HEWLETT® PACKARD

COMMUNICATOR 3000
MPE V Release 3P, Version G.3P.00

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HP 3000 Commercial Systems

COMMUNICATOR 3000

MPE V Release 3P (Version G.3P.00)

HEWLETT
PACKARD

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Conventions Used in this Manual

NOTATION	DESCRIPTION
`nonitalics`	Words in syntax statements which are not in italics must be entered exactly as shown. Punctuation characters other than brackets, braces, and ellipses must also be entered exactly as shown. For example: `EXIT;`
italics	Words in syntax statements which are in italics denote a parameter which must be replaced by a user-supplied variable. For example: `CLOSE` *filename*
[ ]	An element inside brackets in a syntax statement is optional. Several elements stacked inside brackets means the user may select any one or none of these elements. For example: [A / B] `User` *may* `select A or B or neither.`
{ }	When several elements are stacked within braces in a syntax statement, the user must select one of those elements. For example: {A / B / C} `User` *must* `select A or B or C.`
...	A horizontal ellipsis in a syntax statement indicates that a previous element may be repeated. For example: [,*itemname*]...; In addition, vertical and horizontal ellipses may be used in examples to indicate that portions of the example have been omitted.
,	A shaded delimiter preceding a parameter in a syntax statement indicates that the delimiter *must* be supplied whenever (a) that parameter is included or (b) that parameter is omitted and any *other* parameter which follows is included. For example: *itema*[,*itemb*][,*itemc*] means that the following are allowed: *itema* *itema,itemb* *itema,itemb,itemc* *itema,,itemc*
␣	When necessary for clarity, the symbol ␣ may be used in a syntax statement to indicate a required blank or an exact number of blanks. For example: `SET[(`*modifier*`)]`␣`(`*variable*`);`

underlining

When necessary for clarity in an example, user input may be underlined. For example:

```
NEW NAME? ALPHA
```

In addition, brackets, braces, or ellipses appearing in syntax or format statements which must be entered as shown will be underlined. For example:

```
LET var[[subscript]] = value
```

shading

Shading represents inverse video on the terminal's screen. In addition, it is used to emphasize key portions of an example.

The symbol may be used to indicate a key on the terminal's keyboard. For example, [RETURN] indicates the carriage return key.

[CONTROL]*char*

Control characters are indicated by [CONTROL] followed by the character. For example, [CONTROL]Y means the user presses the control key and the character Y simultaneously.

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Introduction

Introducing MPE V Platform Release 3P

MPE V Platform Release 3P is here! Platform Release 3P offers customers software that surpasses all previous versions of MPE V, while offering the increased stability and long support life of a Platform Release. Release 3P includes new fixes and enhancements, and all the fixes and enhancements contained in Release 30 and Release 31. Release 3P is the recommended MPE V release. It has a 48 month support life and will be the target release for any future patches.

The MPE V development team is committed to extending the value of and improving MPE V systems through continued product development and dedicated support resources. Through their software support contracts, MPE V customers will find continuous improvements to their MPE V software. Even when adding a new Hewlett-Packard system, many users keep their MPE V *classic* systems. HP ensures that your MPE V systems continue to perform.

Understanding customer needs is central to product development. HP focuses on customer priorities through a combination of user group conferences (such as Interex, regional user groups, and special interest groups), surveys, customer responses to the MPE V newsletter, and service requests (SRs). For example, in Release 31 we integrated all previous networking patches. This addresses customer requests for not having to reapply patches with every new software release. To ensure that we are optimally meeting customer needs, HP urges you to actively voice your recommendations regarding MPE V through user group and special interest group (SIG) meetings, and through surveys.

Customers requested and now benefit from a new level of expertise in the Response Centers. A joint effort between the Software Technology Division and the Worldwide Response Centers has resulted in the formation of the new Expert Centers residing in the North American Western Response Center and the European Response Center. These groups of highly trained engineers, with the special tools and data previously used only by the design engineers, provide customers with more in-depth analysis and timely resolution of their problems.

The Expert Centers are already successfully resolving customer issues faster and more efficiently than the previous organization. Specialists offer assistance for the MPE V Operating System, commercial tools (HP Editor, HP Rapid, HP BRW, and others), client/server products (HP Resource Sharing, HP Information Access, HP Cooperative Services and others), MPE V languages, and HP's manufacturing and financial products (MM, FM).

We hope you enjoy the new enhancements and exceptional quality of Release 3P. Although customer testing results are not yet available for Release 3P, customers who participated in the design prototype of Release 30 and Release 31 were impressed with the level of enhancements, fixes and general quality of the software. Because Release 3P builds upon those releases, we expect even greater results! We hope you enjoy the benefits.

The Release 30, Release 31, and Release 3P enhancements described below are all included in Platform Release 3P, and described in the body of this Communicator.

Release 30 Enhancements

- LISTF options -3, 3, 4, and 6 are added.
- Programmatic RUN allows program execution through COMMAND intrinsic.
- CHGROUP command allows users to change home logon group without logging off and on again.
- PURGE command supports wildcard capabilities in purging multiple files.
- HP TurboIMAGE V database enhancement features critical item update.
- ALTACCT, ALTGROUP, and ALTUSER commands allows addition or subtraction to or from existing capabilities.
- ALTSEC command supports wildcard capability in manipulating ACDs.
- New revisions of MPE V COMMANDS and MPE V INTRINSICS manuals are available with this release.
- All MPE commands and intrinsics now support dates through the year 2027.

Release 31 Enhancements

- EDITOR A.08.00 provides the ability to automatically pass disk file security attributes from the TEXT file to the KEEP file. Also included in EDITOR are a number of fixes enhancing ease of use and reliability.
- SPOOK5 (SPooler lOOK up) Utility–several enhancements to this utility are:
  - A full Help facility that offers the full syntax of the commands and command usage help.
  - A REDO facility.
  - OFFLINE parameters added to commands provide line printer listings of spool files output to tape or input from tape.
  - Elimination of the requirement to issue MPE FILE commands before using the utility's INPUT, OUTPUT, APPEND, and COPY commands.
  - Ability to list the contents of spool files without the line numbers so that 80 byte long spool files are viewed without having the lines wrap on the terminal display.
  - Set and see the SPSAVE status of spool files with the ALTER and SHOW commands, respectively.
  - Abbreviate the range list keywords "First" and "Last" to simply "F" and "L".
  - Find all occurrences of a string in a spool file without reissuing the SPOOK5 FIND command.
- SPSAVE allows users to specify that a copy of a spool file is to be saved after the spool file has printed.
- HPDEVCONTROL allows users to programmatically load and place the DAT & 7980 tape drives ONLINE.

- DELETEVAR allows specific or all job control words to be deleted for a particular job/session.
- INITIAL ensures adequate free space on Ldev 1 during coldload to prevent forced reload if free allocation error is encountered.

Release 3P Enhancements

- MPE V user-logging facility LG capability is no longer required to call the user-logging intrinsics. Now, if the program calling the intrinsics runs in privileged mode, no special user capabilities are required.
- ALTJOB alters the attributes and scheduling of waiting or scheduled jobs.
- EDITOR has the following new features in version A.09.00:
  - case insensitive option
  - command entry through INFO string
  - REDO command
  - enhancement to FIND command
  - optional terminal output formatting change

HP Documents Available via FAX!

by
Robert Ross
Software Technology Division

Introduction

Are you interested in having technical tips, manual updates, current system news, product data sheets, and other "I can't seem to find it!" information available to you 24 hours a day with just a phone call? It's starting to happen this year, with HP FIRST (Fax Information Retrieval System Technology).

What is HP FIRST?

HP FIRST is an automated fax system that allows users to call a toll free 800 number, and by using a set of indexes and 5-digit document IDs, retrieve the information they are interested in. The system has been used successfully for information about HP Printers and other peripherals for the last 3 years. Now, you will be able to retrieve MPE V information as well.

How to Use HP FIRST

To receive a fax containing the information you're interested in, you must first know the document ID. The document IDs are listed on several indexes grouped together by subject. If you call

1-(800)-333-1917

or outside the US and Canada, call

1-(208)-344-4809

you will hear a recorded voice asking you to press a number on your touch-tone telephone that corresponds to your choice of a menu selection. You might want to first get the fax containing the list of indexes. It will show the following document IDs for these indexes:

19990 - HP LaserJet, DeskWriter, ScanJet, PaintJet, Plotters (Macintosh)
19991 - HP LaserJet, ScanJet, HP FAX Products
19992 - HP DeskJet, RuggedWriter, ThinkJet, QuietJet, PaintJet, Plotters
19993 - PC and PalmTop Products
19994 - Service Parts Listing for the above Products
39991 - HP Computer Systems (HP 1000, HP 3000, HP 9000 systems)
39992 - HP Networking Products
49991 - Test and Measurement Instrument Products

If you choose Document ID #39991 to look at information for HP 3000 products, you will discover a sub-index:

39994 - HP 3000 Computer Systems

This is the one you need to find articles about MPE systems. It is further broken down into Hardware and Software categories. Under software, we have currently placed copies of some of our more recent customer newsletters ("MPE V NEWS", and "PARTNERS" for manufacturing and financial software customers). We have also added copies of all

Communicator articles for currently supported MPE V releases (2P, 30, 31, 3P) on the HP FIRST system to be used as a technical reference for enhancements and fixes.

Please try HP FIRST (it's free!) and let us know what you think. If you have access to any of the following electronic mail systems, you can send us a message at these addresses:

HPDesk Address: SWT-MPEV / HP5200/06

Email Address: SWT-MPEV@HP5200.DESK.HP.COM

X.400 Address: Name.... .: SWT-NS
Org. Unit: HP5200
Org. Name: HP
Country..: US
ADMD.... .: ATTMAIL
PRMD.... .: HP

If you don't have access to any of these, you can also reach us by fax or the post office:

Fax Number: (916) 785-3090 (send to MPE V Support)

Letter to: Hewlett-Packard (SST Division)
Attn: MPE V Support, MS/R5YF
8000 Foothills Blvd.
Roseville, CA 95747 USA

You can also reach us at the above locations if you have comments or suggestions for how we can improve our methods of communication with you, our MPE V customers.

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System Information

RELEASE 30

Purge Command Accepts Wildcard

by
Yuki Umezawa
Software Technology Division

New Purge Feature

The PURGE command has been enhanced to allow multiple files to be deleted with one simple command. The PURGE command now accepts the standard wild card characters used by the LISTF command in the specification of the files to be deleted. Several new options were added to the PURGE command to allow flexibility in deleting multiple files. These options are shown in the new syntax of the command below and are discussed in more detail further on in the article.

PURGE Syntax

```
PURGE fileset [{,}TEMP]  [{;AUTOLOCKWORD  }]
               {;}        {;NOAUTOLOCKWORD}]

              [{;CONFIRM   }][{;NOSHOW}][{;NOSHOWERROR}]
               {;NOCONFIRM }  {;SHOW  }  {;SHOWERROR  }
               {;CONFIRMALL}

              [;ONERROR={CONTINUE}]   [;ONLOCKWORD={SELECT}]
                        {QUIT    }                 {SKIP  }
```

The AUTOLOCKWORD option is now available to SM/AM users to purge files without having to respond to lockword prompts. With this privileged option, the system will look up lockwords and automatically resolve lockword checking. For AM users, AUTOLOCKWORD is effective only for the files in the user login account. The default is NOAUTOLOCKWORD.

The second option that was added for flexibility is the CONFIRM, CONFIRMALL or NOCONFIRM option. With the CONFIRM option the user will be prompted ONCE to verify that the fileset specified is correct. If the user responds with a YES all files that match the fileset specified will be deleted. The CONFIRMALL option requires confirmation on each file before it is deleted. When NOCONFIRM is specified there is no verification performed. The

NOCONFIRM value is the default if the PURGE command is executed from batch mode. The CONFIRM value is the default if the PURGE command is executed interactively.

The SHOW/NOSHOW option allows the user to control whether the filenames are displayed to $STDLIST as they are deleted. If the SHOW value is chosen for this option the output can be written to a file by redirecting the formal file designator SYSLIST. NOSHOW is default.

The SHOWERROR/NOSHOWERROR option controls the detail of error messages that are displayed. NOSHOWERROR will display only a high level message that indicates which files were not deleted due to an error. SHOWERROR will display additional, more detailed, error messages indicating why a file was not deleted. NOSHOWERROR is the default value for this option.

The ONERROR keyword parameter was added to allow the user to control whether or not the PURGE command should continue upon encountering an error. The default is to CONTINUE executing the PURGE command upon encountering an error. The other option is to specify ONERROR=QUIT.

The last option is the ONLOCKWORD keyword parameter. This parameter allows the user to control whether or not files with lockwords are deleted or skipped. This option is available for all the users.

Examples

Delete a set of files:

```
PURGE FOO@
```

Note Since AUTOLOCKWORD is not specified, the system will prompt for lockwords if it encounters any files with lockwords.

When an error is encountered in deleting a single file, the following error messages are displayed:

```
PURGE FOO
  EXCLUSIVE VIOLATION: FILE ACCESSED EXCLUSIVELY  (FSERR 91)
  UNABLE TO PURGE FILE FOO.PUB.SYS. (CIERR 384)
```

When errors are encountered in deleting a set of files, the following error messages are displayed:

```
PURGE FOO@
  UNABLE TO PURGE FILE FOO1.PUB.SYS. (CIERR 384)
  UNABLE TO PURGE FILE FOO2.PUB.SYS. (CIERR 384)
```

Display the detailed errors, as they are encountered, on a set of files:

```
PURGE FOO@;SHOWERROR
  EXCLUSIVE VIOLATION: FILE ACCESSED EXCLUSIVELY  (FSERR 91)
  UNABLE TO PURGE FILE FOO1.PUB.SYS. (CIERR 384)
  EXCLUSIVE VIOLATION: FILE ACCESSED EXCLUSIVELY  (FSERR 91)
  UNABLE TO PURGE FILE FOO2.PUB.SYS. (CIERR 384)
```

Display the errors as they are encountered and save the error information in a file:

```
File syslist=purgelst;rec=-80,,f,ascii;dev=disc;save
PURGE FOO@;SHOWERROR
```

Stop the purge if an error is encountered:

```
PURGE FOO@;ONERROR=QUIT
```

Skip files that contain a lockword:

```
PURGE FOO@;ONLOCKWORD=SKIP
```

Delete files with a lockword without having to respond to lockword prompts:

```
PURGE FOO@;AUTOLOCKWORD
```

Note To specify the AUTOLOCKWORD option, the user needs to have SM or AM capability.

ALTSEC Command Accepts Wildcard for ACDs

by
Yuki Umezawa
Software Technology Division

New ALTSEC Feature

The ALTSEC command has been enhanced to allow the manipulation of Access Control Definitions (ACDs) for a set of files. This feature is offered on MPE/iX and now it is available on MPE V.

ACD manipulation used with one of the following options: NEWACD, COPYACD, ADDPAIR, REPPAIR, DELPAIR, or DELACD accepts the standard wild card characters, used by the LISTF command, in the specification of the files to be altered.

Note that MPE's conventional file access security matrix manipulation is not affected by this enhancement. It still expects one file at a time.

Examples

To associate ACD information in the file ACDINFO with a set of files FOO1, FOO2, and FOO3, enter:

```
ALTSEC FOO# ;NEWACD=^ACDINFO
```

When there are no matching files, the following message is generated:

```
NO FILES FOUND IN THE FILE SET. (CIERR 7328)
```

When errors are encountered on all files, the following message is generated:

```
OPERATION FAILED ON ALL FILES IN THE FILE SET. (CIERR 7329)
```

When errors are encountered on some of the files, the following message is generated:

```
OPERATION FAILED ON SOME FILES. (CIWARN 7106)
```

ACD Warning Status Number Change

Yuki Umezawa
Software Technology Division

New Altsec Feature

The Access Control Definition (ACD) warning status 106 from the HPACDPUT intrinsic and the CIWARN 7106 from the ALTSEC command have been reassigned to 107 and 7107 respectively in order to maintain the compatibility with MPE/iX.

The ACD warning 107 and the CIWARN 7107 mean "PSEUDO EXTENT POINTER WAS CORRUPTED PRIOR TO BEING DELETED." This warning is generated when the corruption of the pointer to the *pseudo extent* is detected in deleting an ACD. A *pseudo extent* is where the system maintains ACD information for each file or device. Upon encountering this warning, the delete operation succeeds, so there is no longer an ACD associated with the file or device, and the pointer no longer contains an illegal value.

The programs which execute ACD deletion through the HPACDPUT intrinsic or the ALTSEC command need to be modified if they check for this warning.

With the introduction of wildcarding capability in ACD manipulation in the ALTSEC command, CIWARN 7106 now means "OPERATION FAILED ON SOME FILES" as on MPE/iX.

New LISTF Options (-3, 3, 4, and 6)

by
Dan Clavin
Software Technology Division

Overview

The LISTF command has been enhanced to provide the following optional information levels: -3, 3, 4, and 6. Options 3 and -3 are equivalent to the information provided by the LISTF command in the LISTDIR5 utility, as is the option 4 equivalent to the LISTSEC command in the LISTDIR5 utility. The information presented with options 3, 4, 6, and -3 has been formatted to closely match the formatted output for the MPE/iX LISTF commands. The options provide additional file label information as well as security provisions for a file or set of files. As with the other LISTF command options, the *fileset* and *listfile* parameters remain the same. The behavior for these new options will be as similar to the MPE/iX options as is possible with respect to the operating system differences that exist.

LISTF Options -3, 3, 4, and 6

Four new options have been added to the MPE V LISTF command:

- The option -3 is equivalent to the LISTDIR5 LISTF ;PASS;MAP command and similar to the MPE/iX LISTF, -3 command (requires AM or SM capability).
- The option 3 is equivalent to the LISTDIR5 LISTF command and similar to the MPE/iX LISTF,3 command.
- The option 4 is equivalent to the LISTDIR5 LISTSEC command and similar to the MPE/iX LISTF,4 command.
- The option 6 (fully qualified filename) is equivalent to the MPE/iX LISTF, 6 command.

New LISTF Command Examples

Examples of output provided with the new options:

LEVEL -3

```
:listf listdir5.pub.sys,-3
******************
FILE: LISTDIR5.PUB.SYS

FILE CODE : PROG          FOPTIONS: STD,BINARY,FIXED
BLK FACTOR: 1             CREATOR : MANAGER
REC SIZE: 256(BYTES)      LOCKWORD:
BLK SIZE: 128(WORDS)      SECURITY--READ    : ANY
EXT SIZE: 97(SECT)                  WRITE   : ANY
NUM REC: 96                         APPEND  : ANY
NUM SEC: 97                         LOCK    : ANY
NUM EXT: 1                          EXECUTE : ANY
```

```
MAX REC: 96                        **SECURITY IS ON
MAX EXT: 1                    COLD LOAD ID: %3043
NUM LABELS: 0                 CREATED : FRI, 12 APR 1991
MAX LABELS: 0                 MODIFIED: THU, 23 APR 1992       9:50 AM
DISC DEV #: 2                 ACCESSED: THU,  2 JUL 1992
DISC TYPE : 3                 LABEL ADDR: %141352
DISC SUBTYPE: 15              SEC OFFSET: %1
CLASS: DISC                   FLAGS: NO ACCESSORS,LOADED
FCB VECTOR: %0               %0
EXT MAP: %200141352
NUM SEG: 4                    TOTAL DB: %1526
STACK : %2260                 DL: %0
MAXDATA: %20000               CAP: IA,BA,PM

:
```

The following applies to the -3 and 3 options: COLD LOAD ID is a counter that keeps track of system cold loads and helps identify the status of files when a dump is taken. LABELS and MAX LABELS refer to allocated and written user labels, not the standard file label written by MPE. SEC OFFSET indicates the number of sectors between the file label and the first data sector within the file. FLAGS indicates if and why a file has been locked down for the exclusive access by a program. FCB VECTOR and EXT MAP are useful to system analysts for debugging. STD, MSG, CIR, and KSAM (in FOPTIONS:) stand for standard, message, circular, and Keyed Sequential Access Method files, respectively. All numbers are decimal unless preceded by a percent sign (%); these are octal.

LEVEL 3

```
:listf dan.pub.sys,3
********************
FILE: DAN.PUB.SYS

FILE CODE : 0                 FOPTIONS: STD,ASCII,FIXED
BLK FACTOR: 2                 CREATOR : **
REC SIZE: 128(BYTES)          LOCKWORD: **
BLK SIZE: 128(WORDS)          SECURITY--READ    : ANY
EXT SIZE: 30(SECT)                      WRITE   : ANY
NUM REC: 54                             APPEND  : ANY
NUM SEC: 30                             LOCK    : ANY
NUM EXT: 1                              EXECUTE :
MAX REC: 178                          **SECURITY IS ON
MAX EXT: 1                    COLD LOAD ID: %3043
NUM LABELS: 0                 CREATED : 30 MAR 1992
MAX LABELS: 0                 MODIFIED: TUE, 31 MAR 1992       6:55 PM
DISC DEV #: 1                 ACCESSED: TUE, 31 MAR 1992
DISC TYPE : 3                 LABEL ADDR: **
DISC SUBTYPE: 15              SEC OFFSET: %1
LDEV #:1                      FLAGS: READ ACCESS
FCB VECTOR: %0               %0

:
```

LEVEL 4

```
:listf x.pv,4
**************************************
FILE: X.PV.TEST

ACCOUNT ------  READ : AC      (PV)       READ : AC
              WRITE : AC                 WRITE : AC
             APPEND : AC                APPEND : AC
               LOCK : AC                  LOCK : AC
            EXECUTE : AC               EXECUTE : AC

GROUP --------  READ : GU      (PV)       READ : GU
              WRITE : GU                 WRITE : GU
             APPEND : GU                APPEND : GU
               LOCK : GU                  LOCK : GU
            EXECUTE : GU               EXECUTE : GU
               SAVE : GU                  SAVE : GU

FILE ---------  READ : ANY                FILE CODE : 0
              WRITE : ANY                CREATOR: MGR
             APPEND : ANY                LOCKWORD:
               LOCK : ANY               **SECURITY IS ON
            EXECUTE : ANY                 NO ACDS

FOR MGR.TEST: READ,WRITE,APPEND,LOCK,EXECUTE,RACD
:
```

The example above describes the access attributes of a file on a private volume (PV); the information for a file on a system volume would not display the PV attributes for the account and group.

LEVEL 6

```
:listf @,6
UDC.PUB.SYS
FILEA.PUB.SYS
FILEX.PUB.SYS
REL30.PUB.SYS
:
```

Enhancement to ALTACCT, ALTGROUP, and ALTUSER

by
Bob Holdsworth
Software Technology Division

Introduction

This enhancement provides for the use of +/- syntax in the CAP= specification of the ALTACCT, ALTGROUP, and ALTUSER commands. For example, to add PH capability and subtract MR and PM capability from user BOBH, the following command would be used:

```
ALTUSER BOBH;CAP=+PH,-MR,PM
```

Note that + or - starts an action of add or subtract that continues until the sign changes, so in the above case, PM is equivalent to -PM.

This change preserves existing MPE capability rules. For instance: Removal of AM capability from an account is not permitted and attempts to do so are ignored; it is not allowed to remove all capabilities from a group and attempting this results in default group capabilities IA, BA.

This enhancement required the creation of 2 new CIERR messages and 3 new CIWARN messages, as described below:

CIERR 757

```
EMBEDDED "+" OR "-" ILLEGAL UNLESS "CAP=" SPECIFICATION BEGINS
WITH "+" OR "-", E.G., "CAP=+MR,-PH" IS LEGAL BUT "CAP=MR,-PH"
IS NOT.  (CIERR 757).
```

An example of a command that will cause CIERR 757 is:

```
ALTACCT SWAT;CAP=IA,BA,PH,+MR,UV,CV,-SM,PM
```

If the CAP= specification does not begin with + or -, it is assumed that an *old style* capability replacement is intended. Embedded + or - is ambiguous, hence the error.

CIWARN 759

```
THIS CAPABILITY HAS BEEN REDUNDANTLY SPECIFIED, BUT WITH THE
OPPOSITE ACTION.  LAST OCCURRENCE USED.  (CIWARN 759)
```

An example of a command that will cause CIWARN 759 is:

```
ALTGROUP SCOUT;CAP=+PM,MR,PH,-DS,PM
```

The +PM specification is overridden by the subsequent -PM.

CIWARN 894

```
REMOVAL OF UV RESULTS IN REMOVAL OF CV.  (CIWARN 894)
```

This warning can result from specifying -UV with the ALTUSER or ALTACCT command against a user or account which has CV capability. A long-standing MPE capability rule is

that it is not permitted to have CV capability without UV. CIWARN 894 is given to make visible the removal of CV necessitated by specifying -UV.

CIWARN 895

```
ATTEMPTED REMOVAL OF IA AND BA IGNORED.  (CIWARN 895)
```

This warning can be generated only by the ALTUSER or ALTACCT commands, as it is legal in MPE to create a group with neither IA or BA. An example of a command that will cause CIWARN 895 is:

```
ALTUSER WALLY;CAP=+DI,OP,MR,PH,-SM,PM,IA,BA
```

CIERR 896

```
THIS COMMAND DOES NOT SUPPORT "+" OR "-" IN THE "CAP="
SPECIFICATION.  (CIERR 896)
```

This error occurs if an attempt is made to use + or - in the CAP= specification of a NEWACCT, NEWGROUP, or NEWUSER command.

Introducing the CHGROUP Command on MPE V

by
Steve Smead
Software Technology Division

Introduction

In Release 30, the MPE/iX CHGROUP command is available on MPE V. This command allows you to change your logon group without logging off and back on again. This not only saves time, but also reduces system resource requirements by eliminating costly logoffs/logons.

Syntax

The syntax for the CHGROUP command is the same as on MPE/iX:

```
CHGROUP [ [GROUP=]groupname][/grouppass]
```

If the groupname parameter is omitted, the user is switched back to the home group. If the password is not provided and the command is entered in a session, the user is prompted for the password. CHGROUP commands entered in a job must embed the password following the group name. Passwords are not required if the target group is the user's home group. After switching the logon group, the entire Command Interpreter environment is preserved (for example: temporary files, file equations, cataloged UDCs).

This command is available in a session or a job, but not in break or from a program. Pressing [BREAK] has no effect on this command.

Examples

Switch from the home group to the DATA group:

```
:CHGROUP DATA/DATAPASS
```

Switch back to the home group:

```
:CHGROUP
```

Caution As of Release 30, all unsupported PM utility programs used to switch the logon group should be removed. This is because few of these programs update the proper directory and job/session tables required to properly switch the logon group. When these programs are used with the MPE CHGROUP command, system failures (mainly SF406s) may occur upon issuing the CHGROUP command when the command executor finds an inconsistency in the associated directory entries. Furthermore, none of these utility programs can properly adjust the directory connect and CPU time counters when switching groups. The CHGROUP command will update these counters as necessary upon switching into a new group.

Supported third party tools used to switch logon groups should be certified for use with MPE V Release 30 by contacting the software supplier.

Programmatic Execution of the RUN Command, Plus All Subsystem Executor Commands

by
Steve Smead
Software Technology Division

Introduction

Subsystem executor commands (those MPE commands that create a process) have never been available through the COMMAND intrinsic (otherwise known as programmatic execution) on MPE V. On the other hand, these commands have always been available through the COMMAND intrinsic on MPE/iX. The availability of these commands through the COMMAND intrinsic provides many advantages:

1. Developers no longer need to use the process handling intrinsics CREATE, CREATEPROCESS, ACTIVATE, SUSPEND, etc. to RUN a program from another program. In Release 30, one can create a process programmatically by simply passing the "RUN PROGNAME ... " string to the COMMAND intrinsic as can be done through the COMMAND or HPCICOMMAND intrinsics on MPE/iX.
2. Existing applications and MPE subsystems become more powerful. Most MPE subsystems and user applications allow MPE commands to be executed by prefacing the application command with a ":". In MPE V Release 30, these applications will now be more flexible with no code changes because users will now be able to RUN other programs without leaving the main application program or subsystem. For some customers, however, this could pose a security issue unless other precautions are taken. This will be discussed in more detail shortly.
3. By not requiring users to exit programs to run other programs, process creation rates will go down thus reducing the demands on system resources.
4. The increased command interpreter flexibility will facilitate the creation of more powerful UDCs and job streams with less effort.

Affected Commands

In addition to the existing MPE commands allowed through the COMMAND intrinsic, the following subsystem executor commands (those commands that create a son process) can now be executed programmatically:

RUN	RPG	SPL	FTNGO	FTN
PREP	RPGPREP	SPLPREP	SEGMENTER	FTNPREP
PREPRUN	RPGGO	SPLGO	VINIT	
FCOPY	COBOL	DSCOPY	SYSDUMP	
EXPLAIN	COBOLPREP	BBASIC	FULLBACKUP	
EDITOR	COBOLGO	BBASICOMP	PARTBACKUP	
PASCAL	COBOLII	BASICOMP	BASICPREP	
PASCALPREP	COBOLIIPREP	BBASICPREP	BASICGO	
PASCALGO	COBOLIIGO	BBASCIGO	FORTPREP	
BASIC	FORTRAN	APL	FORTGO	

Examples

A look at the typical program development environment is a good example of the usefulness of this new feature. The following examples portray a typical development cycle of modifying source, compiling, and testing a program:

Before Release 30:

```
:EDITOR
/T SOURCE
{Move to correct location}
{Make modifications...}
/K SOURCE
/E
:PASCAL SOURCE
:PREP $OLDPASS,PROGRAM
:RUN PROGRAM
 {PROGRAM doesn't work right...}
:EDITOR
 /T SOURCE
 {Move to correct location}
 {Make modifications...}
 ...
```

Release 30 or later:

```
:EDITOR
/T SOURCE
{Move to correct location}
{Make modifications...}
/K SOURCE
/:PASCAL SOURCE
/:PREP $OLDPASS,PROGRAM
/:RUN PROGRAM
{PROGRAM doesn't work right...}
{Make modifications...}
...
```

In Release 30, we see many advantages in this simple example:

1. Time is saved by not having to text the source file in each time. This also reduces system CPU and disc I/O resource requirements.
2. By not having to re-text the file, we don't lose our current location. This is especially useful in a screen editor like HPEDIT.
3. By not having to exit the EDITOR, we reduce the number of operations required to change the code while also reducing process creation rates. This helps reduce overall system resource requirements.

If the compile were done in a job stream, the Release 30 environment would again be more effective by allowing the user to :RUN SPOOK5.PUB.SYS from the EDITOR to check the results without having to exit the EDITOR.

Capability Requirements

In order to execute a programmatic command from another program, either the user issuing the command must have PH capability or the program the user is issuing the programmatic MPE command from must have PH capability. If neither of these requirements are met, the following error is generated:

```
THIS COMMAND REQUIRES EITHER THE PROGRAM OR THE USER TO HAVE PROCESS
HANDLING (PH) CAPABILITY.  (CIERR 953)
```

These capability requirements match those employed on MPE/iX for programmatic execution of subsystem executor commands.

Caution Some MPE V customers enforce a security policy where all users are locked into a single application and allow MPE access only through the COMMAND intrinsic. Beginning with MPE V Release 30 and on MPE/iX, the users will now be able to RUN other programs from the main application which may violate these customers' security policies. If the program does not have PH capability, this will not be a problem unless the user running the program has PH. However, if the program has PH capability, the system manager and application support teams must address this issue in one of two ways:

1. Use the Security Monitor product to disable programmatic access to subsystem executor commands. A potential drawback of this approach is that SM users will be the only users on the system able to execute subsystem executor commands programmatically.
2. Modify the application to filter out subsystem executor commands before calling the COMMAND intrinsic.

Escape Sequence Edits for SM/OP TELL, TELLOP, and WARN Messages Removed

by
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Overview

MPE V has always edited messages sent to user terminals to make sure one could not embed escape sequences in messages that could do undesirable things to the target user terminals. An example of such an escape sequence is an [escf] which does a modem disconnect or an [eschescJ] which does a home/clear on the target user terminals.

Unfortunately, stripping out escape sequences other than simple video alterations made it impossible to include other desirable escape sequences. For example, some third party terminals have a 25th line or message window that can be written to using a special escape sequence; however, MPE V will not allow these escape sequences to pass through. Another example could be where someone wants to intentionally do a home/clear on the target user terminals before sending a message.

This issue has been addressed in Release 30 by allowing users with SM or OP capability to send unedited messages via the TELL, TELLOP, and WARN commands. Users with these special capabilities must ensure that no unwanted escape sequences are embedded in the message. Spooler forms messages and console messages initiated by the PRINTOP and PRINTOPREPLY intrinsics also had the same escape sequence restrictions prior to Release 30. Beginning with this release, these messages also pass through unedited by MPE, provided the user has SM or OP capability.

TurboIMAGE/V Enhancements

by
John Green
Software Technology Division

Overview

Beginning with Release 30 of MPE V, TurboIMAGE/V will allow search and sort items to be modified via the DBUPDATE intrinsic. The feature is referred to as *Critical Item Update* and has already been released in MPE/iX 4.0.

To enhance compatibility between TurboIMAGE/V and TurboIMAGE/XL, procedure stubs have been written for Intrinsics which are only available on MPE/iX (DBXBEGIN, DBXEND, DBXUNDO, DBTPIINFO). This allows programs running in compatibility mode on MPE/iX, to run (or at least load) on MPE V. In the past, programs which made these calls would not load on MPE V due to UNRESOLVED EXTERNALS. Although the programs will load, they should not be dependent on the TurboIMAGE/XL functionality to operate properly.

Critical Item Update

In all previous versions of TurboIMAGE/V (and IMAGE/3000 as well), DBUPDATE was limited to the modification of non-critical items. By way of definition, critical items are KEY items which are found in Master sets, and SEARCH and SORT items which are found in Detail sets. DBUPDATE can now modify SEARCH and SORT items. Modifications of key items in a Manual Master dataset still requires a DBDELETE and DBPUT.

Intrinsic Call Sequencing

If your application required a critical item to be modified, it was necessary to completely delete the existing entry and then add the entry back with the modified critical item. The intrinsic calling sequence, using a COBOL example, would look like this:

```
CALL "DBGET" USING DBNAME, SET, MODE, STATUS, LIST, BUFFER, ARGUMENT.

CALL "DBPUT" USING DBNAME, SET, MODE, STATUS, LIST, BUFFER.

CALL "DBDELETE" USING DBNAME, SET, MODE, STATUS.
```

In most cases, the DBPUT is done first to insure that the call can complete, then the DBDELETE is executed to remove the initial entry. The disadvantages to this calling sequence are that linkage updates are occurring on all paths and the new entry is added to the end of chain on all paths (unless a chain is sorted) destroying entry chronology on the chain.

By using the CRITICAL ITEM UPDATE feature the calling sequence is simplified to this:

```
CALL "DBGET" USING DBNAME, SET, MODE, STATUS, LIST, BUFFER, ARGUMENT.

CALL "DBUPDATE" USING DBNAME, SET, MODE, STATUS, LIST, BUFFER.
```

The contents of the buffer in the call to DBUPDATE would include the modified SEARCH or SORT item. The linkage changes occur only for the affected paths, NOT ALL paths.

Chronology on unmodified paths is preserved. The amount of work done by DBUPDATE is significantly less than that done by the DBPUT/DBDELETE calling sequence thereby providing improved performance in comparative situations.

Database Restructuring

With Critical Item Update, database restructuring tools (purchased separately) can be used to convert non-critical items to search or sort items without having to modify application programs. In the past, this type of restructuring would require all application programs which update the item to change their intrinsic calling sequence as outlined above. Now, the same calling sequence can be used to update search, sort, and non-critical items. This allows new paths to be added to the database independently of application program changes. If paths are added using manual master as opposed to automatic masters, code changes may be required to ensure the appropriate manual master entry exists.

CIUPDATE Settings

By default Critical Item Update is DISALLOWED for a database. This is done to preserve backward compatibility for existing software applications. To take advantage of this enhancement the Critical Item Update feature must be SET using DBUTIL. Within DBUTIL you must first issue the following command:

```
>>SET basename[/maintword] CIUPDATE = [DISALLOWED ]
                                      [ALLOWED    ]
                                      [ON         ]
```


DISALLOWED prevents any process from using Critical Item Update on this database (Default).

ALLOWED indicates that this feature can be programmatically enabled through calls to DBCONTROL mode 5, but programs which do not make this call are prevented from using Critical Item Update on this database.

ON allows any process to update critical items in this database unless the process explicitly disables the feature by calling DBCONTROL mode 6. This option allows Critical Item Update to be disabled in selected programs while enabling it for the majority.

If ILR is being used, it must be temporarily disabled while setting CIUPDATE. This is because the size of the ILR file is dependent on the CIUPDATE setting. ILR must be disabled while changing the CIUPDATE setting from DISALLOWED to ALLOWED (or ON) and while changing from ALLOWED (or ON) to DISALLOWED. Once CIUPDATE is set appropriately, simply re-enable ILR.

The DBUTIL command SHOW, with options ALL or CIUPDATE, will display one of the following settings:

CIUPDATE is DISALLOWED
or CIUPDATE is ALLOWED
or CIUPDATE is ON

Programmatic Control

When the CIUPDATE setting is ON or ALLOWED then the DBCONTROL intrinsic can be used to affect the manner in which a process, via a specific DBOPEN access path, can use DBUPDATE. DBCONTROL mode 5 will allow critical items to be updated for the *baseid* used in the DBCONTROL call. DBCONTROL mode 6 will prevent critical items from being updated for the *baseid* used in the call to DBCONTROL.

There are other modes which can be used with DBCONTROL, and details about all of these are available in the reference manual.

DBINFO Information

The DBINFO intrinsic can be called with mode 502 to obtain database and access path information about Critical Item Update. DBINFO mode 502 will return two words containing the database setting and the current setting for the *baseid* used in the DBINFO call. The possible return values are:

Word 1 contains the DBUTIL CIUPDATE setting:

0 = Critical Item Update is DISALLOWED (default)
1 = Critical Item Update is ALLOWED
2 = Critical Item Update is ON

Word 2 contains the current setting for this DBOPEN access path:

0 = Critical Item Update is disabled for this accessor
1 = Critical Item Update is enabled for this accessor

This table shows defaults and options:

Word 1	Word 2 Default	Word 2 Options
0	0	none
1	0	0,1
2	1	0,1

DBCONTROL modes 5 and 6 affect the value in Word 2.

New CIUPDATE Error Messages

With new features come new error messages, and CIUPDATE is no exception. Error conditions vary with the ability of a process to modify critical items. If CIUPDATE is not allowed for the baseid, for whatever reason, and DBUPDATE attempts to modify a critical item, then the standard condition 41 is returned with the following message:

```
DBUPDATE attempted to modify value of critical item--key, search or sort
```

This error will ALWAYS be returned if a DBUPDATE is attempted against a KEY item (located in a Master set).

With CIUPDATE enabled, whether at the database level or at the baseid level, the following error conditions are possible, each returning a 41 in word 1 of the status array, with differentiating values in word 3 of the status array:

Status Element 3	Message
1xx	No chain head for (master entry) for path xx
2xx	Full chain for path xx (contains 2,147,483,647 entries)
3xx	Full automatic master for path xx
4xx	Full automatic master synonym chain for path xx

Another message you may encounter relates to the use of DBCONTROL mode 5 to activate your use of a *baseid* access path for CIUPDATE. If the database CIUPDATE setting is DISALLOWED, then DBCONTROL mode 5 will return condition -82:

```
CIUPDATE is set to DISALLOWED; cannot use critical item update
```

There are additional messages within DBUTIL related to setting and displaying the CIUPDATE options and are primarily informational in nature. One new error message is used to report the need to disable ILR while changing the CIUPDATE setting.

```
 Can't change CIUPDATE with ILR already enabled.  Disable ILR
first, then re-enable ILR after changing CIUPDATE.
```

This message is followed by an informational message showing the current (i.e. unchanged) setting for CIUPDATE. If you receive this message, simply disable ILR before changing the CIUPDATE setting and re-enable ILR after you have changed the CIUPDATE setting. The error occurs because the size of the ILR file (created when ILR is enabled) is dependent on the CIUPDATE setting.

Stack Usage

Perhaps the biggest challenge with providing enhanced database functionality on MPE V is doing it without consuming large amounts of program stack space. Careful attention was made to ensure no more stack space was consumed than absolutely necessary. However, nothing in life (or software) is free. The following increases in stack consumption could not be avoided.

DBOPEN - 12 additional words
DBUPDATE - 19 additional words

These changes in stack consumption occur regardless of the CIUPDATE setting.

It is also worth noting that a DBUPDATE to a critical item will consume more stack space than a DBUPDATE which does not affect critical items. This additional stack consumption (around 100 words) is still several hundred words less than DBPUT which was necessary under the old Intrinsic Call sequence outlined above.

Design Considerations

Modification of critical items has been disallowed for so many years that with its implementation come caveats and usage considerations. Before using this feature testing should be done to understand the ramifications of its use.

Here are some considerations to keep in mind when using this enhancement:

- DBERROR and DBEXPLAIN will interpret the entire status array and will present the new error messages.
- Applications may depend on DBUPDATE returning a condition 41 when modification attempts are made to critical items.
- When a SEARCH item is updated, the entry will no longer be found on the chain of the previous item value and will be at the end of the chain for the new item value (unless the chain is sorted).
- When a SORT item is changed, the entry will logically move within the chain to the new position. TurboIMAGE/V allows sort items of data types X, U, and K, corresponding with ASCII, upper case ASCII, and absolute binary values. Values are sorted in ascending order. Should the new sort value be greater than the old value, a subsequent chained read (DBGET mode 5) will encounter the entry again. If a backward chained read (DBGET mode 6) is employed and the new sort value is less than the old value, the entry will be seen again.
- DBOPEN modes 1, 3, and 4 support Critical Item Update. Mode 2 is not supported as this feature requires locking or write exclusive capabilities and DBOPEN mode 2 allows shared DBUPDATEs, but does not enforce locking.

Updating of critical items has been a request for some time, and with the implementation of this feature your applications will now enjoy new functionality. However, as mentioned in the above considerations, some aspects of the feature may need to be carefully thought out.

Procedure stubs for TurboIMAGE/XL intrinsics

To enhance support of mixed operating system environments (MPE V and MPE/iX), procedure stubs have been written on MPE V for intrinsics which are only available with TurboIMAGE/XL. This allows compatibility mode programs which use these intrinsics on MPE/iX to run (or at least load) on MPE V. In previous releases, such programs would fail to load on MPE V due to UNRESOLVED EXTERNALS.

DBXBEGIN, DBXEND, and DBXUNDO all return CCL with the first word of the status array set to -213:

intrinsic `not available on MPE V.`

DBTPIINFO mode 1, always reports zero products installed while mode 2 always reports zero internal files and zero external files. The first word of the status array is set to zero indicating no error.

DBERROR, DBCALL, and DBEXPLAIN have been modified to recognize these stubbed procedures.

Conclusion

These changes expand the functionality of TurboIMAGE/V and not only preserve your migration path to MPE/iX but enhance compatibility between the two operating systems.

QUERY/3000 Enhancements

by
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Introduction

These enhancements to QUERY have been submitted to MPE V Release 30 as well as MPE/iX Release 4.0.

IEEE Real Support

One of the differences between MPE V and MPE/iX systems is the format used to represent real numbers. MPE V uses HP 3000 format and MPE/iX allows both HP 3000 and IEEE formats for real numbers. There are performance advantages to using IEEE format since this format is required to take advantage of floating point coprocessors.

QUERY/3000 will recognize and properly manipulate IEEE data. As mentioned previously, IEEE is only directly supported on MPE/iX. However, since TurboIMAGE databases are STORE/RESTORE compatible between MPE V and MPE/iX, it is possible to migrate a database which contains IEEE reals ("E" data type) from MPE/iX to MPE V. As of this release, QUERY will still function properly on MPE V by performing data conversions between the two data formats as needed.

This enhancement increases compatibility between MPE V and MPE/iX systems.

Wider Reports

QUERY/3000 has been enhanced to support a maximum line size of 256 characters (bytes). The old limit was 136 bytes.

This enhancement has been requested for several years but was not implemented due to stack limitations. Better stack controls have recently been implemented in QUERY allowing this change. Query reports are now able to take advantage of wide printing capabilities available on a variety of HP 3000 printers.

Larger Literal Table

Some customers have experienced "CONSTANT LITERAL TABLE OVERFLOW" errors when creating reports with many literal strings. Although it is still possible to encounter this error, it is much less likely because the limit has increased from 1536 to 9000.

MPE V Systems Now Recognize the Year 2000

by
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Introduction

In Release 30, changes have been made to MPE V to allow the system to recognize dates in the year 2000 and beyond. The general strategy for these changes is as follows:

- Where two digit dates are required such as entering the date when starting the system, the digits 00 through 27 will represent those years in the 21st century (20xx). The digits 28 through 99 will represent those years in the 20th century (19xx). For example, if you enter the date 1/1/00 when starting the system, the system will start with the date January 1, 2000. Other examples would be where you are specifying date parameters in the STREAM or STORE commands or the date parameter in SYSDUMP.
- Where 4 digit dates are returned from the system such as the DATELINE Intrinsic, the date returned will have the year as either 19xx or 20xx as appropriate according to the current date set on the system.
- Where "year of century" is returned by the system such as the CALENDAR Intrinsic or is asked for by the system such as the FMTDATE or FMTCALENDAR Intrinsics the "year of century" field [bits .(0:7)] is now defined as "# years since 1900". For example, if the value returned in this field by the CALENDAR Intrinsic is 100, the current year would be the year 2000 (1900 + 100 = 2000).

It is suggested that you check all applications and programs for the correct handling of the year numbers 2000 and beyond. This testing can be done by doing a WARMSTART on the system and entering a year in the 21st century (22 gives the year 2022 and is a leap year with the dates all the same as 1994, for example, 10/10/94 and 10/10/22 are both a Monday).

Caution Do not do this when other users are on the system because applications could get errors, will not run, or result in incorrect data. Also, do not use the INTEREX Contributed Library program CLKPROG or any similar program to change the date and time with other users on the system. This could also result in incorrect data including the system accounting information displayed with the REPORT command. If, for example, a user is logged onto the system and the system date is changed to the year 2022 and then the user logs off the system, the "connect time" that will be recorded for the user will be the total seconds as if the user had really been logged onto the system from 1994 to 2022.

Changed Functions

The specific changes are as follows:

- Allow entering the years 00 - 27 representing the years 2000 - 2027 when starting up the system.
- Allow the MICRO systems to recognize the years 2000 - 2027 when starting without typing in the date and time.
- Modify SYSDUMP to recognize the years 2000 - 2027 for the question "ENTER DUMP DATE?" and to correctly pass the date information to STORE/TURBOSTORE.
- Modify TURBOSTORE to recognize the years 2000 - 2027 for the input of the ;DATE= parameter and to output the correct years for the ;SHOW=DATES parameter for the Created, Modified, and Last Accessed dates of the files stored.
- Modify STORE/RESTORE to recognize the years 2000 - 2027 for the input of the ;DATE= parameter and to output the correct years for the ;SHOW=DATES parameter for the Created, Modified, and Last Accessed dates of the files stored.
- Modify the LISTDIR5 Utility to print the correct years 2000 - 2027 for the Created, Modified, and Last Accessed dates for files.
- Modify the LISTLOG5 Utility to print out the correct dates in the years 2000 - 2027 in the title and all record types that have the mm/dd/yy in them. (NOTE: not all record types that contain mm/dd/yy have this information formatted and printed out by LISTLOG5.)
- Modify the MEMLOGAN Utility to correctly format and print out the years 2000 - 2027.
- Modify the STREAM command to recognize the years 2000 - 2027 for the ;DAY= and ;DATE= parameters. Modify the command to correctly handle the error condition of trying to schedule a job earlier than the current date and time both when crossing the boundary of Midnight 12/31/99 to 1/1/00 and when the current date is in the years 2000 - 2027. Modify the command to handle normal scheduling across the boundary of Midnight 12/31/99 to 1/1/00 and during the years 2000 - 2027 for the ;AT=, ;DAY= (day-num, day-name, and days-until- monthend), IN=; and ;DATE= parameters.
- Modify the DATELINE intrinsic to print out the correct year starting with the year 2000.
- Modify the following NLS (Native Language Support) Intrinsics to handle dates in the years 2000 - 2027:

  # ALMANAC
  # NLCONVCLOCK
  # NLCONVCUSTDATE
  # NLFMTCALENDAR
  # NLFMTCLOCK
  # NLFMTCUSTDATE
  # NLFMTDATE
  # NLINFO (Item 30)
  # NLFMTLONGCAL

For further details on the changes to the MPE V commands or Intrinsics, refer to the latest version of these two manuals. Both of these manuals have been reprinted for Release 30 of MPE V.

For further details on the NLS changes, refer to SR # 1401-118927 in the SSB (Software Status Bulletin). This SR will give the details for appropriate changes to the NLS manual that you can incorporate into your copy of the manual.

Please be sure to create a new stand alone diagnostic tape for your system when updating to MPE V Platform 3P or later. Instructions are in Chapter 11 (SADUTIL) of the Utilities Manual (32033-90008) or in your Release update documentation.

RELEASE 31

Security Enhancement for EDITOR A.08.00

by
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Overview

EDITOR A.08.00, releasing with MPE V Release 31, has been enhanced with a long-requested security feature - the optional ability to pass on security attributes of the TEXT file to the KEEP file. This is implemented through a new global option on the SET command. The syntax is:

```
/SET SECURE                          << Activates KEEP file security >>

/VERIFY SECURE                       << Displays status of KEEP file security >>
                                     << as shown below                        >>

SECURE = TRUE (I.E. NOSECURE = FALSE)<< Indicates security is active >>

/SET NOSECURE                        << Deactivates KEEP file security >>

/VERIFY SECURE                       << Displays status of KEEP file security >>
                                     << as shown below                        >>

NOSECURE = TRUE (I.E. SECURE = FALSE)<< Indicates security is not active >>
```

Note When SECURE is FALSE, the KEEP command behaves as it always has, creating a file with standard EDITOR new file default security. The default setting for SECURE upon first entering EDITOR is FALSE, thereby preserving EDITOR's original behavior. However, some users may wish to enter EDITOR with the initial value of SECURE set TRUE. Two methods are available for doing so; EDITOR can be run with PARM=1 or the JCW EDITORSETSECURE can be set to 1. Examples are shown below:

```
:RUN EDITOR.PUB.SYS;PARM=1          << Initial value of SECURE is TRUE >>

:SETJCW EDITORSETSECURE=1
:EDITOR                             << Initial value of SECURE is TRUE >>

:DELETEVAR EDITORSETSECURE          << New on MPE V with Release 31 >>
:EDITOR                             << Initial value of SECURE is FALSE >>
```

Regardless of the chosen initial value, once within EDITOR the user can control the setting of SECURE with SET.

Details of Operation

Passing of security attributes from the TEXT file to the KEEP file occurs only when the following three conditions apply:

1. SECURE is TRUE. This must be done prior to the first KEEP command for which security is desired, and is described in detail above.
2. The most recently TEXTed file is a permanent disk file.
3. The KEEP file is a permanent disk file.

Note that when the above three conditions apply, KEEP will apply TEXT file security in all of the following cases:

- When the KEEP file is a new permanent disk file.
- When the KEEP file is an existing permanent disk file that is not the TEXT file.
- When the KEEP file is the TEXT file. This allows preservation of existing security when modifying and KEEPing an existing permanent disk file.

The value of the SECURE option, TRUE or FALSE, remains in effect through the editing session until modified with SET or until EDITOR is exited and re-entered.

Note EDITOR does **NOT** apply security to EDITOR work files ("K" files) that are created while SECURE is true, and does **NOT** apply security to workfiles that are renamed as a result of the KEEPQ command.

File Security Attributes

The file security attributes that are mapped from the TEXT file to the KEEP file when SECURE is TRUE are:

- Security matrix
- Lockword
- SECURE / RELEASE status of file
- Access Control Definitions (ACDs)

Example

The following LISTFs show SECURFIL with a lockword, non-default security matrix, released, and with an ACD in effect. EDITOR is run, and the SET SECURE command is entered. File SECURFIL is TEXTed and a KEEP is done to NEWFILE. The final LISTFs show correct transfer of lockword, security matrix, released status, and ACD.

```
:LISTF SECURFIL,-3
********************
FILE: SECURFIL.TEST.EDIT

FILE CODE : 0              FOPTIONS: STD,ASCII,FIXED
BLK FACTOR: 3              CREATOR : BOB
REC SIZE: 72(BYTES)        LOCKWORD: LOCK
BLK SIZE: 108(WORDS)       SECURITY--READ    : ANY,AC,GU
EXT SIZE: 2(SECT)                  WRITE   : ANY,AC,GU
NUM REC: 1                         APPEND  : ANY,AC,GU
NUM SEC: 2                         LOCK    : ANY,AC,GU
NUM EXT: 1                         EXECUTE : ANY,AC,GU
MAX REC: 1                       **SECURITY IS OFF
MAX EXT: 1                 COLD LOAD ID: %37540
NUM LABELS: 0              CREATED : WED, 20 JAN 1993
MAX LABELS: 0              MODIFIED: WED, 20 JAN 1993      11:46 AM
DISC DEV #: 1              ACCESSED: FRI,  5 FEB 1993
DISC TYPE : 4              LABEL ADDR: %405654
DISC SUBTYPE: 2            SEC OFFSET: %1
CLASS: DISC                FLAGS: NO ACCESSORS
FCB VECTOR: %0            %0
EXT MAP: %100405654


:LISTF SECURFIL,-2
ACCOUNT=  EDIT        GROUP= TEST

FILENAME        ------------ACD ENTRIES-------------

SECURFIL            BOB.EDIT            : R,W,X,A,L
                    @.SYS               : R,W,X,A,L


:EDITOR
HP32201A.08.00 EDIT/3000 FRI, FEB  5, 1993,  1:52 PM
(C) HEWLETT-PACKARD CO. 1993
/T SECURFIL
FILE UNNUMBERED
/SET SECURE
/K NEWFILE,UNN
/EXIT


END OF SUBSYSTEM
```

```
:LISTF NEWFILE,-3
********************
FILE: NEWFILE.TEST.EDIT

FILE CODE : 0              FOPTIONS: STD,ASCII,FIXED
BLK FACTOR: 3              CREATOR : BOB
REC SIZE: 72(BYTES)        LOCKWORD: LOCK
BLK SIZE: 108(WORDS)       SECURITY--READ    : ANY,AC,GU
EXT SIZE: 2(SECT)                  WRITE   : ANY,AC,GU
NUM REC: 1                         APPEND  : ANY,AC,GU
NUM SEC: 2                         LOCK    : ANY,AC,GU
NUM EXT: 1                         EXECUTE : ANY,AC,GU
MAX REC: 1                       **SECURITY IS OFF
MAX EXT: 1                 COLD LOAD ID: %37540
NUM LABELS: 0              CREATED : FRI,  5 FEB 1993
MAX LABELS: 0              MODIFIED: FRI,  5 FEB 1993       1:53 PM
DISC DEV #: 1              ACCESSED: FRI,  5 FEB 1993
DISC TYPE : 4              LABEL ADDR: %1410224
DISC SUBTYPE: 2            SEC OFFSET: %1
CLASS: DISC                FLAGS: NO ACCESSORS
FCB VECTOR: %0            %0
EXT MAP: %101410224


:LISTF NEWFILE,-2
ACCOUNT=  EDIT        GROUP=  TEST

FILENAME        ------------ACD ENTRIES--------------

NEWFILE             BOB.EDIT            : R,W,X,A,L
                    @.SYS               : R,W,X,A,L
```

Error Conditions

The following new warning messages may occur when SECURE is TRUE. The messages indicate that something went wrong obtaining TEXT file security attributes or in applying these attributes to the KEEP file. When any of the following messages occur, check the security disposition of the KEEP file at the end of the editing session and if necessary use appropriate MPE commands to apply the desired security.

```
*** WARNING *** CAN'T APPLY TEXTFILE SECURITY TO KEEPFILE.
```

This message can occur prior to closing the KEEP file and indicates a failure during transfer of security information from the TEXT file. More detail will be provided from the following possible messages:

```
* TEXTFILE FOPEN FAILURE
```

The TEXT file could not be opened. This error can occur if the TEXT file is purged prior to the KEEP command.

* TEXTFILE TO KEEPFILE HPACDPUT FAILURE

The HPACDPUT intrinsic failed when EDITOR attempted to map the ACD from the TEXT file to the KEEP file. Note that read access to the TEXT file is not adequate to retrieve ACD information; the user must also have read access to the TEXT file ACD (be the file creator, account manager, system manager, or be granted explicit RACD access in the ACD).

* DUMMY FOPEN FAILURE

Indicates failure to open a temporary work file for ACD transfer.

* TEXTFILE TO DUMMY HPACDPUT FAILURE

Indicates failure to transfer ACD information to the temporary work file.

* DUMMY TO KEEPFILE HPACDPUT FAILURE

Indicates failure to transfer ACD information from the temporary work file.

* FLABELINFO FAILURE

The FLABELINFO intrinsic failed when called to obtain the TEXT file security matrix and secure bit setting.

If the KEEP file is successfully closed and SET SECURE is in effect, EDITOR may attempt to perform ALTSEC, RENAME, and RELEASE commands if required. The failure of any of these will result in one of the following warning messages:

* ALTSEC FAILURE ON CLOSED KEEPFILE

* RENAME FAILURE ON CLOSED KEEPFILE

* RELEASE FAILURE ON CLOSED KEEPFILE

SPOOK5 (SPooler lOOK up) Utility Enhancements

by
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Software Technology Division

Introduction

One of the most used MPE V utilities is SPOOK5 (so named because it can look up ghost spool files which are files that cannot be seen with the MPE LISTF command). It is also one of the utilities with the most enhancement requests. MPE V Release 31 implements a number of these enhancements. The enhancements that have been completed are discussed in this article.

New HELP facility

SPOOK5 has been enhanced with a new HELP facility that gives full syntax, parameter, and operation details with examples. The XPLAIN command will, however, only give the brief command syntax the same as before. The new HELP command syntax and operation is as follows:

```
    >HELP [MPE]
or
    >HELP [command[,keyword]]
or
    >HELP [command[,ALL]]
```

PARAMETERS:

MPE	Enters the MPE HELP subsystem.
command	Can be any SPOOK5 command. For MPE commands, enter the MPE HELP facility by using the the >HELP MPE command and then enter the MPE command.
keyword	Can be PARMS, OPERATION, or EXAMPLE or the command name for more detailed information about the command.
ALL	Gives the syntax, PARMS, OPERATION, and EXAMPLE of the command without having to specify each section.

New REDO command

A new REDO command has been added. This command is especially handy if you have to re-issue a command such as the ALTER command several times with only minor changes or if you enter a lengthy command such as the DELETE command with a long list of Device File IDs and make a mistake in the middle of the command. The only SPOOK5 command that cannot be redone is the REDO command itself. This command works the same as the MPE REDO command and can be abbreviated by entering "R". The REDO command will only redo the last command issued. It does not have a "REDO stack" so it cannot REDO the second or third command back.

DELETE command changed

The DELETE command has been changed so it can be called by just using "D" or any amount of characters that spell the DELETE command ("DE", "DEL", "DELE", or "DELETE"). To do this, the DEBUG command was changed so that it can only be called using "DEB", "DEBU", or "DEBUG".

Problem in the ALTER command fixed

If you wanted to change the destination of an active Job $STDLIST output spool file from a class (such as LP) to a specific LDEV or from a specific LDEV to a class name, the JMAT (Job MAster Table) entry for the job was not modified to reflect the change. This caused the JOBINFO Intrinsic (Item 32) to return an error instead of the target device class name or LDEV. This problem has been fixed.

Problem in the COPY command fixed

While in SPOOK, if you made a specific syntax error while entering the COPY command, a variable would not get re-initialized and this would prevent you from successfully doing the COPY command again until you EXIT SPOOK5 and rerun it. Further, when the problem occurred, you would usually have to issue the EXIT command three times before the program successfully terminated. This problem has been fixed.

MODE command expanded

The MODE command has been expanded to allow the user to better control how certain actions will be accomplished during the entire time the SPOOK5 program is being used. These items, however, will not carry forward to the next time you run the SPOOK5 utility.

The new MODE command has the following syntax and parameters:

```
>MODE [parmname={nnn}  ][,parmname={nnn}  ][,...]
                {OFF}                {OFF}
                {ON }                {ON }
                {character}          {character}
```

nnn A positive integer to be used as specified below with the specific parmnames that will accept a value.

OFF The keyword OFF is used to control specific parmnames as listed below.

ON The keyword ON is used to control specific parmnames as listed below.

character A specific alpha, numeric, or special character to be used as listed below.

parmname One of the following parameter keywords:

```
CCTL     - Controls whether the COPY command will copy
           the contents of spool files with or without
           CCTL (printer control) information.  Default
           = OFF; CCTL not copied.
CONTROLS - Controls the display of I/O Control
           characters for the LIST & FIND commands.
           Default = OFF; do not display.
LANG     - Controls what language is to be used for the
           SPOOK5 message catalog. The
```

```
                language number must be a valid NLS language
                number that is configured on the system with
                NLS.  Default = 0 (No language configured).
LONG      - Controls whether the SHOW command will use
                the short or long form of information about
                the spool files.  Default = OFF; short form
                used.
PROMPT    - Sets the character to be used by SPOOK5 as
                as the prompt character.  Default = >.
QUIET     - Controls whether or not the SPOOK5 line
                numbers are printed in the LIST command.
                Default = OFF; print line numbers.
STOP      - Controls whether the FIND command will stop
                each time a character match is found or will
                continue searching until the search range has
                been met, displaying each match found.
                Default = ON; stop on each match.
WIDTH     - Sets the width of the lines written to
                $STDLIST.  Default = 0 (OFF) characters (use
                the $STDLIST MPE configured record length).
                A valid line width number is any number
                between 0 and 132 (0 = use $STDLIST configured).
```

Note For more information on the operation, specific use, and examples, use the new HELP facility by entering the SPOOK5 command "HELP MODE".

New SET Command

A new SET command has been implemented. This command is exactly the same as the MODE command. It was implemented for those who are more used to the SET command for setting parameters that will control the operation of the program or utility. For more details of the SET command, enter the SPOOK5 command "HELP SET".

Command Input Length Increased

For some SPOOK5 commands, users want to type in many more characters than the previous limit of 80 characters to use the command. This is especially true for the OUTPUT or INPUT commands. For example, if a user wanted to OUTPUT many specific spool files, the limit of 80 characters for a command caused the user to have to create more than one output tape because not all of the spool file ID numbers could be entered in a single command. Similarly, for the INPUT command, the user would have to remount the tape multiple times to read a large number of specific files that were OUTPUT to the tape. To facilitate the ability to use these and other commands where more than 80 characters are desired, the utility has been enhanced to accept up to 276 characters (the same as an MPE command). The same value as MPE was used to also facilitate being able to issue lengthy MPE commands from within the utility.

TDP can now be called from within SPOOK5

A problem was fixed that would not allow TDP or other programs that used the ";PARM=" parameter of the :RUN command to run correctly. The utility uses the ;PARM= value to pass the son level to be used as part of the prompt [>(1) for level 1]. This utility has now been modified so that if the program being run with the RUN command is not SPOOK5.PUB.SYS then ";PARM=0" is passed instead of the SPOOK5 sublevel. NOTE: ";PARM=0" will be passed even though you specified a different value in your run command.

Altered spool files are now always scheduled for printing

In previous releases, if you altered a spool file above the outfence for the target printer while running the utility as a son process to other programs, the file would not be scheduled for printing when the EXIT command was used instead of the QUIT command to return to the father process. This problem has been fixed.

List without SPOOK5 line numbers

There are now two methods of specifying that you want to list the contents of a spool file without the line numbers. The first method is to specify ",UNN" in the SPOOK5 LIST command and the second method is to specify "QUIET=ON" in the MODE or SET command. When the second method is used, line numbers will never be listed unless you specify "QUIET=OFF" in the MODE or SET command. Using the ",UNN" parameter in the LIST command will only list unnumbered for that one execution of the LIST command. For further information, use the HELP command to refer to the PARMS, OPERATION, and EXAMPLE sections of both the LIST and MODE commands.

Setting SPSAVE status for an output spool file

As of Release 31, MPE V has an enhancement allowing you to specify that an output spool file is to be created with SPSAVE status so that after the last copy of the file has been printed, instead of deleting the file, MPE will reset the priority of the spool file to 0 and save the file instead of deleting it. With this enhancement, you can now set the SPSAVE status for output spool files with the ALTER command. Further, the output of the SHOW command has been modified so that if the file has SPSAVE status set, it will show an "S" in the "RFS" column of the file detail listing. For further information, use the HELP command to refer to the PARMS, OPERATION, and EXAMPLE of the SHOW and ALTER commands. SPSAVE status can only be cleared by deleting the spool file either by using the utility's DELETE or PURGE command or by using the MPE DELETESPOOLFILE command.

A :FILE command before doing an INPUT or OUTPUT is no longer required

The utility will now automatically open up a class "TAPE" device for you for the INPUT and OUTPUT commands. The formal file designator for the INPUT command is SPOOKIN and for the OUTPUT command it is SPOOKOUT. You can either redirect these formal file designators as needed or provide your own as you had to do in the past. Since the default device is "TAPE", if you are using a serial device such as a serial disk or cartridge tape, you must redirect the output and use the "*filename" parameter. For example, to output a file is now as easy as simply issuing the command "O23" ("O" is the OUTPUT command and "23" is the device file ID).

Send INPUT and OUTPUT file listings to the Line Printer

You can now get a copy of information about the files written to tape with the OUTPUT command or of the files recovered back onto the system with the INPUT command by specifying the new ";OFFLINE" parameter for the INPUT and OUTPUT commands. The formal file designator for the offline listing is SPOOKLP. This listing is directed to a line printer with a class name of LP. This file can be redirected as desired using an MPE :FILE command. For example, to OUTPUT all files belonging to the finance department, get an offline listing of the files output, and purge the files after writing them to tape, issue the command "O @.FINANCE;O;P" ("O" is the OUTPUT command, "@.FINANCE" is the file set specification, ";O" is the "OFFLINE" parameter, and ";P" is the PURGE parameter).

Be able to find all occurrences of a string without stopping

By first setting the STOP=OFF parameter of the MODE or SET command, the FIND command will now find all occurrences of a string without stopping when the first string is found.

Be able to abbreviate F[IRST] and L[AST] when specifying a line range

You can now use just "F" for FIRST and "L" for LAST when specifying a line range. Some examples are:

```
L L-20/L
L F,30
C F/LAST-6
```

COPY spool files >1024 records without having to enter an MPE FILE command

Before, when you used the COPY command to copy a spool file to a disk file, the file would be opened without any file size specification. As a result, if your spool file was greater than 1024 records (the MPE default file size), the COPY command would terminate with an FSERR 0 (END OF FILE) as soon as record number 1023 was copied. Users would then have to issue an MPE FILE command specifying a ;DISC= parameter large enough to hold the complete spool file in order to complete the COPY command. Now, the utility will specify a file size large enough to hold the entire contents of the source file when doing a COPY command.

CCTL= parameter of MODE or SET command now implemented

The CCTL= parameter of the MODE or SET command is now implemented so you can take your choice - do or don't copy the CCTL character at the first of each spool file line when using the COPY or APPEND commands. (The default is OFF.) Now you can copy spool files to disk files and not have the annoying CCTL byte at the first of each line in your disk file.

Modified WIDTH= parameter of MODE or SET command

The WIDTH= parameter of the MODE or SET command now works with HP700 series Terminals for 132 character line widths. After issuing the two SPOOK5 commands MODE QUIET=ON and MODE WIDTH=132, you can now list 132 character lines to the HP700 series terminals without getting line wrap. Another way to do this is to issue the MODE WIDTH=132 command and then use the ;UNN parameter of the LIST command.

NLS Compatibility

The utility is being enhanced to allow localization of the message catalog file. To support the message catalog, the LANG= parameter of the MODE or SET command has been implemented in this version.

The following files on the PUB.SYS account are used by the utility:

- SPCAT000 - This is the GENCAT prepared default message catalog.
- SPCATSRC - This is the source of the default message catalog that can be converted to any language.
- SPHLP000 - This is the MSGCAT prepared default HELP file.
- SPHLPSRC - This is the source of the default HELP file.

Protection of accidental purging of MPE files

The utility's DELETE command will accept wild cards to delete spool files while the PURGE command will only accept dfid (Device File ID) numbers to purge spool files. However, with the enhancement to the MPE PURGE command to accept wild cards, it has been found that some people will accidentally purge MPE files because they forget which SPOOK5 command will accept wild cards and try to PURGE @.@ spool files. As a result of the wrong format of the command, the utility would pass the command to MPE for execution. While MPE states the number of files that will be purged and asks the user if they want to continue, it has been found that the users still thought that the question was asking about spool files, not MPE files. As a result, users would answer the MPE question with "YES" and would wind up purging all files of all groups of the logon account if they had AM (Account Manager) capability.

To help keep this from occurring in session mode, two things have been done:

1. A change was made to the MPE message clearly stating that the number of files selected are "MPE FILES".
2. The utility has been changed to first give the user a warning the command could not be executed and it would be passed to MPE for execution. Then, the user is asked if they want the command to be passed to MPE for execution. If the user enters "NO" or simply presses the carriage return key, the command will not be passed to MPE and the user will get back to the SPOOK5 prompt.

With two full opportunities to stop the command, first by responding to a question from the utility, and then by responding to a question from MPE, it is felt that the accidental purging of MPE files should only occur in rare circumstances.

In batch mode, neither SPOOK5 nor MPE will ask any questions. If the utility cannot execute the command in batch mode, it will automatically pass the command to MPE to be executed. In MPE, when executing the MPE Wild card PURGE command in batch mode, the user is not asked to verify that they want this command executed.

COPY and APPEND commands now give information about the new files created

The COPY command will now show you information about the new file created by the command if the new file is a spool file. The APPEND command will now also show this information, but not until the file is closed with the APPEND END command.

Use $STDINX instead of $STDIN

The utility will now open and FREAD from $STDINX to read in commands instead of using the READ Intrinsic, which reads from $STDIN. This will keep the utility from being aborted if the user tries to issue an MPE command while running the utility and enters a ":" as the first character of the MPE command name.

COPY command simplified

Before, if the user TEXTed a file and then entered the COPY command without a line range parameter, SPOOK5 would create a 2 line file with only an FOPEN and an FCLOSE record. The COPY command has been modified so that the user need only enter C[OPY] to make a copy of the complete TEXTed file.

SPOOK5 now copies blank lines

There was a problem where the utility would not copy blank lines from the source file to the target file with either the COPY or APPEND commands. This problem has been fixed so that the target file is now an exact copy of the source file.

The XPLAIN command has been updated

The X[PLAIN] command has been updated to reflect all of the command syntax changes to the commands. The XPLAIN command still only gives a one screen preview of the commands. For full help text, use the HELP command.

JCWs can now be Removed on MPE V with the DELETEVAR Command

by
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Introduction

Prior to Release 31, users had no way of removing all JCW entries associated with a job or session, other than by logging off and back on again. On MPE/iX, compatibility mode JCWs can be removed with the DELETEVAR command. The DELETEVAR command also deletes native mode CI variables on MPE/iX.

Beginning with Release 31, the DELETEVAR command is available on MPE V to remove specific JCWs or all JCWs for a particular job/session. Note, however, that this command does not work with CI variables on MPE V because CI variables are not available on MPE V. The DELETEVAR name, however, was selected for removing JCWs on MPE V to provide compatibility with the existing command that performs this function on MPE/iX.

Syntax

```
DELETEVAR jcwname
```

Parameters

jcwname	The name of a valid job control word (JCW) or @ which indicates all user-defined JCWs.

Use

DELETEVAR may be issued from a session, job, in BREAK, or from a program. The command is not breakable. System-defined and system-reserved JCWs cannot be deleted.

Examples

To delete the user-defined JCW named "ABC", enter:

```
DELETEVAR ABC
```

To delete all user-defined JCWs, enter:

```
DELETEVAR  @
```

Introducing the HPDEVCONTROL Intrinsic on MPE V

by
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Introduction

The MPE/iX HPDEVCONTROL intrinsic is now available on MPE V. This intrinsic provides access to specified peripheral functionality without the device being opened. The functions currently supported include remote tape loads and remote tape on-line for 7980 and DAT tape devices. This facilitates unattended backup and tape verification operations. The remote DAT on-line is also useful to place the DAT drive on-line without having to eject and reload the tape.

The supported functions, calling sequence, parameter types, and error returns match the HPDEVCONTROL intrinsic on MPE/iX. This allows running an HPDEVCONTROL program on MPE/iX that was developed for MPE V with no code changes.

Syntax

```
                    D  BA     DV     D
HPDEVCONTROL(status,ldev,itemnum,item);
```

Parameters

status **double by reference (required)**

Returns the status of the HPDEVCONTROL call. If no errors or warnings are encountered, status returns 32-bits of zero. If errors or warnings are encountered, status is interpreted as two 16-bit fields:

Bits (0:16) comprise status.info. A negative value indicates an error condition, and a positive value indicates a warning condition.

Bits (16:16) comprise status.subsys. The value represents the subsystem that sets the status information. There is no specific subsystem identifier for HPDEVCONTROL.

The values that can be returned in status.info are listed below. These return values match those returned by the HPDEVCONTROL intrinsic on MPE/iX.

ldev **byte array (required)**

Passes the LDEV number of the device to be accessed. The data must be left-justified.

Note This parameter must be delimited with a printable, non-numeric character and can be zero left-filled:

```
"7"          or
"00000007"   or
a7a          or
a00000007a
```

Whatever delimiter begins the parameter must also end the parameter. The delimiter itself must not appear within the parameter.

itemnum **double by value (required)**

Specifies which operation is to be performed (refer to the table below).

item **double by reference (optional)**

Reserved for MPE/iX. Ignored if supplied.

Itemnum and Item Values

Itemnum	Mnemonic	Item Description
100	D	Load Media: Attempts to load the media (tape devices only).
101	D	Online: Programmatically places the tape device on line.

Error Status Codes

Status.info	Description
-2	User lacks ND capability.
-3	Access violation. Ldev is not in the AVAIL state.
-8	Invalid ldev. Device is not configured, is not a real device, or is not supported by this intrinsic.
-9	Invalid parameters. Did not pass required parameters.
-16	Invalid itemnum.
-18	Bounds violation. Invalid address for reference parameters. Also returned if called in split-stack mode.
-24	I/O error. Device cannot be placed in the requested state.

Operation Notes

This intrinsic is only supported on tape devices (type 24) whose subtype is 5 (HP7980) or 6 (HPC1511A - DDS). This intrinsic cannot be called in split-stack mode.

If the device is not in an available state, HPDEVCONTROL will block until the operation can be performed on the device.

Condition Codes

CCE	No errors. Status = 0
CCG	Not returned by this intrinsic.
CCL	Error return in Status. Refer to the above table for possible returns.

Sample Program

The following SPL program can be used to access the HPDEVCONTROL intrinsic. The HPDEVCONTROL function is passed in the run-time PARM word while the ldev number is passed in the run-time INFO string.

```
$control uslinit,code,map
begin
<< ******************************** >>
<< RUN TAPEON;PARM=func;INFO="ldev" >>
<<                                  >>
<<  func = 100 = remote load        >>
<<         101 = remote online      >>
<<                                  >>
<<  ldev  = DAT/7980 ldev #         >>
<< ******************************** >>

integer runparm = q-4;
integer l, len;
double  return'status, item;
byte array buf(0:71):= "TAPEON (A.00.00)";
byte array info(0:9);

intrinsic print,getinfo,quit,terminate,hpdevcontrol;

print(buf, -16, 0);
info(0):= "%";
len:= 10;
getinfo(info(1), len);
if runparm = 0 or len = 0 then
  begin
    l:=move buf:="This program puts a DAT/7980 drive online as follows:";
    print(buf, -l, 0);
    l:=move buf:="  RUN TAPEON;PARM=func;INFO='ldev'";
    print(buf, -l, 0);
```

```
    l:=move buf:="Where func = 100 (remote load) or 101 (remote online)";
    print(buf, -1, 0);
    l:=move buf:="      ldev = DAT or 7980 ldev #";
    print(buf, -1, 0);
    l:=move buf:="This program uses the HPDEVCONTROL intrinsic. ";
    print(buf, -1, 0);
    terminate;
  end;
info(len+1):= "%";
HPDEVCONTROL(return'status, info, double(runparm), item);
if return'status <> 0D then
  quit(integer(return'status & dlsr(16)));
end.
```

Free Space Check on Ldev 1 Now Done by INITIAL During a Coldload

by
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Introduction

Prior to Release 31, a customer could be forced into an unplanned reload if a coldload operation failed because of insufficient contiguous disk space for the system SL on tape or if there was insufficient space for INITIAL to allocate certain system tables on disk. Beginning with this release, SYSDUMP and INITIAL prevent this problem from occurring. This article describes the problem and the method used to overcome it.

The Problem

Inadequate free disk space on ldev 1 can cause INITIAL to halt, requiring an unplanned reload, in one of the following situations:

1. Patches, user software, or third party software installations can add new segments or increase the size of existing segments in SL.PUB.SYS such that a new extent in the SL is allocated, increasing the size of the SL file.

   A coldload tape created with this larger SL file can cause problems if you use it to coldload a system with a smaller SL file and little free space on ldev 1. INITIAL purges the old SL file on disk, and tries to load the SL file from the coldload tape onto the disk. If the tape SL file is the same size or smaller than the one purged from the disk, the file reloads with no problem. But if the tape file is larger, then INITIAL must find enough contiguous space on ldev 1 to contain the new SL file. If space cannot be found, INITIAL halts with the following error:

   ```
   ERROR 326 - OUT OF DISC SPACE ON LDEV 1
   ```

   When this happens, INITIAL is too far into the coldload process to perform a start from disk, so a reload is necessary.

2. Even if the size of SL.PUB.SYS does not increase, ERROR 326 can still occur if free space is extremely low on ldev 1. INITIAL needs a minimum of around 2500 sectors of contiguous free space on ldev 1 during a coldload for holding system tables. If this free space is not available, the system must be reloaded.

The Solution

SYSDUMP and INITIAL have been enhanced in Release 31 to address the problems discussed above.

To solve the first problem, when SYSDUMP creates a coldload tape it now writes a SYSDUMP/INITIAL communication record to the tape containing the size of the system SL. A similar record resides on disk, containing the current size of the system SL. During an UPDATE or COLDSTART, INITIAL checks the size of the new SL on the coldload tape. If it is larger than the SL on disk (i.e. the coldload tape was from another system or is a coldload tape from the same system with SL changes that increased the size of the SL), INITIAL now tries to find a large enough block of free disk space for the new SL *before* purging the old SL. If the space can be allocated or the size of the new SL is less than or equal to the size of the SL on disk, the coldload proceeds without operator intervention. If the new SL is larger and space cannot be allocated, INITIAL displays the following:

```
CANNOT ALLOCATE BLOCK OF ##### SECTORS ON LDEV 1 REQUIRED FOR NEW SL ON TAPE.
INITIAL MAY HALT LATER AND A RELOAD WOULD BE REQUIRED TO RECOVER.
RECOMMEND HALT NOW, COOLSTART, FREE UP SPACE ON LDEV 1 AND ANOTHER COLDLOAD.

HALT COLDLOAD NOW (YES) ?
```

This message warns the operator that the coldoad may fail and recommends a COOLSTART to free up ##### contiguous sectors for the new SL. This ensures that the next coldload attempt will successfully allocate the space for the new SL. If the operator chooses to continue when the above message is displayed, INITIAL may or may not abort - this depends on whether or not enough space can be found once the old SL is purged. The operator is given the option of continuing, risking a forced RELOAD.

Caution There is a widespread rule of thumb among MPE V system managers that 17000 contiguous sectors are required for a COLDLOAD. This is in fact the recommended contiguous free space minimum on ldev 1 for an AUTOINST update to a new version of MPE V. In this instance, 17000 sectors are sufficient for the FOS SL on tape that will always be the same size. After the AUTOINST update, however, system SLs can double in size when adding HP subsystem software, third party software, or user segments to the system SL. Therefore 17000 free sectors will not always guarantee a successful coldload.

The second problem has been addressed in INITIAL by always attempting to preallocate 2500 contiguous sectors early enough so a start from disk can be performed if the allocation fails. If 2500 contiguous sectors cannot be found, the following is displayed:

```
CANNOT ALLOCATE BLOCK OF 2500 SECTORS ON LDEV 1 REQUIRED FOR COLDLOAD.
INITIAL MAY HALT LATER AND A RELOAD WOULD BE REQUIRED TO RECOVER.
RECOMMEND HALT NOW, COOLSTART, FREE UP SPACE ON LDEV 1 AND ANOTHER COLDLOAD.

HALT COLDLOAD NOW (YES) ?
```

This message and the recommended action is similar to the above message, differing only in the amount of free space required. Note that if less than 2500 sectors of free space exist on ldev 1 *and* the new SL file on tape is larger than the SL file on disk, both messages will appear if the operator chooses not to halt the system after the first warning.

Summary

This enhancement should help eliminate unplanned reloads by having INITIAL preallocate space on ldev 1 before it is too late to perform a start from disk.

The MPE V Spooler now Supports the MPE/iX SPSAVE Feature

by
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Introduction

The SPSAVE feature in the native mode spooler on MPE/iX allows you to specify that a copy of a spool file is to be saved after the spool file has printed. This feature is now supported in the MPE V spooler beginning with Release 31.

Saving a Spool File

To specify that you want to save the spool file for the STDLIST of a job, add the SPSAVE keyword to the JOB command. For example:

```
JOB REPORTS,MGR.FINANCE;OUTCLASS=PP,13;HIPRI;SPSAVE
```

To create a spool file that will be saved after it is printed, add the SPSAVE keyword to the FILE equation. For example:

```
FILE PAYROLL;DEV=PP,13,2;ENV=LP602.HPENV.SYS;SPSAVE
```

The command interface is the same as on MPE/iX.

Summary of Command Changes

- The JOB command now supports the SPSAVE keyword which sets SPSAVE on the STDLIST spool file.

```
!JOB REPORTS,MGR.FINANCE;OUTCLASS=PP,13;HIPRI;SPSAVE
```

- The FILE command now supports the SPSAVE keyword to set SPSAVE on a new spool file.

```
:FILE PAYROLL;DEV=PP,13,2;ENV=LP602.HPENV.SYS;SPSAVE
```

- The LISTEQ command shows `;SPSAVE` if set on a spool file equation.

```
:listeq

 FILE EQUATIONS

 FILE PAYROLL;DEV=PP,13,2;ENV=LP602.HPENV.SYS;SPSAVE
```

- The ALTSPOOLFILE command now supports the SPSAVE keyword to set SPSAVE on an old spool file in the READY, OPEN, ACTIVE, or LOCKED state.

```
:ALTSPOOLFILE #O123;SPSAVE
```

- The SHOWOUT command has been modified to SHOW SPSAVE if present. This was done by changing the "FRM" column that formerly showed "F" when a forms message was

present to "FS" which now shows "F" under the "F" column for a forms message, and "S" under the "S" column to indicate SPSAVE.

Sample SHOWOUT output before Release 31:

```
DEV/CL   DFID    JOBNUM  FNAME    STATE FRM SPACE RANK PRI #C DONE
LP       #O52    #J14    $STDLIST READY  F    6828    D 2   1
```

Note the presence of a forms message on #O52.

Sample SHOWOUT output beginning with Release 31:

```
DEV/CL   DFID    JOBNUM  FNAME    STATE  FS SPACE RANK PRI #C DONE
LP       #O4     #J4     PAYROLL  READY   S     36    D 1   1
LP       #O6     #J3     PAYROLL1 READY  F      36    D 1   1
LP       #O8     #J5     PAYROLL2 READY  FS     36    D 1   1
```

Spool file #O4 has SPSAVE set, #O6 has a forms message, and #O8 has both.

Differences between SPSAVE on MPE V and MPE/iX

The SPSAVE implementation on MPE V is slightly different from MPE/iX because the native mode spooler interface and features are different from the spooler on MPE V. SPSAVE on MPE V was designed to be easy for operators already familiar with the MPE V spooler and spooler commands while maintaining as much MPE/iX compatibility as possible. The following paragraphs summarize the differences.

The native mode spooler on MPE/iX uses a special SPSAVE state for a SPSAVE spool file once the spool file has printed. The output priority is irrelevant once the spool file enters the SPSAVE state because the spool file cannot be printed or altered in any way; however, another copy of the SPSAVE spool file can be printed using the SPOOLF command. The SPSAVE spool file can only be removed if explicitly deleted using the SPOOLF or DELETESPOOLFILE command.

Because the SPSAVE state is a native mode spooler feature, it is not used on MPE V. Instead, a spool file will be deferred at priority 0 after printing if SPSAVE was set. SPSAVE will remain set so if another copy of the SPSAVE spool file is printed by increasing the priority above the outfence, the spool file will again defer at priority 0 once it has printed.

Unlike MPE/iX, spool files deferred with SPSAVE on MPE V can be altered. Common to MPE/iX, however, will be the inability to remove the SPSAVE setting on an existing spool file, and the SPSAVE spool file can be removed from the system only if explicitly deleted (i.e. with the DELETESPOOLFILE command).

SHOWOUT on MPE/iX does not show SPSAVE. Instead the user must list spool files with the native mode LISTSPF command to see SPSAVE settings. In the absence of this native mode command on MPE V, the SHOWOUT command was used to provide this function.

ALTSPOOLFILE on MPE/iX does not support SPSAVE. Instead the user must change spool files with the native mode SPOOLF command to set SPSAVE. In the absence of this command on MPE V, the ALTSPOOLFILE command was used to provide this function.

To set SPSAVE programmatically on MPE/iX, the HPFOPEN intrinsic must be used. The FOPEN intrinsic on MPE/iX cannot set SPSAVE unless it is present in a file equation. Because HPFOPEN does not exist on MPE V, SPSAVE cannot be set unless a file equation is used. FOPEN itself will not support SPSAVE on MPE V and MPE/iX.

Because FOPEN does not support SPSAVE without a file equation, RFA (Remote File Access) will likewise not support SPSAVE when the remote system is either an MPE V or MPE/iX system.

RFA Support of SPSAVE

MPE V will not support SPSAVE using RFA as is the case with the current version of MPE/iX. This means that a spool file created on a remote MPE V or MPE/iX machine using SPSAVE in the file equation (i.e. FILE OUT;DEV=NODENAME#PP;SPSAVE) will not have SPSAVE set on the target system. If SPSAVE needs to be set on a remote spool file, use one of the following two means:

1. Create the spool file locally with SPSAVE and let a third party networked spooler package that supports SPSAVE transfer the spool file to the remote system. The networked spooler application can choose to save the SPSAVE spool file copy on either the source or target system.
2. Transfer the spool file with RFA, then use the ALTSPOOLFILE command on the remote system, specifying the SPSAVE parameter.

SPOOK5 Support of SPSAVE

The following SPOOK commands have been enhanced to support SPSAVE:

`ALTER` The SPSAVE option have been added to the existing ALTER options.

`SHOW` The SHOW ;@ output shows the presence of SPSAVE.

The APPEND and COPY commands will propagate the SPSAVE setting to the target spool file. The OUTPUT and INPUT commands will preserve SPSAVE.

Third Party Networked Spooler Support

The following vendors have been notified of this enhancement and should be modifying their software to support SPSAVE on MPE V:

- HOLLAND HOUSE's UNISPOOL
- UNISON's SPOOLMATE
- QUEST's NBSPOOL
- NSD's TRANSPOOLER

Obsolete MPE III Commands Removed from MPE V

by
Steve Smead
Software Technology Division

Commands Removed

To make room for new commands and features in MPE V, the following obsolete commands have been removed from the operating system beginning with Release 31:

QUANTUM	This command adjusted dispatcher queues and quantums. It was replaced by the TUNE command in MPE IV.
MON, MOFF, MIOENABLE, MIODISABLE	These four commands were used prior to MPE IV to collect system event and performance data and log this information to tape. These console or operator commands could be allowed, disallowed, and shown with the ALLOW, DISALLOW, and SHOWALLOW commands prior to Release 31. The "allow" commands no longer recognize the removed MON, MOFF, MIOENABLE, and MIODISABLE commands.

If you use any of these removed commands beginning with Release 31, the following error message will be displayed:

```
UNKNOWN COMMAND NAME.  (CIERR 975)
```

Change in the Default Access Capability of PUB.SYS

by
Dave Morris
Software Technology Division

The default LOCK access of the PUB group in the SYS account has been changed from "AL,GU" (Account Librarian and Group User only) to "ANY". This makes the PUB.SYS default access capability compatible with MPE/iX. If you are affected by this change in the security of PUB.SYS, you can manually change it back with the ALTGROUP command.

NS3000/V Error Message 5027

by
Gary Robillard & Robert Ross
Software Technology Division

Imagine a user setting up a Network Directory with two different node names pointing to the same IP address and using the same X.25 address key. The user might do this so different applications could use either node name to get to the same system transparently. This method works fine. However, every time the NS X.25 transport is started the following error logging message would be received on the console:

```
** NETXPORT X.25 : INTERNAL ERROR: Internal resource error
  - Loc: 5027: Class: 2; Parm= %000013; PortID: %000123 %002345
```

The error logging message warns the user that only one of the two node entries could be taken into account by X.25. In this case there isn't a problem because both entries have identical addresses, just different node names. The entries are essentially equivalent since the node name is not used by X.25. But, this may not always be the situation.

The following table documents other situations that may generate logging location code 5027. Location code 5027 is an addition to the table of Logging Location Codes found in the NS3000/V Error Message and Recovery manual.

Logging Location Code

Loc. Code	Logging Class	Explanation	Action
5027	CLAS0002	Error while processing Mapping buffer. Parm = 1 means that an attempt to expand an internal DST failed via a call to CNF_PO_Expand_Info_Ref.	Submit SR against error. Check the NS3000/V Error Message & Recovery Mnl for "Submitting an SR."
		Parm = 5 means a duplicate IP or X.25 address was encountered while processing configuration information.	Check configuration file for duplicate IP or X.25 address.
		Parm = 8 means a mapping table overflow has occurred.	STOP/START the NI if a NETCONTROL UPDATE was done; otherwise submit an SR.
		Parm = 12 means a buffer manager error has occurred.	Submit SR against error. Check the NS3000/V Error Message & Recovery Mnl for "Submitting an SR."

MPE V Stack Size Requirements

by
Steve Smead
Software Technology Division

Introduction

The stack space requirements for some MPE commands and Image intrinsics have increased in Release 30 through 3P. The increase is relatively small and should impact only those applications that are currently running extremely close to MAXDATA. The following figures reflect the number of words required before and after the Release 30 changes.

Image Intrinsics:

	Release 2P	Release 30, 31, 3P	Difference
DBUPDATE (no critical item update)	577 wds	596 wds	19 wds
DBUPDATE (critical item update, no ILR)	n/a	651 wds	n/a
DBUPDATE (critical item update, ILR)	n/a	698 wds	n/a
DBOPEN (no ILR)	1277 wds	1289 wds	12 wds
DBOPEN (ILR)	1351 wds	1363 wds	12 wds

ALTUSER/ALTGROUP/ALTACCT Commands:

	Release 2P	Release 30, 31, 3P	Difference
ALTUSER	923 wds	937 wds	14 wds
ALTGROUP	977 wds	990 wds	13 wds
ALTACCT	883 wds	928 wds	45 wds

PURGE Command:

Release 2P	Release 30, 31, 3P	Difference
1580 wds	1650 wds	70 wds

ALTSEC Command:

Release 2P	Release 30, 31, 3P	Difference
2709 wds	2880 wds	171 wds

LISTF Commands:

	Release 2P	Relesae 30, 31, 3P	Difference
LISTF,-2	1888 wds	1888 wds	0 wds
LISTF,-1	1162 wds	1180 wds	18 wds
LISTF, 0	1049 wds	1075 wds	26 wds
LISTF, 1	1178 wds	1212 wds	34 wds
LISTF, 2	1178 wds	1212 wds	34 wds
LISTF, 3/-3	n/a	1287 wds	n/a
LISTF, 4	n/a	1447 wds	n/a
LISTF, 6	n/a	1077 wds	n/a

ALTJOB Command Enhancements

by
Steve Smead
Software Technology Division

ALTJOB

Alters the attributes/scheduling of waiting or scheduled jobs.

Syntax

```
ALTJOB {#Jnnn} [;INPRI=inputpriority]  [;OUTDEV={ldev    }]   [;HIPRI]
       {#Snnn}                                  {devclass}

[;AT=timespec]

      {day-of-week     }
[;DAY={day-of-month    }
       days-until-month}

   [;DATE=mm/dd/yy[;AT=timespec]]

[;IN= [days] [,hours[,minutes]]]
```

The ALTJOB command now supports the HIPRI keyword as well as the STREAM scheduling parameters DATE, DAY, IN, and AT. These new keywords provide increased flexibility and control over scheduled and deferred jobs. Jobs no longer need to be aborted and restreamed (and also recreated if the JCL was created programmatically) in order to change the introduction time or to force the job to execute immediately. Prior to this release, the only way to force a job to execute immediately was to specify HIPRI in the JOB command.

The HIPRI Keyword

The HELLO/JOB command keyword HIPRI has been added to the ALTJOB command. The presence of this keyword will force immediate execution of a job in the WAIT state regardless of the JOBFENCE or job limit. Jobs in the WAIT state will have their INPRI bumped to 15 (HIPRI) and will be relinked into the WAIT queue while jobs in the SCHED state will have their INPRI bumped to 15 (HIPRI), but will remain in the SCHED queue until their introduction time is reached or changed using the ALTJOB rescheduling parameters discussed below.

This keyword may be specified with the existing ALTJOB parameters INPRI and OUTDEV although the last INPRI or HIPRI parameter will override prior input priority parameters. The HIPRI keyword is only available to SM/OP users.

Sample Syntax -

```
:ALTJOB #J1234;HIPRI
```

The DATE/DAY/IN/AT Keywords

These scheduling parameters allow one to change the scheduling date/time of a job in the WAIT or SCHED state without having to abort the job and restream it. Jobs in the SCHED state will be rescheduled in the SCHED queue or will move to the WAIT queue if the new scheduling date/time is less than or equal to the current time. Jobs in the WAIT state will be rescheduled back into the SCHED queue or will remain in the WAIT queue if the new date/time is less than or equal to the current time.

These keywords may be specified with any other ALTJOB parameter.

Sample Syntax -

```
:ALTJOB #J1234;DAY=FRIDAY;AT=18:30
```

Using ALTJOB to Force Immediate Job Execution

The HIPRI keyword will force immediate execution of a job in the WAIT queue; however, it will only change the INPRI to 15 if the job is in the SCHED queue. To force immediate execution of a job in the SCHED queue and to override the jobfence or job limit settings, use the HIPRI keyword with a new scheduling date/time that is on or before the current time:

```
:ALTJOB #J1234;HIPRI;IN=0
```

LG Capability No Longer Required to Call User Logging Intrinsics

by
Karen Lacey
Software Technology Division

Introduction

The MPE V user logging facility has been enhanced so LG capability is no longer required to call the user logging intrinsics. Now, if the program calling the intrinsics runs in privileged mode, no special user capabilities are required.

Details of Enhancement

Prior to Platform Release 3P, MPE V required LG or OP capability for any user accessing the user logging intrinsics (OPENLOG, WRITELOG, BEGINLOG, ENDLOG, FLUSHLOG, LOGINFO, LOGSTATUS, and CLOSELOG). This requirement created a security problem for some customers because system managers needed to give LG capability to any user accessing a logged database. These users then also had access to logging commands (CHANGELOG, LISTLOG, SHOWLOGSTATUS, GETLOG, ALTLOG, and RELLOG) and could use them to adversely affect other users on the system.

Beginning with Release 3P, LG capability is not required to access the user logging intrinsics. Users who do have LG or OP capability can still use these intrinsics as before. However, a program running in privileged mode (PM) can also call them without adding LG or OP to the capabilities of the user running the program. This means system managers can remove LG capability from users accessing logged databases, and those users will not have access to logging commands.

Also, capability checks have been removed from all user logging intrinsics except OPENLOG. Since a successful call to OPENLOG is required to access the other logging intrinsics, this capability check was redundant. Therefore, a value of 7 (illegal capability) will no longer be returned in the logstatus parameter of WRITELOG, BEGINLOG, ENDLOG, FLUSHLOG, LOGINFO, LOGSTATUS, or CLOSELOG.

Note No changes were made to the logging commands. LG or OP capability is still required to use any of the logging commands except LOG. Although the LOG command does not require LG or OP capability, it may only be executed at the console, unless it is distributed to users with the ALLOW command.

The user logging intrinsics are documented in the MPE V Intrinsics Reference Manual (32033-90007). The logging commands are documented in the MPE V Commands Reference Manual (32033-90006).

Enhancements for EDITOR A.09.00

by
Bob Holdsworth
Software Technology Division

Introduction

Hewlett-Packard Software Technology Division's objective in releasing EDITOR A.09.00 is to provide another round of most requested enhancements, as well as bug fixes to increase stability of the product.

In the enhancements described below, you will see several new features implemented as options using EDITOR's SET command. The question may arise as to why a new feature is implemented as an option rather than just modifying the default behavior. The answer is that when modifying a mature software product such as EDITOR, it is essential to avoid any disruption of existing customer procedures.

In order to meet this objective of stability and still provide easy access to new features, we have tried to anticipate which new SET options would be desirable for a significant number of users. In these cases, JCW settings can be made prior to entering EDITOR to change the initial behavior.

We hope you will agree that the enhancements described below represent significant and easy-to-use improvements to the functionality of EDITOR.

Case Insensitive Operations

Optional case insensitivity is now available in EDITOR for the following:

- FIND command (both original and new syntax, see below).
- CHANGE command (string to be changed can be located case insensitive).
- Any command that permits a character string to be specified within a range specification, e.g., DELETE 1/"buf".

When EDITOR is first invoked, the initial behavior is case sensitive operation. Case insensitive operation is invoked with a new option of the SET command,

```
/SET NOCASE
```

Case sensitive operation can be resumed by specifying

```
/SET CASE
```

For users that wish to enter EDITOR with initial behavior set for case insensitive operation (NOCASE), the following JCW setting may be specified prior to running EDITOR:

```
:SETJCW EDITORSETNOCASE = 1
```

Examples

```
/S NOCASE
/F "TEMPSRC"
    9      !purge tempsrc
             (8  )^

/f "run"
   23      !RUN CKFIXP.TOOLS.SWAT
           ^(2  )
/c "run","COMMENT RUN",*
   23      !COMMENT RUN CKFIXP.TOOLS.SWAT
```

Command Entry Through the INFO String and SET PERMY

EDITOR can now accept commands through the INFO string of the RUN command. This enhancement was requested by users who wish to use EDITOR from User Defined Commands (UDCs) (or command files on MPE/iX).

Also requested to make EDITOR more usable from UDCs and command files was an option to bypass all "YES/NO" prompting, defaulting to the YES path. This behavior can be established by specifying:

```
/SET PERMY
```

Normal "YES"/"NO" prompting can be resumed by specifying:

```
/SET NOPERMY
```

Example

In the following UDC DONTRUN, EDITOR is RUN with the INFO string. PERMY and NOCASE options are set. The file name resulting from parameter substitution for !f is TEXTed. All occurrences of the string run (case insensitive) are located and changed to the string comment run. The " ... ALREADY EXISTS - RESPOND YES TO PURGE OLD AND KEEP NEW" prompt will not occur when KEEPing the file because PERMY has been set. Upon completion of the KEEP, EDITOR is EXITed.

```
dontrun f
run editor.pub.sys;info="s permy,nocase;t !f;c :run:,:comment run:,all;k;e"
```

Redo Command

EDITOR now supports a REDO command. After issuing the REDO command, the last command buffer is displayed. Within REDO, the syntax is:

I = insert characters
D = delete characters
R = replace characters (R is optional for leading replacement characters other than I, D, or R.)

Example

```
/t testfil.test.sys

+-F-I-L-E---I-N-F-O-R-M-A-T-I-O-N---D-I-S-P-L-A-Y+
!  ERROR NUMBER: 52    RESIDUE: 0                !
!  BLOCK NUMBER: 0            NUMREC: 0          !
+---------------------------------------------+
*23*FAILURE TO OPEN TEXT FILE   (52)
NONEXISTENT PERMANENT FILE  (FSERR 52)
/redo
t testfil.test.sys
         ie
t testfile.test.sys
```

Limitations

REDO must be entered as a 'simple' EDITOR command. The following uses of REDO are invalid and are ignored (no error or warning) by EDITOR.

- REDO in a line containing multiple EDITOR commands separated by semi-colons.
- REDO within a USE file.
- REDO within a WHILE loop.
- REDO with a continuation indicator (&).
- REDO in non-interactive (batch) mode.
- REDO entered through the INFO string.
- REDO if no previous non-REDO command has been entered.

Enhanced FIND Command - Find Through a Range

The FIND command has been enhanced with new syntax that allows the user to locate all lines within a specified range that contain a target string. In conjunction with the case insensitive option described above, this enhancement provides EDITOR users with powerful and easy-to-use text location capabilities.

The enhanced FIND syntax is:

F[IND][Q] *string*{,} {*range specification*}
{ IN }

where range specification and string are as defined in the EDITOR manual. Note, the original FIND command syntax still exists and is unchanged (other than by optional case insensitivity as described above).

FIND through a range formats results differently than old FIND. FIND through a range displays each line within which the target string is located. Lines are displayed once, even if the target string exists more than once within the line. No column pointer is displayed for FIND through a range. Upon completion, the number of lines within which the target string was found is displayed. If "Q" (quiet) is specified, FIND through a range suppresses line displays, displaying only the number of lines found. If range specification consists of a single

line number, FIND through a range operates from the line number specified through the end of the work file.

Example

```
/s nocase
/f "buf",1/10
    5     ARRAY SBUF(0:39);
    6     BYTE ARRAY B'SBUF(*)=SBUF;
    7     ARRAY DBUF(0:39);
    8     BYTE ARRAY B'DBUF(*)=DBUF;
4 LINES FOUND
/f "upshift",all
   10     SUBROUTINE UPSHIFT(LEN,DEST,SRC);
   12     <<upshifted.                                                    >>
   17     << 2. Upshifts 'in place' (i.e., @SRC=@DEST) are OK.            >>
   39     END;        << SUBROUTINE UPSHIFT >>
   46     UPSHIFT(10,B'DBUF,B'SBUF);
5 LINES FOUND
```

Note, the next example takes advantage of the fact that an EDITOR range can contain strings. The following command locates all occurrences of the string "array" (case insensitive) from the beginning of the first line through the first occurrence of the string "subroutine".

```
/s nocase
/f "array",first/"subroutine"
    5     ARRAY SBUF(0:39);
    6     BYTE ARRAY B'SBUF(*)=SBUF;
    7     ARRAY DBUF(0:39);
    8     BYTE ARRAY B'DBUF(*)=DBUF;
4 LINES FOUND
```

Optional Terminal Output Formatting Change

EDITOR, by default, sets the maximum length for a terminal write in an interactive session to the configured terminal record length. Data to be written to the terminal that exceeds this maximum (e.g., listing a long line) is split up for multiple writes. This results in line wrap when listing long lines in EDITOR. For example, on a terminal configured for 40 word record width (80 bytes), numbered list of a full 72 character line will be seen as follows:

```
/l 48
   48     The two asterisks at the end of this line are in cols 71/72...
**
```

Users with terminal environments capable of long terminal writes (for example, software expandable terminal emulator windows in a workstation environment) may wish to avoid the default behavior and permit long terminal writes. This new behavior can be invoked by

```
/SET NOLNBRK
```

Default behavior can be restored by

```
/SET LNBRK
```

For users that wish to enter EDITOR with initial behavior set for one terminal write per record, regardless of length (NOLNBRK), the following JCW setting may be specified prior to running EDITOR:

```
:SETJCW EDITORSETNOLNBRK = 1
```

EDITOR takes advantage of NOLNBRK to change alignment for the display buffer of the MODIFY command. If NOLNBRK is set, the MODIFY display buffer will align, with line number, in a manner consistent with the LIST command. If LNBRK is set, the MODIFY display buffer alignment is unchanged.

Limitations

NOLNBRK is functional only when running EDITOR in an interactive session, i.e., EDITOR ignores the setting in a batch job.

Compact Format for Text of NM Spool Files on MPE/iX

A compact syntax is now available for TEXTing NM spool files on MPE/iX. The TS command may be used with one of two possible abbreviations for NM spool file names.

1. Digits only or
2. #O followed by digits

Example

Instead of the following text command

```
/t o13067.out.hpspool
FILE UNNUMBERED
```

either of the following two usages of the TS command can be used:

```
/ts 13067
013067.OUT.HPSPOOL
FILE UNNUMBERED

ts #013067
013067.OUT.HPSPOOL
FILE UNNUMBERED
```

Note that when a valid NM spool file name abbreviation is used, EDITOR displays the expanded actual file name. If an invalid NM spool file abbreviation is used with TS, no file name expansion occurs and a normal TEXT operation is attempted.

EDITOR Lets the File System Take Responsibility for File Name Editing

Past versions of EDITOR have attempted to intercept potential file system errors before the file system had a chance to deal with them. This occurred in two areas:

1. Checking of the file name specified in KEEP, TEXT, and JOIN commands.
2. Preventing attempt to KEEP an existing file name in an account different than the logon account (EDITOR ERROR 71).

EDITOR's handling of issues normally considered to belong in the realm of the file system causes no problem on MPE V. However, on MPE/iX, where rules about legal file names and ability to keep across account boundaries have changed, EDITOR should not needlessly cause limitations in functionality.

To address this issue, EDITOR has been modified to allow the file system of the respective platform (MPE V or MPE/iX) make the determination of whether a file name is legal or not. ERROR 71 will still occur on MPE V systems in accordance with EDITOR's old rules. On MPE/iX, the file system will determine whether a KEEP across account boundaries can occur.

Other Changes in EDITOR A.09.00

When executing an MPE command (prefixed by ":"), CIWARN conditions will now be displayed. Previously, only CIERROR conditions were displayed.

Within the MODIFY command, R is no longer required to indicate character replacement. Any leading character in the replacement field other than D (delete), I (insert), or R (still available) will cause replacement in the buffer starting at the position at which the character is entered.

Control-y subsystem break has been made more robust in VT sessions. Occasionally this could become disabled during long operations which involve no terminal IO, for example, FINDs.

Unnumbered file TEXTs are documented as having no upper limit in terms of number of records. However, in earlier versions of EDITOR, this operation would fail for files with greater than 294,912 records.

EDITOR default available stack space has been increased, permitting increased nesting of USE files.

The JOIN command can now handle NM spool files on MPE/iX.

3

Additional Software Products

RELEASE 30

Transact/V A.09.00

by
Susan Scotten
Software Technology Division

Transact/V Enhancements

This release of Transact/V (A.09.00) adds three enhancements.

LIST=(#) Option on File I/O Verbs

The LIST=(#) option of the file/database verbs will allow programmers to enumerate the data items of a MPE file, KSAM file, or a TurboImage dataset. The data items are specified in the order of their occurrence in the physical record or form as defined in the data dictionary. This order need not match the order of the data items in the list register.

This enhancement should help ease program maintenance.

System Name Included in Error Message

Error messages displayed at run-time will include the system name in which the error occurred. This will improve debugging for the programmer.

Ability to Initialize Items in Binary, Hex, or Octal

The INIT option of DEFINE(ITEM) will now allow the programmer to initialize I, J, and K type items to binary, hex, or octal values.

The primary use for initializing an item in terms of another base is for setting the bit map parameter in PROC calls to option variable intrinsics.

RELEASE 31

BRW/V A.02.80

by
Frank Heartney
Software Technology Division

BRW/V Enhancements

This release is primarily a defect fix release. In addition, the Request Report and On Line Review screen have been enhanced to handle BRW/iX reports containing new features destined for a future MPE/iX release. The principal defect fix is for Integer Comparison Predicates. The enhancements include:

On Line Review screen doesn't use LP as hard-coded default

The print function key in the On Line Review and Select Report screens now take the Default Print Device from the value configured in an RCONF file by RSETUP. Previously, 'LP' was hardcoded. This will be helpful if you routinely use a print device other than LP.

On Line Review screen shows current file location

In the On Line Review screen, the prompt line will now display the current page and column within the report, so the user will have a better idea where they are in the report. For NOCCTL reports, the current line number is displayed, instead of a page number. In addition, for NOCCTL files, a goto line function key is available, similar to the goto page function key for CCTL files.

RSTART support of '~' TPI operator and LASER CCTL for BRW/iX reports

Although not directly relevant for the MPE V platform, if RSTART is used on a MPE/iX platform, it will need to handle all features in current BRW/iX reports. Starting with the MPE/iX 4.7 submittal, BRW/iX report will support a new '~' operator for comparison predicate parameters for TPI keyword searches, and a new CCTL option 'LASER', to use form feed characters to denote page breaks in a report.

Defect fixes

The defect fixes in this release are:

- 5000-685065 Integer comparison predicates are broken in A.02.61.
- D500-155168 The LOG function returns natural Log, not Log 10.
- 1653-042622 Integer overflow related to Precision -2R.
- 1653-042077 Bounds violation in Define Lines screen.
- 1650-169748 BRW aborts when 'Enter' is pressed instead of 'Add Table' in Define Lines screen.

BRW-DESK A.00.03

by
Frank Heartney
Software Technology Division

BRW-DESK Enhancements

This release is primarily a defect fix release, addressing problems reading CCTL files in previous version of BRW-DESK. In addition, BRW-DESK will now handle files with escape sequences and form feed characters better. The enhancements include:

Current file location displayed on prompt line

For CCTL files, the prompt line will display the current page and column. For NOCCTL files, the prompt line will display the current line and column.

Enter/Next Page on last page is the same as Exit

Previously, the BRW browser made it awkward to exit a BRW report because the only way to exit was by pressing the F8 key. Now, the BRW browser behaves more like other HP Desk browsers. Pressing the Enter or Next Page key while on the last page of the report will exit the browser.

Escape sequences are removed before display, for improved alignment

In preparation for improved escape sequence support in BRW/iX on MPE/iX 4.7, the BRW-DESK browser will string escape sequences from the report so the horizontal scrolling will maintain proper alignment.

RPG/V Enhancement for Release 31

by
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Introduction

This article describes a new feature added to RPG/V version A.08.08 for Release 31. It is a new compiler command, $INCLUDENOW, which is a subset of the $INCLUDE command. It allows you to insert RPG statements into your program at the location of the $INCLUDENOW command. All of the records in the file named in the $INCLUDENOW command are entered at this point. In particular, it allows you to insert RPG specifications into subroutines and I-spec DS records, where the $INCLUDE previously had problems.

Overview of $INCLUDE

To understand how $INCLUDE is used, it is necessary to understand how the pre-processor RPGCOPY works. When RPGCOPY is invoked (by $COPY as the first record of your source program), it opens ten temporary files; one each for F-specs (and the H-spec), E-specs, L-specs, I-specs (excluding any DS records), I-specs for DS records only, detail C-specs, total C-specs, subroutine C-specs, O-specs, and tables/arrays. It then begins reading the RPG source program, placing its records sequentially in the appropriate temporary files. When it encounters a $INCLUDE record, it stops processing the RPG source program and instead reads the entire include file. This file may include a mix of specification-types. Records from this file are appended to the appropriate temporary file. When all the records from this file have been processed, RPGCOPY returns to the original source file. You may have as many include files in your program as you wish. Each is processed as above. The final result is merged back into a single file in appropriate order, and passed back to the compiler.

An example may help clarify the above. Suppose you have a program with an include statement in the middle of your detail C-specs. The include file contains some F-specs, I-specs, detail C-specs, total C-specs, and O-specs. When the pre-processor is invoked, it reads your source file, placing each record into the appropriate temporary file. When the $INCLUDE is encountered, source processing stops and the include file records are added to the temporary files. In this example, the F-specs are appended to the end of the F-spec temporary file, the I-specs to the end of the I-spec temporary file, and so forth. The point to note here is that the detail C-specs end up inserted at the point of the $INCLUDE statement, the total C-specs become the first entries in the total calculations since those from the source program have not yet been processed, and the O-specs become the first O-specs of the final program for the same reason. You can see, if you have multiple specification-types in your include file, care must be taken where the $INCLUDE is inserted in your file to insure your final desired result. If your include file contains only a single specification-type, you may insert the $INCLUDE where you wish these specifications to occur within your program (with the limitation noted above). For example, if your include file contains only detail C-specs, and you place the include statement within your I-specs, the C-specs will be placed before any of your source program C-specs.

If your include file contains an H-spec, its $INCLUDE statement must be placed prior to any F-specs in your source program.

Any other specification-type (A-spec, $-spec, comment (* in column 6), blank line, etc. is placed in the section where the previous line was placed).

Description of $INCLUDENOW

This subsystem command copies source code from a source library into the source program before compilation. Place this command at the point in the source program where you want the text inserted.

To use $INCLUDENOW, you must enable the source library facility by entering a $COPY compiler command as the first line of your program. Only one $COPY command is needed, regardless of how many $INCLUDEs or $INCLUDENOWs are in your program.

The records in the source library file named in the $INCLUDENOW command must be of a single specification type, since all the records in the file are inserted at the point of the command. Note that this differs from $INCLUDE, in that the file named in this command may include a mix of specification types. Also, $INCLUDE may not position I-spec DS records or C-spec subroutine records correctly, depending on their format. $INCLUDENOW does not have this problem.

Do not use $INCLUDENOW within a compile-time table or array (after the first "**" separator line).

The $INCLUDENOW command lines are listed on $STDLIST so that you can verify their location. The inserted lines from the library file are identified with a "C" in column 5 of the source listing.

$INCLUDENOW does not support modification of lines.

Syntax

```
$INCLUDENOW file_name[.group[.account]]

where
  file_name       The name of the source library file containing
                  the source statements to insert.
  group           The MPE/iX group where the library resides.
  account         The MPE/iX account where the library resides.
```

Example

The following $INCLUDENOW command inserts all the records in the source library file PAF106 into the source program at the point where the command occurs:

$INCLUDENOW PAF106 (this assumes PAF106 is in your current group.account)

Announcing the VPlus VMERGE Utility

by
Mike Kerwan and Rachel Schwab
Commercial Systems Division

Introduction

The B.06.05 version of VPlus is available on this MPE V release. This version contains several fixes and enhancements, including a new utility, VMERGE.PUB.SYS.

VMERGE Utility

VMERGE is a new VPlus utility that allows users to combine two or more separately compiled VPlus forms files into a single forms file, which may then be used with an application program to manage the entry and retrieval of data.

Combining multiple forms files with VMERGE provides the following advantages:

- Some file size limitations can be overcome. Since there are limitations on how many physical records can be placed in a VFORM file, VPlus users sometimes find that they cannot use a single forms file to hold all the forms their application requires. With VMERGE, it is possible to add more forms (from a second forms file) to the ones in the initial forms file, even if the first is at or near the maximum size.
- It is sometimes easier to maintain a large forms file as several separately compiled modules that can then be combined with VMERGE rather than to maintain one large forms file.

Please refer to the "Additional Software Products" chapter of this *Communicator* for a detailed article on how to successfully use VMERGE.

How to Use the New Hi-Li Features

by
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Introduction

The A.00.11 version of Hi-Li is available on this MPE V release. This version contains several bug fixes and four new features. These new features are:

- forms caching
- terminal bell suppression
- YYMMDD, COBOL packed, and COBOL zoned data conversion support
- application buffer and form initialization merge enhancement

The first and second features have been implemented by adding new modes to the HPDSETENV and HPDGETENV intrinsics. The third feature has been implemented by new type conversion codes added to the available data mapping methods. The fourth feature has been implemented by new data mapping methods added to those allowed by the HPDSEND and HPDREAD intrinsics. A description of these changes follows.

HPDSETENV Changes

Four new modes for forms caching and one new mode for suppressing the terminal bell have been added to the HPDSETENV intrinsic. Following is a description of this intrinsic with details about the new modes and their corresponding ENVBUF parameters.

```
                R          R       I          R          R
HPDSETENV (GLOBALPAK, RETURNPAK, MODE, ENVBUFDESCRPT, ENVBUF)

Allows application to configure elements of the current execution environment.

Abbreviation definition:

 I = integer (4 bytes).
 R = Pascal record, COBOL group, array in BASIC, FORTRAN, and Transact).

Parameters:

 ------------------------------------------------------------------
 | GLOBALPAK     | compound parameter, input to intrinsic          |
 |               |                                                 |
 | RETURNPAK     | compound parameter, output from intrinsic       |
 |               |                                                 |
 | MODE          | four byte integer, input to intrinsic           |
 |               |                                                 |
 |               |          2 = native language identifier,        |
```

```
|                  |  .        3 = auto test option,                    |
|                  |  * new *  7 = bell option,                         |
|                  |  * new *  37 = cache directory,                    |
|                  |  * new *  38 = form background loading,            |
|                  |  * new *  53 = cache entry (purge),                |
|                  |  * new *  54 = cache entry (load),                 |
|                  |           78 = device (switch out of block mode),  |
|                  |           79 = device (switch into block mode).    |
|                  |                                                    |
| ENVBUFDESCRPT    | four byte integer, input to intrinsic              |
|                  |                                                    |
| ENVBUF           | compound parameter, input to intrinsic             |
|                  |                                                    |
|                  | This parameter defines the area that contains the  |
|                  | configuration update.  The value you supply for    |
|                  | this parameter depends on the mode you have        |
|                  | specified.  Here are the details for the * new *   |
|                  | modes listed above.  For the other modes, please   |
|                  | consult the reference manual.                      |
|                  |                                                    |
|                  | Mode Element          Length/Format                |
|                  | 7    bell option      four byte integer            |
|                  |                       0 = sound bell,              |
|                  |                       1 = suppress bell.           |
|                  |                                                    |
|                  | 37   cache directory  four byte integer **AND**    |
|                  |                       88 byte character array      |
|                  |                                                    |
|                  |      Note:  the forms file must not have been      |
|                  |             opened.                                |
|                  |                                                    |
|                  |      The integer parameter contains the cache      |
|                  |      directory size in entries, one per form       |
|                  |      (must be a value between 1 and 255).          |
|                  |                                                    |
|                  |      The character array is for an unimplemented   |
|                  |      feature.  It should be initialized to blanks. |
|                  |                                                    |
|                  | 38   form background  four byte integer           |
|                  |      loading          1 = disable form background  |
|                  |                           loading,                 |
|                  |                       all others = enable          |
|                  |                           background loading       |
|                  |                           (default).               |
|                  |   ************************************************ |
|                  |   *  For modes 53 and 54, the forms files      *   |
|                  |   *  must be open, the device must be          *   |
|                  |   *  enabled, and the cache directory must     *   |
|                  |   *  be configured.                            *   |
|                  |   *                                            *   |
|                  |   *  If the device is not Local Forms Storage  *   |
```

```
|              |   *  (LFS) capable, an error will be returned. *  |
|              |   *  LFS capability may be ascertained after   *  |
|              |   *  device enable with HPDGetEnv intrinsic    *  |
|              |   *  mode=4.  Third integer in returned EnvBuf *  |
|              |   *  "device token" will contain the device    *  |
|              |   *  identifier determined when device enabled.*  |
|              |   *  See VPlus Reference Manual, Appendix G,   *  |
|              |   *  table G-1, for identifier/LFS capability  *  |
|              |   *  cross reference.                          *  |
|              |   ************************************************  |
|              |                                                    |
|              | 53   cache entry      60 byte character array      |
|              |                                                    |
|              |                       Name of form to purge from   |
|              |                       cache, left justified.       |
|              |                       Will be upshifted.           |
|              |                                                    |
|              | 54   cache entry      60 byte character array      |
|              |                                                    |
|              |                       Name of form to load to      |
|              |                       cache, left justified.       |
|              |                       Will be upshifted.           |
-------------------------------------------------------------------
```

HPDGETENV Changes

The bell option mode has also been added to the HPDGETENV intrinsic. Following is a description of this intrinsic with details about the new mode and its corresponding ENVBUF parameter.

```
                R          R       I          R          R
HPDGETENV (GLOBALPAK, RETURNPAK, MODE, ENVBUFDESCRPT, ENVBUF)

Retrieves configuration of current execution environment elements.

Abbreviation definition:

 I = integer (4 bytes).
 R = Pascal record, COBOL group, array in BASIC, FORTRAN, and Transact).

Parameters:

 ------------------------------------------------------------------
 | GLOBALPAK     | compound parameter, input to intrinsic          |
 |               |                                                 |
 | RETURNPAK     | compound parameter, output from intrinsic       |
 |               |                                                 |
 | MODE          | four byte integer, input to intrinsic           |
 |               |                                                 |
 |               |          1 = interface library version,         |
 |               |          2 = native language identifier,        |
```

```
|                 |           3 = auto test option,                    |
|                 |           4 = device token,                        |
|                 |           5 = form token,                          |
|                 |  * new *  7 = bell option,                         |
|                 |                                                    |
| ENVBUFDESCRPT   | four byte integer, input to intrinsic              |
|                 |                                                    |
| ENVBUF          | compound parameter, input to intrinsic             |
|                 |                                                    |
|                 | This parameter defines the area where the          |
|                 | requested element configuration is returned.  The  |
|                 | value you supply for this parameter depends on     |
|                 | the mode you have specified.  Here are the         |
|                 | details for the * new * mode listed above.  For    |
|                 | the other modes, please consult the reference      |
|                 | manual.                                            |
|                 |                                                    |
|                 | Mode Element          Length/Format                |
|                 | 7    bell option      four byte integer            |
|                 |                       0 = sound bell,              |
|                 |                       1 = suppress bell.           |
-------------------------------------------------------------------
```

HPDGETENV and HPDSETENV Errors and Exceptions:

```
*new* -73   Form loaded indicator not set.
*new* -71 @ Unable to load cache entry (form).
*new* -69 @ Unable to purge cache entry (form).
      -68   Unrecognized auto test option code passed.
*new* -67   Cache directory space value out of range.
*new* -66   No cache directory space configured.
      -65   Terminal has not been switched out of block mode.
      -64 @ Attempt to switch device into block mode failed.
      -63 @ Attempt to switch device out of block mode failed.
      -62   Language characteristic may not be set for current forms file.
*new* -61   May not configure cache if forms file already open.
      -60 @ Attempt to configure language failed.
      -58 @ Attempt to return forms file language characteristic failed.
      -56   Unrecognized configuration mode code passed.
      -27   Terminal was switched out of block mode (and is not "enabled").
      -17   Terminal is not enabled.
       -9   Forms file is not open.
       -6   Communications area is not set up.
       -5   Inappropriate file name passed.
```

YYMMDD, COBOL Packed, and COBOL Zoned Data Conversion Support

Chapter 4 in the *Hi-Li Reference Manual*(32424-90002) discusses the available data mapping methods. With this version of Hi-Li, enhancements have been made to the D and E methods of data transfer. These methods allow you to transfer data or a subset of data and provide data type conversion within your application.

The `DATADESCRPT` parameter is a compound parameter used in the `HPDREAD`, `HPDSEND`, and `HPDPRINTFORM` intrinsics to tell Hi-Li how you want to transfer data between your application and your form. It contains ten subparameters. One of these subparameters, `TYPCNVCODE`, is a four-byte integer that tells Hi-Li the type of data conversion you want performed. Several new values are available for this subparameter to support YYMMDD, COBOL packed, and COBOL zoned data conversion.

Following is a list of the available `TYPCNVCODE`s and their meanings:

Value(s)	Conversion Type
0	no conversion
1	two byte integer conversion
2	four byte integer conversion
3	four byte HP3000 format floating point (real) conversion
4	eight byte HP3000 format floating point (long) conversion
5	reserved for four byte IEEE format floating point (real) conversion
6	reserved for eight byte IEEE format floating point (long) conversion
7 *new*	six byte YYMMDD date conversion
1010..1189, 2010..2189, 3010..3189, 4010..4189 *new*	■ Thousands digit indicates COBOL data type:

Value	Type
1nnn	unsigned COBOL packed type
2nnn	signed COBOL packed type
3nnn	unsigned COBOL zoned type
4nnn	signed COBOL zoned type

- Hundreds and tens digits indicate total number of 9s in the COBOL PIC clause; 18 digits maximum.
- Ones digit indicates number of 9s to the right of the V character in the COBOL PIC clause; 9 decimal places maximum.
- Examples:
  - PIC S9(9)V9(9) COMP-3 is specified as 2189
  - PIC 9(18) COMP-3 is specified as 1180
  - PIC SV9 is specified as 4011
  - PIC 9 is specified as 3010

Application Buffer and Form Initialization Merge Enhancement

Two additional data mapping methods for mapping data that is to be moved between the application and the fields in the form are available on this release to supplement the two methods previously available.

The mapping method that is to be used by HPDSEND and/or HPDREAD is indicated by the value in the DESCRPTTYPE subparameter of the DATADESCRPT parameter. Following is a list of the possible values for this four-byte integer subparameter and explanations for each value.

Value	Meaning
-1	Do not transfer data.
0	Move concatenated string of data from/to DATABUF. The number of bytes moved is equal to the sum of the lengths of all the fields in the form. No data conversion is performed.
1 *new*	For HPDSEND, non-blank application buffer fields overlay corresponding fields in the form that were initialized to blanks by form specifications. For HPDREAD, same mapping as specifying 0; that is, no data conversion is performed.
2 *new*	For HPDSEND, non-blank application buffer fields overlay corresponding fields in the form. For HPDREAD, same mapping as specifying 0; that is, no data conversion is performed.

By using one of the new DESCRPTTYPE (1 or 2) values, the application can merge the application buffer content with the form specification initialization.

VPlus VMERGE Utility User's Guide

by
Mike Kerwan and Rachel Schwab
Commercial Systems Division

Introduction

VMERGE is a new VPlus utility that allows users to combine two or more separately compiled VPlus forms files into a single forms file, which may then be used with an application program to manage the entry and retrieval of data.

Combining multiple forms files with VMERGE provides the following advantages:

- Some file size limitations can be overcome. Since there are limitations on how many physical records can be placed in a VFORM file, VPlus users sometimes find that they cannot use a single forms file to hold all the forms their application requires. With VMERGE, it is possible to add more forms (from a second forms file) to the ones in the initial forms file, even if the first is at or near the maximum size.
- It is sometimes easier to maintain a large forms file as several separately compiled modules that can then be combined with VMERGE rather than to maintain one large forms file.

Overview

VMERGE usually resides in PUB.SYS. It may be run on either MPE/iX or MPE V. Before VMERGE is invoked, the user must specify two input forms files and one output file. The input files are specified with file equations for the formal designators VMASTER and VAUX. The output file is specified with a file equation for the formal designator VOUTPUT. VMASTER and VAUX must exist, and each may be of type VFORM (slow forms file) or VFAST (fast forms file). VOUTPUT is created by the VMERGE utility and is of type VFAST.

As VMERGE runs, informative messages are presented on $STDLIST. If any problems are encountered, appropriate error messages are displayed. These message are described in the VMERGE Messages section of this user's guide.

Forms File Handling by FORMSPEC and VMERGE

VPlus forms files exist in files with two different file codes: VFORM (slow forms file) and VFAST (fast forms file). VFORM files are created and modified with FORMSPEC. VFORM files contain the *source* for each form in the file, coded in a way that FORMSPEC can understand. When a forms file is compiled by FORMSPEC, *object* forms are added to the VFORM file. The object forms are accessed when the forms file is used with ENTRY or another application program that invokes the VPlus intrinsic functions.

When you use FORMSPEC to compile a VFORM file, you may request the creation of a fast forms file. This file contains only the object forms for the forms in the specified VFORM file. Processing the VFAST file is fast because the file is smaller than its corresponding VFORM file. That is, the fast forms file does not contain source forms and, therefore, can be

accessed faster. Since a fast forms file does not contain source forms, it cannot be modified by FORMSPEC.

Both VFORM and VFAST files are limited in the number of records they can hold. However, the problem is more severe with VFORM files since they contain both source and object forms.

Previously, the only way to create a fast forms file was by compiling a VFORM file with FORMSPEC. Consequently, you might have been unable to include forms that theoretically could have fit into a VFAST file, since the source and object forms might have been too large to fit into a VFORM file. Now, VMERGE gives you an alternate method for generating VFAST files that contain additional forms. However, VFAST files still have limited capacity, and so there are still limits on the total number of forms you can place in a forms file, even using VMERGE.

Initial analysis shows that the ratio of fast form file size to slow form file size is around 1/3 to 1/10. This suggests that you can expect to combine forms from three or more nearly full (to FORMSPEC) forms files into one forms file, by using VMERGE. However, this is an estimate only, since non-typical forms files may vary considerably in their object to source ratios.

Input File Compatibility

Not all forms files can be successfully combined using VMERGE. The input forms files must be "compatible" in order to be combined with VMERGE. The compatibility factors are:

- Form names—The same form name may not appear in both the VMASTER and the VAUX files.
- Save fields—If both input files use save fields, the specifications for both files must be identical in all respects: names of save fields, lengths, data types, and initial values. The save fields must also be defined in the same order. It is permissible for one file to use save fields and the other not.
- Global function key labels—If both input files define global function key labels, the specifications for both files must be identical in all respects. It is permissible for one file to define global function key labels and the other not. In this case, the global function key labels from the file which has them will be retained in the output file.
- Terminal selection and language id—Both input files must have exactly the same set of terminals selected and the same Forms File Language specified (from FORMSPEC Terminal/Language Selection Menu).

There are a number of forms file characteristics that may differ between the two input files that are not serious enough for VMERGE to consider the two files as incompatible. These include:

- head form name
- error enhancement
- window display line
- error window color
- window enhancement

The characteristic found in the VMASTER file is retained in the VOUTPUT file.

Application Requirements for Combined Forms Files

VMERGE takes two FORMSPEC-compiled forms files specified by the VMASTER and VAUX file designators, extracts the object forms from each file, and places these forms in a VFAST file specified by the VOUTPUT file designator.

Every forms file has a $HEAD form designated for it. Additionally, every form in a forms file has a "Next Form" designated for it. Next Form may be $HEAD or it may be the name of another form in the file. In order to compile a forms file, FORMSPEC requires that any form named as the $HEAD or as a Next Form exist in the file. Consequently, it is impossible for a form in the VMASTER forms file to refer to a form in the VAUX forms file as its Next Form and vice versa.

Therefore, the application program used with a combined forms file must be coded to sequence among the forms in the combined forms file without depending on the Next Form designation. The Next Form designation can only be used when it and the current form originated from the same forms file.

VMERGE users should be aware that VMERGE makes the $HEAD form from VMASTER the $HEAD for VOUTPUT. If data entry operators are used to seeing the $HEAD form from the VAUX file, they may be surprised if this $HEAD form is no longer what is displayed when they bring up their application.

Technical Reference

VMERGE normally resides in PUB.SYS; if it is moved from PUB.SYS, it must be moved to a group with "DS" capability.

VMERGE is invoked with the following command:

```
:RUN VMERGE.PUB.SYS
```

Before invoking VMERGE, three file equations must be given. VMERGE's two input forms files are indicated by the file designators VMASTER and VAUX. VMASTER and VAUX must designate existing forms file, with file codes VFORM or VFAST. The VMASTER and VAUX files must have been compiled with a recent version of FORMSPEC. If an input file is provided that does not meet this criterion, a message is given, and VMERGE processing halts.

VMERGE's output VFAST forms files is indicated by the file designator VOUTPUT. If the designated file already exists and has the file code VFAST, then it is purged and recreated by VMERGE. If the file exists but has a file code other than VFAST, the file is not purged, a warning message is given, and VMERGE halts.

The files used by VMERGE are opened for exclusive use to avoid concurrent update problems.

Two JCWs (job control words) are defined for use with VMERGE: VMERGETERSE and VMERGEERROR. If the user sets VMERGETERSE to 1 before running VMERGE, then the messages indicating the form names contained in the VMASTER and VAUX files are suppressed. The VMERGEERROR JCW is set by VMERGE after it runs. If VMERGE detected a severe error that prevented the VOUTPUT file from being successfully created, VMERGEERROR is set to 1. If VMERGE successfully created the VOUTPUT file, VMERGEERROR is set to 0.

Example 1: Using VMERGE to Combine Forms Files

Suppose your company has three distinct uses for an order form prepared by a salesperson. The order form is used in the shipping department, the billing department, and the marketing department. Currently the original order form is passed among three clerks who each enter their data using their own VPlus forms files (SHIPFF, BILLFF, and MARKETFF) that are distinct to their respective departments. Your job is to merge the forms files and fix the application program so that one clerk can enter the data for all three departments.

You decide that each of the three application areas (shipping, billing, and marketing) should be selectable by pressing a function key. Once an area has been selected, processing will be performed using the same sequence as when the application for that area existed on its own. Remember that while combining the three applications into one, you will need to examine the effect of $HEAD being different from what two of the original three programs expected. Most likely, you will want to create a new form to serve as the $HEAD for the combined application.

After examining and fixing the application program, you will need to look at the forms files and make them compatible, if they are not already. You will need to make sure that the save fields, if any, have distinct names and are identical in each of the forms files that uses them. Additionally, you will need to check that the global function key specifications are compatible in the three forms files. Note that in some cases incompatibilities may be so extensive that it will be impossible to merge the forms files.

Next you determine what order to merge the forms files together. Suppose in this example that the marketing forms file is much more volatile than the other two. Therefore, you decide that this file should be the last one merged. You also need to decide which form your combined application should use as its $HEAD. Suppose in this example you depend on the $HEAD form from BILLFF being the $HEAD of the combined forms file.

Combining the forms files is accomplished in two stages. In the first stage you enter:

```
:FILE VMASTER=BILLFF
:FILE VAUX=SHIPFF
:FILE VOUTPUT=INTERFF
:RUN VMERGE.PUB.SYS
```

VMERGE creates the intermediate forms file INTERFF.

In the second stage you enter:

```
:FILE VMASTER=INTERFF
:FILE VAUX=MARKETFF
:FILE VOUTPUT=COMBOFF
:RUN VMERGE.PUB.SYS
```

VMERGE creates the final forms file COMBOFF. You may wish to keep the intermediate forms file, INTERFF, so you won't need to recreate it if only MARKETFF changes.

Now you could test COMBOFF with your combined application program.

Example 2: Using VMERGE to Divide a Forms File

Another use of VMERGE is to divide an existing forms file into two or more smaller forms files. This might be desirable if different forms in the original forms file were going to be modified by different people, or if compiling the entire forms file takes a long time.

When VMERGE is used to divide a file, there are few compatibility problems since the original form file is already "merged". You will have to be careful not to introduce incompatibilities (for example, refer to the $HEAD and Next Form issues discussed earlier) as a result of dividing the file.

Suppose you have a forms file named BIGFF that you want to remove forms F1, F2, and F3 from and place them into another forms file, LITTLEFF. The F1, F2, and F3 forms are changed often and you want to separate them out in order to minimize the time it takes to recompile each time you make changes to them.

First, you would FCOPY BIGFF to LITTLEFF by entering the following command:

```
:FCOPY FROM=BIGFF;TO=LITTLEFF;NEW
```

Second, you would run FORMSPEC on BIGFF to delete forms F1, F2, and F3. You would need to fix up the Next Form fields for any affected forms.

Third, you would probably want to make advantage of some of FORMSPEC's batch mode facilities to delete all but the F1, F2, and F3 forms from LITTLEFF (see the Deleting Forms Using FORMSPEC's Batch Mode Facilities section below).

Fourth, you would compile both forms file to verify that no $HEAD or Next Form dependencies exist. The compilation for BIGFF will be lengthy, but it will only need to be done once.

Fifth, you would make your changes to the forms in LITTLEFF and add additional forms that could not be put into BIGFF due to size limitations.

After you had taken all these steps you could combine the two forms files with VMERGE:

```
:FILE VMASTER=BIGFF
:FILE VAUX=LITTLEFF
:FILE VOUTPUT=SUPERFF
:RUN VMERGE.PUB.SYS
```

Check your application using the SUPERFF forms file.

VMERGE Messages

Following are the messages produced by the VMERGE utility. The cause of each, and the action you may take is also described.

```
Message:  hp32209V.UU.FF VMERGE    (c) Hewlett-Packard Co.  1992
          ALL RIGHTS RESERVED
Cause  :  Header generated at the start of VMERGE processing.
Action :  None.

Message:  ***** Internal processing error  (VM1001)
Cause  :  An unexpected condition has been detected by VMERGE.
Action :  Preserve the input files for diagnosis and contact HP rep.
```

```
Message:  Begin VMERGE Processing ... (VM1003)
Cause  :  Given at the start of processing.
Action :  None.

Message:  No consistency check required, AUX file is $NULL  (VM1004)
Cause  :  Self-explanatory.
Action :  None.

Message:  Consistency check of MASTER and AUX files begun ... (VM1005)
Cause  :  Self-explanatory.
Action :  None.

Message:  Input files are consistent  (VM1006)
Cause  :  The consistency check of MASTER and AUX has been completed,
          and the files have been found consistent.
Action :  None.

Message:  ***** Input files are not consistent  (VM1007)
Cause  :  The consistency check of MASTER and AUX has been completed,
          and the files have been found inconsistent.  (Normally an
          explanatory message indicating why they are inconsistent will
          have been issued prior to this one.)  The OUTPUT file will
          not be produced.
Action :  Adjust the input files to overcome the indicated inconsistency
          and rerun VMERGE.

Message:  End of VMERGE Processing.  (VM1009)
Cause  :  Self-explanatory.
Action :  None.

Message:  ***** Form name table could not be allocated  (VM1400)
Cause  :  An attempt to allocate an extra data segment to hold a form
          name table for the MASTER or AUX forms has failed.
Action :  Consult with your system administrator to determine why
          this failure occurred on your system.  This is probably
          due to limitations on the number of Extra Data Segments
          that can be created in your configured environment.

Message:  ***** Form name table overflow  (VM1401)
Cause  :  More forms have been found in the MASTER or AUX file than
          can be accomodated in the form name table.
Action :  Contact your HP rep.

Message:  ***** Conflicting data in MASTER forms file  (VM1402)
Cause  :  Invalid or inconsistent data has been found in the MASTER file.
Action :  Recreate the file and rerun VMERGE.  If the problem persists,
```

```
          contact your HP rep.

Message:  ***** Conflicting data in AUX forms file  (VM1403)
Cause  :  Invalid or inconsistent data has been found in the AUX file.
Action :  Recreate the file and rerun VMERGE.  If the problem persists,
          contact your HP rep.

Message:  ***** Error accessing table in an extra data segment   (VM1404)
Cause  :  An attempt to access data in an extra data segment was rejected
          by the MPE operating system.
Action :  Rerun VMERGE.  If the problem persists, contact your HP rep.

Message:  ***** Version of MASTER file format not supported by VMERGE (VM1500)
Cause  :  The MASTER file was compiled with a version of FORMSPEC that is
          not supported by VMERGE.  (Versions prior to B.03.03 are not
          supported.)
Action :  Reconstruct the file with the current version of FORMSPEC.

Message:  ***** Version of AUX file format not supported by VMERGE (VM1501)
Cause  :  The AUX file was compiled with a version of FORMSPEC that is
          not supported by VMERGE.  (Versions prior to B.03.03 are not
          supported.)
Action :  Reconstruct the file with the current version of FORMSPEC.

Message:  Warning:  Error enhancement settings differ  (VM1504)
Cause  :  The error enhancement settings differ in the MASTER and AUX files.
Action :  None.  (The value from the MASTER file is retained in OUTPUT.)

Message:  Warning: Window display line settings differ (VM1505)
Cause  :  The display line settings differ in the MASTER and AUX files.
Action :  None.  (The value from the MASTER file is retained in OUTPUT.)

Message:  Warning: Error window color settings differ  (VM1506)
Cause  :  The error window color settings differ in the MASTER and AUX files.
Action :  None.  (The value from the MASTER file is retained in OUTPUT.)

Message:  Warning: Window enhancement settings differ (VM1507)
Cause  :  The window enhancement settings differ in the MASTER and AUX files.
Action :  None.  (The value from the MASTER file is retained in OUTPUT.)

Message:  ***** Terminal Specific settings differ  (VM1508)
Cause  :  The terminal settings differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.

Message:  ***** Language ID settings differ (VM1509)
Cause  :  The language id settings differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.
```

```
Message:  ***** Number of databases differ  (VM1510)
Cause  :  The number of databases differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.

Message:  ***** Save fields specifications differ  (VM1521)
Cause  :  The save field specifications differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.
          The save field specifications must be identical in all respects
          in both input files.

Message:  ***** Global function key labels differ  (VM1531)
Cause  :  The global function key labels differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.

Message:  ***** 307x terminal settings differ  (VM1541)
Cause  :  The 307x terminal settings differ in the MASTER and AUX files.
Action :  Revise the files to make them compatible and rerun the utility.

Message:  Form name "nnnnnnnnnnnnnnn" found in MASTER file  (VM1601)
Cause  :  Documents that the named form was found in the MASTER file.
Action :  None.

Message:  Form name "nnnnnnnnnnnnnnn" found in AUX file  (VM1603)
Cause  :  Documents that the named form was found in the AUX file.
Action :  None.

Message:  ***** MASTER and AUX contain duplicate form name(s)  (VM1611)
Cause  :  Forms with the same name were found in both the MASTER and AUX files.
Action :  Remove or rename the duplicate forms from one file and rerun VMERGE.

Message:  ***** Duplicate form name:  nnnnnnnnnnnnnnn  (VM1612)
Cause  :  Identifies a form name found in both the MASTER and AUX files.

Action :  Remove or rename the duplicate form form one file and rerun VMERGE.

Message:  ***** Unattached messages; use fast forms files  (VM1613)
Cause  :  Messages have been found that are not associated with any form.
          OUTPUT file is not produced.
Action :  Compile the input files and produce fast forms files.  Use the
          fast forms files as input to VMERGE.

Message:  ***** MASTER file could not be opened  (VM1700)
Cause  :  The file designated as MASTER could not be opened.
Action :  Remove the impediment to opening the file and rerun VMERGE. (The
          file may not exist under the designated name, or may be already
          open for exclusive use, etc.)
```

```
Message:  ***** Error reading MASTER file  (VM1701)
Cause  :  An error occurred in attempting to read the MASTER file.
Action :  Regenerate the file and rerun VMERGE.

Message:  ***** Error in MASTER file data  (VM1702)
Cause  :  An inconsistency was found in the data in the MASTER file.
Action :  Recreate the file and rerun the utility.  If the problem persists
          contact your HP rep.

Message:  MASTER file opened  (VM1703)
Cause  :  Self-explanatory.
Action :  None.

Message:  ***** MASTER file type is not VFORM or VFAST  (VM1704)
Cause  :  Self-explanatory.
Action :  Designate the correct file and rerun VMERGE.

Message:  MASTER file designated as:  fff ... f  (VM1705)
Cause  :  Shows the full pathname of the MASTER file.
Action :  None.

Message:  ***** MASTER file has not been compiled  (VM1706)
Cause  :  Self-explanatory.
Action :  Compile the MASTER file and rerun VMERGE.

Message:  ***** AUX file could not be opened  (VM1800)
Cause  :  The file designated as AUX could not be opened.
Action :  Remove the impediment to opening the file and rerun VMERGE. (The
          file may not exist under the designated name, or

may be already
          open for exclusive use, etc.)

Message:  ***** Error reading AUX file  (VM1801)
Cause  :  An error occurred in attempting to read the AUX file.
Action :  Regenerate the file and rerun VMERGE.

Message:  ***** Error in AUX file data  (VM1802)
Cause  :  An inconsistency was found in the data in the AUX file.
Action :  Recreate the file and rerun the utility.  If the problem persists
          contact your HP rep.

Message:  AUX file opened  (VM1803)
Cause  :  Self-explanatory.
Action :  None.
```

```
Message:  ***** AUX file type is not VFORM or VFAST  (VM1804)
Cause  :  Self-explanatory.
Action :  Designate the correct file and rerun VMERGE.

Message:  AUX file designated as:  fff ... f  (VM1805)
Cause  :  Shows the full pathname of the AUX file.
Action :  None.

Message:  ***** AUX file has not been compiled  (VM1806)
Cause  :  Self-explanatory.
Action :  Compile the AUX file and rerun VMERGE.

Message:  ***** OUTPUT file could not be opened  (VM1900)
Cause  :  Self-explanatory.
Action :  Remove the impediment to opening the OUTPUT file and rerun VMERGE.

Message:  ***** Error writing OUTPUT file  (VM1901)
Cause  :  Self-explanatory.
Action :  Correct the problem that has caused the write error and rerun
          VMERGE.  You may need to consult with your system administrator
          to determine the problem.

Message:  OUTPUT file opened  (VM1903)
Cause  :  Self-explanatory.
Action :  None.

Message:  ***** OUTPUT file type is not VFAST  (VM1904)
Cause  :  The file designated as OUTPUT pre-exists but is not of type VFAST.
Action :  This is viewed as an error since it is assumed that the user has

          unintentionally designated the name of a file being used for
          other purposes.  Redesignate the OUTPUT file (or purge the old
          file if the name is correct) and rerun VMERGE.

Message:  OUTPUT file designated as:  fff ... f  (VM1905)
Cause  :  Shows the full pathname of the OUTPUT file.
Action :  None.

Message:  Error closing OUTPUT file  (VM1906)
Cause  :  Self-explanatory.
Action :  Correct the problem that has caused the error and rerun VMERGE.
          You may need to consult with your system administrator to
          determine the problem.

Message:  ***** OUTPUT file purged  (VM1911)
Cause  :  Inconsistency or some other problem has prevented the OUTPUT file
          from being successfully generated.  To avoid confusion, the file
```

```
          is purged.
Action :  Correct the underlying problem and rerun VMERGE.

Message:  ***** OUTPUT file pre-existed and could not be purged  (VM1912)
Cause  :  An attempt to purge the existing file with the name designated
          for the OUTPUT file failed.
Action :  Make sure that the correct file name has been designated.  If
          so, determine why it could not be purged and remove the impediment.
```

Deleting Forms Using FORMSPEC's Batch Mode Facilities

Suppose you wanted to delete all forms but F1, F2, and F3 from a forms file named LITTLEFF. To accomplish this, you would take the following steps:

1. Use the FORMSPEC "FORMS" command to generate a list of forms in LITTLEFF and redirect the list to a disk file.

```
:FILE FORMOUT;REC=-80,16,F,ASCII;DEV=DISC;TEMP
:RUN FORMSPEC.PUB.SYS;INFO="$STDIN"
>FILE LITTLEFF

>FORMS
>EXIT
:SAVE FORMOUT
:RENAME FORMOUT,FORMCMDS
:RESET FORMOUT
```

2. Bring FORMCMDS into an editor. Delete all lines that do not list form names. Delete the lines listing forms F1, F2, and F3. Insert the keyword "DELETE" in front of every other form name. Delete the text remaining after the form name.
3. Add the command `FILE LITTLEFF` as the first line in the file.
4. Add an `EXIT` command as the last line in the file.
5. Keep the updated FORMCMDSq file and exit the editor.
6. Execute the commands in the FORMCMDS file. Note: you may want to do this inside a job file.

HP DeskManager and HP DeskManagerPLUS

by Dorothy Churcher
Commercial Systems Division, Pinewood

Product Number Changes

HP DeskManager and HP DeskManagerPLUS B.05.00 have recently undergone a product number change. The functionality of the product and the product name remain the same.

The product is functionally stable. However, existing customers' requests will continue to be addressed, by global patches, until customers migrate to the HP Open DeskManager and HP Open DeskManagerPLUS products available on the MPE/iX platform.

The following product numbers apply as of January 1, 1994:

B3607A HP DeskManager B.05.00 replaces HP36570A
B3608A HP DeskManagerPLUS B.05.00 replaces HP36567A
B3609A HP DeskManager Documentation Set replaces HP27576A

The reason for changing the product numbers is to clearly identify what ships on the different operating systems.

The following dependent products remain the same:

HP27562 HP DeskManager Intrinsics
HP27522 HP Schedule
HP27568 HP DeskMon

HP File/Library

by Dorothy Churcher
Commercial Systems Division, Pinewood

Product Number Change

HP File/Library B.05.00 for the MPE V operating system has recently undergone a product number change. The product name and functionality remain the same. The reason for the change is to differentiate what is available on the MPE V and MPE/iX platforms. Effective January 1, 1994 the following number applies:

B3615A HP File/Library B.05.00 replaces HP27520.

HP Predictive Support A.02.07

by
John Ediger
Worldwide Response Center Operations

Product Overview

HP Predictive Support provides proactive hardware support and helps increase the uptime of your systems by:

- monitoring log files for disk drives, tape drives, and system memory
- tracking any changes to system, hardware, and software configuration

When HP Predictive Support detects a potential problem or a configuration change, it sends an event message to the HP Response Center. A Response Center Engineer (RCE) analyzes the information and may perform remote diagnostics with your permission. If further action is needed to prevent problems, the RCE will arrange an on-site visit by your account Customer Engineer (CE).

This proactive hardware support is provided as part of your HP Hardware and Software Support Agreement.

Action Summary Report Printing Feature

This version of HP Predictive Support provides the capability to have the Action Summary report print only when there are new events.

To implement this feature, the following job streams require modification:

- PREDICTA.HP51467.TELESUP
- PREDICTJ.HP51467.TELESUP

Shown below is the section of the job streams you must modify.

```
!comment ================================================================
!comment == To eliminate Predictive Support Action Summary Reports    ==
!comment == when there is no new activity to report insert the        ==
!comment == following command after this comment.                     ==
!comment ==                                                           ==
!comment ==                    !setjcw NEWACTIVITYONLY, 1             ==
!comment ==                                                           ==
!comment ================================================================
!                                                              comment
!COMMENT PUT NEWACTIVITYONLY command here
```

Section of the Job Streams Before Modification

After you modify the job streams, they should look like the example below.

```
!comment ============================================================
!comment == To eliminate Predictive Support Action Summary Reports    ==
!comment == when there is no new activity to report insert the        ==
!comment == following command after this comment.                     ==
!comment ==                                                           ==
!comment ==                    !setjcw NEWACTIVITYONLY, 1             ==
!comment ==                                                           ==
!comment ============================================================
!                                                              comment
!setjcw NEWACTIVITYONLY, 1
```

Section of the Job Streams After Modification

Transact/V A.10.00

by
Susan Scotten
Software Technology Division

Transact/V Enhancements

This release of Transact/V (A.10.00) adds 17 enhancements.

ALIGN Option for LIST Verb

A new option, ALIGN, has been added to the LIST verb to list an item on an even word boundary. The ALIGN option will force the item to be aligned on a 16-bit boundary.

example:

```
LIST item1, ALIGN:
     item2:
     item3, ALIGN;
```

Item1 and item3 will be forced on an even word boundary. Item2 may or may not be on an even word boundary, depending on the length of item1.

CHCK Compiler Option

A new compiler option CHCK has been added to issue a warning message if a referenced item is never used in a LIST or PROMPT statement. CHCK causes Transact to check that all items DEFINEd and referenced have been put in the LIST register by either a LIST or PROMPT statement. The default is NOCHCK.

Support all MPE V intrinsics with DEFINE(INTRINSIC)

All MPE V intrinsics are now supported in the DEFINE(INTRINSIC) statement. In prior releases, DEFINE(INTRINSIC) only applied to the intrinsics listed in the appendix "Intrinsics Allowed in DEFINE(INTRINSIC)".

STATUS Option for LIST Verb

The new option STATUS has been added to the CALL verb. The status register of the calling program is set to a value indicating whether an error occurred in the called program.

example:

```
CALL subprog, STATUS;
```

Upon return to the calling program, the status register will contain the value 0 if the subprogram had no errors or a value -2 if an error occurred in the subprogram.

WORKFILE Option for FIND Verb

The new option WORKFILE has been added to the FIND verb to allow use of a work file without sorting the contents of the work file.

example:

```
FIND(CHAIN) ORDERS, LIST=(#), WORKFILE,
            PERFORM=DISPLAY-IT;
```

ASCII Function for LET Verb

The new ASCII function of the LET verb returns the ASCII code of the first character of the string.

example:

```
LET (CODE) = ASCII("A");

The value of CODE is 65.
```

LENGTH Function for LET Verb

The new LENGTH function of the LET verb returns the length of a string. Trailing blanks are not included.

example:

```
LET (COUNT) = LENGTH("  APPLE ");

The value of COUNT is 7.
```

POSITION Function for LET Verb

A new function POSITION has been added to the LET verb. The POSITION function returns the starting position of string2 in string1.

example:

```
LET (INDEX) = POSITION("BAD DOG", "D");
```

The value of INDEX is 3, which is the first occurrence of "D" in "BAD DOG"

VALUE Function for LET Verb

The new VALUE function of the LET verb returns the numeric value of a string containing the character representation of an integer or a floating point number.

example:

```
LET (NUM) = VALUE("-3A");

The value of NUM is -3.
```

CHAR Function for MOVE Verb

The new CHAR function of the MOVE verb converts a numerical ASCII code to its character equivalent.

example:

```
MOVE (STRING) = CHAR(97);

The contents of STRING, if defined as X(4),
is "a   ".
```

COL Function for MOVE Verb

The new formatting function COL has been added to the MOVE verb. The COL function moves an item to the specified position of the string.

example:

```
MOVE (NAME) = (LNAME) + COL(FNAME,10);

Let LNAME contain "Smith" and FNAME contain "Joe".
The contents of NAME, if defined as X(15), is
"Smith    Joe   ".
```

LOWER Function for MOVE Verb

The new LOWER function of the MOVE verb downshifts a variable or string constant.

example:

```
MOVE (NAME) = LOWER("SMITH");

The contents of NAME, if defined as X(5),
is "smith".
```

PROPER Function for MOVE Verb

The new PROPER function of the MOVE verb upshifts the first character of each word.

example:

```
MOVE (NAME) = PROPER("smith,j");

The contents of NAME, if defined as X(8),
is "Smith,J ".
```

SPACE Function for MOVE Verb

The new formatting function SPACE has been added to the MOVE verb. The SPACE function prefixes the item with the specified number of spaces.

example:

```
MOVE (NAME) = (LNAME) + SPACE(FNAME,1);
```

```
Let LNAME contain "Smith" and FNAME contain "Joe".
The contents of NAME, if defined as X(15) is
"Smith Joe      ".
```

STRING Function for MOVE Verb

The new function STRING returns a string that is a part of another string at a given position for a given length.

```
example:

   MOVE (NAME) = STRING((NAME),1,3);

   If NAME contained "BROWN J " before the MOVE,
   after the MOVE, NAME will contain "BRO     ".
```

UPPER Function for MOVE Verb

The new function UPPER of the MOVE verb upshifts a variable or string constant.

```
example:

   MOVE (NAME) = UPPER("smith");

   The contents of NAME, if defined as X(5),
   is "SMITH".
```

Transact Error Messages in EXPLAIN

Transact users, with this release, can now get error information on line using the MPE command EXPLAIN. When a Transact error is encountered, the customer can run EXPLAIN from the MPE prompt, and provide the error number. EXPLAIN will display information on what caused the problem and what the user can do to resolve it. For example, if the following error message was received

```
*ERROR: DATABASE BUFFER NOT ON WORD BOUNDARY (TVB 1070,56) [PROG1]
```

type the following to get an explanation of the message:

```
:EXPLAIN TVB 1070
 ------------------------------------------------------------------
 DATABASE BUFFER NOT ON WORD BOUNDARY

    The data buffer for a database operation must start on a word
    boundary.  If necessary, insert a one-character fill item before
    the first data item of the database list or use the ALIGN option
    of the LIST verb.

 MSG GROUP:    Transact/V Errors
 MSG CATALOG:  RAPIDOOO.PUB.SYS
 MSG KEY:      TVB 1070
 ------------------------------------------------------------------
```

HP GLANCEPLUS/V 60-DAY TRIAL SOFTWARE

by
Wade Nonnenberg
Software Technology Division

A one-time, 60-day trial copy of HP GlancePlus/V, Hewlett-Packard's powerful and easy-to-use performance tool, is available to you on this release of MPE V. For more information, see file GLREADME in the PUB.SYS group after you have installed this release.

GlancePlus/V enables you to maximize system performance by quickly pinpointing system bottlenecks. It is also key to understanding the effects of migrating from an MPE V to an MPE/iX environment. Your investment in GlancePlus/V is protected when you migrate to MPE/iX systems; a full trade-in credit for GlancePlus/V can be applied toward your purchase of GlancePlus for MPE/iX. The consistent interface of the two GlancePlus products also ensures that no retraining is required when moving from one platform to another.

Installing the GlancePlus/V trial copy is a quick and simple procedure. It is important not to begin the installation until you are ready to use it. The 60-day trial period begins at installation, and only one trial is allowed on each system. Even if you are not currently interested in this trial, we recommend you keep the trial copy files on your system to aid the Response Center in critical problem diagnosis. The three trial copy files are GLREADME, GLTRUCK, and UHAUL in the PUB.SYS group.

Enhancement to SNA/NRJE

by
Adrian Peterson and Ponnappa Palecanda
Software Technology Division

Introduction

A new user command (RDRJCW) has been added to SNA/NRJE, version A.70.06 and is being released with Release 3P (G.3P.00).

The RDRJCW command is used to set the jcw NRJERDRJCW based on the status of the reader for the NRJE workstation. It is set to 0 if the reader queue is open and 1 if the queue is shut. The command can be entered from the NRJE user interface and NRJECONTROL.

The command is useful in checking the status of the reader before submitting a job to it.

Syntax

```
>RDRJ[CW] [wsid]
```

or

```
:NRJECONTROL RDRJ[CW] wsid
```

Parameters

wsid — Identifies the particular workstation which the user wishes to access. It is an alphanumeric name beginning with a letter and consisting of one to eight characters. If wsid is not specified, the default workstation will be used.

Messages:

```
WSID IS NOT CONFIGURED OR DOES NOT EXIST. (INT=40)
WORKSTATION ID NOT FOUND IN CONFIGURATION FILE (CFG=1010)
```

Examples

```
R80>RDRJCW

R80>RDRJCW R80

:NRJECONTROL RDRJCW R80
```

In a job -

```
!JOB JOBNAME,MANAGER.SYS,NRJE;OUTCLASS=PP,2
!NRJECONTROL RDRJCW R80
!IF NRJERDRJCW = 0 THEN
!NRJE R80
SUBMIT XXXXX
```

```
XXXXXXXXX
:EOD
EXIT
!ELSE
! XXXXXXXXX
!ENDIF
!EOJ
```

NetDelivery A.02.06

by
Dean Rice
Software Technology Division

NetDelivery version A.02.06 is now available on MPE V Release 3P. This is the same version of the product that has been available as a patch for the last several months. It includes all fixes that have been made since the last general distribution of the product, and supercedes all other versions of the product that have been previously released.

NetDelivery A.02.06 is compatible with NetDelivery A.02.02 or later on networked MPE V and MPE/iX systems.

Latest Network Patches Submitted to 3P

by
George Clark
Software Technology Division

Introduction

Continuing the strategy initiated with Release 31, all networking fixes which were previously available through patches have been included in Release 3P. In addition, Release 3P contains fixes for which no patch is available. Therefore, do not install any patches which were released for general distribution prior to 12/1/93. This would include NSTANW4, NSTANW7, NMSANW5, NMSANW8, NMCANX0, DSSANW6A, and DSSANG0A. Installing any of these will cause fixes in Release 3P to be lost. The following products are affected:

- NS Transport (32343A)
- Node Management Services (32098-20010)
- Link Support Services (32098-20011)
- Node Management Configurator (32098-20012)
- INP Links (30020B)

The following SRs have been fixed in 3P but have no patch available as of 12/1/93:

- 5003-107821 PADLUG and POOLLUG data not converted correctly by NMMGRVER
- 5003-145128 System failure in BufferMGR port DST
- 4700-946319 Incorrect format for NFTCAT message catalog
- 4701-221192 X.25 trace messages missing from NMCAT
- 4701-177907 Failure to close dial link on DSLINE/CLOSE
- 4701-027615 TCP fastpath tracing used incorrect header size
- 4701-217935 Inbound Ping failed with subnet mask
- 4701-217950 SF 311 due to incorrect converson of integer pointer in NetUI
- 5003-153080 Session hang on dial link with heavy outbound traffic

The five-digit VUFs for the networking products have not changed. A single character suffix is appended to the VUFs in the BSTORE to differentiate these new product versions from Releases 2P, 30, and 31.

Duplicate IP Address Detection Added to NODESTAT

by
George Clark
Software Technology Division

Introduction

Version A01231D0 of the NODESTAT program has the following new features:

- The ability to search all IP addresses configured on all nodes attached to a LAN and report duplicates.
- The ability to delete entries from the Transport Name Cache.
- Certain minor changes to the output of the W command.

Duplicate IP Address Search

The G command has been added to detect duplicate IP addresses and optionally display all IP addresses known to the local node. G initiates a search through the name cache and the Network Directory. Only address information which is contained in one of these two areas can be examined. For a LAN, cache entries come primarily from Probe messages, and the number of cache entries will generally increase with time. Therefore, detection of duplicate IP addresses is more likely if NODESTAT is run on a node whose Transport has been active for a long time rather than a node which was recently started with a NETCONTROL START. If a specific remote node is suspected of having a duplicate IP address but it is not in the cache, exit NODESTAT and do a DSLINE/REMOTE to that node. This will place the node's name and address into the cache.

The name cache entries are temporary because a remote node's information will be removed if it stops gracefully and issues a "PROBE NODE DOWN" message on the LAN. This means that a duplicate IP address found by NODESTAT could appear and disappear if NODESTAT is run several times. Also, it is possible for NODESTAT to report duplicate IP addresses that are actually multiple instances of the same node. This would occur if the execution time for NODESTAT happens to span the time when a node is active, then goes down, then becomes active again. In these transient cases, carefully examine the domain and organization portions of the node names. If the duplicate addresses come from nodes with exactly the same full name and if the duplication goes away when G is used again, then the IP address was probably not a real duplicate. But if the node names are different, then the duplicates are probably real, even if NODESTAT reports them intermittently.

Note that MPE V supports the SHARED NI capability for X.25 networks. That is, a single node can legally have the same IP address configured twice. In this situation, NODESTAT will detect the duplicate and show two nodes with the same name. The user is given the option of not displaying such duplicates. This option will also eliminate the transient situation mentioned above in which a node goes down and comes back up while NODESTAT is checking the cache.

A cache entry usually contains all addresses configured on a remote node, not just its LAN address. This means that NODESTAT can often detect duplicate addresses on first-hop

networks. For example, suppose the local LAN has only class-A addresses, but some LAN nodes are also attached to an X.25 network using class-C addresses. Those class-C addresses could be in the name cache even though they are never used on the LAN. NODESTAT will search for duplicates on the class-C network as well as on the directly-connected LAN. Note that this first-hop search is not a feature of NETTOOL on the MPE/iX Transport; NODESTAT will occasionally report duplicate address that NETTOOL will not find.

NODESTAT cannot detect duplicate addresses in the following situations:

1. The remote nodes use only inbound connections to the 3000 and do not support PROBE. These nodes have no entry in the name cache.
2. The remote node use DDN names. Since only NS names are cached (DDN names are not), NODESTAT cannot detect duplicate IP addresses that come from such nodes or from a DDN name server.
3. A remote node has a duplicate IP address, but its cache entry comes from a PROBE PROXY server.
4. A remote node has a duplicate IP address, but its cache entry comes from the local NETWORK DIRECTORY.

Path Cache Deletion

The P command has been added to delete entries from the local name cache. There are three primary situations which make this function useful:

1. The remote node's IP address has changed, and PROBE was not able to detect this change. For example, the node did not send a PROBE NODE DOWN/PROBE UNSOLICITED sequence, or the address came from a PROXY server. The old entry in the name cache must be deleted before the local node will select the new IP address.
2. There are multiple paths from the local node to the remote, and the original path can no longer be used. For example, suppose the remote node can be accessed over the local LAN or over a router link. If the LAN network at the remote node fails after the local node has once used it, connectivity will not shift to the router unless the entry in the name cache is removed.
3. Two or more nodes were incorrectly configured with duplicate IP addresses. Even if the problem is fixed at the remote sites, the local node's name cache could remain corrupted until the cache entries are deleted.

There are two caches of interest for outbound connections. One is the name cache, which stores the IP addresses for a particular node name. The other is the mapping table which stores the path information (MAC address, etc.) for each IP address. The P command will not always solve connectivity problems, because it does not update the mapping table. For example, if an IP address is reassigned from remote NODE_A to remote NODE_B, the mapping table will still contain the MAC address and protocol information (Ethernet, IEEE802.3) for NODE_A. Therefore, anytime the P command is used, the W command should also be used. This allows some manual verification of the information for a specific IP address. If the W command reveals errors, the local node's network must be shutdown to clear the problem. Note that the name cache is cleared only when the entire Transport is stopped, but the mapping table is cleared when the associated network is stopped. So a NETCONTROL STOP;NET=lan1 is sufficient to clear mapping table entries for LAN1; if a router network is active, it is not necessary to also stop it.

W Command Display Enhancement

The W command lists entries in the mapping table (not the name cache). For each IP address in the mapping table, NODESTAT tries to find a back link to the node name, so some of the displayed addresses have a name while others do not. The name, if found, could come from the name cache or from the NETWORK DIRECTORY. The W command can cause confusion because NETWORK DIRECTORY names are displayed even if a different name (or no name at all) is in the cache. In debugging connectivity problems, the important issue is whether a node has an entry in the cache. This is true on MPE V because it is impossible to connect to a remote node using its name without an entry in the name cache. The W command's display has been enhanced to indicate whether there is a name cache entry for each IP address.

4

Hardware Support

Extended MPE V Hardware Support

Hewlett-Packard likes to exceed customer expectations. In the case of our *classic* HP 3000s, we have been consistently extending the hardware support life of the most popular systems due to demand and parts availability. The following chart shows the *earliest* dates that we would consider ending hardware support. Systems with extended dates are marked by asterisks (*). Please note that these dates could be extended in the future even further. You will be notified at least a year in advance of the end of hardware support.

Your software support is similarly assured. Software Technology Division guarantees that your software support will be available for as long as you require it.

Earliest End of Hardware Support

Product	Earliest End of Hardware Support
Micro 3000	APR 1, 1995 *
Micro 3000LX	JAN 1, 1997
Micro 3000GX	DEC 31, 1997
Micro 3000RX	JAN 24, 1997
Micro 3000XE	JAN 1, 1996
Series 37 w/512KB Mem	MAR 1, 1996 **
Series 37XE w/1MB Mem	MAR 1, 1996 **
Series 37XE	JAN 1, 1996
Series 39A	JAN 1, 1998 *
Series 39B	JAN 1, 1998 *
Series 40	JAN 1, 1998 *
Series 42	JAN 1, 1998 *
Series 44	JAN 1, 1998 *
Series 48	JAN 1, 1998 *
Series 52	JAN 1, 1998 *
Series 58	JAN 1, 1998 *
Series 64A	MAR 1, 1996
Series 64B	MAR 1, 1996
Series 68	MAR 1, 1996
Series 70	MAR 1, 1996

Note:
* Extended
** Previously extended

Contractual support is no longer available for Series II, Series III, Series 30, and Series 33. HP support for these products is on a time-and-materials basis and is on "best effort" offering only.

5

Fix Table

Release 30 Through Platform 3P Cumulative Fix Table

Introduction

This section contains a cumulative listing of all of the the fixes for MPE V that have been included in Platform 3P from Release 30, Release 31, and Release 3P.

The table contains the product number, SR number, and a one-line description from the SR. For more detailed information, please refer to the Software Release Bulletin for MPE V.

Release 30 (G.30.00)

Item Subject:	R30 Fixes
SR Number	Description
4701-064121	Allow programmatic RUN. Modify all CI subsystem executors to be executed from the COMMAND intrinsic.
4701-090456	Provide CHGROUP command on MPE V.
9999-015780	ALTCAP +/- support.
4701-112326	Do not recognze bit 10 in the FCLOSE disposition.
4701-108886	Fix problem in PHYSICALCST procedure leading to system aborts on MPE/iX.
5003-039354	Enhancement to allow any escape sequence to pass through CLEAN'MESSAGE providing the user has SM/OP capability.
4701-110213	PROCFILE fix for INITIAL created system process.
5003-037572	Fix INITIAL coldoad problem dealing with directory
5003-032805	INITIAL should not zero out the alloc/restore date & time fields in flabs during reload of user files.

4701-114082 4701-053512 4700-968925 4701-118513	Year 2000 fixes.
5003-037572	INITIAL does directory disk space updates incorrectly for DACDDST and JSECDST during COLDLOADs.
4701-129452	Provide wildcard for ALTSEC.
4701-089185	Allow critical item update.
5003-070813	Fix bounds checking in GETINFO.
5000-638049	Finish security fix in FLABELINFO (2P submittal fixed a portion of the problem).
5003-073700	FFILEINFO item 60 should return 6 for a PTERM (IOPTERMO)
4701-105114	CIR file fix for incorrect EOF computations. Fix VM stack formatting problem.
4701-121806	Remove PM requirement FFILEINFO(62) - Lockword.
5003-016642	In SPOOK5, on APPEND END, close last APPENDed text file.
5003-042184	Missing message during PVINIT.
4701-069278	Fix CIERR 1550 message.
1650-086769	Fix security hole in DISKED5.
4701-136374	Add remote load/online to HIOTAPE3.
4701-115683	Final LISTF,3/-3/4/6 submittal.
4701-119404 4701-119453 4701-119479 4701-129478	Final wildcard PURGE submittal.
N/A	File replacement for CICAT with all HELP changes.

Release 31 (G.31.00)

Product	SR	Brief Description
HP32196	1653-035048	Change to TERMHANDLR so it does not forget it already has a timer request when multiple XOFFs are received from printer causing SF3s.
HP32414	5003-036640	Change to NLCONVCUSTDATE to recognize mmddyy in any format without separators for any supported language.
HP32231	4701-172338	Fix to SADUTIL to recognize the years 2000-2027 for printing out dates and for specification for recovering files.
HP32002	1653-037028	Fix to STORE that causes FSERR numbers to be reported as if they were logical device numbers.
HP30167 HP32002	4701-172916	Fix to TURBOSTORE which allows for FCHECK to return error status information correctly.
HP30167 HP32002	4701-121368	Turbostore and CMRESTORE return Error 9017 with no LDEV#.
HP30167	4701-160275	RESTORE treating NEWUSER warnings as though they are errors.
HP32033	4701-166074	PURGE leaves exclusive bit set in file label when FCLOSE fails.
HP32033	4701-175216	SPSAVE option for MPE V SPOOLER.
HP32033	5000-073247	INITIAL check for free space on coldload.
HP32033	5000-583666	HPDEVCONTROL intrinsic.
HP32033	1653-014266	DELETEVAR command enhancement.
HP32033	4701-079988	PUB.SYS group directory space wrong if Access Control Definition on system file
HP32033	4701-115113	PUB.SYS group directory space wrong. Incorrect JSECDST handling.
HP32033	4701-175968	INITIAL loses 2000 sectors of freespace every COLDLOAD.
HP32033	5003-039123	Fix CXLISTEQ to not place 0 after LISTEQ filename

HP32033	5003-103382	Fix of Command Interpreter to correct BREAK problem.
HP32033	4701-186130	Fix FACCCHECK bug that causes problems for FLABELINFO and LISTDIR5 with 8 char. file, group, & acct names.
HP32050	4701-072835	SegmenterBNDS violation on copy if USL built by CI fix is in module 02 of HP32050.
HP32201	4701-152769	EDITOR to map security from text file to keep file
HP32201	4701-168625	Fix to correct error handling when KEEPQ is used on file with user labels in EDITOR.
HP32201	5003-071431	Fix in EDITOR to re-arm CNTL-Y trap after calling the COMMAND intrinsic so it is not lost.
HP32201	9999-014450	Fix to EDITOR handling of meta commands so they terminate upon hard error or CNTL-Y to close data loss windows.
HP32201	5003-074609	EDITOR A.07.21 got ERROR40 when keeping empty file to $NEWPASS causing batch jobs to abort.
HP32201	5000-106336	SET LINES > 99 causes bad formatting.
HP32201	9999-027441	Enhance KEEP warning for overwrites.
HP32201	9999-012292	Texting a fixed rec file after a variable rec file leaves RIGHT and LENGTH at variable settings.
HP32201	4700-002469	Lost file on enlarged file KEEP if out of disk space.
HP32201	9999-018380	FSERR 100 and temp file lost during keep if both temp and perm names already exist.
HP32201	4700-038661	File corruption on KEEP if EDITOR run with large MAXDATA.
HP32002	4701-183079	HP EXPLAIN submittal to handle SPOOK5 Utility/ RAPID - TAPE
HP32002	1650-023028	Fix problem of JOBINFO intrinsic not working when ALTER with SPOOK5 Utility is used.
HP32002	4701-084798	Can't copy after syntax error
HP32002	5000-157743	Run SPOOK5 Utility from TDP--ALTPRI and FILE won't print

HP32002	4700-202283	Can't run TDP from within SPOOK5 Utility
HP32002	1650-023028	Fix to JMAT for SPOOK5 Utility

Please refer to the SRB for more detail on any of these fixes.

Release 3P (G.3P.00)

Product #	SR	Brief Description
HP32033	1653-060079	Cannot use the SPOOK5 HELP facility if the NLS default lang <> 0.
HP32033	4701-202796	Security problems with user logging; users having LG capability.
HP32002	4701-212753	SEGMENT TABLE OVERFLOW (LOAD ERR 70) due to fragmentation of LST
HP32033	4701233916	SDFLOAD fails to filter for Source Reader due to segmenter CEASE cmds
EXPLAIN	4701-225870	Update HELP text for changes in Release 3P
HP32033	5000-634717	Enhance ALTJOB for modification of intro date & time.
HP32033	5003-033092	Sysdump allows # of Global Rins entered to exceed total # of Rins
HP32033	4701-235960	Incorrect use of SHR access can result in unpredictable buffer contents.

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Product Release Information

MPE V Product Releases

The following table is both a historical and a current list of new products introduced for each MPE V version release for the HP 3000 Computer System.

MPE V Product Releases

V.UU.FF	Name	Release	Product(s) Introduced/Added
G.03.04	V-DELTA-4: Legally Evaluated by Dept. of Defense	R28C2	Roll-in of V-Delta-3 The Legally Evaluated DOD release SUBSYS VUF = G.A3.04 HPWORD SERVICES (HP27558) HPEDIT/V (HP30316) NSPAD (NSPAD)
G.1P.00 G.1P.10 G.1P.20	Platform Release 1P	R3035	Roll-in of V-Delta-9 Series 6400 Model 1300H DDS Roll-in of HP GlancePlus/V (HP50733)* Roll-in of DeskManagerPLUS (HP36567)*
G.20.00	Release 20	R3042	Roll-in of Platform 1P HP Search/V (HP36381A) HP Browse/V (HP36382A)
G.21.00	Release 21	R3114	Roll-in of Release 20 VPLUS/Windows (HP36393A)
G.22.00	Release 22	R3140	Roll-in of Release 21 Various Enhancements and Fixes No new products
G.23.00	Release 23	R3215	Roll-in of Release 22 Various Enhancements and Fixes 6 of the top 8 SIC requested enhancements plus 7 other enhancements 35 of the top 40 high impact problems fixed HP EXPLAIN

MPE V Product Releases (continued)

V.UU.FF	Name	Release	Product(s) Introduced/Added
G.2P.00	Platform Release 2P	R3237	Roll-in of Release 23 21 Customer Requested Fixes No new products
G.30.00	Release 30	R3248	Roll-in of Platform Release 2P 15 Customer Requested Fixes No new products
G.31.00	Release 31	R3330	Roll-in of Release 30 33 Customer Requested Fixes 3 Customer Requested Enhancements 24 Enhancements to SPOOK No new products
G.3P.00	Platform Release 3P	R3419	Roll-in of Release 31 7 Customer Requested Fixes 2 Customer Requested Enhancements Altjob, and SigImage request for User Logging New version of EDITOR

*Product has been retrofitted on this version.

Supported Releases

The following matrix provides information on the supported versions of MPE V. It lists the currently supported releases and the SPUs they are supported on. The matrix also provides all known factory support termination dates. A version of MPE V will not have factory support after its support termination date.

Supported Release Matrix

RELEASE	V.UU.FF	Supported Systems	Support Termination Date
V-Delta-4	G.03.04	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX	[1]
Platform Release 2P	G.2P.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	JAN 1, 1997
Release 30	G.30.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	JAN 1, 1995
Release 31	G.31.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	JAN 1, 1995
Platform Release 3P	G.3P.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	JULY 1, 1998 [2]

[1] DOD version (G.03.04) is only for customers who require DOD "C2" certification from the U.S. Government. This version will have continuing support for these customers only.

[2] Or 12 months after first customer shipment of the next platform, which ever is longer.

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Catalog of User Documentation

Introduction

This chapter contains a list of customer manuals for the HP 3000 Computer System.

If your contract includes Material Based Services for your appropriate operating system and software services, you will receive both software and manual updates. If you would like to obtain additional copies of all the manual updates, these can be ordered as part of your support contract under the Manual Update Service.

As of this release the subscription services column of this catalog has been removed. If you would like to know more specific information about subscription services, please contact your HP representative.

You may order additional copies of individual manuals by calling 1-800-227-8164. Please use the following catalog to look up the customer order number needed to place your order.

Manual Title	Customer Order No.	Latest Edition	Current Update
Communicator 3000	32033-90295	5/94	
FOS SYSTEM MANUALS			
General Information Manual	5953-7583	10/84	
Fundamental 3000 Data Communication Handbook	5957-4634	6/84	
EDIT/3000 Reference Manual	03000-90012	8/80	
Using the HP 3000: An Introduction to Interactive Programming	03000-90121	4/79	
MPE V Segmenter Reference Manual	30000-90011	11/82	8/86
MPE V Debug/Stack Dump Reference Manual	30000-90012	8/86	
Compiler Library Reference Manual	30000-90028	11/76	
QUERY/3000 Reference Manual	30000-90042	5/87	
.KSAM/3000 Reference Manual	30000-90079	8/86	
MPE V File System Reference Manual	30000-90236	10/89	
MPE V System Operation an Resource Management Reference Manual	32033-90005	10/89	
MPE V Commands Reference Manual	32033-90006	12/92	
MPE V Intrinsics Reference Manual	32033-90007	12/92	
MPE V System Utilities Reference Manual	32033-90008	10/89	
HP 3000 Guide for the New User	32033-90009	1/86	
HP 3000 Guide for the New System Operator	32033-90021	4/86	
MPE Quick Reference Guide	32033-90023	10/89	
MPE V Storing and Restoring Reference Manual	32033-90133	6/87	10/88
MPE V System Backup and Recovery User's Guide	32033-90134	6/87	10/88
MPE V Security & Accounting	32033-90136	10/88	
MPE V TABLES Manual	32033-90147	10/91	
MPE V General User's Reference Manual	32033-90158	10/88	
Data Entry and Forms Management System V/PLUS/3000	32209-90001	7/86	11/87
Using VPLUS/V	32209-90004	8/86	
FCOPY Reference Manual	32212-90003	6/92	
Native Language Support Reference Manual	32414-90001	11/87	10/88
SORT-MERGE/3000 Reference Manual	32214-90002	9/81	9/84
TurboIMAGE Database Management System Reference Manual	32215-90050	12/85	
HP Hi-Li Reference Manual	32424-90002	11/87	

Manual Title	Customer Order No.	Latest Edition	Current Update
SUBSYSTEM MANUALS			
HP GlancePlus/V User's Manual	50733-90002	2/91	
HP Security Management Guide	30392-90001	10/88	
APS/3000 Reference Manual	32180-90001	11/86	
APS/3000 Quick Reference Card	32180-90002	11/86	
APS/3000 Pocket Guide Insert	32180-90003	11/86	
Flexible Discopy/3000	32199-90001	8/80	
OPT/3000 Reference Manual	32238-90001	11/86	
OPT Pocket Guide	32238-90002	11/86	
OPT Insert for MPE Pocket Guide	32238-90003	11/86	
DATA COMMUNICATIONS MANUALS			
LAN Cabling and Accessories Installation Manual	5955-7680	1/86	
LAN Link Troubleshooting Manual	5955-7681	10/86	
LAN/3000 and OfficeShare LAN/3000 Design Guide	5955-7689	11/85	
Making the LAN Connection: A Local Area Network Primer	5957-4624	9/84	
NS Cross-System NFT Reference	5958-8563	8/91	
NS3000/V Network Manager Reference Manual Vol. I	32344-90002	7/90	
NS3000/V Network Manager Reference Manual Vol. II	32344-90012	7/90	
NetIPC3000/V Programmer's Reference Manual	5958-8581	7/90	
NS3000/V Migration Guide	24405-90001	10/90	
NS X.25 3000/V Link Guide	24405-90002	7/90	
DSN/RJE 2780/3780 Emulator Reference Manual	30248-90002	8/90	
Point-To-Point Workstation I/O Reference Manual	30000-90250	12/84	4/87
ATP for Meridian SL-1 Interface Supplement to the ATP Installation Manual	30144-90016	4/86	
Workstation Configurator Reference Manual	30239-90001	10/89	
LANIC Installation and Service Manual (Series 39, 4X, or 6X)	30242-90001	2/85	5/87
LANIC Installation and Service Manual (Series 37	30242-90100	5/85	
Getting Started With SNA Node Management	30246-61001	4/92	
SNA Link Services Reference Manual	30246-61002	4/92	
Installing and Troubleshooting SNA IMF Node Manager's Guide	30247-90002	1/85	
MRJE User/Programmer Reference Manual	30249-90001	10/88	
IMF User/Programmer Reference Manual	30250-90001	5/87	

Manual Title	Customer Order No.	Latest Edition	Current Update
LU 6.2 Base Node Manager's Guide	30252-90001	8/90	
LU 6.2 API/V Node Manager's Guide	30253-90002	8/90	
APPC Subsystem On MPE V Node Manager's Guide	30253-90004	8/90	
Digital Multiplexed Interface (DMI) Reference Manual	30288-90001	6/86	
HP SNA Products (kit): *(w/binder)*	30291-61005	8/90	
Kit contents or individually ordered manual:			
Manager's Guide	5958-8542	8/90	
ACF/NCP & ACF/VTAM Guide	5958-8543	8/90	
Job Entry Subsystems Guide	5958-8544	11/89	
IMS Guide	5958-8545	4/88	
CICS Guide	5958-8546	8/90	
DISOS Guide	5958-8547	8/90	
AS/400 Guide	5960-1629	6/92	
SNA NRJE Node Manager's Guide (w/binder)	30292-61000	4/90	
SNA NRJE User Programmer Reference Manual (w/binder)	30292-61001	4/90	
SNA IMF Programmer's Reference Manual (w/binder)	30293-61005	6/92	
LU 6.2 API Application Programmer's Reference Manual	30294-61000	6/92	
RJE User/Programmer Reference Manual (w/binder)	30295-61001	8/90	
HP X.400/HPDesk Node Administrator's Guide	32055-90001	10/89	
HP AdvanceNet Using HPDesk Manager Connected to X.400	32055-90002	10/89	
DS/3000 HP 3000 to HP 3000 User/Programmer Reference Manual	32185-90001	12/85	7/87
DS/3000 HP 3000 to HP 1000 User/Programmer Reference Manual	32185-90005	12/85	
DSN/DS 3000 Reference Manual	32190-90001	9/82	
DSN/DS 3000 To 1000 Reference Manual	32190-90005	1/82	
DSN/MTS Multipoint Terminal Software Reference Manual	32193-90002	8/82	2/84
NS3000/V User/Programmer Reference Manual	32344-90001	7/90	
NS3000/V Error Message and Recovery Manual	32344-90005	7/90	
Repeater Installation Manual	92223-90002	11/85	12/88
PROGRAMMER PRODUCTIVITY TOOLS MANUALS			
Cooperative Services: Using Basic Serial Connection Files Manual	5957-9336	1/89	
TRACE Reference Manual	03000-90015	6/76	

Manual Title	Customer Order No.	Latest Edition	Current Update
HP SRC User's Guide (w/binder)	30234-60002	11/88	
(binder contents)			
HP SRC User's Guide		11/88	
HP SRC Implementation Guide		11/88	
HP SRC Quick Reference Card		11/88	
Getting Started with HP SRC		11/88	
HP Software Revision Controller/V Product Information Update	30234-90006	9/89	
HP EDIT Binder Kit	30316-90001	12/90	
Learning HP EDIT	30316-90002	12/90	
HP EDIT Quick Reference Guide	30316-90005	12/90	
Virtuoso Code Generator Reference Manual (w/binder)	30422-60001	10/89	
Virtuoso COBOL Sample Library Reference Manual (w/binder)	30426-60001	5/88	
Database Utilities Reference Manual	32244-90012	12/85	
REPORT/V User's Guide	32245-90001	2/85	
INFORM/V User's Guide	32246-90001	3/88	
HP TOOLSET Reference Manual	32350-90001	1/84	
Cooperative Services: Pascal Reference Manual	32570-90032	1/89	
Cooperative Services: Developer's Guide	32570-90053	6/91	
Cooperative Services: 'C' Language Reference Manual	32570-90034	1/89	
Cooperative Services: COBOL Reference Manual	32570-90035	1/89	
INFORMATION MANAGEMENT SERIES MANUALS			
HP NewWave Access Users Guide (for Windows Users)	D2500-90014	4/92	
HP Information Access for Windows Access Reports User's Guide	D2500-90030	5/93	
Information Access Server: System Management	B1716-90018	5/90	
Information Access Server: Error Messages	B1716-90019	5/90	
Information Access Server: Database Administration	B1716-90020	5/90	
Information Access Server: Master Index	B1716-90022	5/90	
Information Access Server: Learning the Administrator Utility	B1716-90023	5/90	
Information Access Server: Planning and Configuring	B1716-90024	5/90	
Dictionary/3000 Reference Manual (w/binder)	32244-61000	12/87	
HP System Dictionary/V SDMAIN Reference Manual	32254-90001	12/86	8/87
HP System Dictionary Intrinsics Reference Manual	32254-90002	12/86	8/87

Manual Title	Customer Order No.	Latest Edition	Current Update
HP System Dictionary Utilities Reference Manual	32254-90003	12/86	11/87
HP System Dictionary General Reference Manual Volume 1	32254-90004	12/86	8/87
HP System Dictionary General Reference Manual Volume 2	32254-90005	12/86	11/87
HP System Dictionary COBOL Definition Extractor Reference Manual	32255-90001	12/86	11/87
TURBOIMAGE DBchange/V User's Guide	36020-90001	1/87	
TurboIMAGE Profiler User Guide	36914-91001	12/85	
LANGUAGE MANUALS			
BASIC for Beginners	03000-90025	11/72	
HP FORTRAN 77 Reference Manual	5957-4685	5/88	
HP FORTRAN 77 Programmer's Guide	5957-4686	3/87	11/87
HP FORTRAN 77 Quick Reference Guide	5957-4687	1/88	
FORTRAN/66V to HP FORTRAN/77 Migration Guide	5957-4690	6/87	9/87
SPL Reference Manual	30000-90024	2/84	
SPL Language Textbook	30000-90025	6/76	9/77
BASIC Interpreter Reference Manual	30000-90026	6/76	11/86
Scientific Library Reference Manual	30000-90027	6/76	9/77
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