HEWLETT PACKARD

COMMUNICATOR 3000
MPE V Version G.30.00, Release 30

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HP 3000 Computer Systems

COMMUNICATOR 3000

MPE V Release 30 (Version G.30.00)

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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1

Introduction

Release 30 Brings a New Set of Enhancements and Services to MPE V Systems

by
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Software Technology Division

Welcome to Release 30. In this release is a set of enhancements that customers have indicated are most valuable to them. To get at the heart of customer priorities, SWT depends on continuous customer input through Service Requests (we monitor them carefully), user group meetings, the System Improvement Committee survey, and other communication forums. To ensure that we are optimally meeting customer needs, SWT urges you to actively voice your recommendations regarding MPE V.

In addition to meeting requests from customers for software enhancements and fixes, we have addressed the preferences of an increasing number of customers who want to access their software and documentation from CD-ROM. Until now, HP has delivered MPE V software, the *Communicator*, and the MPE V system manuals on CD-ROM. Beginning with Release 30, the complete set of MPE V Release Documentation is available on CD-ROM. This media provides quick access to volumes of information with the ability to easily search for a topic. It also minimizes required storage space and saves users money on their service contracts. If you are interested in receiving your MPE V software and documentation updates on CD-ROM contact your HP sales representative.

A new joint effort between SWT 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. By having these groups of highly trained engineers, with the special tools and data normally used only by the designers, HP is able to provide customers with more in-depth analysis and more expedient resolution of their problems.

The Expert Centers have already proven to be successful in resolving customer issues faster and more efficiently than the previous model. Advanced level engineers offer assistance for the MPE V Operating System, commercial tools, client/server products (HP Resource Sharing, HP Software Vendor), MPE V languages, and HP's manufacturing and financial products (MM, FM).

SWT is committed to providing long term value for MPE V through product development and dedicated support resources. We expect that the Release 30 enhancements and services will improve your system management.

MPE V Enhancements

Upward compatibility to MPE/iX is a top objective for the MPE V team. A dedicated effort is made to ensure that enhancements made to MPE V are also made to MPE/iX. In the case of Release 30, MPE/iX already has the LISTF, programmatic RUN, CHGROUP, ALTSEC and HP TurboIMAGE enhancements. The new ability to alter capabilities of accounts, groups and users through ALTACCT, ALTGROUP and ALTUSER will be available on MPE/iX in 1993.

Enhancements Available in Release 30

- LISTF- adds LISTF options 3, 4, 6, and -3
- 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 wild card 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 woldcard capability in manipulating ACDs
- New revisions of MPE V COMMANDS and MPE V INTRINSICS manuals available with this release (see Catalog of User Documentation, Chapter 7)

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System Information

Purge Command Accepts Wildcard

by
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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 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
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New ALTSEC Feature

The ALTSEC command has been enhanced to allow the manipulation of 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

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New Altsec Feature

The 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" indicated 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" 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

```
:dan loadmap.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 that 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
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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
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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 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
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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 will 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 subystem 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
Steve Smead
Software Technology Division

Overview

MPE 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 will not allow these escape sequences to pass through. Another example could be where someone wants to intentionally do a 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 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 (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 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 previous 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
John Green
Software Technology Division

Introduction

These enhancments 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.

Dec '92

MPE V Systems Now Recognize the Year 2000

by
Len Croley
Software Technology Division

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 are 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 aplications 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 (20 gives the year 2020 and is a leap year with the dates all the same as 1992, for example, 10/10/92 and 10/10/20 are both a Thursday).

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 2020 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 1992 to 2020.

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 has the mm/dd/yy in them. (NOTE: not all record types that contain mm/dd/yy has 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.

Two functions of MPE V have not yet been certified to work with the year 2000. These two functions are labeled tapes and SADUTIL. These two functions will be certified on a future release.

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. 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	Difference
DBUPDATE (no critical item update)	577 wds	596 wds	19 wds
DBUPDATE (critical item update, no ILR)	na	651 wds	na
DBUPDATE (critical item update, ILR)	na	698 wds	na
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	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	Difference
1580 wds	1650 wds	70 wds

ALTSEC Command:

Release 2P	Release 30	Difference
2709 wds	2880 wds	171 wds

LISTF Commands:

	Release 2P	Release 30	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

3

Additional Software Products

HP GLANCEPLUS/V 60-DAY TRIAL SOFTWARE

by
Jim Jen
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 in 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 towards your purchase of GlancePlus for MPE/iX. The consistent interface of the two GlancePlus products also insures 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, it is recommended 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.

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.

4

Hardware Support

MPE V Hardware Support

Knowing that the MPE V Operating System is actively supported and enhanced, customers often ask, "How long can we expect the hardware to be supported?" Customers will be happy to learn Hewlett-Packard has a comprehensive strategy for satisfying support-life needs, based on many factors including a sufficient parts supply and overall demand for sustained contractual support.

Hewlett-Packard sets an "end-of-support" date for every hardware product which it sells. This end-of-support date is set to at least five years after a hardware product stops being sold, and sometimes much longer. In some cases, when customer demand warrants and resources allow, Hewlett-Packard might extend this end-of-support date. However, it is policy to provide the customer with at least one year advanced notification before a contractual support date is set and finalized.

Hewlett-Packard is committed to maximizing a hardware products contractual support-life while maintaining high standards for hardware support.

Table 4-1. End-Of-Support Date

Product	End-Of-Support Date*
Micro 3000	AUG 1, 1993
Micro 3000LX	JAN 1, 1997
Micro 3000GX	DEC 24, 1997
Micro 3000RX	JAN 24, 1997
Micro 3000XE	JAN 1, 1996
Series 37	JUN 1, 1994 **
Series 37XE	JAN 1, 1996
Series 39A	JAN 1, 1994
Series 39B	JAN 1, 1994
Series 40	JAN 1, 1994
Series 42	JAN 1, 1994
Series 44	JAN 1, 1994
Series 48A	JAN 1, 1994
Series 48B	JAN 1, 1994
Series 52	JAN 1, 1995
Series 58	JAN 1, 1995
Series 64A	MAR 1, 1996
Series 64B	MAR 1, 1996
Series 68	MAR 1, 1996
Series 70	MAR 1, 1996

Table 4-2. Guaranteed Minimum Support Dates, (continued)

Product	GMS Date
UPGRADES	JAN 24, 1997
Micro LX/GX/RX	JAN 1, 1996
S37 to Micro XE	JAN 1, 1996
Micro to Micro XE	JAN 1, 1995
S39/40/42 to 42XP	JAN 1, 1995
S39/40/42 to 52	JAN 1, 1995
S44/48 to 58	AUG 1, 1994
S64A to 68A	AUG 1, 1994
S64B to 68B	MAR 1, 1996
S64A to 70	MAR 1, 1996
S64B to 70	MAR 1, 1996
S68A to 70	MAR 1, 1996
S68B to 70	MAR 1, 1996
REMARKETED PRODUCTS	JAN 1, 1994
Series 40	JAN 1, 1994
Series 42	JAN 1, 1994
Series 48	JAN 1, 1995
Series 52	JAN 1, 1995
Series 58	JAN 1, 1995
Series 68	AUG 1, 1994

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

* Reminder: This is the minimum end-of-support date for these products and it may be extended beyond the date specified.

** Extended from December 1, 1992

5

Fix Table

Release 30 Fix Table

by Ross Martin
Software Technology Division

Introduction

This section contains a table listing the fixes for MPE V Release 30.

The table contains the product number, SR number, and a one-line description that is obtained from the SR. For more detailed information, please reference 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 MPEiX.
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	Year 2000 fixes.

4701-053512 4700-968925 4701-118513	
5003-037572	INITIAL does directory disc space updates incorrectly for DACDDST and JSECDST during COLDLOADs.
4701-129452	Provide wildcard for ALTSEC.
4701-089185	Allow crital 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(60) should return 6 fot PTERM.
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.

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

6

Product Release Information

MPE V Product Releases

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

Table 6-1. 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

Table 6-1. MPE V Product Releases (continued)

V.UU.FF.	Name	Release	Product(s) Introduced/Added
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
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

*Product has been retrofitted on this version.

HP PowerPatch Releases

HP PowerPatch provides you with current general release patches specifically designed for your MPE system. These patches, available on certain MPE V releases, apply solutions to known system problems before you encounter them. HP PowerPatch is only available to customers whose service agreement level includes access to HP Response Centers.

Check the HP SupportLine for up-to-date PowerPatch availability before performing an installation or update. If a patch is available for your release, order it through the HP Response Center. Your order will arrive within five business days. Install the patch at the same time you install or update the operating system.

Product Release Information

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.

Table 6-2. SUPPORTED RELEASE MATRIX

RELEASE	V.UU.FFs	Supported Systems	Support Termination Date
V-Delta-4	G.03.04	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX	[1]
Platform Release 1P	G.1P.00, G.1P.10 G.1P.20	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	NOV 1, 1993[2]
Release 20	G.20.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	MARCH 1, 1993[3]
Release 21	G.21.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	MARCH 1, 1993[3]
Release 22	G.22.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	MARCH 1, 1993[3]
Release 23	G.23.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	JUN 1, 1993[3]
Platform Release 2P	G.2P.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	NOV 1, 1996[4]
Release 30	G.30.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	FEB 1, 1994[5]

[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 unless a need for a future certified version becomes necessary.

[2] Or twelve months after the actual first customer ship date of Platform Release 2P.

[3] Or three months after the actual first customer ship date of Platform Release 2P, or for a total of twelve months, whichever is longer.

[4] Or twelve months after the actual first customer ship date of the next platform, whichever is later.

[5] Or three months after the actual first customer ship date of the next platform, or for a total of twelve months, whichever is larger.

7

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	32033-90281	12/92	
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	10/89	
MPE V Intrinsics Reference Manual	32033-90007	10/89	
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		
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	12/90	
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 Volume	32344-90002	7/90	
NS3000/V Network Manager Reference Manual Volume	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	

Manual Title	Customer Order No.	Latest Edition	Current Update
IMF User/Programmer Reference Manual	30250-90001	5/87	
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 Network Manager Reference Manual Volume	32344-90002	7/90	
NS3000/V Error Message and Recovery Manual	32344-90005	7/90	
NS3000/V Network Manager Reference Manual Volume	I 32344-90012	7/90	
Repeater Installation Manual	92223-90002	11/85	12/88

Manual Title	Customer Order No.	Latest Edition	Current Update
PROGRAMMER PRODUCTIVITY TOOLS MANUALS			
Cooperative Services: Using Basic Serial Connection Files Manual	5957-9336	1/89	
TRACE Reference Manual	03000-90015	6/76	
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	
Getting Started with TRANSACT (w/binder)	32247-60002	5/85 9/88	
TRANSACT/V Reference Manual	32247-90001	2/90	
HP TRANSACT Quick Reference Guide	32247-90020	8/92	
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	32570-90034	1/89	
Reference Manual			
Cooperative Services: COBOL Reference Manual	32570-90035	1/89	
Using Information Access PC	B1716-90014	5/90	

Manual Title	Customer Order No.	Latest Edition	Current Update
Information Access PC Connections and Batch File	B1716-90015	5/90	
Learning Information Access PC	B1716-90016	5/90	
Information Access PC Installation Card	B1716-90017	5/90	
Information Access Server: System Management	B1716-90018	5/90	
Information Access Server: Error Messages	B1716-90019	5/90	
Information Access Server: Database Administrati	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	
INFORMATION MANAGEMENT SERIES MANUALS			
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
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
VISOR Tutorial Kit	32425-60001	10/88	
Kit contents:			
Introduction to VISOR		(10/88)	
Using EZAccess		(10/88)	
Using SQLAccess		(10/88)	
Reporting with EZReport		(10/88)	
Advanced VISOR Functions		(10/88)	
VISOR Reference Information		(10/88)	
TURBOIMAGE DBchange/V User's Guide	36020-90001	1/87	
HPSQL/V SQL Reference Manual	36215-90001	9/87	
HPSQL/V ISQL Reference Manual	36215-90002	9/87	

Manual Title	Customer Order No.	Latest Edition	Current Update
HPSQL/V Database Administration Guide	36215-90003	9/87	
HPSQL/V COBOL Application Programming Guide	36215-90004	9/87	
HPSQL/V Message Manual	36215-90005	9/87	
HPSQL/V Quick Reference Guide	36215-90006	9/87	
HPSQL/V Pascal Application Programming Guide	36215-90007	9/87	
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
FORTRAN /3000 Reference Manual	30000-90040	6/76	
HP FORTRAN 77/V Reference Manual Supplement	30000-90294	5/88	
HP FORTRAN 77/V Programmer's Guide Supplement	31501-90005	3/87	6/87
SPL Pocket Guide	32100-90001	11/76	
FORTRAN Pocket Guide	32102-90002	5/79	
BASIC/3000 Compiler Refernece Manual	32103-90001	9/77	
HP RPG/V Reference Manual	32104-90001	12/88	9/89
HP RPG Pocket Guide	30318-90003	12/89	
RPG/V Utilities Reference Manual	32104-90006	12/88	
Pascal/3000 Reference Manual	32106-90001	10/83	
Pascal/3000 Pocket Guide	32106-90002	10/83	
HP Business BASIC Reference Manual	32115-90001	8/86	9/87
HP Business BASIC Quick Reference Guide	32115-90002	7/85	8/87
HP Business BASIC Programmer's Guide	32115-90003	8/86	7/87
BASIC/V to HP Business BASIC Conversion Guide	32115-90004	8/86	9/87
BASIC/260 to HP Business BASIC Conversion Guide	32115-90005	8/86	7/87
Using COBOL: A Guide for New Users of HP3000	32213-90003	3/78	

Manual Title	Customer Order No.	Latest Edition	Current Update
COBOL II/V Reference Manual	32223-90001	5/89	
COBOL/3000 to COBOLII/3000 Conversion Guide	32233-90005	12/79	
ADDITIONAL SOFTWARE PRODUCTS MANUALS			
HPCopycat/3000 Reference Manual	19550-90901	10/88	
Administrator's Guide to HPConvert/WPS	27500-90001	1/85	
Administrator's Guide to HPOffice Connect to DISOSS	27515-90001	10/86	
Using HP DeskManager Connect to DISOSS	27515-90004	10/86	
Using DISOSS Connected to HP DeskManager	27515-90006	10/86	
Using HP DeskManager Connected to the IBM Professional Office System	27521-90004	1/86	
Using the IBM Professional Office System Connect to HP DeskManager	27521-90005	1/86	
HP DeskManager: Intrinsics	27562-90003	12/91	
HPDRAW Reference Manual	32108-90001	12/83	
HPEASYCHART Reference Manual	32109-90001	1/84	
HPMenu Reference Manual	32112-90000	1/83	
HPMenu Administrator's Manual	32112-90001	6/83	
HPMenu Quick Reference Guide	32112-90002	6/83	
HPMap/3000	32113-90001	7/85	
Mapping Applications Casebook	32113-90002	7/85	
Programmatic Access to HPWORD Documents	32119-90001	9/86	
Using HPWORD	32120-90035	4/85	8/88
HPWORD Administration	32120-90061	9/86	8/88
HPFILE/LIBRARY Administration	27520-90019	1/91	
Using FILE/LIBRARY	27520-90020	1/91	
HPDESK Administration Guide	27568-90003	12/91	
Combined HPDESK Manual Set	27576A	12/91	
Printing With HPWORD	32120-90065	8/88	
HPListKeeper User's Guide/Reference Manual	32132-90020	9/86	
VisiCalc Quick Reference Guide	32133-90001	12/84	
VisiCalc Reference Manual	32133-90002	3/84	
Deluxe VisiCalc Quick Reference Manual	32133-90010	12/84	
Deluxe VisiCalc Reference Manual	32133-90011	12/84	
DSG/3000 Reference Manual	32250-90001	12/83	

Manual Title	Customer Order No.	Latest Edition	Current Update
DSG/3000 Quick Reference Guide	32250-90002	2/84	
Print Spooler Utility	32345-90001	8/86	12/86
HP Tapemaker/V User's Guide	32434-90004	4/88	
Resource Sharing for MPE V	32597-90079	3/91	
HPTREND User's Guide	35136-90001	2/87	
HP Easytime Reference Manual	35303-90001	2/87	
HP Business Report Writer/V Reference Manual (w/binder)	36070-60002	10/87	11/88
Business Report Writer/V Tutorial	36070-90010	10/87	
HPSPELL Administration	36561-90002	11/84	
HPSPELL Quick Reference Guide	36561-90003	11/84	
HP DeskManager User Reference Guide	36570-90133	12/91	
HP DeskManager Customization	36570-90135	12/91	
HP Desk Administration	36570-90134	12/91	
Using HPTELEX II	36572-90021	1/91	
Administrator's Guide to HPTELEX II	36572-90013	9/84	
HPTELEX II Reference Card	36572-90014	9/84	
Using HPSlate	36576-90043	10/89	
TDP/3000 Quick Reference Guide	36578-90003	11/80	8/88
Getting Started With TDP/3000	36578-90005	9/87	8/88
TDP/3000 Reference Manual	36578-90009	8/88	
IFS/3000 Reference Manual	36580-90001	1/84	9/84
IDS/FORM Reference Manual	36581-90002	2/85	
HP Graphics Curator	36926-90001	2/86	
HP Graphics Curator Update	36926-90007	11/86	
HP LaserRX/MPE User's Manual: Analysis Software	50700-90024	3/91	
HP Performance Collection Software User's Manual (for MPE Systems)	50700-90022	4/92	
HP LaserRX/MPE: A Journey of Discovery	50700-90026	3/91	
TRANSFORM/3000 Reference Manual	99940-90001	11/86	
TRANSFORM/3000 IBM S/36 OCL Translation	99940-90002	11/86	
PROCMON/3000 Reference Manual	99941-90001	11/86	
HP GlancePlus/V User's Manual	50733-90002	2/91	

Customer Comment Card

Communicator 3000
HP Part No.: 32033-90281
R3248

We welcome your evaluation of this manual. Your comments and suggestions will help us improve our publications. Attach additional pages if necessary.

Please circle the following Yes or No:

■ Is this manual well organized?	Yes	No
■ Is the information technically accurate?	Yes	No
■ Are instructions complete?	Yes	No
■ Are concepts and wording easy to understand?	Yes	No
■ Are the examples and pictures helpful?	Yes	No
■ Are there enough examples and pictures?	Yes	No

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