAYS FROM FIC-NDAYS GIVING NDAYSI.
*
 SEND-INITIAL.
*=============*
     IF NDAYSI NOT NUMERIC
```

```
           MOVE 1 TO NDAYSI
        END-IF
        EXEC CICS SEND MAP ('MSGCSØ1')
                       ERASE
        END-EXEC
        EXEC CICS RETURN TRANSID  (TRANSACTION)
                         COMMAREA (COMMAREA)
                         LENGTH   (COMMAREALEN)
        END-EXEC.
*
*===============================================================*
 SECOND-TIME.
*============*
        EXEC CICS HANDLE AID PF3  (SEND-MESSAGE-RETURN)
                             PF15 (SEND-MESSAGE-RETURN)
        END-EXEC

        EXEC CICS RECEIVE MAP('MSGCSØ1')
        END-EXEC

        IF NDAYSI NOT NUMERIC
           MOVE 1  TO NDAYSI
        END-IF

        INSPECT LINEØ1I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ2I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ3I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ4I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ5I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ6I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ7I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ8I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ9I  REPLACING ALL '_' BY SPACES
        INSPECT LINE1ØI  REPLACING ALL '_' BY SPACES
        INSPECT LINE11I  REPLACING ALL '_' BY SPACES
        INSPECT LINE12I  REPLACING ALL '_' BY SPACES
        INSPECT LINEØ1I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ2I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ3I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ4I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ5I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ6I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ7I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ8I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINEØ9I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINE1ØI  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINE11I  REPLACING ALL LOW-VALUES BY SPACES
        INSPECT LINE12I  REPLACING ALL LOW-VALUES BY SPACES

        MOVE  'ØØØ'  TO  FIC-KEY
        EXEC CICS IGNORE CONDITION
```

```
                    NOTFND
     END-EXEC
     EXEC CICS DELETE DATASET (FICNAME)
                    RIDFLD  (FIC-KEY)
     END-EXEC

     IF LINE01I = SPACES AND LINE02I = SPACES  AND
        LINE03I = SPACES AND LINE04I = SPACES  AND
        LINE05I = SPACES AND LINE06I = SPACES  AND
        LINE07I = SPACES AND LINE08I = SPACES  AND
        LINE09I = SPACES AND LINE10I = SPACES  AND
        LINE11I = SPACES AND LINE12I = SPACES
        MOVE  MSGF1 TO MSGF

     ELSE

        MOVE  MSGF2 TO MSGF
        ADD NDAYSI EIBDAYS GIVING FIC-NDAYS
        MOVE  '000'    TO  FIC-KEY
        MOVE  LINE01I  TO  FIC-LINE01
        MOVE  LINE02I  TO  FIC-LINE02
        MOVE  LINE03I  TO  FIC-LINE03
        MOVE  LINE04I  TO  FIC-LINE04
        MOVE  LINE05I  TO  FIC-LINE05
        MOVE  LINE06I  TO  FIC-LINE06
        MOVE  LINE07I  TO  FIC-LINE07
        MOVE  LINE08I  TO  FIC-LINE08
        MOVE  LINE09I  TO  FIC-LINE09
        MOVE  LINE10I  TO  FIC-LINE10
        MOVE  LINE11I  TO  FIC-LINE11
        MOVE  LINE12I  TO  FIC-LINE12

        EXEC CICS WRITE DATASET (FICNAME)
                        FROM    (FIC-RECORD)
                        RIDFLD  (FIC-KEY)
                        LENGTH  (FICLEN)
        END-EXEC
     END-IF.
*
 SEND-MESSAGE-RETURN.
*====================*
     EXEC CICS SEND FROM   (MSGF)
                    LENGTH (MSGFL)
                    ERASE
     END-EXEC
     EXEC CICS RETURN
     END-EXEC.
     GOBACK.
*
 FILE-CLOSED.
*============*
```

```
           MOVE MSGF3 TO MSGF
           GO TO SEND-MESSAGE-RETURN.
```

## MSGCP02 SOURCE CODE

```
       PROGRAM-ID. MSGCPØ2.
      *=================================================================*
      * MSGCPØ2 - Program to show CICS 'good-morning' messages that     *
      * were prepared by transaction MSGP.                              *
      * This program is associated with transaction MSGM.               *
      * MSGM must be declared as GMTRAN at CICS SIT, instead of CSGM    *
      * This transaction must be declared public in RACF, since it is   *
      * invoked before any sign-on.                                     *
      *=================================================================
       ENVIRONMENT DIVISION.
       DATA DIVISION.
       WORKING-STORAGE SECTION.
      *
       77   FICNAME           PIC  X(8)        VALUE 'FILEMSG '.
       77   FICLEN            PIC  S9(4) COMP  VALUE +918.
       77   MESSAGELEN        PIC  S9(4) COMP  VALUE +1176.
      *
       Ø1  EIBDATTT.
           Ø2      EIBDAT     PIC  9(7) COMP-3.
           Ø2      EIBDATA    PIC  9(7).
           Ø2      FILLER     REDEFINES EIBDATA.
             Ø3    FILLER     PIC  X(4).
             Ø3    EIBDAYS    PIC  9(3).
      *
       Ø1 FIC-RECORD.
      *
           Ø2       FIC-KEY         PIC  999.
           Ø2       FIC-NDAYS       PIC  999.
           Ø2       FIC-LINES.
             Ø3     FIC-LINEØ1      PIC  X(76).
             Ø3     FIC-LINEØ2      PIC  X(76).
             Ø3     FIC-LINEØ3      PIC  X(76).
             Ø3     FIC-LINEØ4      PIC  X(76).
             Ø3     FIC-LINEØ5      PIC  X(76).
             Ø3     FIC-LINEØ6      PIC  X(76).
             Ø3     FIC-LINEØ7      PIC  X(76).
             Ø3     FIC-LINEØ8      PIC  X(76).
             Ø3     FIC-LINEØ9      PIC  X(76).
             Ø3     FIC-LINE1Ø      PIC  X(76).
             Ø3     FIC-LINE11      PIC  X(76).
             Ø3     FIC-LINE12      PIC  X(76).
      *
       Ø1  MESSAGE-SCREEN.
      *
             Ø3     FILLER    PIC X     VALUE X'11'.
```

```
  Ø3     FILLER    PIC XX    VALUE X'42E7'.
  Ø3     FILLER    PIC XX    VALUE X'1DD8'.
  Ø3     FILLER    PIC X(5)  VALUE '*===='.
  Ø3     FILLER    PIC X(55) VALUE
'====>>>>   Please read the following Message   <<<<===='.
  Ø3     FILLER    PIC X(5)  VALUE '====*'.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'46D2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ1    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'47E2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ2    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'48F2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ3    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'4AC2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ4    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'4BD2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ5    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'4CE2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ6    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'4DF2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ7    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'4FC2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ8    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'5ØD2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINEØ9    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'51E2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINE1Ø    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
  Ø3     FILLER    PIC XX    VALUE X'52F2'.
  Ø3     FILLER    PIC XX    VALUE X'1DF8'.
  Ø3     LINE11    PIC X(76) VALUE LOW-VALUES.
  Ø3     FILLER    PIC X     VALUE X'11'.
```

```
        Ø3     FILLER    PIC XX    VALUE X'54C2'.
        Ø3     FILLER    PIC XX    VALUE X'1DF8'.
        Ø3     LINE12    PIC X(76) VALUE LOW-VALUES.
        Ø3     FILLER    PIC X     VALUE X'11'.
        Ø3     FILLER    PIC XX    VALUE X'57F7'.
        Ø3     FILLER    PIC XX    VALUE X'1DD8'.
        Ø3     FILLER    PIC X(5)  VALUE '****='.
        Ø3     FILLER    PIC X(55) VALUE
      '============================================================'.
        Ø3     FILLER    PIC X(5)  VALUE '=****'.
        Ø3     FILLER    PIC X     VALUE X'11'.
        Ø3     FILLER    PIC XX    VALUE X'5AED'.
        Ø3     FILLER    PIC XX    VALUE X'1DD8'.
        Ø3     FILLER    PIC X(12) VALUE 'Welcome  to '.
        Ø3     APPLID    PIC X(8)  VALUE LOW-VALUES.
        Ø3     FILLER    PIC X(19) VALUE '  ===>> Press CLEAR'.
        Ø3     FILLER    PIC X(2Ø) VALUE LOW-VALUES.
*
*================================================================
 PROCEDURE DIVISION.
*================================================================
*
      EXEC CICS ASSIGN
                APPLID (APPLID)
      END-EXEC
      EXEC CICS HANDLE ABEND
                       LABEL (RETURN-CSGM)
      END-EXEC
      EXEC CICS HANDLE CONDITION
                       NOTFND  (RETURN-CSGM)
                       NOTOPEN (RETURN-CSGM)
                       LENGERR (RETURN-CSGM)
      END-EXEC.
      MOVE  'ØØØ' TO FIC-KEY
      EXEC CICS READ  DATASET (FICNAME)
                      INTO    (FIC-RECORD)
                      RIDFLD  (FIC-KEY)
                      LENGTH  (FICLEN)
      END-EXEC.
*
      MOVE  EIBDATE  TO  EIBDAT
      MOVE  EIBDAT   TO  EIBDATA
      IF FIC-NDAYS NOT GREATER EIBDAYS
         MOVE  'ØØØ' TO FIC-KEY
         EXEC CICS DELETE  DATASET (FICNAME)
                           RIDFLD  (FIC-KEY)
         END-EXEC
         GO TO RETURN-CSGM
      END-IF.
*
 SEND-MESSAGE.
```

```
      *==============*
           MOVE  FIC-LINEØ1  TO  LINEØ1
           MOVE  FIC-LINEØ2  TO  LINEØ2
           MOVE  FIC-LINEØ3  TO  LINEØ3
           MOVE  FIC-LINEØ4  TO  LINEØ4
           MOVE  FIC-LINEØ5  TO  LINEØ5
           MOVE  FIC-LINEØ6  TO  LINEØ6
           MOVE  FIC-LINEØ7  TO  LINEØ7
           MOVE  FIC-LINEØ8  TO  LINEØ8
           MOVE  FIC-LINEØ9  TO  LINEØ9
           MOVE  FIC-LINE1Ø  TO  LINE1Ø
           MOVE  FIC-LINE11  TO  LINE11
           MOVE  FIC-LINE12  TO  LINE12

           EXEC CICS SEND CONTROL
                         ALARM
                         FREEKB
           END-EXEC
           EXEC CICS SEND FROM   (MESSAGE-SCREEN)
                         LENGTH (MESSAGELEN)
                         ERASE
           END-EXEC.
           EXEC CICS RETURN
           END-EXEC.
      *
       RETURN-CSGM.
      *============*
           EXEC CICS START TRANSID ('CSGM')
                           TERMID  (EIBTRMID)
           END-EXEC
           EXEC CICS RETURN
           END-EXEC.
           GOBACK.
```

## MSGCS01 SOURCE CODE

```
MAPSET   DFHMSD TYPE=&SYSPARM,MODE=INOUT,CTRL=(FREEKB),                *
               LANG=COBOL,TIOAPFX=YES,EXTATT=MAPONLY
*
MSGCSØ1  DFHMDI SIZE=(24,8Ø)
*
         DFHMDF POS=(Ø4,25),LENGTH=24,ATTRB=(ASKIP,PROT),              *
               COLOR=RED,                                              *
               INITIAL='Message for CICS Sign-on'
*
         DFHMDF POS=(Ø5,Ø1),LENGTH=13,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT,                                          *
               INITIAL='Message text:'
*
```

```
LINEØ1   DFHMDF POS=(Ø7,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET,IC),          *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(Ø7,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ2   DFHMDF POS=(Ø8,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(Ø8,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ3   DFHMDF POS=(Ø9,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(Ø9,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ4   DFHMDF POS=(1Ø,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(1Ø,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ5   DFHMDF POS=(11,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(11,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ6   DFHMDF POS=(12,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(12,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ7   DFHMDF POS=(13,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(13,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ8   DFHMDF POS=(14,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
               INITIAL='_____________________________________________*
               _____________________________'
*
         DFHMDF POS=(14,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINEØ9   DFHMDF POS=(15,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),             *
               COLOR=DEFAULT,                                         *
```

```
               INITIAL='_____________________________________________________*
               _____________________________'
*
         DFHMDF POS=(15,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINE1Ø   DFHMDF POS=(16,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),                    *
               COLOR=DEFAULT,                                                 *
               INITIAL='_____________________________________________________*
               _____________________________'
*
         DFHMDF POS=(16,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINE11   DFHMDF POS=(17,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),                    *
               COLOR=DEFAULT,                                                 *
               INITIAL='_____________________________________________________*
               _____________________________'
*
         DFHMDF POS=(17,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
LINE12   DFHMDF POS=(18,Ø1),LENGTH=76,ATTRB=(UNPROT,FSET),                    *
               COLOR=DEFAULT,                                                 *
               INITIAL='_____________________________________________________*
               _____________________________'
*
         DFHMDF POS=(18,78),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
         DFHMDF POS=(2Ø,1Ø),LENGTH=52,ATTRB=(ASKIP,PROT),                      *
               COLOR=YELLOW,                                                  *
               INITIAL='Number of days (including today) to display mes*
               sage:'
*
NDAYS    DFHMDF POS=(2Ø,63),LENGTH=Ø1,ATTRB=(NUM,FSET),                        *
               COLOR=RED
*
         DFHMDF POS=(2Ø,65),LENGTH=Ø1,ATTRB=(ASKIP,PROT)
         DFHMDF POS=(22,1Ø),LENGTH=38,ATTRB=(ASKIP,PROT),                      *
               COLOR=TURQUOISE,                                               *
               INITIAL='To remove message, clear the text area'
*
         DFHMDF POS=(24,Ø5),LENGTH=15,ATTRB=(ASKIP,PROT),                      *
               COLOR=YELLOW,                                                  *
               INITIAL='Enter - Execute'
*
         DFHMDF POS=(24,63),LENGTH=12,ATTRB=(ASKIP,PROT),                      *
               COLOR=YELLOW,                                                  *
               INITIAL='PF3 - Cancel'
*
         DFHMSD TYPE=FINAL
         END
```

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# Displaying task storage use in a CICS region

After implementing my program MAPTCA (see article *Displaying task activity in a CICS region under stress*, *CICS Update* Issue 182, January 2001), a customer requested that I modify it to also display the storage areas allocated to each of the tasks listed.

Since this required chasing through a completely different set of CICS control blocks, I decided to implement it as a separate program, and then to merge the output from the two programs in a REXX EXEC which produces a final report.

Thus I wrote program MAPDSA and REXX SOSCHECK. The output from MAPTCA and MAPDSA are used as input to SOSCHECK. Since MAPDSA was not intended to be run stand-alone, the output is rather more cryptic than that from MAPTCA, but it can still be useful in its own right. Here is a sample of MAPDSA's output:

```
DATE:    20010129    TIME:    142114
CICSJOB: CICSV41A
TYP <-TASK->  <-ADDR-> <-LENG->

SCA M0000004 06FA1CC8
SCA B0000004 06FA1C14
SCA C0000004 06FA1B60
SCE          0708B000  00000570
SCA U0000004 06FA1AAC
SCA M0000006 06FA59F8
SCE          0005E000  000003E0
SCA M0000021 06FACE30
SCE          00108000  00002F00
SCE          00101000  000003E0
SCA B0000021 06FACEE4
SCA C0000021 06FAF020
SCE          07318000  00000080
SCA U0000021 06FAF0D4
```

The TYP column represents CICS storage control anchor and element control blocks, the elements being actual allocated areas of storage. The task number is prefixed by M, B, C, or U – these represent storage elements that are allocated within the CICS CDSA, UDSA, ECDSA, and EUDSA respectively. The address and length of the elements are also displayed.

SOSCHECK reads MAPDSA's and MAPTCA's output and combines them to produce a report like the following sample:

```
Tran   SNCF  0000379  DBUGUSER EDF       0705F680 SUSPENDED
OURNET.LUTP0007

      _UDSA element 00140070 00000030         48
      _UDSA element 00140000 00000070        112

   Total (E)DSA for this transaction:        160

Tran   SNCF  0000379  DBUGUSER EDF       0705F680 SUSPENDED
OURNET.LUTP0007

      EUDSA element 07503DA0 00009060      36960
      EUDSA element 07500000 00003DA0      15776

   Total (E)DSA for this transaction:       52736

Tran   CEDF  0000386  DFHZARQ1  ZCIOWAIT 07060080  SUSPENDED
OURNET.CICSV41A

      _CDSA element 00050000 000007C0       1984

   Total (E)DSA for this transaction:       1984

Tran   CEDF  0000386  DFHZARQ1  ZCIOWAIT 07060080  SUSPENDED
OURNET.CICSV41A

      ECDSA element 0739F3E0 00002A90      10896
      ECDSA element 0739F000 000003E0        992

   Total (E)DSA for this transaction:      11888

    Total _CDSA for all transactions:      21952
    Total _UDSA for all transactions:        160
    Total ECDSA for all transactions:      39984
    Total EUDSA for all transactions:      52736

   Total (E)DSA for all transactions:     114832
```

For the sake of brevity I have excluded all the CICS system transactions from this sample, which is why the totals exceed the sum of the elements shown.

MAPDSA has the same 'look but don't touch' philosophy as MAPTCA, so it cannot harm a running CICS region in any way, but it might get confusing results if run against a very active CICS region that is not

currently stalled due to SOS, because CICS might update control block chains faster than MAPDSA can run them.

Since the intention is to run these programs when a CICS region is in SOS status, I used an automated operations package to detect the messages DFHSM0131 (SOS below 16MB) and DFHSM0133 (SOS above 16MB) and to execute a started task which ran MAPTCA, MAPDSA, and SOSCHECK as documented below.

MAPDSA must be linked AC=1 into an APF library. The source for macro R2D is supplied in the article *Displaying task activity in a CICS region under stress*, *CICS Update* Issue 182, January 2001.

MAPDSA SOURCE

```
*********************************************************************
**  MAP CICS DSAS - TASK SUBPOOLS                                  **
*********************************************************************
        LCLC     &MODULE
&MODULE SETC     'MAPDSA'
&MODULE CSECT
&MODULE AMODE 31
&MODULE RMODE 24
        YREGS
        SAVE (14,12)
        USING MAPDSA,R12
        LR    R12,R15
        LR    R14,R13
        LA    R13,SAVE
        ST    R13,8(,R14)
        ST    R14,4(,R13)
*-------------------------------------------------------------------
* READ PARAMETER - CICS REGION TO PROCESS
*-------------------------------------------------------------------
        LR    R11,R1                    PARAMETER POINTER
        L     R1Ø,Ø(R11)
        MVC   JOBNAME(8),2(R1Ø)
*-------------------------------------------------------------------
* FIND ASID OF CICS REGION
*-------------------------------------------------------------------
        L     R11,CVTPTR                GET ADDRESS OF CVT
        L     R11,CVTASVT-CVTMAP(R11)   ASVT POINTER
        USING ASVT,R11                  ASVT ADDRESSABILITY
        LA    R1Ø,ASVTENTY              ADDRESS OF ASVT ENTRIES
        L     R9,ASVTMAXU               MAX ADDRESS SPACES
ASVT_LOOP_ROUTINE DS ØH
        TM    Ø(R1Ø),ASVTAVAL           IS THE SLOT OCCUPIED ?
        BO    TRY_NEXT_ASCB             NO, THEN BYPASS
```

```
        L     R8,Ø(R1Ø)                   GET POINTER TO ASCB
        USING ASCB,R8                     ASCB ADDRESSABILITY
        L     R1,ASCBJBNI                 GET JOBNAME POINTER
        LTR   R1,R1                       JOBNAME ?
        BZ    TRY_STC_FOR_JOBNAME         NO, STC MAYBE
        CLC   JOBNAME(8),Ø(R1)
        BE    FOUND_CICS
TRY_STC_FOR_JOBNAME DS ØH
        L     R1,ASCBJBNS                 START/MOUNT/LOGON NAME ?
        LTR   R1,R1                       IS IT   ?
        BZ    TRY_NEXT_ASCB               NO, JUST CONTINUE
        CLC   JOBNAME(8),Ø(R1)
        BE    FOUND_CICS
TRY_NEXT_ASCB DS ØH
        LA    R1Ø,4(R1Ø)                  POINT TO NEXT ASCB
        BCT   R9,ASVT_LOOP_ROUTINE        CONTINUE...
CICS_NOT_RUNNING DS ØH
        OPEN  (SYSPRINT,OUTPUT)
        MVC   OUTREC+2(12),=CL12'CICS REGION '
        MVC   OUTREC+14(8),JOBNAME
        MVC   OUTREC+22(1Ø),=CL1Ø' NOT FOUND'
        BAL   R9,WRITE_RECORD_TO_SYSPRINT
        CLOSE SYSPRINT
        B     @FINISH
FOUND_CICS DS ØH
        MVC   ARASID,ASCBASID
*--------------------------------------------------------------------
* GETMAIN AREA TO STORE INFO - R7 FOR TABLE POINTER
*--------------------------------------------------------------------
        GETMAIN RU,LV=65536
        LR    R7,R1
        ST    R7,TABSTART
*--------------------------------------------------------------------
* INTO ACCESS MODE - R6 FOR CICS ADDRESS SPACE
*--------------------------------------------------------------------
        MODESET MODE=SUP,KEY=ZERO
        AXSET AX=AX1
        LH    R4,ARASID
        SSAR  R4
        SAC   512
        LAM   R6,R6,=F'1'
*--------------------------------------------------------------------
* FOLLOW CICS STORAGE CHAINS
*--------------------------------------------------------------------
        L     R6,KEKCB                    DFHKEKCB
        L     R6,Ø(,R6)                   DFHSMANCHOR
        LA    R6,28(,R6)
        L     R6,Ø(,R6)                   LAST SCA
        LR    R3,R6
        L     R6,KEKCB                    DFHKEKCB
        L     R6,Ø(,R6)                   DFHSMANCHOR
```

```
        LA    R6,24(,R6)
        L     R6,Ø(,R6)                    FIRST SCA
PROCESS_SCA DS ØH
        LR    R5,R6                        SAVE SCA POINTER
        CLC   Ø(1,R6),=CL1'B'              ELEMENTS ARE IN UDSA
        BE    CONTINUE_SCA
        CLC   Ø(1,R6),=CL1'M'              ELEMENTS ARE IN CDSA
        BE    CONTINUE_SCA
        CLC   Ø(1,R6),=CL1'U'              ELEMENTS ARE IN EUDSA
        BE    CONTINUE_SCA
        CLC   Ø(1,R6),=CL1'C'              ELEMENTS ARE IN ECDSA
        BE    CONTINUE_SCA
        B     NEXT_SCA
CONTINUE_SCA DS ØH
        MVC   Ø(4,R7),=CL4'SCA '
        MVC   4(8,R7),Ø(R6)                SCA NAME
        ST    R6,12(R7)                    SCA ADDRESS
        LA    R7,16(,R7)
        LA    R6,8Ø(,R6)
        LR    R8,R6
        L     R6,Ø(,R6)                    FIRST SCE
        ST    R6,SCE_FIRST
        CR    R6,R8                        POINTS TO ITSELF IF NO SCE
        BNE   PROCESS_SCE
        B     NEXT_SCA
PROCESS_SCE DS ØH
        MVC   Ø(4,R7),=CL4'SCE '
        MVC   4(4,R7),8(R6)                SCE ADDRESS
        MVC   8(4,R7),12(R6)               SCE LENGTH
        LA    R7,16(,R7)
        L     R6,Ø(,R6)                    NEXT SCE
        CR    R6,R8                        POINTS TO ITSELF IF LAST SCE
        BNE   PROCESS_SCE
NEXT_SCA    DS ØH
        LR    R6,R5                        RESTORE SCA POINTER
        CR    R6,R3                        LAST SCA?
        BE    NO_MORE_SCA
        LA    R6,8(,R6)                    NEXT SCA
        L     R6,Ø(,R6)                    NEXT SCA
        B     PROCESS_SCA
NO_MORE_SCA DS ØH
        ST    R7,TABEND
*-------------------------------------------------------------------
* OUT OF ACCESS MODE
*-------------------------------------------------------------------
OUT_OF_ACCESS DS ØH
        EPAR  R2
        SSAR  R2
        SAC   Ø
        AXSET AX=AXØ
        MODESET MODE=PROB,KEY=NZERO
```

```
         L     R7,TABSTART
         L     R6,TABEND
         OPEN (SYSPRINT,OUTPUT)
WRITE_HEADER DS ØH
         MVC   OUTREC+2(22),=CL22'MAP CICS TASK SUBPOOLS'
         MVC   OUTREC+24(33),=CL33' - UDSA ELEMENTS (SCA = BNNNNNNN)'
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         TIME  DEC,TIMEDATE,LINKAGE=SYSTEM,DATETYPE=YYYYMMDD
         MVC   OUTREC+2(9),=CL9'DATE:    '
         L     R5,TIMEDATE+8
         R2D   R5,OUTREC+11(8)
         MVC   OUTREC+24(9),=CL9'TIME:    '
         L     R5,TIMEDATE
         R2D   R5,OUTREC+33(6)
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         MVC   OUTREC+2(9),=CL9'CICSJOB: '
         MVC   OUTREC+11(8),JOBNAME
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         MVC   OUTREC+2(32),=CL32'TYP <-TASK->  <-ADDR-> <-LENG->'
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
WRITE_DETAIL DS ØH
         CLC   Ø(3,R7),=CL3'SCA'           TYPE
         BNE   WRITE_DETAIL_SCE
         MVC   OUTREC+2(4),Ø(R7)           TYPE
         MVC   OUTREC+6(8),4(R7)           SCA NAME
         L     R5,12(R7)
         R2D   R5,OUTREC+16(8)             SCA ADDR
         LA    R7,16(,R7)
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         B     WRITE_FINISH
WRITE_DETAIL_SCE DS ØH
         MVC   OUTREC+2(4),Ø(R7)           TYPE
         L     R5,4(R7)
         R2D   R5,OUTREC+16(8)             SCE ADDR
         L     R5,8(R7)
         R2D   R5,OUTREC+26(8)             SCE LENGTH
         LA    R7,16(,R7)
         BAL   R9,WRITE_RECORD_TO_SYSPRINT
         B     WRITE_FINISH
WRITE_FINISH DS ØH
         CR    R7,R6
         BNE   WRITE_DETAIL
         CLOSE SYSPRINT
         L     R7,TABSTART
         FREEMAIN RU,LV=65536,A=(7)
@FINISH  L     R13,SAVE+4
         RETURN (14,12),RC=Ø
```

```
*--------------------------------------------------------------------*
*  WRITE TO SYSPRINT AND CLEAR OUTREC                                *
*--------------------------------------------------------------------*
WRITE_RECORD_TO_SYSPRINT DS ØH
        PUT   SYSPRINT,OUTCARD
        MVI   OUTREC,C' '
        MVC   OUTREC+1(132),OUTREC
        BR    R9                          RETURN TO CALLER
*--------------------------------------------------------------------*
*  WORKING STORAGE                                                   *
*--------------------------------------------------------------------*
        DS    ØD
SAVE    DS    18F
AXØ     DC    H'Ø'
AX1     DC    H'1'
JOBNAME DC    CL8'CICSNAME'
TABSTART DS    F
TABEND   DS    F
TIMEDATE DS    ØCL16                      TIME AND DATE RETURNED
        DC    XL16'ØØ'
ARASID  DS    H
KEKCB   DS    ØF
        DC    XL4'ØØØØ6418'
SCE_FIRST DS   F
SCE_NEXT  DS   F
OUTCARD DC    AL2(137),AL2(Ø)
OUTREC  DC    CL133' '
        ORG   OUTREC+133
SYSPRINT DCB  DDNAME=SYSPRINT,DSORG=PS,MACRF=PM,                       X
              LRECL=137,BLKSIZE=137Ø,RECFM=VB
         IHAASVT
         IHAASCB
         CVT  DSECT=YES
         END
```

## MAPDSA JCL FOR STAND-ALONE EXECUTION

```
//*--------------------------------------------------------------------*
//*  Note that PARM must be an 8-byte field, pad with blanks if the  *
//*  CICS region name to map is not 8 bytes long.                      *
//*--------------------------------------------------------------------*
//MAPDSA   EXEC PGM=MAPDSA,PARM='CICSV41A'
//STEPLIB  DD DSN=YOUR.APF.LOADLIB,DISP=SHR
//SYSPRINT DD SYSOUT=X
//*
```

## SOSCHECK REXX

```
/*------------------------------ Rexx --------------------------------*/
/* Function   : CICS SOS report                                       */
```

```
/*             M = CDSA  B = UDSA  C = ECDSA  U = EUDSA              */
/*-------------------------------------------------------------------*/
numeric digits 21
tran. = ''
totl = Ø; gtot = Ø; tot_c = Ø; tot_u = Ø; totec = Ø; toteu = Ø
done = 'n'
do while done = 'n'
  "execio 1 diskr tcadata"
  if rc = Ø then
    do
    parse pull tcarec
    call proc_tran
    end
  else
    done = 'y'
end
say ''
say jobn date
say ''
done = 'n'
do while done = 'n'
  "execio 1 diskr dsadata"
  if rc = Ø then
    do
    parse pull dsarec
    call proc_dsa
    end
  else
    done = 'y'
end
if total_to_write = 'y' then do
  if totl ¬= Ø then do
    say ''
    say '   Total (E)DSA for this transaction:' format(totl,11,Ø)
    say ''
  end
end
say ''
say '    Total _CDSA for all transactions:' format(tot_c,11,Ø)
say '    Total _UDSA for all transactions:' format(tot_u,11,Ø)
say '    Total ECDSA for all transactions:' format(totec,11,Ø)
say '    Total EUDSA for all transactions:' format(toteu,11,Ø)
say ''
say '   Total (E)DSA for all transactions:' format(gtot,11,Ø)
say ''
exit
/*-------------------------------------------------------------------*/
/* Process a transaction record                                      */
/*-------------------------------------------------------------------*/
proc_tran:
select
```

```
  when substr(tcarec,3,5) = 'DATE:' then do
    date = substr(tcarec,3,4Ø)
    end
  when substr(tcarec,3,8) = 'CICSJOB:' then do
    jobn = substr(tcarec,3,2Ø)
    end
  when substr(tcarec,9,7) = 'ØØØØØØØ' then
    nop
  when substr(tcarec,9,2) = 'ØØ' then do
    task = substr(tcarec,11,5)
    tran.task = substr(tcarec,1,8Ø)
    end
  otherwise
    nop
end
return
/*-------------------------------------------------------------------*/
/* Process a dsa record                                              */
/*-------------------------------------------------------------------*/
proc_dsa:
select
  when substr(dsarec,3,3) = 'SCA' then do
    first = 'y'
    task = substr(dsarec,1Ø,5)
    type = substr(dsarec,7,1)
    if totl ¬= Ø then do
      say ''
      say '   Total (E)DSA for this transaction:' format(totl,11,Ø)
      say ''
      totl = Ø
      total_to_write = 'n'
    end
    if tran.task = ' ' then
      detail = 'Task' task 'not present when SOSTCA ran'
    else
      detail = 'Tran' tran.task
    end
  when substr(dsarec,3,3) = 'SCE' then do
    addr = substr(dsarec,17,8)
    leng = substr(dsarec,27,8)
    lend = x2d(leng)
    totl = totl + lend
    gtot = gtot + lend
    total_to_write = 'y'
    if first = 'y' then do
      first = 'n'
      say detail
      say ''
    end
    select
      when type = 'M' then do
```

```
        dsa_type = '_CDSA'
        tot_c = tot_c + lend
        end
      when type = 'B' then do
        dsa_type = '_UDSA'
        tot_u = tot_u + lend
        end
      when type = 'C' then do
        dsa_type = 'ECDSA'
        totec = totec + lend
        end
      when type = 'U' then do
        dsa_type = 'EUDSA'
        toteu = toteu + lend
        end
      otherwise nop
    end
    say '     ' dsa_type 'element' addr leng format(lend,11,Ø)
    end

  otherwise
    nop
end
return
```

## SOSCHECK JCL

```
//*-------------------------------------------------------------------*
//*  Note that PARM must be an 8-byte field, pad with blanks if the  *
//*  CICS region name to map is not 8 bytes long.                    *
//*-------------------------------------------------------------------*
//MAPTCA   EXEC PGM=MAPTCA,PARM='CICSV41A'
//STEPLIB  DD DSN=YOUR.APF.LOADLIB,DISP=SHR
//SYSPRINT DD DSN=&&MAPTCA,DISP=(,PASS),UNIT=SYSDA,
//            SPACE=(TRK,(1,1)),DCB=(RECFM=VB,LRECL=137)
//*
//MAPDSA   EXEC PGM=MAPDSA,PARM='CICSV41A'
//STEPLIB  DD DSN=YOUR.APF.LOADLIB,DISP=SHR
//SYSPRINT DD DSN=&&MAPDSA,DISP=(,PASS),UNIT=SYSDA,
//            SPACE=(TRK,(1,1)),DCB=(RECFM=VB,LRECL=137)
//*
//SOSCHECK EXEC PGM=IRXJCL,PARM='SOSCHECK'
//SYSEXEC  DD DSN=YOUR.SYSPROC,DISP=SHR
//TCADATA  DD DSN=&&MAPTCA,DISP=SHR
//DSADATA  DD DSN=&&MAPDSA,DISP=SHR
//SYSTSPRT DD SYSOUT=X
//SYSTSIN  DD DUMMY
```

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## Displaying a list of terminals

The following CICS program was created to sequentially display the terminals found in a CICS region and some associated characteristics.

Below is an example of the display. You can limit the scope of the output by introducing the initial characters for any of the listed fields. This is done in line three, under any field name. In this example, the terminal name is restricted to those beginning with RC and to those with a status of ACQ, or acquired. You can set restrictions for any field, including the task number.

Apart from that, you can use F2 to inhibit or restore the display of terminals that have no real user logged on (those with the CICS default user). In this example, you see several of those terminals, two of them with an active transaction. They are, in fact, printers. If you press F2, they are removed from the display.

The COBOL program, VITERMP, has the associated transaction name in a variable at the beginning of the working storage. My transaction name is VTER, but you can change it to whatever pleases you. In order for F2 to work correctly, you must also set the variable DEFAULT-USER with the correct name defined in your system.

There is an associated BMS map, VITERMS. Its modified copybook is already included in the working storage, so when you assemble it you need only to generate the module for the CICS loadlib.

Example display:

```
+-------------------------------------------------------------------------+
|   PCICSA32                                        00/10/17   15:09:12 |
| Term Netname  Sta  Userid   Username      Tran Taskn Next  Rnam Rsys |
| RC            ACQ                                                       |
| ------------------------------------------------------------------  |
| RC4B F12R4C2B Acq  CICSUSER USER CICS                                   |
| RC4C F12R4C2C Acq  CICSUSER USER CICS             PPC1 37449            |
| RC4E F12R4C2E Acq  CICSUSER USER CICS                                   |
| RC4F F12R4C2F Acq  CICSUSER USER CICS             PPC2 37677            |
| RC4H F12R4C2H Acq  CICSUSER USER CICS                                   |
| RC4I F12R4C2I Acq  CICSUSER USER CICS                                   |
| RC45 L72R4C25 Acq  EALAELI  ELISABETH P. A.                TR24         |
| RC46 L72R4C26 Acq  MALAMAN  M.THOMAS                       TR24         |
| RC47 L72R4C27 Acq  CALIUMJ  CALIUMJ                        TEU8         |
```

```
| RC49 L72R4C29 Acq  FRLAFCS  FRANCIS C.            R4EE 38312         |
| RC5Ø L72R5C2Ø Acq  CHLACMC  CHARLES F.                    R5DS       |
| RC51 L72R5C21 Acq  FRLAFCS  FRANCIS C.                    R4EF       |
| RC52 L72R5C22 Acq  MYLAMAX  MARY X. A.                    LTRE       |
|                                                                      |
|                                                                      |
|                                                                      |
| ---------------------------------------------------------------      |
| ENTER  Next page      F2/F14 Default user on/off       F3/F15  End   |
+----------------------------------------------------------------------+
```

## VITERMP SOURCE CODE

```
       IDENTIFICATION DIVISION.
       PROGRAM-ID. VITERMP.
      *
       ENVIRONMENT DIVISION.
       DATA DIVISION.
      *=============================================================*
       WORKING-STORAGE SECTION.
      *=============================================================*
       77  X                 PIC S9(4)  COMP VALUE +Ø.
       77  Z                 PIC S9(4)  COMP VALUE +Ø.
       77  SLENG             PIC S9(4)  COMP VALUE +Ø.
       77  W-RESP            PIC S9(8)  COMP VALUE +Ø.
       77  W-RESP2           PIC S9(8)  COMP VALUE +Ø.
       77  COUNT-I           PIC S9(4)  COMP VALUE +Ø.
       77  ABSTIME           PIC S9(15) COMP-3.
       77  TASK-AUX          PIC 9(8)        VALUE Ø.
       77  DEFAULT-USER      PIC X(8)        VALUE 'CICSUSER'.
       77  TRANS-NAME        PIC X(4)        VALUE 'VTER'.
       77  THEEND            PIC X(5)        VALUE '*END*'.
      *
       Ø1  SRCH-FIELDS.
           Ø2  SRCH-RESULT   PIC  X(2Ø).
           Ø2  SRCH1         PIC  X(2Ø).
           Ø2  SRCH-1 REDEFINES SRCH1 PIC X OCCURS 2Ø.
           Ø2  SRCH2         PIC  X(2Ø).
      *
       Ø1 COMMAREA.
      *
           Ø2        DEFAULT-FLAG    PIC    9.
           Ø2        COUNT-LAST      PIC   S9(4).
           Ø2        W-LINHA.
             Ø5      W-TERMN         PIC   X(Ø4).
             Ø5      W-NETNA         PIC   X(Ø8).
             Ø5      W-ACQST   COMP  PIC   S9(8).
             Ø5      W-USERI         PIC   X(Ø8).
             Ø5      W-USERN         PIC   X(2Ø).
```

```
          05      W-TRANS          PIC   X(04).
          05      W-TASKN   COMP   PIC   S9(8).
          05      W-NEXTT          PIC   X(04).
          05      W-RMNAM          PIC   X(04).
          05      W-RMSYS          PIC   X(04).
      *
        02        LINHA-NOW.
          05      TERMN-NOW        PIC   X(04).
          05      NETNA-NOW        PIC   X(08).
          05      ACQST-NOW        PIC   X(03).
          05      USERI-NOW        PIC   X(08).
          05      USERN-NOW        PIC   X(20).
          05      TRANS-NOW        PIC   X(04).
          05      TASKN-NOW        PIC   9(05).
          05      NEXTT-NOW        PIC   X(04).
          05      RMNAM-NOW        PIC   X(04).
          05      RMSYS-NOW        PIC   X(04).
        02        LINHA-PREV.
          05      FILLER           PIC   X(64).
      *                                  1833.
        02  VITERMSI.
           05     FILLER           PIC   X(12).
           05     CICSNL    COMP   PIC   S9(4).
           05     CICSNF           PIC   X(01).
           05     CICSNI           PIC   X(08).
           05     DDATEL    COMP   PIC   S9(4).
           05     DDATEF           PIC   X(01).
           05     DDATEI           PIC   X(10).
           05     DTIMEL    COMP   PIC   S9(4).
           05     DTIMEF           PIC   X(01).
           05     DTIMEI           PIC   X(08).
           05     TERMNXL   COMP   PIC   S9(4).
           05     TERMNXA          PIC   X(01).
           05     TERMNXI          PIC   X(04).
           05     NETNAXL   COMP   PIC   S9(4).
           05     NETNAXA          PIC   X(01).
           05     NETNAXI          PIC   X(08).
           05     ACQSTXL   COMP   PIC   S9(4).
           05     ACQSTXA          PIC   X(01).
           05     ACQSTXI          PIC   X(03).
           05     USERIXL   COMP   PIC   S9(4).
           05     USERIXA          PIC   X(01).
           05     USERIXI          PIC   X(08).
           05     USERNXL   COMP   PIC   S9(4).
           05     USERNXA          PIC   X(01).
           05     USERNXI          PIC   X(20).
           05     TRANSXL   COMP   PIC   S9(4).
           05     TRANSXA          PIC   X(01).
           05     TRANSXI          PIC   X(04).
           05     TASKNXL   COMP   PIC   S9(4).
```

```
           Ø5     TASKNXA          PIC   X(Ø1).
           Ø5     TASKNXI          PIC   9(Ø5).
           Ø5     NEXTTXL   COMP   PIC   S9(4).
           Ø5     NEXTTXA          PIC   X(Ø1).
           Ø5     NEXTTXI          PIC   X(Ø4).
           Ø5     RMNAMXL   COMP   PIC   S9(4).
           Ø5     RMNAMXA          PIC   X(Ø1).
           Ø5     RMNAMXI          PIC   X(Ø4).
           Ø5     RMSYSXL   COMP   PIC   S9(4).
           Ø5     RMSYSXA          PIC   X(Ø1).
           Ø5     RMSYSXI          PIC   X(Ø4).
           Ø5     SCREEN-LINES     PIC   X(1692).
           Ø5     LINEI REDEFINES SCREEN-LINES OCCURS 18.
             Ø7   TERMNL    COMP   PIC   S9(4).
             Ø7   TERMNF           PIC   X(Ø1).
             Ø7   TERMNI           PIC   X(Ø4).
             Ø7   NETNAL    COMP   PIC   S9(4).
             Ø7   NETNAF           PIC   X(Ø1).
             Ø7   NETNAI           PIC   X(Ø8).
             Ø7   ACQSTL    COMP   PIC   S9(4).
             Ø7   ACQSTF           PIC   X(Ø1).
             Ø7   ACQSTI           PIC   X(Ø3).
             Ø7   USERIL    COMP   PIC   S9(4).
             Ø7   USERIF           PIC   X(Ø1).
             Ø7   USERII           PIC   X(Ø8).
             Ø7   USERNL    COMP   PIC   S9(4).
             Ø7   USERNF           PIC   X(Ø1).
             Ø7   USERNI           PIC   X(2Ø).
             Ø7   TRANSL    COMP   PIC   S9(4).
             Ø7   TRANSF           PIC   X(Ø1).
             Ø7   TRANSI           PIC   X(Ø4).
             Ø7   TASKNL    COMP   PIC   S9(4).
             Ø7   TASKNF           PIC   X(Ø1).
             Ø7   TASKNI           PIC   X(Ø5).
             Ø7   NEXTTL    COMP   PIC   S9(4).
             Ø7   NEXTTF           PIC   X(Ø1).
             Ø7   NEXTTI           PIC   X(Ø4).
             Ø7   RMNAML    COMP   PIC   S9(4).
             Ø7   RMNAMF           PIC   X(Ø1).
             Ø7   RMNAMI           PIC   X(Ø4).
             Ø7   RMSYSL    COMP   PIC   S9(4).
             Ø7   RMSYSF           PIC   X(Ø1).
             Ø7   RMSYSI           PIC   X(Ø4).
         Ø2  VITERMSO REDEFINES VITERMSI.
             Ø7   FILLER           PIC   X(1833).
*
*================================================================*
 LINKAGE SECTION.
*================================================================*
 Ø1  DFHCOMMAREA.
```

```
     02  FILLER          PIC X(4000).
*================================================================*
 PROCEDURE DIVISION.
*================================================================*
*
 FIRST-TIME-ONLY.
*=================*
     IF EIBCALEN = 0
        MOVE LOW-VALUES TO COMMAREA
        MOVE 0 TO DEFAULT-FLAG
        MOVE 2030 TO EIBCALEN
        PERFORM INITIATE-SCREEN
        PERFORM CHECK-RESTRICTIONS-CHANGE
        PERFORM INQUIRE-CICS
        PERFORM SEND-SCREEN-ERASE
        GO TO RETURN-TRANSID
     END-IF.
*
 OTHER-TIMES.
*=============*
     MOVE DFHCOMMAREA TO COMMAREA
     PERFORM RECEIVE-SCREEN THRU RECEIVE-SCREEN-EXIT
     PERFORM CHECK-RESTRICTIONS-CHANGE
     PERFORM INQUIRE-CICS
     PERFORM SEND-SCREEN
     GO TO RETURN-TRANSID.
*
*================================================================*
*
 CHECK-RESTRICTIONS-CHANGE.
*===========================*
     MOVE  TERMNXI  TO  TERMN-NOW
     MOVE  NETNAXI  TO  NETNA-NOW
     MOVE  ACQSTXI  TO  ACQST-NOW
     MOVE  USERIXI  TO  USERI-NOW
     MOVE  USERNXI  TO  USERN-NOW
     MOVE  TRANSXI  TO  TRANS-NOW
     MOVE  TASKNXI  TO  TASKN-NOW
     MOVE  NEXTTXI  TO  NEXTT-NOW
     MOVE  RMNAMXI  TO  RMNAM-NOW
     MOVE  RMSYSXI  TO  RMSYS-NOW
     IF LINHA-PREV NOT EQUAL LINHA-NOW
        MOVE LOW-VALUES TO W-TERMN
        MOVE 0 TO COUNT-LAST
     END-IF
     MOVE LINHA-NOW TO  LINHA-PREV.
*
 INQUIRE-CICS.
*==============*
     MOVE 0 TO X.
```

```
      EXEC CICS INQUIRE TERMINAL START
      END-EXEC
      PERFORM INQUIRE-CICS-LOOP THRU
              INQUIRE-CICS-LOOP-EXIT UNTIL X > 18.
      MOVE COUNT-I TO COUNT-LAST
      EXEC CICS INQUIRE TERMINAL END
      END-EXEC.
*
 INQUIRE-CICS-LOOP.
*=================*
      EXEC CICS INQUIRE
                TERMINAL     (W-TERMN)
                ACQSTATUS    (W-ACQST)
                NETNAME      (W-NETNA)
                USERID       (W-USERI)
                USERNAME     (W-USERN)
                TRANSACTION  (W-TRANS)
                TASKID       (W-TASKN)
                NEXTTRANSID  (W-NEXTT)
                REMOTENAME   (W-RMNAM)
                REMOTESYSTEM (W-RMSYS)
                RESP         (W-RESP)
                RESP2        (W-RESP2)
                NEXT
      END-EXEC

      IF W-RESP2 > Ø
         ADD 1 TO X
         PERFORM CLEAN-SCREEN-LINES
         MOVE 99 TO X
         MOVE Ø  TO COUNT-I
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF

      ADD 1 TO COUNT-I
      IF COUNT-LAST GREATER COUNT-I
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF

      IF DEFAULT-FLAG = 1 AND W-USERI = DEFAULT-USER
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF

      IF NOT (TERMNXI = SPACES OR = LOW-VALUES)
         MOVE 4 TO SLENG
         MOVE TERMNXI TO SRCH1
         MOVE W-TERMN TO SRCH2
         PERFORM SRCH-STRING
         IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
```

```
      END-IF
   END-IF

   IF NOT (NETNAXI = SPACES OR = LOW-VALUES)
      MOVE 8 TO SLENG
      MOVE NETNAXI TO SRCH1
      MOVE W-NETNA TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (ACQSTXI = SPACES OR = LOW-VALUES)
      MOVE 3 TO SLENG
      MOVE ACQSTXI TO SRCH1
      PERFORM TRANSLATE-ACQSTATUS
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (USERIXI = SPACES OR = LOW-VALUES)
      MOVE 8 TO SLENG
      MOVE USERIXI TO SRCH1
      MOVE W-USERI TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (USERNXI = SPACES OR = LOW-VALUES)
      MOVE 2Ø TO SLENG
      MOVE USERNXI TO SRCH1
      MOVE W-USERN TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (TRANSXI = SPACES OR = LOW-VALUES)
      MOVE 4 TO SLENG
      MOVE TRANSXI TO SRCH1
      MOVE W-TRANS TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
```

```
      END-IF
   END-IF

   IF NOT (TASKNXI = SPACES OR = LOW-VALUES)
      MOVE 5 TO SLENG
      MOVE TASKNXI TO SRCH1
      MOVE W-TASKN TO TASK-AUX
      MOVE TASK-AUX(4:5) TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (NEXTTXI = SPACES OR = LOW-VALUES)
      MOVE 4 TO SLENG
      MOVE NEXTTXI TO SRCH1
      MOVE W-NEXTT TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (RMNAMXI = SPACES OR = LOW-VALUES)
      MOVE 4 TO SLENG
      MOVE RMNAMXI TO SRCH1
      MOVE W-RMNAM TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   IF NOT (RMSYSXI = SPACES OR = LOW-VALUES)
      MOVE 4 TO SLENG
      MOVE RMSYSXI TO SRCH1
      MOVE W-RMSYS TO SRCH2
      PERFORM SRCH-STRING
      IF SRCH-RESULT = Ø
         GO TO INQUIRE-CICS-LOOP-EXIT
      END-IF
   END-IF

   ADD 1 TO X
   MOVE  W-TERMN  TO  TERMNI(X)
   MOVE  W-NETNA  TO  NETNAI(X)
   MOVE  W-USERI  TO  USERII(X)
   MOVE  W-USERN  TO  USERNI(X)
   MOVE  W-TRANS  TO  TRANSI(X)
```

```
     MOVE  W-TASKN  TO  TASK-AUX
     IF TASK-AUX GREATER Ø
        MOVE TASK-AUX(4:5) TO TASKNI(X)
     ELSE
        MOVE SPACES TO  TASKNI(X)
     END-IF
     MOVE  W-NEXTT  TO  NEXTTI(X)
     MOVE  W-RMSYS  TO  RMSYSI(X)
     MOVE  W-RMNAM  TO  RMNAMI(X)
     PERFORM DISPLAY-ACQSTATUS.
*
 INQUIRE-CICS-LOOP-EXIT.
*=======================*
     EXIT.
*
 TRANSLATE-ACQSTATUS.
*====================*
     IF W-ACQST = DFHVALUE(ACQUIRED)
        MOVE 'ACQ' TO SRCH2
     ELSE
     IF W-ACQST = DFHVALUE(ACQUIRING)
        MOVE 'AQI' TO SRCH2
     ELSE
     IF W-ACQST = DFHVALUE(RELEASED)
        MOVE 'REL' TO SRCH2
     END-IF.
*
 DISPLAY-ACQSTATUS.
*==================*
     IF W-ACQST = DFHVALUE(ACQUIRED)
        MOVE 'Acq' TO ACQSTI(X)
     ELSE
     IF W-ACQST = DFHVALUE(ACQUIRING)
        MOVE 'Aqi' TO ACQSTI(X)
     ELSE
     IF W-ACQST = DFHVALUE(RELEASED)
        MOVE 'Rel' TO ACQSTI(X)
     END-IF.
*
 SRCH-STRING.
*============*
     IF SRCH-1(SLENG) = SPACE OR = '*'
        SUBTRACT 1 FROM SLENG
        GO TO SRCH-STRING
     END-IF
     IF SRCH1(1:SLENG) = SRCH2(1:SLENG)
        MOVE 1 TO SRCH-RESULT
     ELSE
        MOVE Ø TO SRCH-RESULT
     END-IF.
```

```
*
 CLEAN-SCREEN-LINES.
*==================*
     PERFORM CLEAN-SCREEN-LINES-LOOP
             VARYING Z FROM X BY 1 UNTIL Z > 18.
*
 CLEAN-SCREEN-LINES-LOOP.
*========================*
     MOVE SPACES TO TERMNI(Z) NETNAI(Z) USERII(Z)
          ACQSTI(Z) USERNI(Z) TRANSI(Z) NEXTTI(Z)
                    RMSYSI(Z) RMNAMI(Z) TASKNI(Z).
*
 SEND-SCREEN-ERASE.
*==================*
     EXEC CICS SEND MAP('VITERMS') ERASE
     END-EXEC.
*
 SEND-SCREEN.
*============*
     EXEC CICS SEND MAP('VITERMS') DATAONLY
     END-EXEC.
*
 RECEIVE-SCREEN.
*===============*
     EXEC CICS HANDLE CONDITION MAPFAIL(RETURN-EXIT)
     END-EXEC
     EXEC CICS HANDLE AID PF3  (RETURN-EXIT)
                          PF15 (RETURN-EXIT)
                          PF2  (TOGGLE-DEFAULT-FLAG)
                          PF14 (TOGGLE-DEFAULT-FLAG)
     END-EXEC
     EXEC CICS RECEIVE MAP('VITERMS')
     END-EXEC
     GO TO RECEIVE-SCREEN-EXIT.
*
 TOGGLE-DEFAULT-FLAG.
*====================*
     MOVE Ø TO COUNT-LAST
     IF DEFAULT-FLAG = Ø
        MOVE 1 TO DEFAULT-FLAG
     ELSE
        MOVE Ø TO DEFAULT-FLAG
     END-IF
     GO TO RECEIVE-SCREEN-EXIT.
*
 RECEIVE-SCREEN-EXIT.
*====================*
     EXIT.
*
 INITIATE-SCREEN.
*================*
```

```
           EXEC CICS ASSIGN APPLID (CICSNI)
           END-EXEC
           EXEC CICS ASKTIME ABSTIME (ABSTIME)
           END-EXEC
           EXEC CICS FORMATTIME
                     ABSTIME (ABSTIME)
                     DATE    (DDATEI)
                     DATESEP ('/')
                     TIME    (DTIMEI)
                     TIMESEP (':')
           END-EXEC.
      *
       RETURN-TRANSID.
      *===============*
           EXEC CICS RETURN
                     TRANSID  (TRANS-NAME)
                     COMMAREA (COMMAREA)
                     LENGTH   (EIBCALEN)
           END-EXEC.
      *
       RETURN-EXIT.
      *=============*
           EXEC CICS SEND
                     FROM   (THEEND)
                     LENGTH (5)
                     ERASE
           END-EXEC
           EXEC CICS RETURN
           END-EXEC
           GOBACK.
```

## VITERMS SOURCE CODE

```
MAPSET   DFHMSD TYPE=&SYSPARM,MODE=INOUT,CTRL=(FREEKB),                *
               LANG=COBOL,TIOAPFX=YES,EXTATT=MAPONLY
*
VITERMS  DFHMDI SIZE=(24,8Ø)
*
CICSN    DFHMDF POS=(Ø1,Ø4),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
               COLOR=YELLOW
DDATE    DFHMDF POS=(Ø1,57),LENGTH=1Ø,ATTRB=(ASKIP,PROT),              *
               COLOR=YELLOW
DTIME    DFHMDF POS=(Ø1,68),LENGTH=Ø8,ATTRB=(ASKIP,PROT,FSET),         *
               COLOR=YELLOW
*
         DFHMDF POS=(Ø2,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=NEUTRAL,                                          *
               INITIAL='Term'
         DFHMDF POS=(Ø2,Ø7),LENGTH=Ø7,ATTRB=(ASKIP,PROT),              *
               COLOR=NEUTRAL,                                          *
```

```
              INITIAL='Netname'
           DFHMDF POS=(Ø2,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Sta'
           DFHMDF POS=(Ø2,21),LENGTH=Ø6,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Userid'
           DFHMDF POS=(Ø2,3Ø),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Username'
           DFHMDF POS=(Ø2,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Tran'
           DFHMDF POS=(Ø2,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Taskn'
           DFHMDF POS=(Ø2,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Next'
           DFHMDF POS=(Ø2,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Rnam'
           DFHMDF POS=(Ø2,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=NEUTRAL,                                             *
              INITIAL='Rsys'
*
TERMNX     DFHMDF POS=(Ø3,Ø2),LENGTH=Ø4,ATTRB=(BRT,UNPROT,FSET,IC),      *
              COLOR=PINK
NETNAX     DFHMDF POS=(Ø3,Ø7),LENGTH=Ø8,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
ACQSTX     DFHMDF POS=(Ø3,16),LENGTH=Ø3,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
USERIX     DFHMDF POS=(Ø3,21),LENGTH=Ø8,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
USERNX     DFHMDF POS=(Ø3,3Ø),LENGTH=2Ø,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
TRANSX     DFHMDF POS=(Ø3,52),LENGTH=Ø4,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
TASKNX     DFHMDF POS=(Ø3,57),LENGTH=Ø5,ATTRB=(BRT,UNPROT,FSET,NUM),     *
              COLOR=PINK
NEXTTX     DFHMDF POS=(Ø3,63),LENGTH=Ø4,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
RMNAMX     DFHMDF POS=(Ø3,69),LENGTH=Ø4,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
RMSYSX     DFHMDF POS=(Ø3,74),LENGTH=Ø4,ATTRB=(BRT,UNPROT,FSET),         *
              COLOR=PINK
           DFHMDF POS=(Ø3,79),LENGTH=Ø1
           DFHMDF POS=(Ø4,Ø2),LENGTH=76,COLOR=RED,                       *
              INITIAL='-----------------------------------------------*
              ----------------------------'
*
```

```
TERMNØ1  DFHMDF POS=(Ø5,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
NETNAØ1  DFHMDF POS=(Ø5,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
ACQSTØ1  DFHMDF POS=(Ø5,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
USERIØ1  DFHMDF POS=(Ø5,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),         *
               COLOR=TURQUOISE
USERNØ1  DFHMDF POS=(Ø5,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
TRANSØ1  DFHMDF POS=(Ø5,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
TASKNØ1  DFHMDF POS=(Ø5,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
NEXTTØ1  DFHMDF POS=(Ø5,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
RMNAMØ1  DFHMDF POS=(Ø5,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=DEFAULT
RMSYSØ1  DFHMDF POS=(Ø5,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=DEFAULT
*
TERMNØ2  DFHMDF POS=(Ø6,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
NETNAØ2  DFHMDF POS=(Ø6,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
ACQSTØ2  DFHMDF POS=(Ø6,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
USERIØ2  DFHMDF POS=(Ø6,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),         *
               COLOR=TURQUOISE
USERNØ2  DFHMDF POS=(Ø6,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
TRANSØ2  DFHMDF POS=(Ø6,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
TASKNØ2  DFHMDF POS=(Ø6,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
NEXTTØ2  DFHMDF POS=(Ø6,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=BLUE
RMNAMØ2  DFHMDF POS=(Ø6,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=DEFAULT
RMSYSØ2  DFHMDF POS=(Ø6,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=DEFAULT
*
TERMNØ3  DFHMDF POS=(Ø7,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
NETNAØ3  DFHMDF POS=(Ø7,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
ACQSTØ3  DFHMDF POS=(Ø7,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),             *
               COLOR=TURQUOISE
USERIØ3  DFHMDF POS=(Ø7,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),         *
               COLOR=TURQUOISE
USERNØ3  DFHMDF POS=(Ø7,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),             *
```

```
              COLOR=TURQUOISE
TRANSØ3  DFHMDF POS=(Ø7,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
TASKNØ3  DFHMDF POS=(Ø7,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
NEXTTØ3  DFHMDF POS=(Ø7,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
RMNAMØ3  DFHMDF POS=(Ø7,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=DEFAULT
RMSYSØ3  DFHMDF POS=(Ø7,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=DEFAULT
*
TERMNØ4  DFHMDF POS=(Ø8,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
NETNAØ4  DFHMDF POS=(Ø8,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
ACQSTØ4  DFHMDF POS=(Ø8,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
USERIØ4  DFHMDF POS=(Ø8,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),          *
              COLOR=TURQUOISE
USERNØ4  DFHMDF POS=(Ø8,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
TRANSØ4  DFHMDF POS=(Ø8,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
TASKNØ4  DFHMDF POS=(Ø8,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
NEXTTØ4  DFHMDF POS=(Ø8,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
RMNAMØ4  DFHMDF POS=(Ø8,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=DEFAULT
RMSYSØ4  DFHMDF POS=(Ø8,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=DEFAULT
*
TERMNØ5  DFHMDF POS=(Ø9,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
NETNAØ5  DFHMDF POS=(Ø9,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
ACQSTØ5  DFHMDF POS=(Ø9,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
USERIØ5  DFHMDF POS=(Ø9,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),          *
              COLOR=TURQUOISE
USERNØ5  DFHMDF POS=(Ø9,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),              *
              COLOR=TURQUOISE
TRANSØ5  DFHMDF POS=(Ø9,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
TASKNØ5  DFHMDF POS=(Ø9,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
NEXTTØ5  DFHMDF POS=(Ø9,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=BLUE
RMNAMØ5  DFHMDF POS=(Ø9,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
              COLOR=DEFAULT
```

```
RMSYSØ5  DFHMDF POS=(Ø9,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT
*
TERMNØ6  DFHMDF POS=(1Ø,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
NETNAØ6  DFHMDF POS=(1Ø,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
ACQSTØ6  DFHMDF POS=(1Ø,16),LENGTH=Ø3,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
USERIØ6  DFHMDF POS=(1Ø,21),LENGTH=Ø8,ATTRB=(ASKIP,PROT,BRT),          *
               COLOR=TURQUOISE
USERNØ6  DFHMDF POS=(1Ø,3Ø),LENGTH=2Ø,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
TRANSØ6  DFHMDF POS=(1Ø,52),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=BLUE
TASKNØ6  DFHMDF POS=(1Ø,57),LENGTH=Ø5,ATTRB=(ASKIP,PROT),              *
               COLOR=BLUE
NEXTTØ6  DFHMDF POS=(1Ø,63),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=BLUE
RMNAMØ6  DFHMDF POS=(1Ø,69),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT
RMSYSØ6  DFHMDF POS=(1Ø,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT
*
TERMNØ7  DFHMDF POS=(11,Ø2),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
NETNAØ7  DFHMDF POS=(11,Ø7),LENGTH=Ø8,ATTRB=(ASKIP,PROT),              *
               COLOR=TURQUOISE
RMSYSØ7  DFHMDF POS=(11,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT
```

*Editor's note: this code continues for many more terminals.*

```
RMSYS18  DFHMDF POS=(22,74),LENGTH=Ø4,ATTRB=(ASKIP,PROT),              *
               COLOR=DEFAULT
         DFHMDF POS=(23,Ø2),LENGTH=76,COLOR=RED,                       *
               INITIAL='-------------------------------------------*
               ----------------------------'
*
         DFHMDF POS=(24,Ø2),LENGTH=76,ATTRB=(ASKIP,PROT),              *
               COLOR=NEUTRAL,                                          *
               INITIAL='ENTER  Next page          F2/F14 Default user *
               on/off           F3/F15  End'
*
         DFHMSD TYPE=FINAL
         END
```

*Luis Paulo Figueiredo Sousa Ribeiro*
*Systems Engineer*
*Edinfor (Portugal)*

# CICS news

IBM has announced Version 2 of its CICS Transaction Server for z/OS, adding support for Enterprise JavaBeans, improved network connectivity, extensions to facilities for applications based on procedural programming models, and significant extensions to CICSPlex.

As a result, CICS TS Version 2 is now an EJB server supporting EJB 1.1 programming and functions for applications written in other languages.

Support for enterprise beans in CICS TS Version 2 includes exploitation of a new optimized JVM, enhanced CORBA function, and enhanced CICSPlex functions including workload management.

Other facilities available to enterprise beans are JDBC/SQLJ access to DB2 data, JCICS access to VSAM data, extensions to JCICS, and the CICS Connector for CICS TS, enabling interoperability between enterprise beans and applications and data using other programming models.

There are also improvements to Web enablement, including support for the external call interface (ECI) over TCP/IP. Functions aimed at application development include an enhanced 3270 bridge, an integrated CICS translator for use with COBOL and PL/I, and enhancements to file control function shipping.

Connectivity improvements include support for the VTAM LU alias facility. Availability improvements include sign-on retention for persistent sessions, support for system-managed rebuild of coupling facility structures, automatic restart of CICS data-sharing servers, and CICSPlex workload management of 3270 bridge.

Usability enhancements come via changes to the CICSPlex Web user interface.

New functions will arrrive in Releases 1 and 2. CICS TS Version 2.1 is targeted specifically at early adopters of EJB technology, while Version 2.2 is the next release recommended for all CICS users for deployment in large-scale production.

Meanwhile, the company says it will enhance CICS VSAM Recovery (CICSVR) as a part of continuing customer support, addressing a number of requested enhancements and introducing new functions, which include batch logging for VSAM data and change accumulation processing.

It’s likely to be packaged with CICS TS Version 2, but a separate licence for CICSVR will be required. It will also be sold as a separately orderable product.

Fir further information contact your local IBM representative.
URL: http://www.ibm.com/software/ts/cics/cicsv2.

* * *