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Inserting and removing comments

GENERAL DESCRIPTION

Programming textbooks tell us that good programmers document all changes to their source programs. However, as you know, this can be a tedious task, especially if you have no utility to facilitate it.

The following procedures are not meant to support full documentation of the code, but aim, at least, to record that lines have been changed, when they were changed, and who changed them.

From time to time, when your program becomes a new ‘release’, you may wish to eliminate comments as a starting point for the new version. Therefore, you should also have a procedure that removes the comments.

The procedures presented here are XEDIT macros and are suitable for programmers who work with CMS and XEDIT. They support REXX, PL/I, and Assembler and are implemented as prefix commands. This means that they are entered in the prefix area of XEDIT as COM and UCO.

For Assembler programs, COMn inserts a comment in the next n lines of code, beginning with column 60, with a content of ‘***MY-ddmmyy’, where:

- ‘MY’ is my acronym, which can be set to whatever you like.
- ‘ddmmyy’ is automatically set to the current date.

The procedure checks whether the affected columns are really blank and do not contain code.

For REXX and PL/I, COMn inserts a comment in the next n lines of code, beginning in column 55, and containing‘/* ***MY-ddmmyy */’.

UCOn removes comments that were inserted by COM, from the next n lines of code. The procedure checks whether the lines have a comment in the respective columns.

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Another frequent task for programmers is to comment lines, in the sense of excluding lines from processing, without deleting them from the source. The opposite is the reactivation of such commented lines. This function is only implemented for PL/I and REXX files.

KOMn comments n lines by wrapping them with '/* .... */' and UKOn un-comments n lines by removing the '/*' and '*/'.

INSTALLATION-SPECIFIC CONFIGURATION

The procedures get the information about the program type from the CMS filetype of the source file. Filetypes that begin with ASS are assumed to be Assembler programs, others are handled as PL/I or REXX.

The procedures can easily be changed to user-specific needs.

COM XEDIT

```
/* Insert a comment as ***MY-ddmmyy with current date, beginning col60*/
/* Prefix command                                                     */
/* Call:   COMn     n = number of lines (default for n = 1)           */

arg pfix . pline op1 . .
if pfix ¬= 'PREFIX' then do
   'MSG COM can only be called as a prefix command'
   exit
end

'SET CMSTYPE HT'
'SET MSGMODE OFF'
date = date('E')
parse var date dd '/' mm '/' yy
'EXTRACT/FT/'
if substr(FTYPE.1,1,3) = 'ASS' then 'CLOC :60'
                               else 'CLOC :55'
'COMMAND :'pline
if op1 = '' then op1 = 1
do i = 1 to op1
   'STACK 1'
   parse pull zeile
   if substr(FTYPE.1,1,3) = 'ASS' then do
      if substr(zeile,60,12) ¬= copies(' ',12) then do
         'SET MSGMODE ON'
         'MSG Columns 60-71 are not empty!'
```


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```
         'CLOC :1'
         'CURSOR FILE' pline+i-1 '6Ø P 255'
         signal ende
         end
      else do
         'COVERLAY ***MY-'dd || mm || yy
         'COMMAND +1'
      end
      end
   else do
      if substr(zeile,55,18) ¬= copies(' ',18) then do
         'SET MSGMODE ON'
         'MSG Columns 55-72 are not empty!'
         'CLOC :1'
         'CURSOR FILE' pline+i-1 '55 P 255'
         signal ende
         end
      else do
         'COVERLAY /* ***MY-'dd || mm || yy' */'
         'COMMAND +1'
      end
   end
end

'CLOC :1'

ende:
'SET MSGMODE ON'
'SET CMSTYPE RT'
exit
```

KOM XEDIT

```
/* Set lines to comment                                                  */
/* Prefix command                                                        */
/* Call:   KOMn     n = number of lines (default for n = 1)              */
arg pfix . pline op1 . .
if pfix ¬= 'PREFIX' then do
   'MSG KOM can only be called as a prefix command'
   exit
end
'SET CMSTYPE HT'
'SET MSGMODE OFF'
'COMMAND :'pline
if op1 = '' then op1 = 1
do i = 1 to op1
   'STACK 1'
   parse pull zeile
   call leftright
```

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```
   if left(strip(zeile),2) = '/*' & right(strip(zeile),2) = '*/' ,
         then do
      'SET MSGMODE ON'
      'MSG Line is already commented'
      'CURSOR FILE' pline+i-1 pos('/*',zeile) 'P 255'
      signal ende
      end
   else do
      zeile = copies(' ',left-1) ,
              || '/* ' ,
              || substr(zeile,left,right-left+1) ,
              || ' */'
      'REPLACE' zeile
      'COMMAND +1'
   end
end
'CLOC :1'
ende:
'SET MSGMODE ON'
'SET CMSTYPE RT'
exit

leftright:
len = length(zeile)
do left = 1 to len
   if substr(zeile,left,1) ¬= ' ' then leave
end
do right = len to 1 by -1
   if substr(zeile,right,1) ¬= ' ' then leave
end
if left = len+1 & right = Ø then do          /* blank line */
   left = 1
   right = 66
end
return
```

UCO XEDIT

```
/* Remove comment ***MY-ddmmyy                                          */
/* Prefix command                                                       */
/* Call:   UCOn     n = number of lines (default for n = 1)             */

arg pfix . pline op1 . .
if pfix ¬= 'PREFIX' then do
   'MSG COM can only be called as a prefix command'
   exit
end

'SET CMSTYPE HT'
```


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```
'SET MSGMODE OFF'
'EXTRACT/FT/'
if substr(FTYPE.1,1,3) = 'ASS' then 'CLOC :6Ø'
                              else 'CLOC :55'
'COMMAND :' pline
if op1 = '' then op1 = 1
do i = 1 to op1
   'STACK 1'
   parse pull zeile
   if substr(ftype.1,1,3) ¬= 'ASS' then do
      if substr(zeile,55,8) ¬= '/* ***MY' then do
         'SET MSGMODE ON'
         'MSG There is no comment to remove!'
         'CLOC :1'
         'CURSOR FILE' pline+i-1 '55 P 255'
         signal ende
         end
      else do
         'COVERLAY ___________________'
         'COMMAND +1'
      end
   end
   else do
      if substr(zeile,6Ø,5) ¬= '***MY' then do
         'SET MSGMODE ON'
         'MSG There is no comment to remove!'
         'CLOC :1'
         'CURSOR FILE' pline+i-1 '6Ø P 255'
         signal ende
         end
      else do
         'COVERLAY _____________'
         'COMMAND +1'
      end
   end
end
'CLOC :1'
ende:
'SET MSGMODE ON'
'SET CMSTYPE RT'
exit
```

UKO XEDIT

```
/* Remove comment line                                                  */
/* Prefix command                                                       */
/* Call:   UKOn     n = number of lines (default for n = 1)             */
arg pfix . pline op1 . .
if pfix ¬= 'PREFIX' then do
```

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```
   'MSG UKO is only allowed as a prefix command'
   exit
end

'SET CMSTYPE HT'
'SET MSGMODE OFF'
'COMMAND :'pline
if op1 = '' then op1 = 1
do i = 1 to op1
   'STACK 1'
   parse pull zeile
   call leftright
   if substr(zeile,left,2) ¬= '/*' | substr(zeile,right-1,2) ¬= '*/' ,
         then do
      'SET MSGMODE ON'
      'MSG Line is no comment'
      'CURSOR FILE' pline+i-1 '1 P 255'
      signal ende
      end
   else do
      zeile = copies(' ',left-1) ,
              || strip(substr(zeile,left+2,right-left+1-4))
      if zeile = '' then zeile = copies(' ',right)
      'REPLACE' zeile
      'COMMAND +1'
   end
end

'CLOC :1'
end:
'SET MSGMODE ON'
'SET CMSTYPE RT'
exit

leftright:
len = length(zeile)
do left = 1 to len
   if substr(zeile,left,1) ¬= ' ' then leave
end
do right = len to 1 by -1
   if substr(zeile,right,1) ¬= ' ' then leave
end
if left = len+1 & right = Ø then do          /* Leerzeile */
   left = 1
   right = 2
end
return
```

Dr Reinhard Meyer (Germany) © Xephon 1998

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VM-based intranets

INTRODUCTION

From a user's perspective, intranet technologies provide an easy-to-use interface to information because the browsers that they employ are easy to use. They provide a common user interface to all applications and user-friendly delivery of information to the desktop.

From a systems management perspective, intranets can easily be installed to accommodate gradual growth as the company's needs grow, regardless of the site's location and however small it is. Intranets conform to a single network standard, which is easy to connect. The average network contains a mainframe, LANs, AS/400s, RS/6000s, etc, all of which can be difficult to interconnect. TCP/IP is a protocol for all.

From a cost-management perspective, intranets save money:

- Federal Express reputedly saved $2,000,000 per year on customer support by using an intranet to allow customers to answer their own queries.
- Intranets are inexpensive to install.
- They deliver documents anywhere, cheaply.
- They pay back quickly on investments. According to a recent ITG survey, intranets offer a return on investment (ROI) of 1,000%, with a payback in 6 to 12 weeks.

The above points apply regardless of the platform on which the intranet is implemented and demonstrate why the growth in these areas is overwhelming.

WHY IS VM A SUITABLE PLATFORM?

VM is a suitable platform for numerous reasons, including:

- The mainframe solution allows central maintenance, which is far

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easier than supporting each PC/LAN.

- According to a recent survey, there are still thirty million 3270 terminals in use around the world. These require support alongside the PCs, NCs, etc.
- Existing hardware and software can be exploited.
- Duplication of data for different users can be avoided because there is no need to move information from its legacy platform.
- The mainframe is reliable. A recent ITG group survey found that the mainframe offers 99.7% reliability compared with 84% from a PC solution.
- The annual cost 'per seat' of mainframe computing is $2,282 compared with a staggering $10,272 for PC-based computing, according to a recent ITG survey.
- A number of VM Web servers exist, for example from Sterling Software.
- VM TCP/IP is an established TCP/IP stack which preceded the MVS TCP/IP and which performs well.

PLATFORM INDEPENDENT APPLICATION ACCESS

From the above, it should be apparent that intranet technologies are a truly 'open' standard. Setting up an intranet allows this form of independent application access without incurring the costs associated with rewriting applications on a new platform. It affords an any-to-any connection by allowing your mainframe system to act as a server of information and also as a client to request information.

DISTRIBUTED PRINTING

As users become accustomed to this level of connectivity, printing problems emerge. How do you print a document on a printer attached to an RS/6000 when the document is in VM? Solutions are available to provide integrated multiplatform printing.

VTAMPRINT VSE from Macro 4 offers an open printing solution for

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all VM/VSE installations, the majority of whom have installed VM TCP/IP from IBM. By accessing VM TCP/IP directly from VSE, VTAMPRINT is able to print any document directly from the VSE POWER spool to any VM TCP/IP attached printers or LPD servers. This is an advantage for those VM/VSE installations that have already invested heavily in VM TCP/IP technology.

WEB BROWSING THE INTRANET

A basic issue of affording freedom of information is always, paradoxically, control. It must be ensured that the correct, up-to-date text is always referenced and other irrelevant data is inaccessible.

Data must also be well presented to encourage full productive use of the available information. Business users need business information that centres on text. Fewer graphics means better response times in the Internet world. From a performance perspective, cacheing of frequently used documents also ensures better response times.

A system must be in place to discover and control what pages are being accessed. Existing security systems such as RACF can be exploited on the mainframe. PC implementations cannot give this level of control unless it is available through a firewall package, and then it may be cumbersome to implement.

THE INTERNET – A BIG BAD WORLD

Installations have total control of intranet pages, but the Internet is self-regulating. However, with the correct implementation, it may not carry the risk of exposure that some people fear. Naturally, no site can have an Internet connection without a firewall installed to afford some protection. Alongside that comes the proxy, which is the authorized route to the outside world through the firewall. This proxy can determine which IP addresses should access which sites. With a mainframe solution, this can be done using the mainframe product itself. As security and auditing issues become far more important than they are with intranets, it may be preferable to use a security platform such as RACF, which is well known and therefore trustworthy, rather than a new software product (a proxy).

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It might be desirable to limit people's access to a restricted number of sites on the Internet. Alternatively, if they use only a text browser, they cannot be distracted by the most tempting sites – ie those containing images.

PC VERSUS MAINFRAME BROWSING SOLUTIONS

PC browsers abound. The trendsetter is Netscape but others, such as Internet Explorer, are widely used and familiar to most. Mainframe browsers are relatively new and not so well known. They include:

- Charlotte
- Enterprise View
- EnterWEB.

Charlotte and Enterprise View both started as the same product. Charlotte is freeware and therefore is largely unsupported. Enterprise View, from Beyond Software, is a supported version of Charlotte. Both run in VM only and are invoked using an EXEC from a user's virtual machine.

EnterWEB, from Macro 4, is available for VM, MVS, and VSE. In MVS and VSE, it runs as a VTAM application and is therefore invoked via a VTAM log-on. In VM, it runs in its own virtual machine and all users of the system dial the machine for access.

The basic difference between PC solutions and mainframe solutions is that mainframe browsers cannot display images or play sounds. Most of the other functions are possible in a mainframe solution. Examples of these include:

- Table support
- Pop-up window support
- FORM support
- MAILTO support
- Download support
- FRAME support.

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HTML 2.0 can be fully supported by a text (mainframe) browser. HTML 3.2 can also be supported with the exclusion of image tags etc. HTTP 1.0 and 1.1 support can be extensive given the image restrictions which relate to the server directives.

From a security perspective, the mainframe browsers are also different. A mainframe browser interfaces to the MVS, VSE, or VM TCP/IP stack, depending on its platform. This stack has one IP address. Therefore, for Charlotte and Enterprise View, all the users connecting have an identical IP address. Proxy/firewall security depends on a unique IP address, which is true for a PC. Charlotte and Enterprise View contain no security and auditing capabilities at the moment to determine who is accessing what. The fact that all their users appear identical means that proxy security is very limited. The same rules must apply installation-wide. EnterWEB expands on your proxy rules to implement groups of users with access to groups of URLs. It also allows security using RACF or its equivalents.

From a usage perspective, Charlotte and Enterprise View run in the user's machine and therefore require a certain amount of individual maintenance. Bookmarks are held in each user's machine. With a centralized solution, such as EnterWEB, global bookmarks are possible. These allow the set-up of bookmarks for generally-accessed sites in an organization, such as basic intranet pages. PC browsers cannot support the concept of global bookmarks.

Cacheing differs depending on the product in use. PC browsers and Charlotte and Enterprise View, because of their distributed design, cannot perform cacheing at a system level; they depend on proxy cacheing. This is acceptable for Internet access, but with the advent of corporate 'world-wide' intranets, where proxies may not be required, it may be problematic. EnterWEB, having a centralized design, performs its own cacheing, which supplements the proxy cache.

SUMMARY

Before embarking on the I/Net journey, examine your systems requirements in detail. These are some of the questions for a checklist:

- Where are the majority of your users?

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- Where is the majority of your information?
- What access is required to the Internet?
- How are the HTML pages you need to access designed?
- How should you design your own HTML pages?
- How do you ensure that the system is not abused, either in your organization or externally?
- How much will it cost to set up?
- How much will it cost to maintain?
- How easy will it be to maintain?

VM users are in an enviable position – they can exploit the stability, scalability, and cost benefits of the operating system and utilize TCP/IP-based communications. VM can do much of what you require for a minimum of effort and cost.

Michelle Crotty
Macro 4 (UK)
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REXX tracking system re-visited – part 3

This month we continue with the code for the Problem Tracking Facility (PTF), which has been re-written to be Year 2000 compatible.

```
DISP11:
  LSCREEN  = 'PTF11'
  MESSAGE  = 'Overtype reversed fields and press ENTER...'
  ZCSR = 'P11'
  DO FOREVER
    ADDRESS ISPEXEC 'DISPLAY PANEL(PTF11) CURSOR('ZCSR')'
    MESSAGE  = ''
    IF CPFKEY = 'PFØ2' THEN CALL CONFIGØ1
    IF CPFKEY = 'PFØ3' THEN LEAVE
    IF CPFKEY = 'PFØ3' | CPFKEY = ' ' THEN CALL UPDCFGØ1
    IF CPFKEY = 'PFØ4' THEN DO
       IF ACCSW = 'R/W' THEN
          CALL UPDCFGØ1
       ELSE
          MESSAGE = 'Permanent updates not allowed in READ/ONLY mode.'
```


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```
    END
  ZCSR = 'P11'
  END
  ZCSR='P61'
  CALL SETHDR
RETURN

DISP12:
  LSCREEN  = 'PTF12'
  MESSAGE  = 'Overtype reversed fields and press ENTER...'
  ZCSR = 'P21'
  DO FOREVER
    ADDRESS ISPEXEC 'DISPLAY PANEL(PTF12) CURSOR('ZCSR')'
    MESSAGE  = ''
    IF CPFKEY = 'PFØ2' THEN CALL CONFIGØ2
    IF CPFKEY = 'PFØ3' THEN LEAVE
    IF CPFKEY = 'PFØ4' THEN DO
       IF ACCSW = 'R/W' THEN
          CALL UPDCFGØ2
       ELSE
          MESSAGE = 'Permanent updates not allowed in READ-ONLY mode.'
    END
  ZCSR = 'P21'
  END
  ZCSR='P61'
  CALL SETHDR
RETURN

DISP13:
  LSCREEN  = 'PTF13'
  MESSAGE  = 'Overtype reversed fields and press ENTER...'
  ZCSR = 'P31'
  DO FOREVER
    W34  = '=List ' || P34
    W36  = '=List ' || P36
    ADDRESS ISPEXEC 'DISPLAY PANEL(PTF13) CURSOR('ZCSR')'
    MESSAGE  = ''
    IF CPFKEY = 'PFØ2' THEN CALL CONFIGØ3
    IF CPFKEY = 'PFØ3' THEN LEAVE
    IF CPFKEY = 'PFØ4' THEN DO
       IF ACCSW = 'R/W' THEN
          CALL UPDCFGØ3
       ELSE
          MESSAGE = 'Permanent updates not allowed in READ-ONLY mode.'
    END
  ZCSR = 'P31'
  END
  ZCSR='P61'
  CALL SETHDR
RETURN
```

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```
DISP17:
  LSCREEN  = 'PTF17'
  INCNBR = 1
  PAGENBR = 1
  P7UPIP = 'Y'
  CALL FULLIST3
  MESSAGE  = 'Overtype reversed fields and press ENTER...'
  ZCSR = 'XID1'
  DO FOREVER
    ADDRESS ISPEXEC 'DISPLAY PANEL(PTF17) CURSOR('ZCSR')'
    CALL SETCFG17
    MESSAGE  = ''
    IF CPFKEY = 'PFØ2' THEN CALL CONFIGØ2
    IF CPFKEY = 'PFØ3' THEN LEAVE
    IF CPFKEY = 'PFØ4' THEN DO
       IF ACCSW = 'R/W' THEN
          CALL UPDCFGØ2
       ELSE
          MESSAGE = 'Permanent updates not allowed in READ-ONLY mode.'
    END
    ZCSR = 'XID1'
    IF CPFKEY = 'PFØ7' & PAGENBR > 1 THEN DO
       PAGENBR = PAGENBR-1
       INCNBR = (PAGENBR * 14) - 13
       CALL FULLIST3
       MESSAGE = ' ' ; END
    IF CPFKEY = 'PFØ8' & PAGENBR < 7 THEN DO
       INCNBR = INCNBR+1
       PAGENBR = PAGENBR+1
       CALL FULLIST3
       MESSAGE = ' ' ; END
    IF CPFKEY = 'PFØ7' & PAGENBR = 1 THEN DO
       MESSAGE = 'Already at the beginning...' ; END
    IF CPFKEY = 'PFØ8' & PAGENBR = 7 THEN DO
       MESSAGE = 'No more entries to display...' ; END
  END
  P7UPIP = 'N'
  ZCSR='P61'
  CALL SETHDR
RETURN

DISP99:
  LSCREEN = 'PTF99'
  IF PWDNULL = 'D' THEN
     ZCSR = 'PWD2'
  ELSE
     ZCSR = 'PWD1'
  ADDRESS ISPEXEC 'DISPLAY PANEL(PTF99) CURSOR('ZCSR')'
  MESSAGE  = ''
```


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```
 RETURN

/*********************************************************************/
/***  REMOVE ASTERISKS FROM SEARCH VALUE                           ***/
/*********************************************************************/
EXTRACT:

WORK1 = LEFT(ARG1,1) ; WORK2 = RIGHT(ARG1,1)

IF WORK1 = '*' & WORK2 = '*'  THEN WORK3 = B   /*  * ON BOTH ENDS    */
ELSE
IF WORK1 = '*' & WORK2 ¬= '*' THEN WORK3 = L   /*  * ON LEFT         */
ELSE
IF WORK1 ¬= '*' & WORK2 = '*' THEN WORK3 = R   /*  * ON RIGHT        */
ELSE RETURN
 WORK4 = STRIP(ARG1,B,'*')
IF LENGTH(WORK4) > LENGTH(ARG2) THEN RETURN
ELSE NOP

IF WORK3 = B THEN DO
   WORK5 = INDEX(ARG2,WORK4,1) ; END
ELSE
IF WORK3 = L THEN DO
   WSTRT = LENGTH(ARG2) - LENGTH(WORK4) +1
   WORK5 = INDEX(ARG2,WORK4,WSTRT) ; END
ELSE
IF WORK3 = R THEN DO
   WOPNUSER = SUBSTR(ARG2,1,LENGTH(WORK4))
   WORK5 = INDEX(WOPNUSER,WORK4,1) ; END
RETURN

/*********************************************************************/
/***  RETURN TO THE OPERATING SYSTEM OR CALLER                     ***/
/*********************************************************************/
EXIT:

'REL' INCFM '(DET'
 EXIT 4

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFGØØ CONFIG FILE                  ***/
/*********************************************************************/
CONFIGØØ:

CLNS = Ø  ; CNUM = Ø                  /*  PTFØØ PANEL              */
IF CPFKEY = 'PFØ2' THEN CLNS = -1     /*  RESET BEING PERFORMED?   */

DO 1
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF 'CFGPFX'ØØ' INCFM CLNS '(VAR
```

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```
P0.'CNUM
END

P01  = P0.1
RETURN

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFG01 CONFIG FILE                  ***/
/*********************************************************************/
CONFIG01:

CLNS = 0  ; CNUM = 0                    /*  PTF01 PANEL              */
IF CPFKEY = 'PF02' THEN CLNS = -1       /*  RESET BEING PERFORMED?   */

DO 3
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'01' INCFM CLNS '(VAR
P1.'CNUM
END
P11  = P1.1
P12  = SUBSTR(P1.2,1,1)
P13  = SUBSTR(P1.3,1,1)

RETURN

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFG02 CONFIG FILE                  ***/
/*********************************************************************/
CONFIG02:

CLNS = 0  ; CNUM = 0                    /*  PTF02 PANEL              */
IF CPFKEY = 'PF02' THEN CLNS = -1       /*  RESET BEING PERFORMED?   */

DO 1
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'02' INCFM CLNS '(VAR
P2.'CNUM
END

CNUM = 0
DO 98
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'02' INCFM CLNS '(VAR
CID.'CNUM
   PARSE VAR CID.CNUM CID.CNUM CDS.CNUM
END

CNUM = 0
DO 98
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
```


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```
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'Ø2' INCFM CLNS '(VAR
VID.'CNUM
   PARSE VAR VID.CNUM VID.CNUM VDS.CNUM
END

P21  = P2.1

CID1 =CID.1 ;CID25=CID.25;CID49=CID.49;CID73=CID.73;CID97=CID.97
CID2 =CID.2 ;CID26=CID.26;CID5Ø=CID.5Ø;CID74=CID.74;CID98=CID.98
CID3 =CID.3 ;CID27=CID.27;CID51=CID.51;CID75=CID.75
CID4 =CID.4 ;CID28=CID.28;CID52=CID.52;CID76=CID.76
CID5 =CID.5 ;CID29=CID.29;CID53=CID.53;CID77=CID.77
CID6 =CID.6 ;CID3Ø=CID.3Ø;CID54=CID.54;CID78=CID.78
CID7 =CID.7 ;CID31=CID.31;CID55=CID.55;CID79=CID.79
CID8 =CID.8 ;CID32=CID.32;CID56=CID.56;CID8Ø=CID.8Ø
CID9 =CID.9 ;CID33=CID.33;CID57=CID.57;CID81=CID.81
CID1Ø=CID.1Ø;CID34=CID.34;CID58=CID.58;CID82=CID.82
CID11=CID.11;CID35=CID.35;CID59=CID.59;CID83=CID.83
CID12=CID.12;CID36=CID.36;CID6Ø=CID.6Ø;CID84=CID.84
CID13=CID.13;CID37=CID.37;CID61=CID.61;CID85=CID.85
CID14=CID.14;CID38=CID.38;CID62=CID.62;CID86=CID.86
CID15=CID.15;CID39=CID.39;CID63=CID.63;CID87=CID.87
CID16=CID.16;CID4Ø=CID.4Ø;CID64=CID.64;CID88=CID.88
CID17=CID.17;CID41=CID.41;CID65=CID.65;CID89=CID.89
CID18=CID.18;CID42=CID.42;CID66=CID.66;CID9Ø=CID.9Ø
CID19=CID.19;CID43=CID.43;CID67=CID.67;CID91=CID.91
CID2Ø=CID.2Ø;CID44=CID.44;CID68=CID.68;CID92=CID.92
CID21=CID.21;CID45=CID.45;CID69=CID.69;CID93=CID.93
CID22=CID.22;CID46=CID.46;CID7Ø=CID.7Ø;CID94=CID.94
CID23=CID.23;CID47=CID.47;CID71=CID.71;CID95=CID.95
CID24=CID.24;CID48=CID.48;CID72=CID.72;CID96=CID.96

CDS1 =CDS.1 ;CDS25=CDS.25;CDS49=CDS.49;CDS73=CDS.73;CDS97=CDS.97
CDS2 =CDS.2 ;CDS26=CDS.26;CDS5Ø=CDS.5Ø;CDS74=CDS.74;CDS98=CDS.98
CDS3 =CDS.3 ;CDS27=CDS.27;CDS51=CDS.51;CDS75=CDS.75
CDS4 =CDS.4 ;CDS28=CDS.28;CDS52=CDS.52;CDS76=CDS.76
CDS5 =CDS.5 ;CDS29=CDS.29;CDS53=CDS.53;CDS77=CDS.77
CDS6 =CDS.6 ;CDS3Ø=CDS.3Ø;CDS54=CDS.54;CDS78=CDS.78
CDS7 =CDS.7 ;CDS31=CDS.31;CDS55=CDS.55;CDS79=CDS.79
CDS8 =CDS.8 ;CDS32=CDS.32;CDS56=CDS.56;CDS8Ø=CDS.8Ø
CDS9 =CDS.9 ;CDS33=CDS.33;CDS57=CDS.57;CDS81=CDS.81
CDS1Ø=CDS.1Ø;CDS34=CDS.34;CDS58=CDS.58;CDS82=CDS.82
CDS11=CDS.11;CDS35=CDS.35;CDS59=CDS.59;CDS83=CDS.83
CDS12=CDS.12;CDS36=CDS.36;CDS6Ø=CDS.6Ø;CDS84=CDS.84
CDS13=CDS.13;CDS37=CDS.37;CDS61=CDS.61;CDS85=CDS.85
CDS14=CDS.14;CDS38=CDS.38;CDS62=CDS.62;CDS86=CDS.86
CDS15=CDS.15;CDS39=CDS.39;CDS63=CDS.63;CDS87=CDS.87
CDS16=CDS.16;CDS4Ø=CDS.4Ø;CDS64=CDS.64;CDS88=CDS.88
CDS17=CDS.17;CDS41=CDS.41;CDS65=CDS.65;CDS89=CDS.89
CDS18=CDS.18;CDS42=CDS.42;CDS66=CDS.66;CDS9Ø=CDS.9Ø
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```
CDS19=CDS.19;CDS43=CDS.43;CDS67=CDS.67;CDS91=CDS.91
CDS20=CDS.20;CDS44=CDS.44;CDS68=CDS.68;CDS92=CDS.92
CDS21=CDS.21;CDS45=CDS.45;CDS69=CDS.69;CDS93=CDS.93
CDS22=CDS.22;CDS46=CDS.46;CDS70=CDS.70;CDS94=CDS.94
CDS23=CDS.23;CDS47=CDS.47;CDS71=CDS.71;CDS95=CDS.95
CDS24=CDS.24;CDS48=CDS.48;CDS72=CDS.72;CDS96=CDS.96

VID1 =VID.1 ;VID25=VID.25;VID49=VID.49;VID73=VID.73;VID97=VID.97
VID2 =VID.2 ;VID26=VID.26;VID50=VID.50;VID74=VID.74;VID98=VID.98
VID3 =VID.3 ;VID27=VID.27;VID51=VID.51;VID75=VID.75
VID4 =VID.4 ;VID28=VID.28;VID52=VID.52;VID76=VID.76
VID5 =VID.5 ;VID29=VID.29;VID53=VID.53;VID77=VID.77
VID6 =VID.6 ;VID30=VID.30;VID54=VID.54;VID78=VID.78
VID7 =VID.7 ;VID31=VID.31;VID55=VID.55;VID79=VID.79
VID8 =VID.8 ;VID32=VID.32;VID56=VID.56;VID80=VID.80
VID9 =VID.9 ;VID33=VID.33;VID57=VID.57;VID81=VID.81
VID10=VID.10;VID34=VID.34;VID58=VID.58;VID82=VID.82
VID11=VID.11;VID35=VID.35;VID59=VID.59;VID83=VID.83
VID12=VID.12;VID36=VID.36;VID60=VID.60;VID84=VID.84
VID13=VID.13;VID37=VID.37;VID61=VID.61;VID85=VID.85
VID14=VID.14;VID38=VID.38;VID62=VID.62;VID86=VID.86
VID15=VID.15;VID39=VID.39;VID63=VID.63;VID87=VID.87
VID16=VID.16;VID40=VID.40;VID64=VID.64;VID88=VID.88
VID17=VID.17;VID41=VID.41;VID65=VID.65;VID89=VID.89
VID18=VID.18;VID42=VID.42;VID66=VID.66;VID90=VID.90
VID19=VID.19;VID43=VID.43;VID67=VID.67;VID91=VID.91
VID20=VID.20;VID44=VID.44;VID68=VID.68;VID92=VID.92
VID21=VID.21;VID45=VID.45;VID69=VID.69;VID93=VID.93
VID22=VID.22;VID46=VID.46;VID70=VID.70;VID94=VID.94
VID23=VID.23;VID47=VID.47;VID71=VID.71;VID95=VID.95
VID24=VID.24;VID48=VID.48;VID72=VID.72;VID96=VID.96

VDS1 =VDS.1 ;VDS25=VDS.25;VDS49=VDS.49;VDS73=VDS.73;VDS97=VDS.97
VDS2 =VDS.2 ;VDS26=VDS.26;VDS50=VDS.50;VDS74=VDS.74;VDS98=VDS.98
VDS3 =VDS.3 ;VDS27=VDS.27;VDS51=VDS.51;VDS75=VDS.75
VDS4 =VDS.4 ;VDS28=VDS.28;VDS52=VDS.52;VDS76=VDS.76
VDS5 =VDS.5 ;VDS29=VDS.29;VDS53=VDS.53;VDS77=VDS.77
VDS6 =VDS.6 ;VDS30=VDS.30;VDS54=VDS.54;VDS78=VDS.78
VDS7 =VDS.7 ;VDS31=VDS.31;VDS55=VDS.55;VDS79=VDS.79
VDS8 =VDS.8 ;VDS32=VDS.32;VDS56=VDS.56;VDS80=VDS.80
VDS9 =VDS.9 ;VDS33=VDS.33;VDS57=VDS.57;VDS81=VDS.81
VDS10=VDS.10;VDS34=VDS.34;VDS58=VDS.58;VDS82=VDS.82
VDS11=VDS.11;VDS35=VDS.35;VDS59=VDS.59;VDS83=VDS.83
VDS12=VDS.12;VDS36=VDS.36;VDS60=VDS.60;VDS84=VDS.84
VDS13=VDS.13;VDS37=VDS.37;VDS61=VDS.61;VDS85=VDS.85
VDS14=VDS.14;VDS38=VDS.38;VDS62=VDS.62;VDS86=VDS.86
VDS15=VDS.15;VDS39=VDS.39;VDS63=VDS.63;VDS87=VDS.87
VDS16=VDS.16;VDS40=VDS.40;VDS64=VDS.64;VDS88=VDS.88
VDS17=VDS.17;VDS41=VDS.41;VDS65=VDS.65;VDS89=VDS.89
VDS18=VDS.18;VDS42=VDS.42;VDS66=VDS.66;VDS90=VDS.90
```


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```
VDS19=VDS.19;VDS43=VDS.43;VDS67=VDS.67;VDS91=VDS.91
VDS20=VDS.20;VDS44=VDS.44;VDS68=VDS.68;VDS92=VDS.92
VDS21=VDS.21;VDS45=VDS.45;VDS69=VDS.69;VDS93=VDS.93
VDS22=VDS.22;VDS46=VDS.46;VDS70=VDS.70;VDS94=VDS.94
VDS23=VDS.23;VDS47=VDS.47;VDS71=VDS.71;VDS95=VDS.95
VDS24=VDS.24;VDS48=VDS.48;VDS72=VDS.72;VDS96=VDS.96

RETURN

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFG03 CONFIG FILE                  ***/
/*********************************************************************/
CONFIG03:

CLNS = 0  ; CNUM = 0                    /*  PTF03 PANEL              */
IF CPFKEY = 'PF02' THEN CLNS = -1       /*  RESET BEING PERFORMED?   */

DO 8
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'03' INCFM CLNS '(VAR
P3.'CNUM
END

P31  = SUBSTR(P3.1,1,26) ; P31 = STRIP(P31,B,' ')
P32  = SUBSTR(P3.2,1,16) ; P32 = STRIP(P32,B,' ')
P33  = SUBSTR(P3.3,1,16) ; P33 = STRIP(P33,B,' ')
P34  = SUBSTR(P3.4,1,16) ; P34 = STRIP(P34,B,' ')
W34  = '=List ' || P34
P35  = SUBSTR(P3.5,1,16) ; P35 = STRIP(P35,B,' ')
P36  = SUBSTR(P3.6,1,16) ; P36 = STRIP(P36,B,' ')
W36  = '=List ' || P36
P37  = SUBSTR(P3.7,1,16) ; P37 = STRIP(P37,B,' ')
P38  = SUBSTR(P3.8,1,16) ; P38 = STRIP(P38,B,' ')

RETURN

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFG06 CONFIG FILE                  ***/
/*********************************************************************/
CONFIG06:

CLNS = 0  ; CNUM = 0                    /*  PTF06 PANEL              */
IF CPFKEY = 'PF02' THEN CLNS = -1       /*  RESET BEING PERFORMED?   */

DO 10
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKR PTF' CFGPFX'06' INCFM CLNS '(VAR
P6.'CNUM
END
```

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```
P61  = P6.1
P62  = SUBSTR(P6.2,1,8)
P63  = SUBSTR(P6.3,1,8)
P64  = SUBSTR(P6.4,1,2)
P65  = SUBSTR(P6.5,1,4)
P66  = SUBSTR(P6.6,1,8)
P67  = SUBSTR(P6.7,1,3)
P68  = SUBSTR(P6.8,1,8)
P69  = SUBSTR(P6.9,1,8)
P7Ø  = SUBSTR(P6.1Ø,1,3)

IF P65 = '6LPI' THEN
   LPI = 'P1AØ6462'
ELSE
   LPI = 'P1AØ8682'

RETURN

/*********************************************************************/
/***  READ TEXT PARAMETERS FROM CFG99 CONFIG FILE                  ***/
/*********************************************************************/
CONFIG99:

ADDRESS COMMAND 'EXECIO 1 DISKR PTF 'CFGPFX'99' INCFM 1 '(VAR TR1'
ADDRESS COMMAND 'EXECIO 1 DISKR PTF 'CFGPFX'99' INCFM 2 '(VAR TR2'

/*********************************************************************/
/* DECODE CONFIGURATION AND DELETE PASSWORDS                         */
/*********************************************************************/

TR1 = SUBSTR(TR1,1,64)           ; TR2 = SUBSTR(TR2,1,64)
TR1 = TRANSLATE(TR1,'Ø','B')     ; TR2 = TRANSLATE(TR2,'Ø','B')
TR1 = TRANSLATE(TR1,'1','F')     ; TR2 = TRANSLATE(TR2,'1','F')
TR1 = REVERSE(TR1)               ; TR2 = REVERSE(TR2)
TR1 = X2C(B2X(TR1))              ; TR2 = X2C(B2X(TR2))
CFGPWD = TR1                     ; DELPWD = TR2

RETURN

/*********************************************************************/
/***  MAKE PERMANENT UPDATE TO CFGØØ CONFIG FILE                   ***/
/*********************************************************************/
UPDCFGØØ:

IF PWD1OK = 'Y' THEN
   NOP
ELSE DO
   CALL SETPWD
   IF PWD1OK = 'Y' THEN
      NOP
```


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```
   ELSE DO
      MESSAGE = 'Permanent update request ignored. Changes will last
until end of session.'
      RETURN ; END
   END
PØ.1  = PØ1
CLNS = Ø  ; CNUM = Ø
DO 1
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'ØØ' INCFM CLNS '(STRING'
PØ.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END

MESSAGE = 'Permanent updates applied.'
RETURN

/*********************************************************************/
/***  MAKE PERMANENT UPDATE TO CFGØ1 CONFIG FILE                   ***/
/*********************************************************************/
UPDCFGØ1:

IF P12 < 1 | P12 > 8 THEN DO
   MESSAGE = 'Invalid F1 specification.'
   ZCSR = 'P12' ; RETURN ; END

IF P13 < 1 | P13 > 8 THEN DO
   MESSAGE = 'Invalid F2 specification.'
   ZCSR = 'P13' ; RETURN ; END

H11        = SUBSTR(DX1.P12,1,8)
H12        = SUBSTR(DX1.P12,9,8)
H21        = SUBSTR(DX1.P13,1,8)
H22        = SUBSTR(DX1.P13,9,8)

IF CPFKEY = 'PFØ3' | CPFKEY = ' ' THEN RETURN
IF PWD1OK = 'Y' THEN
   NOP
ELSE DO
   CALL SETPWD
   IF PWD1OK = 'Y' THEN
      NOP
   ELSE DO
      MESSAGE = 'Permanent update request ignored. Changes will last
until end of session.'
      RETURN ; END
   END

P1.1  = P11
P1.2  = P12
```

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```
P1.3  = P13

CLNS = Ø  ; CNUM = Ø                    /*  PTFØ1 PANEL              */
DO 3
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø1' INCFM CLNS '(STRING'
P1.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END

MESSAGE = 'Permanent updates applied.'

RETURN

/*********************************************************************/
/***  MAKE PERMANENT UPDATE TO CFGØ2 CONFIG FILE                   ***/
/*********************************************************************/
UPDCFGØ2:

IF PWD1OK = 'Y' THEN
   NOP
ELSE DO
   CALL SETPWD
   IF PWD1OK = 'Y' THEN
      NOP
   ELSE DO
      MESSAGE = 'Permanent update request ignored. Changes will last
until end of session.'
      RETURN ; END
   END

P2.1  = P21

CLNS = Ø  ; CNUM = Ø                    /*  PTFØ2 PANEL              */

DO 1
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø2' INCFM CLNS '(STRING'
P2.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END

IF P7TYPE = '17' THEN
   NOP
ELSE
   CLNS = CLNS + 196

CNUM = Ø
IF P7TYPE = '17' THEN DO 98
   CLNS = CLNS + 2 ;  CNUM = CNUM + 1
```


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```
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø2' INCFM CLNS '(STRING'
CID.CNUM CDS.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END
ELSE DO 98
   CLNS = CLNS + 2 ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø2' INCFM CLNS '(STRING'
VID.CNUM VDS.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END
MESSAGE = 'Permanent updates applied.'
RETURN

/*********************************************************************/
/***  MAKE PERMANENT UPDATE TO CFGØ3 CONFIG FILE                   ***/
/*********************************************************************/
UPDCFGØ3:

IF PWD1OK = 'Y' THEN
   NOP
ELSE DO
   CALL SETPWD
   IF PWD1OK = 'Y' THEN
      NOP
   ELSE DO
      MESSAGE = 'Permanent update request ignored. Changes will last
until end of session.'
      RETURN ; END
   END

P3.1  = P31  ;  P3.6  = P36
P3.2  = P32  ;  P3.7  = P37
P3.3  = P33  ;  P3.8  = P38
P3.4  = P34
P3.5  = P35

CLNS = Ø  ; CNUM = Ø                  /*  PTFØ3 PANEL              */

DO 8
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø3' INCFM CLNS '(STRING'
P3.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END

MESSAGE = 'Permanent updates applied.'
RETURN

/*********************************************************************/
/***  MAKE PERMANENT UPDATE TO CFGØ6 CONFIG FILE                   ***/
```

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```
/*********************************************************************/
UPDCFGØ6:

IF P61 ¬> ' ' THEN DO
   MESSAGE = 'System title must be specified.'
   ZCSR = 'P61' ; RETURN ; END

ADDRESS COMMAND 'STATE' P62 'XEDIT *'
IF RC ¬= Ø THEN DO
   MESSAGE = 'XEDIT profile 'P62' XEDIT not found.'
   ZCSR = 'P62' ; RETURN ; END

IF P63 ¬> ' ' THEN DO
   MESSAGE = 'Printer name must be specified.'
   ZCSR = 'P63' ; RETURN ; END

P64 = SUBSTR(P64,1,2)
IF P64 ¬> ' ' THEN DO
   MESSAGE = 'Prefix characters must be specified.'
   ZCSR = 'P64' ; RETURN ; END

IF P65 ¬= '6LPI' & P65 ¬= '8LPI' THEN DO
   MESSAGE = 'Invalid lines-per-inch specification.'
   ZCSR = 'P65' ; RETURN ; END
ELSE DO
   IF P65 = '6LPI' THEN
      LPI = 'P1AØ6462'
   ELSE
      LPI = 'P1AØ8682'
   END

IF P66 ¬= 'DUPLEX' & P66 ¬= 'NODUPLEX' THEN DO
   MESSAGE = 'Invalid DUPLEX specification.'
   ZCSR = 'P66' ; RETURN ; END

ADDRESS COMMAND 'STATE' P68 P69 '*'
IF RC ¬= Ø THEN DO
   MESSAGE = 'XEDIT skeleton 'P68 P69' not found.'
   ZCSR = 'P68' ; RETURN ; END

IF P7Ø = 'YES' | P7Ø = 'NO' THEN
   NOP
ELSE DO
   MESSAGE = 'Invalid description-insert parameter.'
   ZCSR = 'P7Ø' ; RETURN ; END

IF CPFKEY = 'PFØ3' | CPFKEY = ' ' THEN RETURN

IF PWD1OK = 'Y' THEN
   NOP
```


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```
ELSE DO
   CALL SETPWD
   IF PWD1OK = 'Y' THEN
      NOP
   ELSE DO
      MESSAGE = 'Permanent update request ignored. Changes will last
until end of session.'
      RETURN ; END
   END

P6.1  = P61  ;  P6.6  = P66
P6.2  = P62  ;  P6.7  = P67
P6.3  = P63  ;  P6.8  = P68
P6.4  = P64  ;  P6.9  = P69
P6.5  = P65  ;  P6.1Ø = P7Ø

CLNS = Ø  ; CNUM = Ø
DO 1Ø
   CLNS = CLNS + 2  ;  CNUM = CNUM + 1
   ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'Ø6' INCFM CLNS '(STRING'
P6.CNUM
   RETCD=RC ; IF RETCD ¬= Ø THEN SIGNAL CIOERR
END

MESSAGE = 'Permanent updates applied.'
RETURN

/*********************************************************************/
/***  UPDATE ENTRIES FROM THE LIST PANEL                           ***/
/*********************************************************************/
SETCFG17:

WINCNBR = Z1

IF P7TYPE = '17' THEN DO
   CID.WINCNBR = XID1   ;  CDS.WINCNBR = XDS1   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID2   ;  CDS.WINCNBR = XDS2   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID3   ;  CDS.WINCNBR = XDS3   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID4   ;  CDS.WINCNBR = XDS4   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID5   ;  CDS.WINCNBR = XDS5   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID6   ;  CDS.WINCNBR = XDS6   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID7   ;  CDS.WINCNBR = XDS7   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID8   ;  CDS.WINCNBR = XDS8   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID9   ;  CDS.WINCNBR = XDS9   ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID1Ø  ;  CDS.WINCNBR = XDS1Ø  ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID11  ;  CDS.WINCNBR = XDS11  ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID12  ;  CDS.WINCNBR = XDS12  ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID13  ;  CDS.WINCNBR = XDS13  ; WINCNBR = WINCNBR + 1
   CID.WINCNBR = XID14  ;  CDS.WINCNBR = XDS14  ; WINCNBR = WINCNBR + 1
   END
```

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```
ELSE DO
   VID.WINCNBR = XID1   ;  VDS.WINCNBR = XDS1   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID2   ;  VDS.WINCNBR = XDS2   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID3   ;  VDS.WINCNBR = XDS3   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID4   ;  VDS.WINCNBR = XDS4   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID5   ;  VDS.WINCNBR = XDS5   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID6   ;  VDS.WINCNBR = XDS6   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID7   ;  VDS.WINCNBR = XDS7   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID8   ;  VDS.WINCNBR = XDS8   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID9   ;  VDS.WINCNBR = XDS9   ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID1Ø  ;  VDS.WINCNBR = XDS1Ø  ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID11  ;  VDS.WINCNBR = XDS11  ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID12  ;  VDS.WINCNBR = XDS12  ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID13  ;  VDS.WINCNBR = XDS13  ; WINCNBR = WINCNBR + 1
   VID.WINCNBR = XID14  ;  VDS.WINCNBR = XDS14  ; WINCNBR = WINCNBR + 1
   END
RETURN

/*********************************************************************/
/***  GENERATE HEADER INFORMATION                                  ***/
/*********************************************************************/
SETHDR:

DX1.1 = P33
DX1.2 = 'Last    Update  '
DX1.3 = 'OriginalAuthor  '
DX1.4 = P34
DX1.5 = P36
DX1.6 = P37
DX1.7 = P38
DX1.8 = 'Date    Opened  '
H11        = SUBSTR(DX1.P12,1,8)
H12        = SUBSTR(DX1.P12,9,8)
H21        = SUBSTR(DX1.P13,1,8)
H22        = SUBSTR(DX1.P13,9,8)
RETURN

/*********************************************************************/
/***  REQUEST AND/OR UPDATE CONFIGURATION OR DELETE PASSWORDS      ***/
/*********************************************************************/
SETPWD:

PWDC1   = 'Current CONFIG password'
PWDC2   = 'Current DELETE password'
PWDMSG1 = 'To bypass future password prompts, enter'
PWDMSG2 = 'all CURRENT passwords now but leave NEW '
PWDMSG3 = 'PASSWORD and VERIFY PASSWORD empty.     '
PWDMSG4 = '                                        '
PWDMSG5 = 'To change a password, type the CURRENT  '
PWDMSG6 = 'password for the one to be changed along'
```


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```
PWDMSG7 = 'with a NEW PASSWORD and VERIFY PASSWORD.'

DO FOREVER
   PWD1 = ' ' ; PWD2 = ' ' ; PWD3 = ' ' ; PWD4 = ' '
   CALL DISP99
   IF CPFKEY = 'PFØ3' THEN RETURN
   IF CPFKEY = 'PFØ4' THEN SIGNAL EXIT
/*****************************************************************/
/***  Edit for more than one current password being entered along ***/
/***  with new or verify passwords. Current passwords can be      ***/
/***  changed only one at a time.                                 ***/
/*****************************************************************/
   IF PWD1 > ' ' & PWD2 > ' ' & (PWD3 > ' ' | PWD4 > ' ') THEN DO
      PWD1 = ' ' ; PWD2 = ' ' ; PWD3 = ' ' ; PWD4 = ' '
      PWD1OK = 'N' ; PWD2OK = 'N'
      MESSAGE = 'Select only one CURRENT password when performing
changes'
      ITERATE ; END
/*****************************************************************/
/***  More than one current password can be entered as long as    ***/
/***  new and verify passwords are empty. This allows passwords   ***/
/***  to be gathered once to suppress later password prompts      ***/
/***  during updates, deletes, etc. Verify the accuracy of        ***/
/***  current passwords entered.                                  ***/
/*****************************************************************/
   IF PWDNULL = 'X' & PWD1 > ' ' & PWD2 > ' ' THEN DO
      IF PWD1 ¬= CFGPWD | PWD2 ¬= DELPWD THEN DO
         PWD1 = ' ' ; PWD2 = ' ' ; PWD3 = ' ' ; PWD4 = ' '
         PWD1OK = 'N' ; PWD2OK = 'N'
         MESSAGE = 'One or more CURRENT passwords invalid'
         ITERATE ; END
   END
/*****************************************************************/
/***  Verify accuracy of configuration or delete password entered ***/
/***  depending on which is being processed.                      ***/
/*****************************************************************/
   IF (PWDNULL = 'C' & PWD1 ¬= CFGPWD) |,
      (PWDNULL = 'D' & PWD2 ¬= DELPWD) THEN DO
      PWD1 = ' ' ; PWD2 = ' ' ; PWD3 = ' ' ; PWD4 = ' '
      PWD1OK = 'N' ; PWD2OK = 'N'
      MESSAGE = 'Invalid CURRENT password entered' ; ITERATE ; END
/*****************************************************************/
/***  If new and verify passwords are empty, all other criteria   ***/
/***  have passed inspection and the update will be processed.    ***/
/*****************************************************************/
   IF PWD3 = ' ' & PWD4 = ' ' THEN DO
      IF PWD1 > ' ' THEN PWD1OK = 'Y'
      IF PWD2 > ' ' THEN PWD2OK = 'Y'
      RETURN ; END
/*****************************************************************/
```

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```
/***  New and verify passwords must be identical. If they are,    ***/
/***  update the configuration file with the new password.        ***/
/*********************************************************************/
   IF PWD4 ¬= PWD3 THEN DO
      MESSAGE = 'Verify password does not match the new password'
      ITERATE ; END
   ELSE DO
      CALL ENCRYPT
      MESSAGE = 'Password change was successful'
      IF PWD1 > ' ' THEN PWD1OK = 'Y'
      IF PWD2 > ' ' THEN PWD2OK = 'Y'
      ITERATE ; END
END
RETURN

/*********************************************************************/
/***  ENCRYPT AND UPDATE NEW PASSWORD.                             ***/
/*********************************************************************/
ENCRYPT:
TR1 = SUBSTR(PWD3,1,8,' ')
TR1 = X2B(C2X(TR1))
TR1 = REVERSE(TR1)
TR1 = TRANSLATE(TR1,'F','1')
TR1 = TRANSLATE(TR1,'B','Ø')
IF PWD1 > ' ' THEN
   PWDLN = 1
ELSE
   PWDLN = 2
ADDRESS COMMAND 'EXECIO 1 DISKW PTF' CFGPFX'99' INCFM PWDLN '(STRING'
TR1
RETURN
```

PTF3

```
/*********************************************************************/
/*********************************************************************/
/***                                                               ***/
/***  PROGRAM NAME - PTF3  Maintenance EXEC                        ***/
/***                                                               ***/
/***  Function     - This EXEC does the following;                 ***/
/***                                                               ***/
/***               *  Converts filetypes to uppercase so they     ***/
/***                  can be manually XEDITed if necessary         ***/
/***                  outside control of the PTF system. This      ***/
/***                  would only be necessary to update a          ***/
/***                  config member to reset a forgotten pwd.      ***/
/***                                                               ***/
/***               *  Converts filetypes back to mixed case.       ***/
/***                                                               ***/
```


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```
/***               *  Encrypts, decrypts passwords so you can     ***/
/***                  manually update a config member as          ***/
/***                  mentioned above.                            ***/
/***                                                              ***/
/*******************************************************************/
/*******************************************************************/
PARSE UPPER ARG PARM1 PARM2 .

SAY ' '
IF PARM1 = 'UCASE' THEN DO
   ADDRESS COMMAND 'RENAME * Cfg00     C  =        CFG00    C'
   ADDRESS COMMAND 'RENAME * Cfg01     C  =        CFG01    C'
   ADDRESS COMMAND 'RENAME * Cfg02     C  =        CFG02    C'
   ADDRESS COMMAND 'RENAME * Cfg03     C  =        CFG03    C'
   ADDRESS COMMAND 'RENAME * Cfg06     C  =        CFG06    C'
   ADDRESS COMMAND 'RENAME * Cfg07     C  =        CFG07    C'
   ADDRESS COMMAND 'RENAME * Cfg08     C  =        CFG08    C'
   ADDRESS COMMAND 'RENAME * Cfg99     C  =        CFG99    C'
   ADDRESS COMMAND 'RENAME * Direct90  C  PTF      DIRECT90 C'
   ADDRESS COMMAND 'RENAME * Direct91  C  PTF      DIRECT91 C'
   ADDRESS COMMAND 'RENAME * Direct92  C  PTF      DIRECT92 C'
   ADDRESS COMMAND 'RENAME * Direct93  C  PTF      DIRECT93 C'
   ADDRESS COMMAND 'RENAME * Direct94  C  PTF      DIRECT94 C'
   ADDRESS COMMAND 'RENAME * Direct95  C  PTF      DIRECT95 C'
   ADDRESS COMMAND 'RENAME * Direct96  C  PTF      DIRECT96 C'
   ADDRESS COMMAND 'RENAME * Script    C  =        SCRIPT   C'
   SAY 'Modules converted to uppercase.  Ready for maintenance...'
   EXIT ; END
ElSE
   IF PARM1 = 'MCASE' THEN DO
      ADDRESS COMMAND 'RENAME * CFG00     C  =        Cfg00    C'
      ADDRESS COMMAND 'RENAME * CFG01     C  =        Cfg01    C'
      ADDRESS COMMAND 'RENAME * CFG02     C  =        Cfg02    C'
      ADDRESS COMMAND 'RENAME * CFG03     C  =        Cfg03    C'
      ADDRESS COMMAND 'RENAME * CFG06     C  =        Cfg06    C'
      ADDRESS COMMAND 'RENAME * CFG07     C  =        Cfg07    C'
      ADDRESS COMMAND 'RENAME * CFG08     C  =        Cfg08    C'
      ADDRESS COMMAND 'RENAME * CFG99     C  =        Cfg99    C'
      ADDRESS COMMAND 'RENAME * DIRECT90  C  PTF      Direct90 C'
      ADDRESS COMMAND 'RENAME * DIRECT91  C  PTF      Direct91 C'
      ADDRESS COMMAND 'RENAME * DIRECT92  C  PTF      Direct92 C'
      ADDRESS COMMAND 'RENAME * DIRECT93  C  PTF      Direct93 C'
      ADDRESS COMMAND 'RENAME * DIRECT94  C  PTF      Direct94 C'
      ADDRESS COMMAND 'RENAME * DIRECT95  C  PTF      Direct95 C'
      ADDRESS COMMAND 'RENAME * DIRECT96  C  PTF      Direct96 C'
      ADDRESS COMMAND 'RENAME * SCRIPT    C  =        Script   C'
      SAY 'Modules converted to lowercase.  Ready for execution...'
      EXIT ; END
   ELSE
      IF PARM1 = 'PASSWORD' & PARM2 > ' ' THEN DO
```

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```
         /*  ENCRYPT PASSWORD  */
         TR1 = SUBSTR(PARM2,1,8,' ')
         TR1 = X2B(C2X(TR1))
         TR1 = REVERSE(TR1)
         TR1 = TRANSLATE(TR1,'F','1')
         TR1 = TRANSLATE(TR1,'B','Ø')
         SAY 'Encrypted = 'TR1
         /*  DECRYPT PASSWORD  */
         TR2 = TRANSLATE(TR1,'Ø','B')
         TR2 = TRANSLATE(TR2,'1','F')
         TR2 = REVERSE(TR2)
         TR2 = X2C(B2X(TR2)) ;
         TR2 = SUBSTR(TR2,1,8,' ')
         SAY 'Decrypted = "'SUBSTR(TR2,1,8,' ')||'"'
         SAY ' '
         EXIT ; END
      ELSE
         IF PARM1 = 'PASSWORD' THEN DO
            SAY 'Invalid or missing password entered.'
            EXIT ; END
      ELSE DO
         SAY 'Invalid parm.  Must be UCASE, MCASE or PASSWORD.'
         EXIT ; END
EXIT
```

CONFIGURATION MEMBER CFG00

```
*********************************************************************
***  Configuration member CFGØØ...                                ***
*********************************************************************
Incident Select Panel
Incident Select Panel
```

CONFIGURATION MEMBER CFG01

```
*********************************************************************
***  Configuration member CFGØ1...                                ***
*********************************************************************
Fullist Panel
Fullist Panel
1
1
2
4
```


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CONFIGURATION MEMBER CFG02

```
**********************************************************************
***  Configuration member CFGØ2...                                 ***
**********************************************************************
Codelist Panel
Codelist Panel
CICS CUSTOMER INFORMATION CONTROL SYSTEM
CICS CUSTOMER INFORMATION CONTROL SYSTEM
LASER PSF LASER PRINTING
LASER PSF LASER PRINTING
POWER
POWER
PC
PC
CPU
CPU
MISC
MISC
VM
VM
HARDWARE
HARDWARE
OS/2
OS/2
VSE
VSE
```

CONFIGURATION MEMBER CFG03

```
**********************************************************************
***  Configuration member CFGØ3...                                 ***
**********************************************************************
Control Panel
Control Panel

Incident Number
Incident Number
Component Code
Component Code
Description
Description
Vendor Name
Vendor Name
Vendor Refid
Vendor Refid
Severity Code
Severity Code
```

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CONFIGURATION MEMBER CFG06

```
*************************************************************************
***  Configuration member CFGØ6...                                    ***
*************************************************************************
Incident Tracking Facility
Incident Tracking Facility
PTF
PTF
P3825B
P3825B
TS
TS
8LPI
8LPI
DUPLEX
DUPLEX
ØØ1
ØØ1
PTFSKEL
PTFSKEL
DATA
DATA
YES
YES
```

CONFIGURATION MEMBER CFG99

```
*************************************************************************
***  Configuration member CFG99...                                    ***
*************************************************************************
BBBBBBFBBBFBFBBFFBFBBBBFFFBBFBBFBFBBBBBFBFFBFBBFFBFFFBBFFFFBFBBF
BBBBBBFBBBFBFBBFFBFBBBBFFFBBFBBFBFBBBBBFBFFBFBBFFBFFFBBFFFFBFBBF
```

PTF00 PANEL

```
*************************************************************************
***  Source for the PTFØØ panel...                                    ***
*************************************************************************
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(ON) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(USCORE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(USCORE)
  \ TYPE(INPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(ON) COLOR(YELLOW)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
```


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```
COLOR(YELLOW)
  # TYPE(OUTPUT) INTENS(LOW) COLOR(RED) CAPS(OFF)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) SKIP(ON)
)BODY LMSG(LONGMSG)
$PTFØØ                 %P61                    $               %WDATE
@ACCTYP       $        %PØ1                    $               &ZTIME
$
$   Enter$&P33            $,?OPEN$or specific search criteria...       +
$  _INCID   ¬<==$Select$&P33            $ or?OPEN$             $       +
$         _S¬<==$Select OPEN, CLOSED or ALL$&P33               $       $
+
$  _DATE  ¬<==$Select OPEN/CLOSED/ALL on or after this date (yyyymmdd) $
+
$  _AUTHOR ¬<==$Select author who originally opened the$&P33   $       $
+
$  _COMP    ¬<==$Select%P34             $                              $
+
$  _VEND    ¬<==$Select%P36             $                              $
+
$  _VREF    ¬<==$Select%P37             $                              $
+
+  |SRCH               ¬<==$Find words in description or text          $
#LONGMSG
-&MESSAGE
+
?PF2$=Refresh  ?PF3,4$=Exit  ?ENTER$=Fullist  ?PF6$=Password
?PF7%w34                     ?PF8%w36
?PF9$=Configure
)INIT
  .HELP   = ROUTEH
   IF (&MESSAGE > ' ')
     .ALARM = YES

)PROC

  &CPFKEY = .PFKEY
  &CRESP  = .RESP
  VPUT (CPFKEY CRESP) PROFILE
  VER (&DATE,PICT,99999999)
  VER (&S,LIST,A,O,C)
 )END
```

PTF01 PANEL

```
************************************************************************
***  Source for the PTFØ1 panel...                                   ***
************************************************************************
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
```

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```
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  + TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(ON) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  # TYPE(OUTPUT) INTENS(HIGH) COLOR(TURQ) CAPS(ON) SKIP(ON)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF)
  * TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) HILITE(USCORE)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON)
)BODY LMSG(LONGMSG)
$PTFØ1                    %P61                        $
%WDATE
@ACCTYP         $         %P11                        $
&ZTIME
#LONGMSG
$Enter?X$to edit,?P$to print,?D$to delete or?C$for control info...     +
+                                                    +
$      ¬&h11     $ ¬&h21     $                        +
$ *Nbr *&h12     *S*&h22     *&P35             $            +
?
_Z?&N1 $&f11     #Z$&f21     $&D1                         ?
_Z?&N2 $&f12     #Z$&f22     $&D2                         ?
_Z?&N3 $&f13     #Z$&f23     $&D3                         ?
_Z?&N4 $&f14     #Z$&f24     $&D4                         ?
_Z?&N5 $&f15     #Z$&f25     $&D5                         ?
_Z?&N6 $&f16     #Z$&f26     $&D6                         ?
_Z?&N7 $&f17     #Z$&f27     $&D7                         ?
_Z?&N8 $&f18     #Z$&f28     $&D8                         ?
_Z?&N9 $&f19     #Z$&f29     $&D9                         ?
_Z?&N1Ø$&f11Ø    #Z$&f21Ø    $&D1Ø                        ?
_Z?&N11$&f111    #Z$&f211    $&D11                        ?
_Z?&N12$&f112    #Z$&f212    $&D12                        ?
_Z?&N13$&f113    #Z$&f213    $&D13                        ?
_Z?&N14$&f114    #Z$&f214    $&D14                        ?
+&MESSAGE                                                              +
?PF2$=Refresh? PF3$=Return? PF4$=Exit? PF7$=Backward? PF8$=Forward?
)INIT
  .HELP  = ROUTEH
  .ZVARS = '(Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8 Z9 Z1Ø Z11 Z12 Z13 Z14 Z15 Z16 Z17
Z18 Z19 Z2Ø Z21 Z22 Z23 Z24 Z25 Z26 Z27 Z28)'

  IF (&MESSAGE > ' ')
     .ALARM = YES

  IF (&Z1 = ' ')
     .ATTR (Z1) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z3 = ' ')
     .ATTR (Z3) = 'SKIP(ON) TYPE(OUTPUT)'
```


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```
  IF (&Z5 = ' ')
     .ATTR (Z5) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z7 = ' ')
     .ATTR (Z7) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z9 = ' ')
     .ATTR (Z9) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z11 = ' ')
     .ATTR (Z11) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z13 = ' ')
     .ATTR (Z13) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z15 = ' ')
     .ATTR (Z15) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z17 = ' ')
     .ATTR (Z17) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z19 = ' ')
     .ATTR (Z19) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z21 = ' ')
     .ATTR (Z21) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z23 = ' ')
     .ATTR (Z23) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z25 = ' ')
     .ATTR (Z25) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z27 = ' ')
     .ATTR (Z27) = 'SKIP(ON) TYPE(OUTPUT)'

)PROC

  &CPFKEY = .PFKEY
  &CRESP  = .RESP
  VPUT (CPFKEY CRESP) PROFILE
)END
```

PTF02 PANEL

```
/*********************************************************************/
/***  Source for the PTFØ2 panel...                                ***/
/*********************************************************************/
)ATTR
```

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```
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(ON) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(OFF) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  # TYPE(OUTPUT) INTENS(LOW) COLOR(RED) CAPS(OFF)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF)
  * TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) HILITE(USCORE)
SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(USCORE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(USCORE)
)BODY LMSG(LONGMSG)
$PTFØ2                 %P61                    $
%WDATE
@ACCTYP      $         %P21                    $
&ZTIME
$                                                                        ?
*&P34        $                                                           ?
$                                                                        ?
$&CID1 $$&CID7  $$&CID13 $$&CID19 $$&CID25 $$&CID31 $$&CID37 $$&CID43  ?
$&CID2 $$&CID8  $$&CID14 $$&CID2Ø $$&CID26 $$&CID32 $$&CID38 $$&CID44  ?
$&CID3 $$&CID9  $$&CID15 $$&CID21 $$&CID27 $$&CID33 $$&CID39 $$&CID45  ?
$&CID4 $$&CID1Ø $$&CID16 $$&CID22 $$&CID28 $$&CID34 $$&CID4Ø $$&CID46  ?
$&CID5 $$&CID11 $$&CID17 $$&CID23 $$&CID29 $$&CID35 $$&CID4  $$&CID47  ?
$&CID6 $$&CID12 $$&CID18 $$&CID24 $$&CID3Ø $$&CID36 $$&CID42 $$&CID48  ?
$                                                                        ?
*&P36       $                                                            ?
$                                                                        ?
$&VID1 $$&VID7  $$&VID13 $$&VID19 $$&VID25 $$&VID31 $$&VID37 $$&VID43  ?
$&VID2 $$&VID8  $$&VID14 $$&VID2Ø $$&VID26 $$&VID32 $$&VID38 $$&VID44  ?
$&VID3 $$&VID9  $$&VID15 $$&VID21 $$&VID27 $$&VID33 $$&VID39 $$&VID45  ?
$&VID4 $$&VID1Ø $$&VID16 $$&VID22 $$&VID28 $$&VID34 $$&VID4Ø $$&VID46  ?
$&VID5 $$&VID11 $$&VID17 $$&VID23 $$&VID29 $$&VID35 $$&VID41 $$&VID47  ?
$&VID6 $$&VID12 $$&VID18 $$&VID24 $$&VID3Ø $$&VID36 $$&VID42 $$&VID48  ?
$                                                                        ?
#LONGMSG
-&MESSAGE                                                                +
$               ?PF3$=Return  ?PF4$=Exit  ?                              +
)INIT
 .HELP   = ROUTEH

  IF (&MESSAGE > ' ')
   .ALARM = YES
)PROC
  &CPFKEY = .PFKEY
  &CRESP  = .RESP
  VPUT (CPFKEY CRESP) PROFILE
)END
```


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PTF03 PANEL

```
/*********************************************************************/
/***  Source for the PTFØ3 panel...                                ***/
/*********************************************************************/
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(ON) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(ON) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(USCORE)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  # TYPE(OUTPUT) INTENS(LOW) COLOR(RED) CAPS(OFF)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) SKIP(ON)
  * TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) HILITE(USCORE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(USCORE)
)BODY LMSG(LONGMSG)
$PTFØ3                %P61                    $                %WDATE
@ACCTYP     $         %P31                    $                &ZTIME
$                                                                      ?
$Enter or update control information as necessary...        $          ?
$                                                                      ?
$                                                                      ?
%P33        $   $&INCID  ?                                             ?
$
%P34        ¬==>_COMP    ?
$
%P35        ¬==>|DESC1                                                 ?
$           ¬==>|DESC2                                                 ?
$
%P36        ¬==>_VEND   ?  $Created    $&CDATE  ?$&CTIME ?$by $&CUSER  ?
$
%P37        ¬==>_VREF   ?  $Last Update $&UDATE ?$&UTIME ?$by $&UUSER  ?
$
%P38        ¬==>|V?        $Status  ¬==>_S?
$
$
#LONGMSG
-&MESSAGE                                                              +
?PF3$=Return   ?              ?PF4$=Exit
?PF7%w34                      ?PF8%w36                 ?PF1Ø$=Print
)INIT
  .HELP   = ROUTEH
  IF (&MESSAGE > ' ')
     .ALARM = YES
)PROC

  &CPFKEY = .PFKEY
  &CRESP  = .RESP
```

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```
  VPUT (CPFKEY CRESP) PROFILE
)END
```

PTF04 PANEL

```
/*********************************************************************/
/***  Source for the PTFØ4 panel...                                ***/
/*********************************************************************/
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(ON) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(ON) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  } TYPE(TEXT) INTENS(HIGH)  COLOR(BLUE) CAPS(OFF) SKIP(ON)
  \ TYPE(TEXT) INTENS(HIGH)  COLOR(YELLOW) CAPS(OFF) SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(USCORE)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  # TYPE(OUTPUT) INTENS(LOW) COLOR(RED) CAPS(OFF)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF)
  * TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) HILITE(USCORE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(USCORE)
)BODY LMSG(LONGMSG)
$PTFØ4        %P61                          $                      %WDATE
@ACCTYP  $                DELETE PANEL                            &ZTIME
$                                                                          ?
$                                                                          ?
$                                                                          ?
$   ?&INCID  $as described below is being prepared for deletion.           ?
$                                                                          ?
$                                                                          ?
$                                                                          ?
$   Description for?&INCID  $...                                           ?
$                                                                          ?
$                                                                          ?
$   @DLTDSC1                                 $                             ?
$   @DLTDSC2                                           $                   ?
$                                                                          ?
$                                                                          ?
$   Press?PF6$to continue with the delete function or?PF3$to quit.         ?
$                                                                          ?
$                                                                          ?
$                                                                          ?
$
#LONGMSG
-&MESSAGE                                                                  +
$            ?PF3$=Return  ?PF4$=Exit  ?PF6$=Confirm Delete
)INIT
  .HELP   = ROUTEH
```


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```
   IF (&MESSAGE > ' ')
     .ALARM = YES

)PROC

  &CPFKEY = .PFKEY
  &CRESP  = .RESP
  VPUT (CPFKEY CRESP) PROFILE
)END
```

PTF06 PANEL

```
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(ON) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(ON) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(REVERSE)
  [ TYPE(TEXT) COLOR(WHITE) CAPS(ON) HILITE(REVERSE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(REVERSE)
  \ TYPE(INPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(ON) COLOR(YELLOW)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  # TYPE(OUTPUT) INTENS(LOW) COLOR(RED) CAPS(OFF)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) SKIP(ON)
)BODY LMSG(LONGMSG)
$PTFØ6                    |P61                       $
%WDATE
$&ACCTYP       $           CONFIGURATION PANEL
&ZTIME
$
$   Type over the options you wish to change...
$
$  _P62     $XEDIT   ¬<==$XEDIT profile name
$  _P68     _P69     ¬<==$XEDIT skeleton name
$  _P7Ø     ¬         <==$Insert description into XEDIT skeleton?
$  _P63     ¬         <==$Laser printer name
$  _P64$    ¬         <==$2char prefix for newly opened members
$  _P65$    ¬         <==$Print lines per inch (6LPI or 8LPI)
$  _P66     ¬         <==$Print duplex (DUPLEX or NODUPLEX)
$  _P67$    ¬         <==$Print number of copies
$
$  $PF5 ¬==>$Configure?PTFØ3$panel titled?&P31
$  $PF6 ¬==>$Configure?PTFØØ$panel titled?&PØ1
$  $PF7 ¬==>$Configure?PTFØ1$panel titled?&P11
$  $PF8 ¬==>$Configure?PTFØ7$panel titled?&P34
```

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```
$  $PF9 ¬==>$Configure?PTFØ8$panel titled?&P36
$
#LONGMSG
-&MESSAGE
$
?            PF2$=Restore Defaults  ?PF3$=Return  ?PF4$=Perm Upd   ?
)INIT
  .HELP   = ROUTEH
  IF (&MESSAGE > ' ')
     .ALARM = YES
)PROC

  &CPFKEY = .PFKEY
  &CRESP  = .RESP
  VPUT (CPFKEY CRESP) PROFILE
  VER (&P61,NB)
  VER (&P62,NB)
  VER (&P63,NB)
  VER (&P64,NB)
  VER (&P65,NB)
  VER (&P66,NB)
  VER (&P67,NB)
  VER (&P68,NB)
  VER (&P69,NB)
  VER (&P7Ø,NB)

)END
```

PTF07 PANEL

```
************************************************************************
***  Source for the PTFØ7 panel...                                   ***
************************************************************************
)ATTR
  $ TYPE(TEXT) INTENS(LOW)  COLOR(TURQ)  CAPS(ON) SKIP(ON)
  % TYPE(OUTPUT) INTENS(LOW)  COLOR(TURQ)  CAPS(OFF) SKIP(ON)
  - TYPE(TEXT) INTENS(LOW)  COLOR(RED)  CAPS(OFF) SKIP(ON)
  ? TYPE(TEXT) INTENS(HIGH)  COLOR(WHITE) CAPS(OFF) SKIP(ON)
  # TYPE(OUTPUT) INTENS(HIGH) COLOR(WHITE) CAPS(OFF)
  @ TYPE(OUTPUT) INTENS(HIGH) HILITE(REVERSE) CAPS(OFF) SKIP(ON)
COLOR(YELLOW)
  ¬ TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF)
  * TYPE(TEXT) INTENS(LOW)  COLOR(YELLOW)  CAPS(OFF) HILITE(USCORE)
SKIP(ON)
  _ TYPE(INPUT) COLOR(WHITE) CAPS(ON) HILITE(USCORE)
  | TYPE(INPUT) COLOR(WHITE) CAPS(OFF) HILITE(USCORE)
)BODY LMSG(LONGMSG)
$PTFØ7                %P61                   $
%WDATE
```


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```
@ACCTYP        $       %P7ID                   $
&ZTIME
$                                                                          ?
*Nbr$*&P7ID          $ *Description$                                       ?
$                                                                          ?
#Z   $&XID1   $         $&XDS1                                  $          ?
#Z   $&XID2   $         $&XDS2                                  $          ?
#Z   $&XID3   $         $&XDS3                                  $          ?
#Z   $&XID4   $         $&XDS4                                  $          ?
#Z   $&XID5   $         $&XDS5                                  $          ?
#Z   $&XID6   $         $&XDS6                                  $          ?
#Z   $&XID7   $         $&XDS7                                  $          ?
#Z   $&XID8   $         $&XDS8                                  $          ?
#Z   $&XID9   $         $&XDS9                                  $          ?
#Z   $&XID1Ø  $         $&XDS1Ø                                 $          ?
#Z   $&XID11  $         $&XDS11                                 $          ?
#Z   $&XID12  $         $&XDS12                                 $          ?
#Z   $&XID13  $         $&XDS13                                 $          ?
#Z   $&XID14  $         $&XDS14                                 $          ?
$                                                                          ?
$                                                                          ?
#LONGMSG
-&MESSAGE                                                                  +
$    ?PF3$=Return  ?PF4$=Exit  ?PF7$=Backward  ?PF8$=Forward?             +
)INIT

  .HELP   = ROUTEH
  .ZVARS = '(Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8 Z9 Z1Ø Z11 Z12 Z13 Z14)'

  IF (&MESSAGE > ' ')
     .ALARM = YES

  IF (&Z1 = ' ')
     .ATTR (Z1) = 'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z2 = ' ')
     .ATTR (Z2) =  'SKIP(ON) TYPE(OUTPUT)'

  IF (&Z3 = ' ')
     .ATTR (Z3) =  'SKIP(ON) TYPE(OUTPUT)'
```

Editor's note: this article will be concluded next month.

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Senior Systems Programmer (USA)

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Backing-up a selected mini-disk

GENERAL DESCRIPTION

VMDDR EXEC creates a back-up copy of a selected mini-disk, using the DASD Dump Restore Service Program (DDR). DDR is the preferred tool for mini-disk save copying because it is the fastest disk copy program in VM CMS. In addition, DDR saves space, compacting data on output tape. VMDDR performs the following functions:

- Dumping the entire mini-disk to a tape, in compressed format.
- Restoring the mini-disk from a proper tape back-up copy.

VMDDR is written in Assembler and REXX and the program code is developed in CMS with VM/SP Release 5.

VMDDR USAGE

Before starting VMDDR, a tape device must be attached at virtual address 181. VMDDR does not have set parameters and users should follow the interactive dialogue to select the required function.

Specifications entered during the dialogue are used by VMDDR to generate DDR control statements. These are the mini-disk letter, the sequential file number on the tape, and the tape density, if the first file on the tape is to be written. To give the user a better service, VMDDR invokes CHKTAPE MODULE to determine the tape device attached at virtual address 181 – so the user does not have to know the device type of the real tape. At the end of the DDR dump, VMDDR writes a tape mark to indicate the end-of-volume. This allows the output tape to be scanned when the tape contains more than one file, without any problems in recognizing the real end of volume.

INSTALL EXEC

```
/*****************************************************************/
/***                                                  ***      ***/
/*** INSTALL          generate CHKTAPE MODULE         ***      ***/
```


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```
/***                                                          ***         ***/
/*************************************************************************/
/***   SIZE 00043  VER 1.0 MOD 000                                       ***/
/*************************************************************************/

  CLRSCRN
  MESSAGE = 'user request'
  SAY '- Start CHKTAPE MODULE generation - reply Y or N'
  PULL REPLY
  IF REPLY ¬= 'Y' THEN
  SIGNAL ERROR
  SET CMSTYPE HT
  STATE CHKTAPE MODULE A
  SAVE_RC = RC
  SET CMSTYPE RT
  IF SAVE_RC = 0 THEN
  DO
    SAY '- CHKTAPE MODULE found on disk A'
    SAY '- Replace CHKTAPE MODULE A - reply Y or N'
    PULL REPLY
    IF REPLY ¬= 'Y' THEN
    SIGNAL ERROR
  END
  SET CMSTYPE HT
  SIGNAL ON ERROR
  MESSAGE = 'error when assemble' CHKTAPE
  ASSEMBLE CHKTAPE
  ERASE CHKTAPE LISTING A
  MESSAGE = 'error when load' CHKTAPE
  LOAD CHKTAPE '(' NOMAP NOLIBE
  MESSAGE = 'error when genmod' CHKTAPE
  GENMOD
  ERASE CHKTAPE TEXT A
  SIGNAL OFF ERROR
  SET CMSTYPE RT
  SAY '- CHKTAPE MODULE generated successfully'
  EXIT
ERROR:
  SET CMSTYPE RT
  SAY '- CHKTAPE MODULE not generated due to' MESSAGE
```

CHKTAPE ASSEMBLE

```
*************************************************************************
****                                                          ***         ****
**** CHKTAPE               get tape type                     ***         ****
****                                                          ***         ****
*************************************************************************
```

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```
****   SIZE 00049  VER 1.0 MOD 000                                    ****
************************************************************************
*                                                                      *
CHKTAPE  CSECT
         USING *,12
         LR    11,14
         CMSDEV TAP1,TAPEINFO
         LTR   15,15
         BNZ   RET
         IC    15,TAPEINFO+1
         LA    14,8
         CLI   TAPEINFO+1,X'82'
         BE    PUSH
CYCLE    EQU   *
         SRL   15,1
         LTR   15,15
         BZ    MOVE
         BCT   14,CYCLE
MOVE     EQU   *
         SLL   14,2
         LA    14,DEVTYPE(14)
         MVC   DEVTYPE(4),0(14)
PUSH     EQU   *
         LA    1,PLIST
         SVC   202
         DC    AL4(1)
RET      EQU   *
         BR    11
PLIST    DS    0D
         DC    CL8'ATTN'
         DC    CL4'LIFO'
         DC    AL1(4)
         DC    AL3(DEVTYPE)
TAPEINFO DC    12X'0102'
DEVTYPE  DC    CL4'3422'
         DC    CL4'2401'
         DC    CL4'2415'
         DC    CL4'2420'
         DC    CL4'3420'
         DC    CL4'3410'
         DC    CL4'8809'
         DC    CL4'3430'
         DC    CL4'3480'
         END   CHKTAPE
```

VMDDR EXEC

```
/************************************************************************/
/***                                                    ***         ***/
```


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```
/*** VMDDR            mini-disk dump/restore          ***         ***/
/***                                                   ***         ***/
/*********************************************************************/
/***   SIZE ØØ132  VER 1.Ø MOD ØØØ                                 ***/
/*********************************************************************/

  HI = '1DF8'X
  LO = '1DFØ'X
  CLRSCRN
  DO 15
    SAY
  END
  SAY COPIES('/', 25)COPIES('\', 25)
  SAY CENTRE('DDR - Mini-disk dump/restore', 5Ø)
  SAY COPIES('\', 25)COPIES('/', 25)
  SAY
  SAY'— Select  DUMP/1/ or RESTORE/2/ - reply'HI'1'LO'or'HI'2'
  PULL MODE .
  IF MODE = '' | VERIFY(MODE, '12') ¬= Ø THEN
  EXIT
  CLRSCRN
  DO 1Ø
  SAY
  END
  SAY
  IF MODE = '1' THEN
  SAY '[DDR]  'HI'DISK  >>>—> TAPE'LO
  ELSE
  SAY '[DDR]  'HI'TAPE  >>>—> DISK'LO
  SAY
  SAY'— Enter disk letter for DDR'
  PULL MDISK .
  IF LENGTH(MDISK) ¬= 1 |                                          ,
     VERIFY(MDISK, 'ABCDEFGHIJKLMNOPQRSTUVWXYZ') ¬= Ø THEN
  DO
    SAY '— Invalid mode' MDISK
    EXIT
  END
  MAKEBUF
  QUERY DISK MDISK '(' STACK LIFO
  PULL VOL CUU . MD CYL TYPE .
  DROPBUF
  IF MODE = '1' THEN
    IF ¬ (MD = 'R/O' | MD = 'R/W') THEN
  DO
    SAY '— Not found'HI MDISK LO'for dump'
    EXIT
  END
  ELSE
```

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```
  NOP
  ELSE
  IF MD ¬= 'R/W' THEN
  DO
    SAY '— Not found or read only'HI MDISK LO'for restore'
    EXIT
  END
  MAKEBUF
  CHKTAPE
  IF RC ¬= Ø THEN
  DO
    SAY '— Tape TAP1 at virtual address 181 not attached'
    EXIT
  END
  PULL DEV_TYPE
  DROPBUF
GET_RIGHT_NUMBER:
  SAY'— Enter file number on the tape'
  PULL FILE_NO .
  IF ¬ DATATYPE(FILE_NO, 'N') THEN
  SIGLAL GET_RIGHT_NUMBER
  WRITE_STMT = 'EXECIO 1 DISKW $DDR$ WORK A (ST'
  IF MODE = 1 THEN
  DO
    IF FILE_NO = 1 THEN
    DO
GET_DEN:
      SAY'— Specify density - select'HI'1/16ØØ/ or 2/625Ø/'LO
      PULL DEN .
      IF DEN = '' THEN
      SIGNAL GET_DEN
      IF VERIFY(DEN, '12') ¬= Ø THEN
      SIGNAL GET_DEN
      IF DEN = '2' THEN
      DEN = '625Ø'
      ELSE
      DEN = '16ØØ'
    END
    ELSE
    DO
      MO = ''
      DEN = ''
    END
    EXECIO 1 DISKW $DDR$ WORK A 1 F '(' ST IN CUU TYPE VOL
    TAPE_DEF = OUT 181 DEV_TYPE '(' SK FILE_NO - 1 MO DEN LE CO
    EXECIO 1 DISKW $DDR$ WORK A '(VAR TAPE_DEF'
    WRITE_STMT SY ØØE
    WRITE_STMT DU Ø CYL - 1
    TXT = 'WERE DUMPED TO TAPE'
```


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```
    ERR_TXT = 'WERE NOT DUMPED TO TAPE'
    SIGNAL CONFIG_FOR_DDR
  END
  ELSE
  DO
    TAPE_DEF = IN 181 DEV_TYPE '(' SK FILE_NO - 1 LE
    EXECIO 1 DISKW $DDR$ WORK A 1 F '(VAR TAPE_DEF'
    WRITE_STMT OUT CUU TYPE VOL
    WRITE_STMT SY CONS
    WRITE_STMT RE ALL
    TXT = 'WERE RESTORED FROM TAPE'
    ERR_TXT = 'WHERE NOT RESTORED FROM TAPE'
  END
CONFIG_FOR_DDR:
  CLRSCRN
  FINIS $DDR$ WORK A
  TAPE REW
  DDR $DDR$ WORK A
  DDR_RC = RC
  SAY
  SAY
  IF DDR_RC = Ø THEN
  DO
    SAY '>>>—>' CUU TXT LO
    TAPE WTM
    TAPE REW
  END
  ELSE
  SAY '>>>—> error ->' CUU HI ERR_TXT LO
  SAY
  SAY
  ERASE $DDR$ WORK A
```

VMDDR PREPARATION

INSTALL EXEC should be used to generate CHKTAPE MODULE. After this, VMDDR may be used to back-up the mini-disks of user virtual machines.

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Year 2000 and the REXX date function

Whilst looking through our EXECs for Year 2000 compliance, I noticed what must be common to many sites: dates need to be converted to another format or checked for validity, days must be added or subtracted for various reasons, etc. Much of this code will need changing for Year 2000 compliance.

Luckily, help is at hand in the form of the REXX date() function supplied with CMS Level 13 under VM/ESA 2.2. This will convert dates from one format to another and can be used for almost all the problems noted.

DATE CONVERSION

To convert ‘old_date’ to ‘new_date’ in a different format, you code:

```
new_date = date(new_form,old_date,old_form)
```

Thus:

- date(B,‘21/03/98’,E) becomes 729468
- date(S,‘03/21/98’,U) becomes 19980321
- date(S,‘21/03/01’,E) becomes 20010321.

DATE ARITHMETIC

The base format is the most useful for performing arithmetic with dates. To add a week to a date (old_date) in European format:

```
next_week = date(E,date(B,old_date,E)+7,B)
```

This converts ‘old_date’ to ‘B’ format, adds 7 and converts back to ‘E’ format.

DATE VALIDATION

The following EXEC will validate a date in most forms. The HELP file explains its use.

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VALDATE EXEC

```
/******************
* validate a date *
******************/
arg rdate,type
if type='' then type = 'E'
x = date(type)       /* this will fail if format type is invalid: */
                     /* the caller must be able to get this right */
signal on syntax           /* try to convert rdate, it will */
x = date('',rdate,type)    /* get a syntax error if invalid */
                           /* but this will be concealed    */
return 1    /* no error */
syntax:
return Ø    /* invalid date */
```

VALDATE HELPCMS

```
VALDATE REXX FUNCTION
         +──────────────+
         |              |
         | VALDATE(date,type) |
         |              |
         +──────────────+
```

This will return a value of 1 (true) if the given date is valid (ie the day is within range for the month, etc), and 0 (false) if the format is wrong. Note that ‘type’ is any standard REXX format except C, J, or W, and defaults to E.

This can be useful in other EXECs in the following way:

```
pull entdate .
if ¬valdate(entdate) then say "Date is invalid"
```

NB an invalid ‘type’ will cause a REXX error. For example:

- valdate(‘15/03/98’) becomes 1
- valdate(‘15/03/98’,U) becomes 0
- valdate(‘20000229’,S) becomes 1
- valdate(‘20010229’,S) becomes 0
- valdate(‘29/02/00’,E) becomes 1 (windowing will assume year 2000).

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William Morrison Supermarkets (UK)
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VM news

IBM has announced the availability of VM/ESA Version 2 Release 3.0, which includes numerous new features such as an integrated TCP/IP suite and network computer support. The company has added Year 2000 compliance and, with the enhancements made to classic VM capabilities such as guest coupling and processor support, claims VM will remain a viable platform for the new millennium.

The optional integrated TCP/IP suite includes support for high bandwidth networks, performance monitoring, and simplified multiple Web home page support. VM now gets NFS access to VM files, Java Virtual Machine capability, and MQI support. Software development capability is enhanced through the Language Environment support, Java, NetREXX, and 700-odd Unix APIs.

Pipelines PRPQ is a standard part of the new system and new support includes toleration for Pipelines program execution in a multi-tasking environment, TCP connectivity, and documentation of more Pipelines stages, including AHELP.

The limit on the number of logical devices managed by virtual machines has effectively been eliminated, which will benefit numerous facilities, including PVM and Telnet.

The release also has the Remote Spooling Communications Subsystem packaged as an automatically installed, optional, priced product.

For further information contact your local IBM representative.

* * *

For VM Year 2000 projects, the Source Recovery Company has announced Assembler Recovery/SRC Version 2.0, which disassembles Assembler code to the macro level – providing a time- and money-saving advantage for Year 2000 projects.

Assembler Recovery/SRC allows for the complete recovery of system macro and automatic base-register recognition (USING and DROP statements). Assembler Recovery/SRC 2.0 recovers missing Assembler code in a neat and compact form and can recover Assembler or COBOL code for any VM program.

For further information contact:
The Source Recovery Company, 20 Speen Street, 2nd Floor, Framingham, MA 01701, USA.
Tel: (508) 626 9955.

* * *