HEWLETT PACKARD

COMMUNICATOR 3000
MPE V Version G.2P.00, Release 2P

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HP 3000 Computer Systems

COMMUNICATOR 3000

MPE V Platform Release 2P (Version G.2P.00)

HEWLETT PACKARD
8000 FOOTHILLS BOULEVARD, ROSEVILLE, CA 95747-6588

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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 delimeter preceding a parameter in a syntax statement indicates that the delimeter *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*

CONVENTIONS (continued)

Δ — When necessary for clarity, the symbol Δ may be used in a syntax statement to indicate a required blank or an exact number of blanks. For example:

SET[(*modifier*)]Δ(*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

SECTION 1

Introducing MPE V Platform Release 2P

by Mary Ann Mercer and Ross Martin
Software Technology Division

INTRODUCTION

Welcome to Platform Release 2P! The MPE V team dedicates itself to supporting and enhancing MPE V releases. In this release, tremendous improvements to the previous Platform release, 1P, are available. Hewlett-Packard understands that satisfied MPE V customers with HP 3000 classic systems may not be ready to migrate to MPE/iX right away. Concern about future support commitments for classic systems will no longer be an issue. The Software Technology Division (SWT) is investing in a variety of efforts to meet the needs of MPE V users. No introductions of new hardware systems exist for MPE V. However, vigorous activity for enhanced support and software development has increased the usability of MPE V systems customers depend on. Included in this effort is an emphasis on ease of system management, simplification of operation, as well as a focus on compatibility with MPE/iX. As a result, migration to MPE/iX is an easy adjustment when customers are ready to upgrade their systems. Customers can look forward to subsequent releases containing enhancements and fixes in the future. This article explains HP's plans for MPE V with a focus on Platform Release 2P.

HP continues to take customer feedback seriously. Customer input provided the main focus for the improvements incorporated into Platform Release 2P. Appearing in Platform Release 2P are numerous enhancements from the System Improvement Committee's survey for MPE V (published in "Interact") as well as Service Requests and enhancements requested through other sources. Included in the introduction of Platform Release 2P, are all previous release fixes and product enhancements since the release of 1P, plus twenty-one new customer requested fixes to MPE (as well as numerous fixes to subsystem products and operating system). Reliability has long been a strength of MPE V and these efforts further increase the reliability of future MPE V versions.

HP encourages customers to update their MPE V software with Platform Release 2P. The design of platform releases are for maximum reliability. Platform releases contain only problem fixes on top of the previous release functionality and are available approximately every eighteen months. Starting with Platform Release 2P platform releases will have a support life of forty-eight months, increased from thirty months, and receive future patches and retrofits. Distribution of platform releases are automatically sent to all customers on support contracts.

Between platform releases, HP provides releases that include enhancements and fixes (for example, Release 20 through 23) in preparation for the next platform release, 2P in this case. These incremental releases are available by request to customers on support contracts. The support life of these releases will extend three months after the actual first customer ship date of Platform Release 2P, or for a total of twelve months, whichever is longer.

This MPE V development and maintenance activity should make it clear that HP is fully supporting MPE V. We will continue to provide the exceptional support that HP is famous for, as long as customers need

it. And when you are ready to migrate to MPE/iX systems for increased performance and functionality, we will make sure that the migration remains simple for you.

MPE V Software and Hardware Welcome Back Program

There is tremendous response from customers who want to take advantage of Platform Release 2P, and HP welcomes back customers who would like to reinstate both their software and hardware support contract(s). In some cases, customers have kept support for some, but not all classic systems. More customers now want to update all of their systems with the latest MPE V software. Simply sign back on software support and material services between July 1 to December 31, 1992, and you will receive the enhanced MPE V release of 2P, your specific subsystems' updates, a system update manual, and a copy of the Communicator. If you act during this time, the Return to Support charges will be eliminated, a savings of over $2,000. Similarly, the inspection fee for signing back onto hardware support will also be waived.

With so many enhancements available to make your MPE V operating system more effective, make sure your company takes full advantage of our program for all your systems. For further information in the U.S. you just call 1-800-237-3990. Outside the U.S., please contact your HP local office.

The following portion of this introduction briefly describes new products and enhancements available on Release 20 through Release 23. All of these enhancements have been included in Platform Release 2P.

SYSTEM INFORMATION

Release 20

- Release 20 includes changes to the :STREAM command. These changes will allow you to schedule and reschedule jobs more consistently and flexibly. You will also notice that the algorithm for rescheduling jobs with the option DAY or DATE has been slightly modified.

Release 21

- New with this MPE V release is VPLUS/Windows. VPLUS/Windows is a Microsoft Windows-based user interface for VPLUS applications. The VPLUS/Windows graphical user interface provides features such as cut and paste, context sensitive help and the ability to run multiple VPLUS applications concurrently.

- HPLaserRX/MPE (version B.00.00) encompasses many product changes and enhancements that you will receive in an update kit if you currently include HP LaserRX/MPE on your support contract. In order to take advantage of these enhancements there are a number of migration steps that you need to follow.

- Native Language Support (NLS) has been enhanced to support new East European languages, remove unused Arabic languages and modify existing languages to meet new standards.

Release 22

- An MPE V intrinsic called HPVOLINFO has been available since MPE V Release 20 (G.20.00), but documentation about the intrinsic has not been published until the Release 22 issue of the Communicator. HPVOLINFO allows the gathering of volume space information which previously required an extensive manual process. HPVOLINFO is supported on both MPE V and MPE/iX.

- HP has added a new STORE option called PACKED, which improves the performance of a labeled tape STORE.

- HP is also improving and enhancing TurboIMAGE for MPE V. For example, HP TurboIMAGE is now providing a Multiple Database Transaction Logging (MBDX) capability. The logging and

recovery capability was limited to transactions involving a single database. Now, MDBX solves the problem of complex applications with units of work that span multiple databases. Although the software was provided with Release 21, both the software and documentation are available with the Release 22 Communicator.

Release 23

Descriptions of the major enhancements for Releases 23, listed below are available online through the MPE HELP subsystem by using the NEW keyword. The information displayed when you type HELP NEW is a short description of the enhancements and how to find more information for each.

Release 23 adds many enhancements already present in MPE/iX, making compatibility with MPE/iX even better.

- MPE V Console Revert
  The logical console is now returned to ldev 20 if a user logs off with the logical console assigned to their terminal ldev if the ldev is a modem port.

- The New MPE V EXPLAIN Utility
  HP EXPLAIN allows users quick, online access to explanations of MPE V system error messages. It can run on any terminal or PC (using a terminal emulator), and does not need any special capabilities.

- Improved RESTORE Performance for DDS
  The MPE V DAT tape driver, STORE, and TurboSTORE now utilize the fast search capability of the DAT tape drives. The result is a significantly faster restore of individual files from a large DDS STORE or TurboSTORE tape. This feature is automatically enabled if using DDS tape drives and will work with STORE and TurboSTORE tapes created before this enhancement.

- New Items Available Through the JOBINFO Intrinsic
  The JOBINFO intrinsic now returns job initiation information.

- The Known Vendor Table
  This new data structure will be available for third party developers to help them manage their data.

- MPE V MI Expansion
  The Measurement Interface has been expanded to support the maximum number of processes on MPE V (from 628 to 1024 processes).

- STORE/RESTORE Multiple Exclusion Filesets
  STORE, RESTORE, and SYSDUMP file sets are more powerful. They now allow up to 9 exclusion file sets for each file set.

- New Tape Creation Date Option for RESTORE
  The tape creation date can now be displayed during a RESTORE with the new keyword TAPEDATE.

- SHOWOUT Enhancement
  The SHOWOUT command now displays the completion percentage for active spool files.

- The New DELETE Command for SPOOK 5
  SPOOK 5 now allows wildcard spool file deletes by date, priority and USER.ACCOUNT. Date and priority wildcards allow >, <, =, >=, <=, and <> operators. USER.ACCOUNT allows either USER or ACCOUNT name or @.

- The New Dispatcher Priority Oscillation Boost Property
  The dispatcher now supports the priority oscillation boost property. This feature gives a system manager increased control over allocating CPU resources. Specifically, enabling oscillation on a subqueue will cause the dispatcher to favor longer transactions and help prevent these types of processes from being CPU "starved" when the system is very busy. Online reporting is an example of a long transaction.

- Performance Improvement For COBOL Programs
  Many large COBOL programs will show an increase in performance on Release 23 due to a change in the trap handling code on MPE V.

- Job File Modification Date
  As of Releases 23 streaming a job will not cause the modification date in the job file label to be updated.

- SUPPACCT.PUB.SYS Enhanced for Release 23
  FIELDJOB, extraneous error messages, and redundant commands have been eliminated, greatly improving efficiency and reducing paper usage. In addition, the SYS account has been set to LOCK access=ANY to improve consistency between MPE V, MPE/iX, and HP Desk.

Platform Release 2P

- Change in ABORTJOB

DATA COMMUNICATIONS

Release 21

- The ATP and ADCC interfaces have been enhanced to support duplex printing for the LaserJet 2000 and LaserJet IID.

SUPPORT TOOLS

Release 21

- HP Predictive Support (A.02.05) has been enhanced and offers the following improvements over the A.02.04 version: C220*xx* disk drive coverage, individual bit error detection coverage, refinements to the disk scanning and configuration tracking utilities, and HP50759A Multitech modem support.

ADDITIONAL SOFTWARE PRODUCTS

Release 20

- HP Search/V
  A new product that provides you with high-performance search capabilities. HP Search/V features include: fast, read-only access to files, wild card specifications in file sets, multiple search patterns, KSAM file supportability, and output redirection.

- HP Browse/V
  This new product can create a full-screen display of one or two files at a time. HP Browse/V contains the following features: quick, read-only access to most non-privileged files, access to KSAM files, scrolling, user-friendly interface, short learning curve for HP EDIT users, and an online Help Facility.

Release 21

- HP GlancePlus/V
  A new product that replaces Glance/V as the HP diagnostic performance tool of choice. HP GlancePlus/V offers five new screens and several new commands A new product that replaces Glance/V as the HP diagnostic performance tool that will complement the original look and feel of Glance/V. You will find migration from Glance/V to GlancePlus/V extremely simple because the integrity is maintained between the two products.

- HP NewWave Office 3.0
  A new structure of products that can be selected and customized from a menu. There are also a number of changes and additional services provided with this version of NewWave.

Release 22

- HP Information Access A.06
  HP Information Access A.06 has the following enhancements: new CONVERT function, IMAGE automatic masters as tables, ADMIN quick configuration, 2048 character Item Clause, and GROUP BY Clause increased.

Release 23

- HP DeskManager 36570
  French and German versions of HP Deskmanager are available with Release For HP DeskManager 36570 B.05.00, enhancements include: the ability to configure NS connections with adjacent computers; increased number of ma trucks running on a system; return-to-sender facility enhanced; more fun supported by the user interface; hooks available for IS07 support; and configurations of local systems can now be done in batch using MAILUTIL data.

- HP DeskManagerPlus 36567
  Version B.05.00 is now available and includes all of the HP DeskManager B.05.00 enhancements plus the following major enhancements: routed messages can be indicated to require authorization/approval of a set of recipients; garbage collection can be run continuously with all other HP DeskManagerPlus processes; centralized administration is accommodated; and enhanced intrinsics have been developed for integration purposes.

- HP COBOL II/V
  This product was enhanced to output a new message at compile time if data has the potential of getting lost.

- VPLUS Release 4.0
  This release has three new enhancements: native character pattern matching; new state codes; and a new intrinsic, VGETARBINFO.

- Business Report Writer/V
  Simplified dictionary maintenance, streamlined report development, and suppressing repetition with greater flexibility are among many enhancements made to BRW/V.

- HP GlancePlus/V
  This product has a 60-day trial copy available.

- HP LaserRX/MPE
  To greatly improve system monitoring, Release 23 enhancements to HP LaserRX include: host access to data; service level support; adjustment of scheduled log files as they become full; and performance alarms. Refer to the COMMUNICATOR 3000, Version G.23.00 of MPE V for a description all the fixes that have gone into Release 23. You will automatically receive a copy of the Communicator if you have a support contract.

STREAM Command Changes

by Grace Liu
Commercial Systems Division

(Release 20)

With this new version of MPE, the :STREAM command will schedule and reschedule jobs more consistently and more flexibly. The algorithm for rescheduling a job with the option DAY or DATE has been slightly modified. However, the syntax of the command has not changed.

The following are new MPE error and warning messages:

```
Can't specify a date previous to the current date.  (CIERR 6305)

There isn't that many days in this month.  Last day of this
month is assumed.  (CIWARN 6335)
```

The following are modified MPE error and warning messages:

```
Expected a number between 31 and -31 inclusive for the day of
month or day from end of month specification.  (CIERR 6321)

Day from the end of month is greater than total number of days in
month.  First day of this month is assumed  (CIWARN 6323)
```

ALGORITHM

There are no changes for AT and IN options.

Here are the new strategies in redirecting a scheduled job with DAY option to a future day, if the time or day has passed:

```
        {dow}
DAY  =  {dom}  [; AT=timespec]
        {dem}
```

dow - Reschedule for the same time of next weekday.

dom - Reschedule for next month, same day and same time. If DOM specified is greater than total number of days in next month, last day of next month is assumed.

Note: If DOM is greater than the total number of days in this month, and time or day hasn't passed yet, reschedule for the last day of this month.

dem - Reschedule for next month, same time. The day of month might be slightly different from this month, because it depends on the total number of days we have for the coming month. If the positive value of DEM is greater than the total number of days in the next month, the first day of the coming month is assumed.

Here are the new strategies in handling the DATE option. This option is specified in the format mm/dd/yy. It is an absolute date specification.

1. If the date specified is less than the current date, an error message is generated - CIERR 6305.

2. If the date specified is equal to the current date but the time is passed, an error message is generated - CIERR 6303.

3. If the date specified is equal to the current date and the time is not passed, the job is scheduled for the specified time.

4. If the date specified is greater than the current date, the job is scheduled for the specified date and time.

Example

The following are examples of :STREAM command usage. For these examples, assume that the current date and time are Monday, February 5, 1990, 12:00 p.m.

```
Current date: February 5, 1990
Weekday:      Monday
Time:         12:00 p.m.
```

```
:STREAM JOBFILE                 JOBFILE will be introduced immediately

:STREAM JOBFILE; AT=8:00        JOBFILE will be introduced at 8:00 a.m.
                                Tuesday, February 6.
```

```
:STREAM JOBFILE;AT=20:00
```
JOBFILE will be introduced at 8:00 p.m., Monday, February 5.

```
:STREAM JOBFILE;IN=,8
```
JOBFILE will be introduced in eight hours, at 8:00 p.m., February 5.

```
:STREAM JOBFILE;IN=1,8
```
JOBFILE will be introduced in one day plus eight hours, at 8:00 p.m., Tuesday, February 6.

```
:STREAM JOBFILE;DAY=MON;AT=8:00
```
Since the time specified (8:00 a.m.) is earlier than the current time, JOBFILE will be introduced at 8:00 a.m., Monday, February 12.

```
:STREAM JOBFILE;DAY=MON;AT=20:00
```
Since the time specified (8:00 p.m) is later than the current time, JOBFILE will be introduced at 8:00 p.m., Monday, February 5.

```
:STREAM JOBFILE;DAY=6;AT=20:00
```
Since the day of the month(6) is later than the current day of the month (5), the current month is assumed. JOBFILE will be introduced on Tuesday, February 6 at 8:00 p.m.

```
:STREAM JOBFILE;DAY=4
```
Since the day of the month is earlier than the current day (5), next month is assumed. Since no time was specified, JOBFILE will be introduced on Sunday, March 4, at 12:00 p.m.

```
:STREAM JOBFILE;DAY=31
```
Since there is no February 31, a CIWARN 6335 is given, and the job is scheduled for last day of this month February 28, at 12:00 p.m.

```
:STREAM JOBFILE;DAY=-2
```
The "-2" means the second to last day of the month, and since no time was specified, the current time is used. JOBFILE will be introduced on Tuesday, February 27, at 12:00 p.m.

```
:STREAM JOBFILE;DATE=2/5/90;AT=8:00
```
Since the date to run JOBFILE is given in a mm/dd/yy format, assume user does not want rescheduling. In this case, date is current, but time passed, so it is flagged as an error.

```
:STREAM JOBFILE;DATE=2/5/90;AT=20:00
```

The specified time is later than the current time, so this command is legal. JOBFILE will be introduced on Monday, February 5, at 8:00 p.m.

```
:STREAM JOBFILE;DAY=-24;AT=8:00
```

The date is today, but the time has passed, so scheduled for same "DAY" of next month. JOBFILE will be introduced on March 8, at 8:00 a.m.

```
:STREAM JOBFILE;DAY=-24
```

User specifies a day but does not specify a time, a warning message is generated and the specified job will log on immediately.

```
:STREAM JOBFILE;DAY=32
```

Maximum number of day in a month is 31, same for DEM, value given couldn't be greater than 31, else will be flagged as an error.

```
:STREAM JOBFILE;DAY=-31
```

The "-31" means first day of this month. Since specified day is earlier than current day, JOBFILE will be introduced on March 1, 12:00 p.m.

```
:STREAM JOBFILE; DAY=-25
```

The "-25" means the twenty-fifth day from the end of the month which implies February 4. But February 4 is earlier than current day; therefore, the next month is assumed. JOBFILE will be introduced on March 7, 12:00 p.m.

Introducing VPLUS/Windows

by Cory Cooper
Commercial Systems Division

(Release 21)

HP VPLUS/Windows is a Microsoft Windows-based user interface for VPLUS applications. It offers a number of significant advantages and benefits to VPLUS programmers and end users.

VPLUS/Windows allows existing VPLUS applications to take advantage of the productivity benefits of the Microsoft Windows user interface. By operating as a Microsoft Windows application, VPLUS/Windows enables users to take advantage of a graphical user interface and a high performance alternative to terminal emulators for HP3000 OLTP applications. VPLUS/Windows provides features such as cut and paste, context sensitive help and the ability to run multiple VPLUS applications concurrently.

VPLUS/Windows is completely compatible with the VPLUS and Hi-Li intrinsic sets. This means that applications coded for VPLUS or Hi-Li will run, without modification, on all block mode terminals, terminal emulators or under VPLUS/Windows on a PC. However, VPLUS/Windows is not a terminal emulator. All applications running under VPLUS/Windows must use only VPLUS or Hi-Li intrinsics for their user interface.

The HP 3000 requires the VPLUS/Windows software (HP36393A). Each PC will require MS-DOS (version 3.2 or later), and Microsoft Windows (version 3.0 or later). VPLUS/Windows should run on any PC that is capable of running Windows 3.0. A PC LAN environment is required for the operation of VPLUS/Windows. The LAN environment consists of HP EtherTwist, HP StarLAN 10, or HP ThinLAN Network PC Link using Network Services. Network Services is available for both the HP OfficeShare and HP LAN Manager environments.

HP LaserRX/MPE Enhancements

by Joe Thomas/Colleen Dillon
Application Support Division

(Release 21)

SUPPORT CONSIDERATION

HP LaserRX/MPE (HP50700B) encompasses many product changes and enhancements with this release, and requires special attention to ensure smooth migration.

If you currently include HP LaserRX/MPE on your HP 3000 (VE) support contract, and you have also purchased the Software Materials Update for PC (i.e., support product number H2016A+S00) you will receive the HP LaserRX/MPE enhancement release (Version B) CD. Note that you MUST be on software support for HP LaserRX/MPE in order to receive the enhancement update kit.

If you already own HP LaserRX/MPE and do not currently include it in your support contract, we encourage you to add its support in order to minimize the inconvenience of not receiving this update.

MIGRATION ISSUES

As noted, if you are on support for HP LaserRX/MPE you will receive the HP LaserRX/MPE enhancement release CD update.

Log File Conversion

Before you can collect data with the new host performance collection software, you must convert existing raw logfiles from the old "A" format to the new "B" format. The SCOPE collector should not be restarted until this step is complete.

You must also convert any extracted logfiles that you wish to analyze with the new PC software. Use the MPE host UTILITY program CONVERT command to convert both raw and extracted logfiles. No backward conversion is available. To ensure that this does not create a problem if operating system backdating is necessary, the new host data collection software you install from the enhancement CD (Version B) is compatible with operating system releases UB-DELTA-1 and greater.

Batch File Conversion

New, command-driven user interfaces for host UTILITY and EXTRACT programs increase user friendliness over the original question-and-answer design. Any existing job streams that run these programs must be modified to accommodate the new command structure. This modification reduces the need to change these batch job streams when new features are added in the future.

Data Definition Modifications

If you are currently exporting application or process textual data, you may need to modify the data definitions of the output data file or spreadsheet to reflect the changes in the textual data display. See "Metric Changes" section below for more information.

Microsoft Windows 3.0 Required

HP LaserRX/MPE analysis software for the PC requires Microsoft Windows®[1] 3.0 to run. HP LaserRX/MPE is *not* compatible with earlier releases of Microsoft Windows®.

NEW FEATURES IN THE PC ANALYSIS SOFTWARE

- New graphs.
  - Total and active numbers of jobs and sessions.
  - Average number of processes using or waiting on a system resource (CPU, disc, memory, or impede).
  - System resource usage per transaction.
  - Application states (using CPU or waiting on a system resource).
- Record-and-playback feature.
  - MS-DOS®[1] command line input of playback file with logfile make automation of periodic repetitive tasks, such as graph printing, possible.
- Native language support for dates and times.
- Four new graphs reflecting disc space utilization.
- Export of more than 64 K bytes of textual application or process data.
- Expanded memory utilization allows more concurrent graphs and textual displays.
- Black background and solid line options are available for graphs.
- Encrypted passwords increase security.
- A status bar on the main window informs you of the status of the last operation performed.
- TIFF file format supported in the EXPORT function to facilitate HP LaserRX/MPE graphic input into many word processing packages.
- The File Open function now has an option to report the type of data and date ranges contained in a local or remote logfile.
- PaintJet print speed can be increased by options to reduce the printed output size by various percentages.

- Both Application and Global graph choices are now contained in one dialog box.
- Either application or process textual data can now be zoomed from either a global or an application graph.
- Textual displays standardized for MPE V and MPE/iX systems for simplified analysis and handling of exported data.
- Users who access logfiles over a local area network (LAN) may now connect to up to five remote systems concurrently. (Supported on releases V-DELTA-2 and greater.)

NEW FEATURES IN HOST PERFORMANCE COLLECTION SOFTWARE

- You may now set thresholds that log processes because they wait an excessive percentage of time for a system resource (CPU, disc, memory, or impede).
- Applications may be defined by execution queue, as well as by program file name, user logon, and job type.
- "OR" operator provided for application definitions.
- UTILITY and EXTRACT command-driven interface.
  - Utilizes function keys by default.
  - Creates more easily maintained batch job streams.
  - Makes interactive use easier.
  - Allows MPE commands.
  - Provides a task-oriented help subsystem.
  - Native language support for dates and times.
- New UTILITY features.
  - Displays versions of all HP LaserRX/MPE host performance collection software.
  - Allows user notes to be added to raw logfiles.
  - Terminates the SCOPE collector.
  - Requests the SCOPE collector to read the PARM file and set the parameters without terminating the collector.
  - Checks a PARM file for errors and reports resulting collection values.

- New EXTRACT features.
  - Automated archiving of logfiles via WEEKLY, MONTHLY, and YEARLY functions.

METRIC CHANGES

- Application textual data now contains one line for each application rather than up to four lines for each possible execution queue within an application.
  - This information can still be obtained by explicitly defining an application for each execution queue in the PARM file.
- Application textual data no longer contains standard deviations for response time and transaction data.
  - This information was available and valid for MPE V, but is no longer displayed.
- Process stop reasons now represent current interval rather than life of the process to facilitate short-term diagnostics.
- The Global Disc Summary term "disc utilization" now refers to utilization of the busiest disc rather than the average utilization of all discs.
  - This should enhance the diagnostic capability of identifying a single-disc bottleneck.

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[1] Microsoft® Windows and MS-DOS® are U.S. registered trademarks of Microsoft Corporation.

Native Language Support Enhancements

by Judy Chen
Network Systems Group/Internationalization

(Release 21)

With this MPE V release, the Native Language Support (NLS) language definition tables (CHRDEFnn) are enhanced to support new East European languages, remove unused Arabic languages and modify existing languages to meet new standards.

NEW SUPPORTED LANGUAGES

The following two new character sets and eight new languages are added to support East European languages in NLS:

Character set name : LATIN2 (Character set number - 22)
Latin2 character set is equivalent to ISO 8859/2 character set.

Language number	Language name
142	CZECH
143	HUNGARIAN
144	POLISH
145	RUMANIAN
146	SERBOCROATIAN
148	SLOVENE

Character set name : CYRILLIC8 (Character set number - 25)
Cyrillic character set is equivalent to ISO 8859/5 character set.

Language number	Language name
180	RUSSIAN
181	BULGARIAN

DELETED LANGUAGES

The following four unused languages using the Arabic8 character set are removed from NLS:

Character set name : ARABIC8 (Character set number - 03)

Language number	Language name
49	ARABICL
50	ARABICR
53	ARABICWL
54	ARABICWR

MODIFIED LANGUAGES

The NLS tables have been modified for the following languages:

Language number	Language name
3	CANADIAN-FRENCH
6	FINISH
7	FRENCH
9	ITALIAN
10	NORWEGIAN
12	SPANISH
13	SWEDISH
14	ICELANDIC
51	ARABIC
52	ARABICW
61	GREEK
81	TURKISH
201	CHINESE-S
231	KOREAN

New Volume Intrinsic – HPVOLINFO

by Pat Alvarez, Wayne Booth, Mark Dovi and Lalitha Pejavar
Computer Systems Division

(Release 22)

Product Name

HPVOLINFO Intrinsic

PRODUCT OVERVIEW

On MPE, there are different methods to find out how much volume space is available or used through various commands and utilities - FREE, LISTF, REPORT, VINIT, VOLUTIL, etc. Until now, there were no intrinsics that returned this type of information. Obtaining volume information was a very manual process through the use of these commands and utilities. The customer had to write privileged mode programs, which were not supported by HP, in order to retrieve volume information from the system tables. As a way to gather volume information more easily, a new volume intrinsic is now provided which returns information similar to that returned by the volume commands and utilities available today. This intrinsic is supported on both MPE V and MPE/iX.

HPVOLINFO

The new volume intrinsic is HPVOLINFO. This intrinsic provides a way to retrieve volume information from both system and nonsystem volumes (on MPE V, nonsystem volumes are equivalent to private volumes). The volume information that is returned can be used to track volume space usage. More specifically, the information that is returned describes how the space on volumes is allocated - i.e. how much is used for operating system purposes, how much space is free space, how much space is used for spool files, etc. Also, with this information, volume fragmentation and lost disc space information can be determined. With this intrinsic, the trend of volume usage can be observed so that future disc needs can be predicted.

The term "volume" used throughout this document refers to a disc pack that is mounted in a disc drive.

The following information is returned from HPVOLINFO:

- Drive type
- Capacity of a volume
- Sector size of a drive
- Amount of volume space used by MPE
- Spool file space usage
- Permanent and temporary file space usage
- Volume type
- Volume set name
- Number of volume classes
- List of volume classes
- Ldev that a volume is configured on
- Free space information
- Number of member volumes
- List of member volume names
- Number of volume sets
- List of volume sets

Multiple Database Transaction Logging (MDBX)

by Ron Harnar and Mark Boronkay
Data Management Systems Division

(Release 22)

TurboIMAGE provides a transaction logging and recovery capability that allows a programmer to group multiple TurboIMAGE intrinsic calls into logical transactions that are treated as single units of work during database recovery. In the past, the logging and recovery capability was limited to transactions involving a single database. This posed problems for complex applications with units of work that span multiple databases. To address this specialized requirement, TurboIMAGE is providing a multiple-database transaction (MDBX) capability.

The following changes have been made to TurboIMAGE in order to support MDBX:

- The TurboIMAGE intrinsics DBBEGIN and DBEND are enhanced so that programmers can define MDBXs involving up to 15 databases.
- A new mode (404) is added to DBINFO for obtaining information about MDBXs.
- The DBRECOV utility is modified to allow recovery of MDBXs.
- New operational requirements are enforced for applications that use MDBXs.
- The TurboIMAGE log file is changed to permit logging of MDBXs.

Two types of MDBXs are available-optimized and non-optimized. A non-optimized MDBX makes use of DBBEGIN and DBEND records in the user log file. An optimized MDBX generates new logging records (MDBXBEGIN and MDBXEND) designed to save space in the log file.

NOTE

The use of the new log records generated by an "optimized" MDBX will prevent Silhouette from processing these entries appropriately. It is therefore recommended that Silhouette users use "non-optimized" MDBXs on log files that are accessed by Silhouette.

The use of MDBX is optional. TurboIMAGE applications that are currently using single-database transactions can continue to do so without any coding or operational changes. The above changes apply only if the programmer wishes to take advantage of the MDBX enhancement.

These enhancements are also available in the previous MPE V Release 21 with version C.00.67 of TurboIMAGE/V.

New STORE Option - PACKED

by Ching-Ching Su
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(Release 22)

To improve the performance of a labeled tape STORE, a new labeled STORE tape format is now available. Results of STORE performance testing shows the new labeled tape STORE performance has significantly improved (e.g., an 86% improvement when storing between 200 and 1000 files) over that of regular labeled tape and is comparable to that of unlabeled tape. In this article, the new labeled STORE tape will be referred to as PACKED tape.

USER INTERFACE

Customers can use the new STORE option PACKED to create the PACKED tape. All STORE/RESTORE functions that apply to regular labeled tape also apply to PACKED tape.

Syntax

```
:STORE filesetlist;*storefile;PACKED
```

Creation of the PACKED tape is similar to that of regular labeled tape. First, the user must setup a :FILE equation describing the destination device, the volumeset, etc., prior to issuing a valid STORE command. Second, the user must state the PACKED option in the STORE command.

For example, when preparing for a backup to the volume VOL06, the following file equation would be entered:

```
:FILE T;DEV=TAPE;LABEL=VOL06
```

This would be followed by the STORE command:

```
:STORE filesetlist;*T;PACKED
```

Restoring files is identical to that of regular labeled tape.

TAPE FORMAT

The PACKED tape format conforms to ANSI labeled tape format. For PACKED tape, STORE places all of the STORE/RESTORE data into one logical file. Only a user header label generated by STORE/RESTORE is not within the file data area. The STORE/RESTORE data is laid out the same

order as the regular labeled tape, but disk file images are separated by a simulated tapemark rather than a set of trailing labels for one file followed by a set of header labels for the successor file. The simulated tapemark is an eighty byte record that contains the ASCII character string "End of logical file.".

Following is the format of PACKED tape.

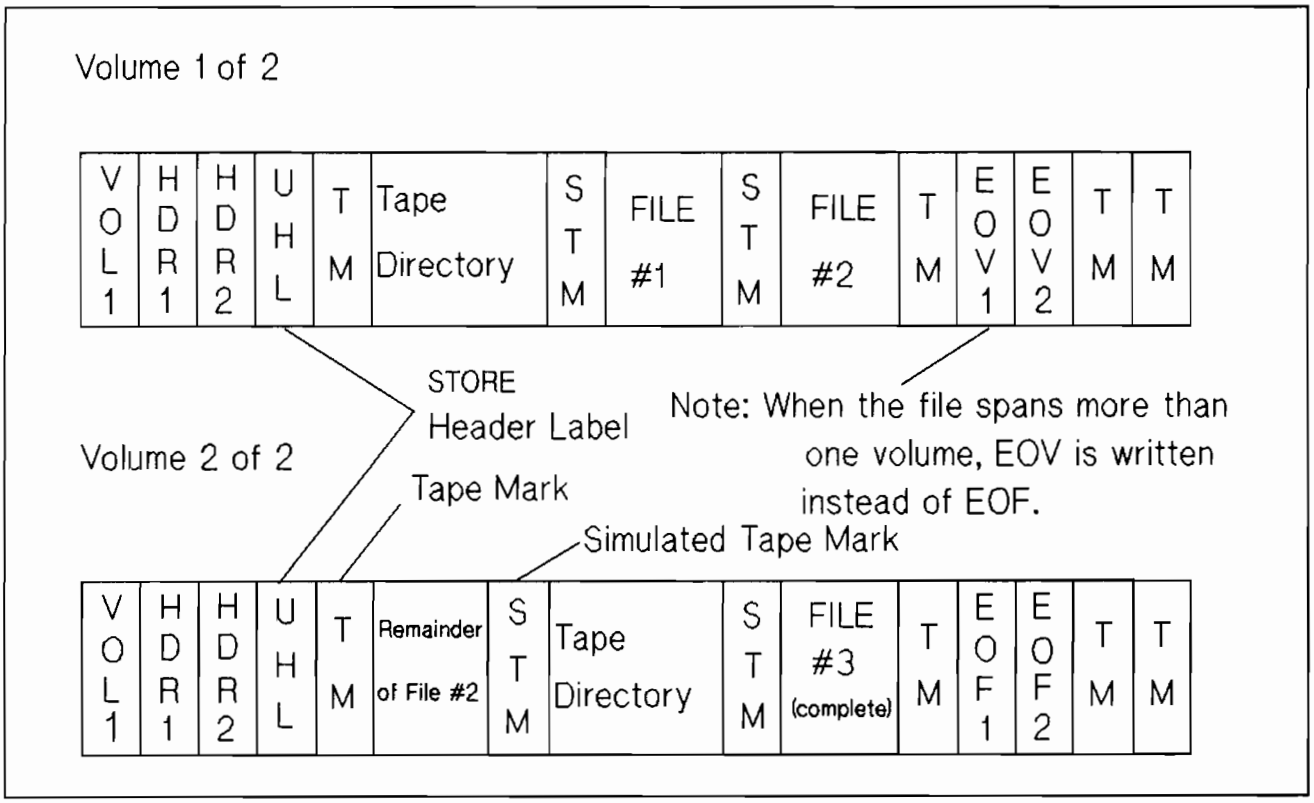

Figure 1. Packed Tapes

Clarification of STORE PACKED option

by Yukihiko Umezawa
Software Technology Division

(Release 23)

A new PACKED option of STORE was introduced in MPE V Release 22. This option is valid for magnetic tape devices but not valid for serial disk devices including cartridge tape drives such as HP 9140, HP 9144, HP 9145, and HP 35401.

With the PACKED option, STORE places all of the STORE/RESTORE data into one logical file. It helps magnetic tape devices to be streamed continuously and provides significant performance improvement over labeled tape STORE. Due to device characteristics, serial disc devices, including cartridge tape drives, do not receive much benefit from the PACKED option.

Announcing MPE V Console Revert

by Ralph Carpenter
Software Technology Division

(Release 23)

INTRODUCTION

With MPE V Release 23, any non-hardwired terminal which has received *system console* status (by use of the *CONSOLE ldev* command) automatically releases *system console* status when the user logs off or the terminal connection is lost.

WHY WAS THIS CHANGE NECESSARY?

Currently, any MPE V terminal not connected via DS can be assigned *system console* status, by virtue of the user of that terminal -- assuming he has sufficient capability to do so -- entering the *CONSOLE ldev* command.

A problem can arise if the user of that terminal later logs off the system *without* entering another *CONSOLE 20* command to revert the *system console* status: The problem arises when the terminal in question happens to be connected via *modem* or *data-switch.*

This type of situation most likely occurs at a customer site where central administration of multiple HP 3000s is practiced. At such multiple-HP 3000 sites, a data switch is often used for occasional connections required between the operations center and the remote HP 3000 -- employing the *CONSOLE ldev* command. In such instances, console logging messages such as job start/stop, session logon/logoff, device ready/not-ready, etc. normally print on the remote console; but, occasionlly the remote console operator might inadvertently end the session by logging off or by terminating the connection, without first entering a *CONSOLE 20* command. MPE V continues to attempt to print the console logging messages to the logical *system console.* Once the console logging I/Os begin encoutering time-outs due to the connection being terminated, the result is exhausting MPE V's virtual memory space resulting in a system failure.

With Release 23, the logical console is dependent upon the *nature* of the terminal connection with *system console* status when that terminal logs off: If the logical console terminal is *not* hardwired, then the *system console* status reverts automatically to logical device 20 upon log off or upon connection termination (that is, *system console* status reverts to that of the physical system console *ldev* detected during execution of the system program INITIAL). On the other hand, if the terminal that acquired *system console* status is *hardwired*, that terminal will retain *system console* status in spite of a log off by the remote console operator. The net result of this enhancement is to eliminate a common cause of system failures which is caused by neglecting to type a *CONSOLE 20* command before logging-off from a non-hardwired terminal that had been assigned *system console* status.

CAN A LOGGED-OFF TERMINAL KEEP CONSOLE STATUS?

There is only one condition under which a terminal can remain as the logical *system console* following the end of the session -- that is the case of a *hardwired* terminal.

Announcing HP EXPLAIN

by Kathryn Jefferies
Software Technology Division

(Release 23)

INTRODUCTION

HP is introducing a new utility, HP EXPLAIN, with available with Release 23 (G.23.00) of MPE V. HP EXPLAIN allows users quick, online access to "cause and action" information for MPE V system error messages. It can run on any terminal, and does not need any special capabilities. You can display or print the explanation for one message, print an entire set of messages and their explanations, or you can perform a keyword search of all messages in the system catalog to find a particular message.

Three sets of messages are documented in this first release of HP EXPLAIN: Command Interpreter (CIERR messages), File System (FSERR messages), and the System Failure errors (SFERR messages). Additional sets will be added in subsequent releases.

EXPLAIN Syntax

Run EXPLAIN.PUB.SYS with the new MPE V Command Interpreter command, EXPLAIN. You may issue this command from a session or job. You may not use it from a program or in BREAK. Pressing [BREAK] suspends execution.

If you enter the EXPLAIN command with no parameters, EXPLAIN prompts you with the EXPLAIN> prompt for utility commands until you enter the EXIT command.

If you enter the EXPLAIN command with any of the parameters described below, EXPLAIN will execute the command, then return control to the MPE prompt.

```
EXPLAIN [message type and number]
        PRINT [message type and number]
        FIND [message number] [search string]
```

Parameters

message type and number	Displays information about a certain error message. The message type and number are the set or subsytem, such as Command Interpreter (represented by CIERR) and the message number (such as 83).
PRINT [message type and number]	Prints a message and its explanation on the system line printer (class LP).

FIND [message number] [search string]	Displays all messages from the system catalog which contain the message number or search string specified.

Examples

To see the explanation for the Command Interpreter error:

STREAM FILE MUST BE OF TYPE ASCII. (CIERR 83)

enter the following at the MPE prompt:

EXPLAIN CIERR 83

The utility displays the error and its explanation, then returns you to the MPE prompt. To print that same message on the system line printer (class LP), enter the PRINT command with the EXPLAIN command at the colon prompt:

EXPLAIN PRINT CIERR 83

DISK SPACE USAGE

For Release 23, HP EXPLAIN uses approximately 2000 sectors of disk space on your system. The required disk space will increase with subsequent releases, as more sets of messages are added to HP EXPLAIN's catalog. If you need to reduce the number of sectors used by HP EXPLAIN, you can delete the explanation catalog.

NOTE

If you delete the explanation catalog, HP EXPLAIN will still run, but you will no longer see explanations for the error messages. When you enter a message type and number, the following message will be displayed:

NO ADDITIONAL INFORMATION AVAILABLE FOR THIS MESSAGE.

We suggest that if you need to delete the catalog, first print the sets which contain the error explanations for Command Interpreter, File System, and System Failure then delete the catalog. To print these sets, enter the following commands:

EXPLAIN PRINT CIERR
EXPLAIN PRINT FSERR
EXPLAIN PRINT SFERR

Then delete the catalog by entering the following command:

PURGE CACAT000.PUB.SYS

Improved RESTORE Performance for DDS

by John Schimandle
Software Technology Division

(Release 23)

INTRODUCTION

Restoring single files or small groups of files from digital data storage (DDS) tape devices was very time consuming. This enhancement utilizes the "fast search" capability of your DDS tape device and significantly reduces the time to restore single files or small groups of files. The performance improvement you see will vary, but in factory performance tests the restore for a single file at the end of a DDS cartridge took 48 minutes without "fast search" and 2 minutes with the "fast search" enhancement.

NEW SYNTAX

"Fast search" is completely transparent to the user and is supported both in RESTORE and TurboSTORE. There are no syntax changes and "fast search" is automatically enabled for most tape formats and hardware configurations.

SUPPORTED TAPE FORMATS

"Fast search" is supported on all STORE tape formats except for Packed Labeled Tapes. Packed Labeled Tapes are created only when the STORE command contains the keyword PACKED and the tape device file equation referenced contains the keyword LABEL. Here is an example of how you create a Packed Label Tape format.

```
file labtape;dev=tape;label
store @.@.myacct;*labtape;packed
```

This example specified the file LABTAPE to be a labeled tape on device class TAPE. The PACKED keyword in the STORE command causes a Packed Labeled Tape format to generated. "Fast search" is not supported for this tape format.

SUPPORTED HARDWARE CONFIGURATIONS

All direct connect DDS tape devices support the new "fast search" capability. Remote DDS tape devices do not support "fast search". An example of a remote tape device specification is shown below. In this example "fast search" would be disabled.

```
file mytape;dev=remotenode#tape
restore *mytape;@.@.myfiles
```

This example requests the tape to be mounted on device class TAPE on the remote node named REMOTENODE.

New Items Available Through the JOBINFO Intrinsic

by Robert Ross
Software Technology Division

(Release 23)

INTRODUCTION

The JOBINFO intrinsic has been enhanced to provide access to eight new items, mostly pertaining to the initiator of a job or session. Much of this information is also provided by the Security Monitor product when a job is streamed.

NEW JOBINFO ITEMS

When JOBINFO is called using item numbers 41 through 47, the following information is returned about the user who initiated the job, rather than the job itself:

- Item 41 returns a DOUBLE value containing the Job or Session Number
- Item 42 returns a LOGICAL ARRAY containing the Job or Session Name
- Item 43 returns a LOGICAL ARRAY containing the User Name
- Item 44 returns a LOGICAL ARRAY containing the Account Name
- Item 45 returns a LOGICAL ARRAY containing the Logon LDEV #
- Item 46 returns a LOGICAL value containing the Job Initiation Date
- Item 47 returns a DOUBLE value containing the Job Initiation Time

The other new JOBINFO item number will let the caller find out whether a job or session is in QUIET mode, and pertains to the job/session itself, rather than the initiating job or session:

- Item 40 returns an INTEGER value defined as:
  0 = The job/session is NOT in Quiet mode
  1 = The job/session IS in Quiet mode

ITEM NUMBERS NOT SUPPORTED ON MPE V

Calling JOBINFO with item numbers 37, 38 or 39 is not supported on MPE V.

Introducing the Known Vendor Table

by Robert Ross
Software Technology Division

(Release 23)

INTRODUCTION

Beginning with Release 23 of MPE V, there will be third-party support of a new data structure called the "Known Vendor Table". This table will be stored in a data segment pointed to by a System Global Extension cell. It will be available on a global "first-come, first-served" basis for any vendor who would like to use it to store a word of information - usually a data segment number that the vendor has set up for sharing information among multiple users or processes.

WHY A KVT?

Software developers do not have any standard way of storing and quickly finding global and/or local information for any or all of their users. The KVT allows any vendor to register and get an assigned number along with the code routines to access the KVT. This number would be an offset into the KVT data segment, and the routines would handle KVT initialization, vendor setup and takedown, locking, and reading and writing information into the vendor's buffer (data segment).

HOW TO GET STARTED USING THE KVT

The vendor numbers will be assigned numerically as they are requested. To register for a vendor number, and find out how to get the routines to use the KVT, contact:

Stan Sieler
Allegro Consultants, Inc.
2101 Woodside Road
Redwood City, CA 94062

Voice.: (415) 369-2303
Fax...: (415) 369-2304

Announcing MPE V MI Expansion

by Ralph Carpenter
Software Technology Division

(Release 23)

INTRODUCTION

The MPE V Measurement Interface has been expanded with MPE V Release 23. The expansion consisted of increasing the maximum number of *measurable* processes, or *pins*, from the current 628 to MPE V's maximum *configurable* number of PCBs -- 1024.

MORE MEASURABLE PINS...SO WHAT?

What does the ability to measure more *pins* mean to you as a system manager? The answer is with the Expanded MPE V Measurement Interface facility, you no longer need to lower the configured maximum number of *pins* simply to run your favorite performance tools -- **GlancePlus/V** or **LaserRX/MPE** -- along with your application load. This simple fact can mean great savings to you in hours of down-time, as well as in time saved you would otherwise have spent trying to duplicate the exact application load conditions your system was experiencing prior to the shut-down.

Should your system demonstrate unusual behavior (such as a slow-down) and you're not really sure of the cause for the behavior -- AND your system is one that needs every one of those 1024 *pins* because it is a heavily used system...*then* you can simply run one of HP's revised performance tools and determine what is causing the problem, right then and there, without having to wait for assistance.

With this expanded facility HP has available enhanced versions of your fa orite HP performance tools -- **GlancePlus/V** and **LaserRX/MPE**. Contact your HP Sales Representative or your HP Professional Consultant if you need more information on these tools.

COMPATIBILITY ISSUES

With the introduction of the MPE V Measurement Interface Expansion, the number of measurable *pins* was increased, requiring neither a change to application programmatic interfaces nor to key data structures. Thus, existing performance tools will continue to execute as they do currently, even with the MPE V Measurement Interface Expansion installed.

The expansion was accomplished using two additional Extra Data Segments, and six previously unused pointer cells within the "**MEASINFOTAB**" Extra Data Segment. Those of you familiar with the current pointer cell approach will not be surprised by the fact that a similar approach was used for these newly added Extra Data Segments.

Although current versions of MPE V performance tools require re-configuring the maximum number of PCBs below 628, they will continue to operate as they do today, reporting correct information on the first 628 processes. Of course, installing the revised performance tools from HP will lift this restriction.

DETAILS OF THE EXPANSION

Here are the details of the MPE V Measurement Interface Expansion for those of you that already know how the existing MPE V Measurement Interface works:

To start gathering process-level statistics, the performance application must first call the MPE V procedure **STARTSTATISTICS** with the parameter *CLASSMASK* set to the value **1** for process-level statistics, or the value **%10** for miscellaneous process-level statistics.

Once STARTSTATISTICS has returned a condition code indicating no error to the performance application, the system will begin gathering its statistics according to the requested CLASSMASK parameter. The performance application may sample the collected data from time to time. This data sampling is done by copying information from the allocated Extra Data Segments into your program's data area (an explicitly allocated Extra Data Segment is recommended for this purpose). There are process-level counters maintained for every active process -- these are described in the MPE V Tables Manual. Also described there are the locations of the process-level Extra Data Segment and miscellaneous process-level Extra Data Segment within the **MEASINFOTAB** Extra Data Segment, number %73 - (59).

The process-level and miscellaneous process-level pointer cells currently consume three locations each within **MEASINFOTAB**:

```
MEASPROCXDSBANK   = MEASINFOTAB(%21) ... process counters, 1st XDS
MEASPROCXDSBASE   = MEASINFOTAB(%22)
MEASPROCXDSNUM    = MEASINFOTAB(%23)

MEASMPROCXDSBANK  = MEASINFOTAB(%32) ... misc process counters, 1st XDS
MEASMPROCXDSBASE  = MEASINFOTAB(%33)
MEASMPROCXDSNUM   = MEASINFOTAB(%34)
```

and the newly-assigned cells occupy the following locations:

```
MEASMPROCXDS2BNK  = MEASINFOTAB(%40) ... misc process counters, 2nd XDS
MEASMPROCXDS2BSE  = MEASINFOTAB(%41)
MEASMPROCXDS2NUM  = MEASINFOTAB(%42)

MEASPROCXDS2BANK  = MEASINFOTAB(%43) ... process counters, 2nd XDS
MEASPROCXDS2BASE  = MEASINFOTAB(%44)
MEASPROCXDS2NUM   = MEASINFOTAB(%45)
```

For *pins* 1-628, the counters are maintained in the first pair of Extra Data Segments -- both for process-level and miscellaneous process-level counters. For *pins* 629-1024, the two sets of counters are maintained in the second pair of Extra Data Segments.

All of the MPE V Measurement Interface's Extra Data Segments will be maintained as long as the application program that called STARTSTATISTICS is executing; the Extra Data Segments are de-allocated, and the counter modifications cease automatically upon the termination -- normal or abnormal -- of the originating performance application program. This behavior is unchanged between the current Measurement Interface and the Expanded Measurement Interface -- except now there are two additional segments subject to deallocation.

This information -- and much more -- is available to you in the new *MPE V Release G.23 Tables* Manual, part number HP 32033-90147. Order this product through your HP Sales Representative for complete details.

PERFORMANCE TOOLS

GlancePlus/V and **LaserRX/MPE** are available from your HP Sales Representative under the following product numbers:

- GlancePlus/V: HP 50733B. Specify the appropriate option for the model of the system you intend to monitor:
  Opt. 310 -- Micro 3000
  Opt. 320 -- Series 39-58
  Opt. 330 -- Series 64-70
- LaserRX/MPE: HP 50700B. Specify the appropriate option for the number of systems you intend to monitor:
  Opt. 001 -- 1 to 3 systems
  Opt. 002 -- 4 to 10 systems
  Opt. 003 -- 11+ systems
  Opt. 004 -- 1 system only
  Opt. 005 -- analyzer software only

STORE/RESTORE Multiple Exclusion Filesets

by Yukihiko Umezawa
Software Technology Division

(Release 23)

INTRODUCTION

A new feature has been added to STORE/RESTORE and TurboStore allowing you to specify multiple exclusion filesets. A maximum of nine filesets can be specified as exclusion filesets against each fileset to be stored or restored. It is also available in indirect files. This feature has been offered on MPE/iX TurboStore although it is not available on MPE/iX CMSTORE program.

This feature may be used to save some resources for the system backup by excluding several accounts which you do not need to store. Or it may be used to eliminate the indirect file which was created in order to exclude several unwanted filesets by specifying a big list of wanted filesets.

STORE AND RESTORE SYNTAX CHANGE

The syntax change of STORE/RESTORE for filesets specification:

```
STORE [{fileset] [,fileset]] [,...]}]
      [{!indirectfile              }]
           :

RESTORE [restorefile]
        [;{fileset [,fileset] [,...]}]
        [;{!indirectfile              }]
           :
```

The fileset parameter has the form:

```
filesto(re)store[-filestoexclude[-filestoexclude[-...]]]
```

Both filesto(re)store and filestoexclude may be fully qualified in the form:

```
filename[.groupname[.accountname]]
```

The characters @, #, and ? can be used as wildcard characters in filename, groupname, and accountname.

EXAMPLE

The following is the example of the usage of the new feature:

```
:STORE @.pub.sys-NMLG@.@.@-LOG@.@.@                                    ,&
:      @.@.@-@.pub.sys-@.@.support-@.@.hp@-junk@.@.@-temp@.@.@;&
:      *TAPE;SHOW
```

New Tape Creation Date Option for RESTORE

by John Schimandle
Software Technology Division

(Release 23)

INTRODUCTION

The RESTORE command has a new keyword, TAPEDATE, which displays the tape creation date. This enhancement has been added to both STORE and TurboSTORE so that every customer can use this feature. The tape creation date has always been part of every STORE tape, so you can use this new feature with any STORE tape. Displaying the tape creation date is an excellent way to verify you have mounted the correct tape.

NEW SYNTAX

The new keyword, TAPEDATE, can be placed anywhere after the first two semicolons in the RESTORE command

```
RESTORE [tapedevice];[filestorestore] [[;option] ...]

option - one of the many optional RESTORE keyword options. See the
         online help text for all options. This enhancement adds
         the keyword TAPEDATE.
```

The date is displyed in the same format as returned by the FMTDATE intrinsic.

```
FRI, JAN 6, 1989, 7:39 AM
```

EXAMPLE

```
RESTORE *tape;@.pub.sys;tapedate

TurboSTORE HP30167A.00.11  (C) Hewlett-Packard Co., 1987.
RESTORE *TAPE;@.PUB.SYS;TAPEDATE
THU, NOV 23, 1972,  3:52 AM

Tape Creation Date: THU, NOV 23, 1972,  2:39 AM
WILL RESTORE      4 FILES;  NUMBER OF FILES ON TAPE =      4

FILES RESTORED:          4
```

SHOWOUT Enhancement

by Richard A. Santos
Software Technology Division

(Release 23)

The SHOWOUT command has been enhanced to make it easier to monitor the progress of files as they are printed. A new column, DONE, has been added to display the percent of the file that has completed printing. That is, the percent that is shown is actually the percent of the file that has been sent to the printer. Therefore, if the printer has a large buffer the percent displayed will reflect what has been sent to the printer and may be larger than what has acutally been printed by the printer.

With this new feature it will be easier to determine when the current file being printed will be finished. Situations such as trying to process a high priority print request or preparing to do a full backup will be made a lot easier by knowing approximately how much time is required to finsh printing the current file. Also, you will be able to detect a paper out or paper jam situation on a remote printer quickly by noticing that the current file being printed is not progressing.

Example of the new SHOWOUT report:

```
:showout
DEV/CL   DFID    JOBNUM  FNAME     STATE FRM SPACE RANK PRI #C DONE

LP       #O4     #J2     $STDLIST  OPENED      2048      8   1
LP       #O140   #J4     $STDLIST  OPENED      2048      8   1
LP       #O9982  #J257   $STDLIST  READY         48    D 1   1
LP       #O9983  #J259   $STDLIST  READY         44    D 1   1
DUMPLP   #O9881  #S'16   COVER     READY       2880    D 1   1
20       #O9537  #S1268  $STDLIST  OPENED
22       #O9681  #S1276  $STDLIST  OPENED
133      #O10249 #S1349  $STDLIST  OPENED
134      #O10258 #S1352  $STDLIST  OPENED
6        #O5     #J16    $STDLIST  ACTIVE      2048      8   1  %32

13 FILES:
    1 ACTIVE
    3 READY; INCLUDING 3 SPOOFLES, 3 DEFERRED
    10 OPENED; INCLUDING 6 SPOOFLES
    0 LOCKED; INCLUDING 0 SPOOFLES
    9 SPOOFLES:  15260 SECTORS
OUTFENCE = 6
```

The New DELETE Command for SPOOK5

by Dan Clavin
Software Technology Division

(Release 23)

INTRODUCTION

The Spook5 utility has a new command, DELETE, which allows the user to remove spool files similar to the current PURGE command but adds spool file wildcard options, DATE specification, and PRI specification. The spool file(s) can now be deleted by qualifying the READY date and the priority with relation operators (=, <, >, <=, >=, <>). The DATE is in a MM/DD/YY format, where MM is the integer month, DD is the integer day, and YY is the two-digit year (91 for 1991). The PRI option is an integer value from 1 to 13. Please note that if both the DATE and PRI options are given, both conditions must be satisfied for the spool file to be deleted.

NEW DELETE Command

A new command has been added to the Spook5 utility.

- Deleting spool files with wildcards (user, user.account, user.@, @.account, @, @.@, *)
- Deleting spool files that meet a spool file ready date condition (DATE)
- Deleting spool files that meet a spool file priority condition (PRI)
- Deleting spool files with any combination of wildcard user.account, DATE option, and PRI option.

DELETE Command Syntax

The syntax of the new command:

```
DE[LETE] usac {; {D[ATE] <relop> mm/dd/yy } {, P[RI] <relop> output} }

usac      --> user
              user.account
              @
              user.@
              @.account
              @.@
              *
              dfid [, dfid] [,...]

<relop>   --> valid relational operators (=, <, >, <=, >=, <>)
```

```
  mm/dd/yy --> valid date in format of: mm (1-12), dd (1-31), yy (0-99)

  output   --> valid priority value (1 - 13)

  Capabilities: System Managers (SM) or System Supervisors (OP) can delete
                and spool file(s).

                Account Managers (AM) can delete any spool file(s) in that
                logon account.

                Standard Users (IA, BA) can delete any spool files that
                they created.

     NOTE: The "usac" is the same syntax as the specification allowed on
           the existing Spook5 ALTER command.  In addition the
           capability checks are also completed for the DELETE command
           consistent with the capability verification done with ALTER.

           Please also note that because the DATE yy (year) parameter is
           limited to 2 digits, certain assumptions were made regarding
           yy values of the year 2000.  The yy value of "72" is considered
           to be the birthyear of MPE, so any yy value less than "72"
           ("0 - 71") is considered to be the next century ("2000 - 2072").
           A DATE value of "7/1/2" is July 1, 2002 and a DATE value of
           "5/1/74" is May 1, 1974.
```

DELETE Command Examples

Here are a few examples of it's use:

```
* This first example will to delete all ready or locked spool files owned by the
* user MANAGER.SYS which also have a ready date of 12/2/91 or after.
*

> DELETE manager.sys; DATE >= 12/2/91
#FILE   #JOB    DEV/CL   SECTORS      OWNER             DATE     PR
#O408   #J93    LP            36      MANAGER.SYS       11/15/ 0  8
#O409   #J97    LP            36      MANAGER.SYS       11/17/71  8
#O446   #S27    LP            32      MANAGER.SYS       11/25/92  8
#O464   #S37    LP            32      MANAGER.SYS       12/ 2/91  8
#O471   #S42    LP            32      MANAGER.SYS       12/ 4/91  8
#O472   #S42    LP            48      MANAGER.SYS       12/ 4/91  8
>

* This example will delete all ready or locked spool files under this account
* that have a spool file priority less than 8.
*

> DEL @; PRI < 8
#FILE   #JOB    DEV/CL   SECTORS      OWNER             DATE     PR
```

```
#0474   #S43    LP              32      MANAGER.SYS       12/13/91  4
>

* This example will delete all ready or locked spool files owned by all users
* in all accounts that have a ready date less than January 1, 2000 (but
* greater than 1972, MPE's birth year) and that have a priority of less
* than or equal to 3.  As the SHOW command displays, the files not deleted
* did not meet both conditions specified on the DELETE command (PRI).
*

> DEL @.@; DATE < 1/1/0, PRI <= 3
#FILE   #JOB    DEV/CL   SECTORS      OWNER             DATE      PR
#0480   #S44    LP            32      OPERATOR.SYS      12/13/91  3
#0487   #S48    LP            32      NOCAP.SYS         12/13/91  2
#0383   #J82    LP           108      ZUSER.QASYS       11/14/91  1
#0394   #J85    LP           108      ZUSER.QASYS       11/14/91  1
#0477   #S43    LP            32      MANAGER.SYS       12/13/91  1
#0478   #S43    LP            32      MANAGER.SYS       12/13/91  1
#0483   #S46    LP            32      MGR.TEST          12/13/91  1
> SHOW @.@;@
#FILE   #JOB    FNAME    STATE  DEV/CL   PR COP RFN OWNER
#0476   #S43    TEST     READY  LP       11   1     MANAGER.SYS
#09     #J4     $STDLIST READY  LP        8   1     SMGR.TEST
#0475   #S43    TEST     READY  LP        8   1     MANAGER.SYS
#0484   #S46    AM       READY  LP        8   1     MGR.TEST
#FILE   LDEV    LABEL      SECTORS       LINES      TIME
#0476   %1    %2437513       32            4         9:23 12/13/91
#09     %1    %2471550       40           55        16: 7 11/18/91
#0475   %1    %2437453       32            3         9:23 12/13/91
#0484   %1    %2472020       32            3         9:42 12/13/91
>
```

Additional MPE V Release 23 Fixes and Enhancements

by Steve Smead
Software Technology Division

(Release 23)

INTRODUCTION

This article describes additional Release 23 enhancements as well as major fixes that will affect both system managers and program developers alike.

- Modification Date No Longer Updated When Job STREAMed
- The Dispatcher Now Recognizes EQ MIN/MAX Parameters Set Via The TUNE Command
- The New Dispatcher Priority Oscillation Boost Property
- SHOWQ Command Change
- TUNE Command Changes
- Performance Improvement For COBOL Programs
- Corrupt Message Files Will No Longer Fail The System
- MPE V Tables Manual Has Been Updated
- SUPPACCT.PUB.SYS Enhanced for Release 23

JOB FILES NO LONGER HAVE THEIR MODIFICATION DATE UPDATED WHEN STREAMED

A change was made in the STREAM command executor in V-Delta-4 to support the Security Monitor product. Unfortunately, this change introduced a side-effect that was felt by both customers who purchased the Security Monitor product and by those who did not. The side-effect was that beginning with V-Delta-4, the modification date in the file label of a job file would be updated when a job was streamed. The impact of this problem was felt in the following ways:

1) Partial backups got substantially bigger because job files would show up as modified, hence they would be backed up on partial dumps even though the files did not change.

2) Third party security products began reporting modifications to job files that were not actually happening.

This side-effect has been corrected in Release 23. Modification dates for job files will not be updated when a job is streamed regardless of whether or not the Security Monitor product is being used.

DISPATCHER RECOGNITION OF EQ MIN/MAX PARAMETERS SET IN THE TUNE COMMAND

The MPE V dispatcher has never recognized the ES subqueue filter value and has always used the DS subqueue filter value for processes in both the DS and ES subqueues. This has presented a problem for customers who partially overlap the ES subqueue with either the CS or DS subqueues because there was no way to reduce the filter value for only those processes in the ES subqueue. The result would be processes in the ES subqueue having their priorities decayed much slower than processes in the CS subqueue because the default filter value for the DS subqueue is 1000ms while the CS subqueue filter value ranges between 0 and 300ms. If the subqueue priority ranges for the ES and CS subqueues overlapped, the impact of the ES subqueue processes on the response times of interactive CS subqueue processes was much greater than a system manager would expect. Customers who were aware that the ES subqueue filter value was ignored dropped the filter value on the DS subqueue knowing this would affect processes in the ES subqueue, but this would likewise affect the decay rates of processes executing in the DS subqueue.

On Release 23, the dispatcher now recognizes both the DS and ES subqueue filter values. Customers who reduce the DS subqueue filter value to speed up the rate of decay on ES subqueue process priorities should change their SYSSTART files, start-up UDCs, and/or start-up jobs to reduce the ES subqueue filter value via the TUNE command and leave the DS subqueue filter at the default.

INTRODUCING THE NEW DISPATCHER PRIORITY OSCILLATION BOOST PROPERTY

The boost property can now be specified as either "decay" or "oscillate". The default boost property is decay and it is identical to the current boost algorithm. Processes begin their transactions at the base of their scheduling queue (CS, DS, or ES), and decay towards the limit of the scheduling queue as they consume CPU. Currently (and with the decay boost property), a process is reset to the base of the queue only when it completes a Dispatcher transaction. Dispatcher transactions are considered complete when the process blocks on a terminal read wait, a parent or child wait, pauses for more than one second, or indicates end of transaction in a call to the IOWAIT intrinsic.

Longer transactions (transactions that require more CPU to complete) will therefore decay to the limit of the scheduling queue and remain there. Given a large amount of activity at the base of a scheduling queue, processes at the limit of the queue will receive minimal CPU time and their transaction times will increase. For most production environments, this is desirable in that longer batch-type transactions have a minimal impact on the response times of processes performing shorter transactions. In some cases, however, a system manager may want longer transactions to get more CPU time at the expense of short transaction response time. It is this situation the oscillate boost property will address in providing a means of implementing this CPU scheduling policy.

When the oscillate boost property is specified via the TUNE command, processes are reset to the base of their scheduling queue once their priority decays to the limit of the queue. Processes will also be boosted to the base of the queue when they complete their transactions. A system manager can specify the oscillate boost property for each of the three user scheduling queues (CS, DS, and ES). The oscillate boost property allows longer transactions to be reset to the base of the queue so they can continue to compete for CPU and complete long transactions sooner. Specification of the oscillate boost property will prove helpful if processes of different transaction lengths are in the same scheduling queue and the shorter transactions receive excellent response time, while the longer transactions have much longer response times.

The oscillate boost property can also prove useful when scheduling queues are overlapped to allow batch processes to compete with interactive processes. Typically, when the CS and DS/ES queues are overlapped, it is done so the batch processes might compete with the longer transaction interactive processes. There are two distinct problems that may arise from this overlap. The longer transaction CS processes may suffer a great deal when they lose the CPU to the batch jobs at the top of the DS queue. It is also possible that the batch jobs do not receive much of a gain from the TUNEd overlap, because they quickly decay past the region of overlap and do not receive sufficient CPU. The oscillate boost property can be used to ensure the longer transaction CS processes do not remain at the bottom of the CS queue for an extended period of time, and can also be used in the DS/ES queue to ensure that the batch jobs are boosted back into the region of overlap. It may also be necessary to adjust the quantums (or filter values) of the queues so the boosting occurs with proper frequency. The quantums determine how rapidly the priority of a process decays. The priority of a process will decay more rapidly with a smaller quantum, and less rapidly with a larger quantum.

SHOWQ COMMAND CHANGES

The SHOWQ command has been enhanced to report the boost property (OSCILLATE or DECAY) on each of the subqueue status lines. See the TUNE command and the Dispatcher Communicator article for more information on boost properties.

Examples

```
:SHOWQ

 DORMANT                                          RUNNING
Q  PIN    JOBNUM                                 Q  PIN    JOBNUM
                                                 C  M96    #S470

...

CQ MINQUANTUM=0, MAXQUANTUM=300, BASEPRI=152, LIMPRI=200, DECAY
DQ MINQUANTUM=1000, MAXQUANTUM=1000, BASEPRI=202, LIMPRI=238, DECAY
EQ MINQUANTUM=200, MAXQUANTUM=200, BASEPRI=180, LIMPRI=220, OSCILLATE
MINIMUM CLOCK CYCLE=1000
```

TUNE COMMAND CHANGES

The TUNE command now supports oscillation for the three circular dispatcher subqueues.

The TUNE command adjusts priorities, quantums and boost properties for the dispatcher circular queues. For more information please read the Dispatcher article in this Communicator.

OSCILLATE is a new boost property for Release 23. DECAY was the only boost property supported prior to Release 23, and is the default. Both boost properties cause a process's priority to decay from the base value to the limit. The rate of decay is inversely related to the quantum. Whenever a dispatcher

transaction (e.g. a terminal read) completes, the process's priority is boosted back to the base value. DECAY allows a process's priority to remain at the limit until a transaction completes or the process is preempted. OSCILLATE causes the process's priority to jump to the base value as soon as the limit is reached.

Command Syntax

```
TUNE  [minclockcycle]  {CQ}  [[;]{DQ}=[base][,[limit][,[min][,max][,[{DECAY
      }]]]]]] {EQ}                                    {OSCILLATE}
    [[;]...]
```

Example

```
:TUNE eq=180,220,,,oscillate
```

CAUTION

Misuse of the TUNE command can significantly degrade system operating efficiency.

PERFORMANCE IMPROVEMENT FOR COBOL PROGRAMS

The Run Time Monitor (RTM) migration tool was introduced in V-MIT. This program required some changes in MPE's loader and abort processing code. The change in the abort processing code resulted in a significant performance degradation for large COBOL programs from the abort code having to check if prior stack markers were from the RTMSL segment. This check required a procedure call to loader routines that locked the LST SIR and traversed the LST Table looking for the RTMSL segment. This added CPU overhead as well as resource contention for the LST SIR. Because large COBOL programs (i.e. stack size > 16K words) frequently encounter arithmetic traps during address calculations, they slowed significantly after VMIT and increased system resource contention for the LST SIR and for the CPU. This overhead would be incurred regardless of whether or not the Run Time Monitor was enabled - the Run Time Monitor is only enabled while collecting data for an upcoming MPE/iX migration.

This problem has been alleviated in Release 23. The loader and the abort processing code now communicate whether or not RTM is enabled and if not, the abort processing code does not call the loader

routine to search the LST for RTMSL segments. Before Release 23, the work-around for the above problem was to recompile large COBOL programs with the BIGSTACK compiler option which would use logical arithmetic for addressing rather than integer arithmetic and thus avoid the ABORT traps. The logical addressing, however, is slower making this work-around less than ideal. Beginning with Release 23, COBOL programs recompiled with the BIGSTACK option to overcome the RTM performance problem should be recompiled without the BIGSTACK option.

CORRUPT MESSAGE FILES WILL NO LONGER FAIL THE SYSTEM

Beginning with Release 23, system failures 6601, 6602, and 6603 will no longer occur when the file system encounters a corrupt message file. Instead, the EOF is reset to zero when message file corruption is detected and an FSERR 105 is returned to the user.

MPE V TABLES MANUAL HAS BEEN UPDATED

The MPE V Tables Manual has been updated and expanded to document internal MPE data structures through Release 23. The Part Number for the Tables Manual is 32033-90147.

SUPPACCT.PUB.SYS ENHANCED FOR RELEASE 23

The stream job that the installer invokes to set the system's accounting structure defaults (SUPACCT.PUB.SYS) has been enhanced. With Release 23, FIELDJOB has been eliminated and the SYS account now has its default access rights explicitly set to allow LOCK access to ANY user. For any system that has had HPDESK installed, the SYS account has already been set up to provide this capability. This change should not have any adverse effects and will synchronize MPE V and MPE/iX in this regard. SUPACCT has also been cleaned up to eliminate redundant commands, and to correct a number of improper error conditions. This change reduces the output of this job by approximately one third for easier review.

Enhancement to FCOPY

by Karen Lacey
Software Technology Division

(Release 23)

INTRODUCTION

A new version of FCOPY, A.05.01, is being released with MPE V Release 23 (G.23.00).

In this new version, the functions of FCOPY have been enhanced so that copying access control definitions (ACDs) is a default of the product. You no longer need to specify COPYACD to transfer ACDs to the *tofile*. In addition, a new function, NOACD, has been added. Use this function when you do not want the ACDs in the *fromfile* copied to the *tofile*.

Examples

Either of the two examples below will copy existing ACDs to the *tofile*:

```
>FROM=ACDFILE;TO=NEWFILE;NEW
        or
>FROM=ACDFILE;TO=NEWFILE;NEW;COPYACD
```

The example below will not copy existing ACDs to the *tofile*:

```
>FROM=ACDFILE;TO=NEWFILE;NEW;NOACD
```

Access control definitions are described in the MPE V Commands Reference Manual (32033-90006) under the ALTSEC command.

Change in ABORTJOB Behavior for SM Users in Release 2P

by Steven Smead
Software Technology Division

(Platform Release 2P)

Prior to Release 2P, SM users could not abort jobs outside of their log on account when JOBSECURITY was set LOW unless they had been ALLOWed the ABORTJOB command. While this resriction is valid for AM users, SM users should be able to abort any job on the system when JOBSECURITY is set to LOW. This behavior has been corrected in Platform Release 2P of MPE V and in Release 3.0 of MPE/iX.

ATP/ADCC Enhancements

by Stephen Lee
Grenoble Networks Division

(Release 21)

The ATP and ADCC interfaces on the HP 3000 perform a number of communication functions. They provide physical connection points for the peripheral devices, perform flow control and parity checking, and also process the information transmitted between the devices and the HP 3000.

With this MPE V release, ATP/ADCC will support duplex printing for the LaserJet 2000 and LaserJet IID.

DUPLEX PRINTING

Duplex printing is the ability to print on both the front and back sides of the printer paper. The Laserjet 2000 and the Laserjet IID are the two PCL (Printer Control Language) laser printers that support duplex printing. These two printers also support simplex (one sided) printing.

Configuring the Termtype File

To utilize duplex printing on supported printers, you must configure and enable duplex printing. Configuration consists of modifying an existing termtype file so that Duplex Printer Mode is enabled. This is done using the TTUTIL.PUB.SYS utility. This termtype file is then assigned to the printer LDEVs. This enables the Terminal I/O driver to send the Front-Of-Page (FOP) escape sequence to the printer when appropriate.

The Duplex Printer Mode option is included in the Printer Control screen in TTUTIL as illustrated below:

```
[ ] Does the printer support duplex printing (Y,N)
```

To indicate that a printer may be used as a duplex printer, enter "Y" in the field. To save the modification, press ENTER and then the SAVE DATA function key.

In addition to assigning the appropriate printer profiles to the duplex printer LDEVs, the printers must be set for duplex printing according to the appropriate printer reference manuals.

Enabling Duplex Printing

Once configuration is complete, the printer is capable of duplex printing but not yet enabled for it. Duplex printing is enabled and disabled by sending escape sequences to the printer. This can be done in three ways.

Escape sequences can be embedded in the data file being printed, the termtype file can be modified to include the escape sequence as part of the initialization string, or the termtype file can be modified to include the escape sequence as a Vertical Forms Control (VFC) string. If the escape sequences are to be included in the termtype file, this must be done at configuration time. There are three escape sequences for duplex printing:

ESC&l1S - Enable vertical binding duplex mode
ESC&l2S - Enable horizontal binding duplex mode
ESC&l0S - Disable duplex mode (enable simplex mode)

Two Duplex Modes

The two duplex modes provide for the binding of the final document. Vertical Binding allows for binding a document along the physical length of the page and Horizontal Binding allows for binding a document along the physical width of the page. This is pictured below where the "+" represents binding.

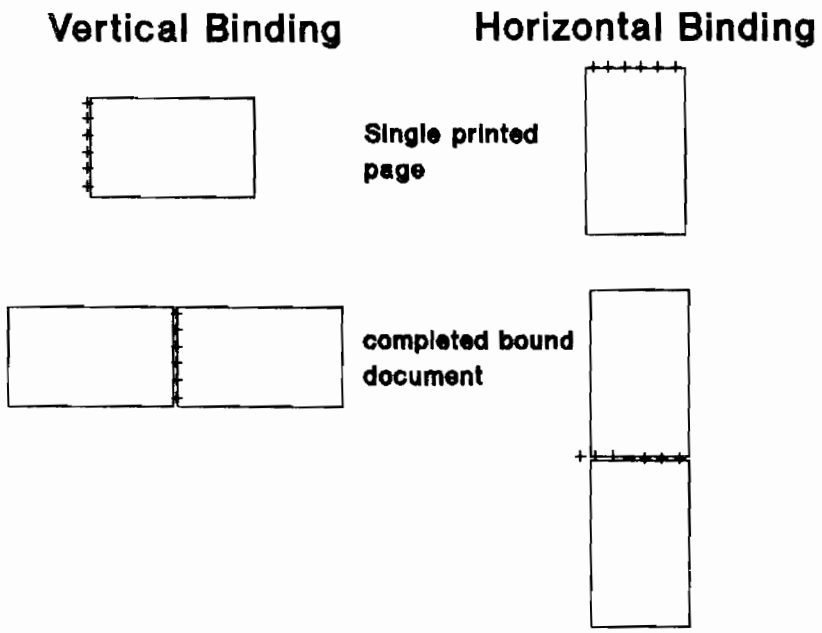

Figure 1. Vertical and Horizontal Binding with Duplex Printing.

In addition to the escape sequences mentioned above, the reset escape sequence (ESCe) will also disable duplex mode and return the printer to simplex mode. Therefore, the duplex mode escape sequences should be entered after the reset escape sequence in an initialization string.

For detailed information on the use of the escape sequences refer to the technical reference manual provided with the printer.

HP Predictive Support Enhancements

by Tamera Leopold
Product Support Division

(Release 21)

Predictive Support has been enhanced to provide several new important benefits. The following presents a brief overview of the HP Predictive Support program and discusses the new enhancements to the A.02.05 version.

PREDICTIVE SUPPORT PROGRAM

HP Predictive Support is an early warning system that connects your system to the support expertise of the Hewlett-Packard Response Center. As a standard feature of HP 3000 (MPE/V based systems) hardware contractual support, Predictive Support can help to identify *potential* problems in the functioning of HP products. The onsite software, residing on your system, reads and analyzes event logs. Based on rulesets and thresholds developed through historical data across the HP 3000 installed base, the software provides consistent analysis of the data to signal early failure trends in system functioning. If a potential problem is identified, the data is electronically transmitted to the HP Response Center. Response Center Engineers examine the HP Predictive Support findings and develop a diagnosis based on the system's history of HP Predictive Support calls and knowledge accumulated across the installed base. The HP Response Center's diagnosis is passed to your account Customer Engineer (CE), who determines if onsite action is required. If onsite action is appropriate, your CE will work with you to determine what specific measures should be taken.

The major benefit of HP Predictive Support is to maximize system availability, by transforming unscheduled downtime into scheduled maintenance. Problems are identified before user impact, by detecting potential system failures before they turn into visible malfunctions.

NEW ENHANCEMENTS

HP Predictive Support A.02.05 offers several improvements over the A.02.04 version. The following describes these improvements:

- Coverage provided for the C220*xx* class of disk drives
- Expanded memory coverage to individual bit error detection
- Several refinements to disk scanning and configuration tracking utilities
- Support of the HP50759A Multitech modem

Only customers with the A.02.04 software already installed should install A.02.05. Customers with previous releases should contact their HP Account CE to receive the updated software.

Introducing HP Search/V

by Jan Merrill
Santa Clara Information Systems Division

(Release 20)

HP Search/V is a general-purpose search utility for finding words and patterns in individual files or sets of files. The high-performance search capabilities of HP Search/V provide quick scanning of multiple files per search. HP Search/V supports a wide variety of file formats and allows background block indexing to speed up subsequent searches.

PRODUCT FEATURES

HP Search/V provides the following features:

- Fast, read-only access to files
- Over 65,000 files can be accessed in one search
- File sets can be specified with wildcards or indirect files
- Multiple search patterns can be specified in each search
- Pattern matching characters can be used to search for a string
- Standard-numbered, COBOL-numbered, and unnumbered file formats are supported
- KSAM files, including COBOL copy libraries are supported
- Output can be redirected to a printer or file
- Time spent on subsequent searches of the same files is significantly reduced with block indexing

Introducing HP Browse/V

by Jan Merrill
Santa Clara Information Systems Division

(Release 20)

HP Browse/V is a powerful software development tool for HP3000 application developers. HP Browse/V can quickly create a full-screen display of one or two files at a time. Also, HP Browse/V provides extensive pattern search capabilities for locating strings within files.

PRODUCT FEATURES

HP Browse/V provides the following features:

- Quick, read-only access to most non-privileged files.
- Access to extremely large files almost instantly with no limitation on file size (number of records).
- Access to standard-numbered, COBOL-numbered, and unnumbered files.
- Access to KSAM files (including COBOL copy libraries), and fixed and variable record length files.
- Access to files whose record length is up to 1024 characters. Larger files can be browsed but only the first 1024 characters are displayed.
- Scrolling (Forward/Back and Left/Right), and the ability to jump to any location in the file.
- Ability to search for a string with pattern matching characters.
- Two windows to allow users to view two files simultaneously or two different locations in the same file.
- Friendly user interface through function key access to all commands and by keystroke access to the most commonly used commands.
- Short learning curve for HP EDIT users.
- Ability to print all or part of a file.
- Ability to output all or part of a file to another file, similar to the "cut and paste" function in HP EDIT.
- Extensive online help facility.
- User-configurable display and print environment.

Introducing HP GlancePlus/V

by Richard Santos/Marie Weston
Application Support Division

(Release 21)

The Hewlett-Packard offering of real-time performance diagnostic tools for MPE V based machines has strengthened with the introduction of GlancePlus/V. The tool replaces Glance/V as the HP diagnostic performance tool of choice. Users of Glance/V will find the migration to GlancePlus/V extremely simple. All original Glance/V functions have been retained in GlancePlus/V and the new added features retain the original look and feel of Glance/V. Additionally, customers who have maintained Glance/V software support will automatically receive the new GlancePlus/V.

By offering the original look and feel of Glance/V and a new extended feature set, GlancePlus/V provides a single solution for performance diagnostic situations. Users who need a simple look at the performance characterization of their machine will still find the original Glance/V screen capabilities at hand. More detailed analysis can be performed by taking advantage of the new GlancePlus/V screens and commands.

Return on investments made in other Hewlett-Packard performance tools can be increased with GlancePlus/V. Optional software linkages into the HP LaserRX/MPE Collector provided in GlancePlus/V allow for a new level of cooperation between these performance tools.

NEW SCREENS AND COMMANDS

Five new screens are present in GlancePlus/V that complement the original screens found in Glance/V. These new screens provide a vehicle for isolating and identifying system performance anomalies.

The CPU Detail screen provides information on discrete global CPU utilization. Metrics are provided on the traditional components of CPU utilization such as Memory Manager usage, System Process utilization, ICS overhead plus other new MPE V performance sensitive metrics. Included in these new metrics are items such as file open rates, process completion rates, "AST time", and CPU utilization by dispatcher queue.

System disc information is provided in the new Disc Detail screen. Individual disc drive metrics are provided that include values on disc drive utilization, physical read and write rates plus current and maximum queue depth values. A summary section provides information on logical disc drive activity and Memory Manager activity.

Physical memory activity is represented in the Memory Detail screen. Data can be found in this screen to help identify possible memory pressure situations. Metrics are provided that report global segment fault rates, physical memory size and the system memory clock cycle rate.

The Tables screen provides data on the utilization of major MPE V system tables. This screen lists the tables, along with their current and maximum utilization percentages. The tables include the PCB, DST, CST, DRQ, and IOQ.

A powerful filtering command provides the mechanism for entry into the last of the new GlancePlus/V screens: the Filter Screen. This screen, which is analogous to the Job/Session screen, provides a mechanism for the user of GlancePlus/V to define a filter based on several criteria. Once defined, processes that match the selected criteria will be displayed in the Filter Screen. Users can choose among several criteria

items such as program name, user logon, or HP LaserRX/MPE Application name. Additionally, a boolean "And/Or" construct exists that allows for the processes to match all or just one of the selected criteria.

The new "User" command adds more diagnostic functionality to the product by allowing GlancePlus/V to identify what processes are accessing any permanent MPE V file. Input to this command is a file name and the resultant output is a list of the accessors of the file in question.

The "Queue" command is another new feature that allows users with the proper capabilities to change the dispatch queue of a process, or all the processes belonging to a specific job or session. Thus, a system manager can immediately recognize and lower the priority of a job that is hogging a system resource.

Two new commands have been added to allow for easier transitions between screens. The "Less than" command (<) will return you to the previous screen, thus allowing users to easily switch back and forth between two screens. The "Greater Than" command (>) will take users to the Process screen of the highest CPU consumer when entered in the Global or CPU displays. If ">" is entered in the Disc display, the Process screen of the highest disc consumer will be displayed and if it is entered in the Memory display, it will bring up the Tables screen.

MODIFIED SCREENS AND COMMANDS

The Process Detail screen in GlancePlus/V has been improved by the addition of new discrete process level performance metrics and a set of new process level subcommands. Data is now available at the process level on, Dispatcher status, stack usage, and response time. New subcommands allow for display of process open file information, process family tree data, and a process procedure trace.

GlancePlus/V's online Help system has incorporated new features to increase functionality. A base set of softkeys provide a way to easily navigate through the most often used sections of the Help system. General guidelines are now provided on data interpretation to help direct the user on possible system performance solutions.

One change that users of Glance/V should note is the "T" command, which in Glance/V is used to change the refresh time interval. In GlancePlus/V, the "T" command is now used to access the Tables display and the "I" command is used to change the refresh time interval.

GLANCEPLUS/V CUSTOMIZATION

Two new features allow for increased user customization of GlancePlus/V. The first is the ability to choose the "interesting process" option. GlancePlus/V, as did Glance/V, displays historical interesting process data in a push down stack display. In doing this, historical data is retained on the terminal memory with each interval separated by a blank line. This default operation can be changed to retain only the current interval's list of interesting processes. When set to this option by the use of the JCW GLANCECLEARSCREEN, screens that utilize the interesting process concept (Global, Job/Session and Filter) only retain the current interval's interesting process list.

Four new configuration values have been added to further help in identifying interesting processes. GlancePlus/V will display a process in certain screens only if it is "interesting". Usually this means the process has consumed some CPU time, performed disc I/O, or has executed some terminal transactions. The new values used to further identify these interesting processes differ slightly in that they allow for processes to become "interesting" if the process is waiting for the CPU, waiting for a disc I/O to complete, waiting for memory, or is impeded. These new "interesting" reasons allow the user to identify processes

that are waiting an excessive amount of time for critical system resources. Identifying critical processes that are waiting for resources such as the CPU allow for Operations personnel to quickly identify and proactively respond to possible performance issues.

Other new configuration values have been added to define how much data to present in the Process open files display and how often to display this data. Lastly, the new Tables display has an associated configuration value that defines how full a table should be before it is listed in the display.

HP NewWave Office 3.0 Structured Solution

by NewWave Office Marketing
Pinewood Information System Division

(Release 21)

HP NewWave Office 3.0 is a collection of server and client services, PC networking products, the NewWave environment, and other PC applications and system services offered as a Structured Solution.

The HP Structured Solution Program (SSP) is a means for divisions to offer a related set of products in the form of a menu from which customized solutions can be selected. The customer receives a discount (solution adjustment) on all products and options selected from the SSP menu. To qualify for purchasing through the SSP and receive the solution adjustment, at least one each of the Server and Client Services must be purchased. All other products are optional.

The categories of software products available are:

- Server Information Services and System Services (required: 1)
- Client Services (required: 1)
- PC Applications (optional)
- Other Services (optional)

These services are provided for MPE/iX, MPE V, HP-UX Series 800 and SCO UNIX/386 servers.

For details on system requirements, refer to articles or other literature specific to each component product.

SERVER INFORMATION SERVICES AND SYSTEM SERVICES

NewWave Office has the following NewWave System and Information Services:

- The System Services provide shared file and print capability. HP Resource Sharing is the System Service available for MPE V.

- The Information Access Service provides client users with information from a variety of sources that may reside on the server or client. This information can be easily loaded into client applications for analysis. HP Information Access Server/V provides this service for MPE V.

- The Information Distribution Service provides enterprise-wide communication of information in a variety of file formats. HP DeskManager is the information distribution product available.

CLIENT SERVICES

The NewWave Office 3.0 Structured Solution offers the following Client Services:

- Network Services 2.1
- LAN Manager client
- ARPA Services 2.1
- Network Services 2.1 for NetWare
- ARPA Services 2.1 for NetWare
- AdvanceMail
- NewWave Mail
- Information Access PC
- NewWave Access

PC APPLICATIONS

The NewWave Office 3.0 Structured Solution offers the following PC Applications:

- AdvanceLink for DOS
- AdvanceLink for NewWave and Microsoft Windows
- NewWave 3.0 environment
- NewWave 3.0 Technical Reference

OTHER SERVICES

The NewWave Office 3.0 Structured Solution offers the following additional services:

- HP Software Vendor provides LAN based solutions with a flexible tool to distribute PC applications from a server to user PCs. The PC applications can be either HP or third party applications. HP Software Vendor also provides features such as software user license tracking.

- A Fax Gateway is available. HP OfficeFax is used in conjunction with HP DeskManager for this service.

CHANGES TO NEWWAVE OFFICE

Following are important differences between the NewWave Office 3.0 Structured Solution product and the previous release of NewWave Office:

- All NewWave Office 3.0 software components are ordered through the Structured Solution and are shipped, in a coordinated shipment, as individual products.

- There is no longer a NewWave Office reference manual. Instructions and procedures for installation and configuration of each software component are defined and documented by each product.

- The PC Software tape and Vectra Office Applications tape that were used with the previous release of NewWave Office are no longer provided. All PC applications are now provided on flexible disk.

- The INSTALL utility from the previous release is replaced by a new product, HP Software Vendor, which is available as part of the NewWave Office 3.0 Structured Solution.

- There are no replacements for the Network Setup (NETSETUP) and Network Load (NETLOAD) utilities. PC networking software is now installed from flexible disk using the installation facilities provided by the PC networking software itself.

- The Server Manager (SVRMGR) and Server Setup (SVRSETUP) utilities are no longer provided.

Announcing Information Access A.06

by Guy Randazzo
Software Technology Division

(Release 22)

INTRODUCTION

The A.06 version of Information Access is being released with MPE V Release 22 (G.22.00). Besides the usual defect fixes, it contains a number of very useful enhancements. Each enhancement is described in some detail below. (The corresponding MPE/iX version is A.06.11, which will ship with the MPE/iX 3.0 Retrofit).

NEW CONVERT FUNCTION

A new function has been added to Access Server that can be used in the SQL statement or in ADMIN view tables. The function, CONVERT, can be used to convert any data type to any other data types. Some general uses include:

- Convert character strings to any numeric type.
- Convert one numeric type to another, possible to output to a binary file to be read by a special application.
- Convert a numeric type to a character string (for date conversion, for example)
- To shorten or lengthen a character string.
- Format a numeric as a character string, specifying decimal place.

CONVERT Syntax

The exact syntax of the new function:

```
NEW_ITEM = CONVERT(expression,datatype-len,{decimals{,conv-type}})

   expression    --> See Appendix C of the Database Administration manual

   datatype-len --> I1 | I2 | I3 | I4 | R2 | R4 | L | C len | X len
                     | P len | Z len | N len

   decimals      --> constant

   conv-type     --> C | R (Used if converting to I, P or Z only).
```

NOTE

Converting numeric types to 'X' type indicates that the numbers should be zero padded on the front. If converting to 'C', then extra zeros are stripped from the converted character string. Using the 'X' type is convenient when converting dates where you want the zero padding in front of the day or month. This feature is available on MPE V version A.06.02, and MPE/iX version A.06.12, and later. It is not available on MPE/iX version A.06.11.

CONVERT Examples

Here are a few examples of it's use:

```
*
* The first example breaks up a product number into two pieces, its
* type, which is a character string and its sub-type.  Just to
* demonstrate the capability of the CONVERT function, the 3 byte ASCII
* numeric string is converted to an integer.
SQL
   SELECT
      PRODUCT-NBR , TYPE = SUB(PRODUCT-NBR,1,3) ,
                    SUB-TYPE = CONVERT(SUB(PRODUCT-NBR,4,3),I1)
   FROM
      ORDER-DETAIL;
*
* Next, we convert the on hand quantity, which is a packed number,
* to a character string with no decimal places.
*
SQL
   SELECT
      PRODUCT-NBR, ON-HAND-QTY,
      NEW-ON-HAND-QTY = CONVERT(ON-HAND-QTY,C8,0)
   FROM
      INVENTORY;
*
* Finally, we convert both unit cost and price to a 2 word or 4 byte
* integer because these items are packed decimal and we are using a
* PASCAL program to read a binary file and PASCAL does not support
* packed decimal.
*
SQL
   SELECT
      PRODUCT-NBR, UNIT-COST = CONVERT(UNIT-COST,I2),
      PRICE = CONVERT(PRICE,I2)
   FROM
      PRODUCT-MASTER;
*
* This last example demonstrates some arbitrary uses.
```

```
*
SQL
   SELECT
      c20-to-p20 = CONVERT(c20,P20,6,R),
      c10-to-c20 = CONVERT(c10,C20),
      small-mult = CONVERT(item1-i2 * item2-i2, I1),
      int-to-c   = CONVERT(i2, C6),
      r4-to-c30-6= CONVERT(r4, C30, 6),
      date       = CONVERT(month,X2) + '-' + CONVERT(day,X2) + '-' +
                   CONVERT(year,X2)
   FROM
      generic-table;
```

IMAGE AUTOMATIC MASTERS AS TABLES

In ADMIN on the Environment Configuration menu, a new function key has been added which says Auto Masters. The function key will take you to a screen which lets the DBAs indicate whether they want automatic master datasets to be considered valid for configuration as IMAGE tables. If you choose this option, then the automatic master datasets will be displayed when adding IMAGE tables.

ADMIN QUICK CONFIGURATION

In ADMIN on the Add Table menu, a function key has been added which says IMAGE Quick Def. This function key will take you to 2 screens which allow you to configure more than one dataset at a time. On the first screen, you enter the database information. On the second screen, you will get a list of all the dataset names in the database. Select which datasets you want to be configured as IMAGE tables. The default table name is the same as the dataset name, but you can change this. After pressing the ENTER key, each table will be added with all of the items in the dataset using the default data conversions. The Change Table screens can then be used to modify the selection of items and their data conversions, if desired.

2048 CHARACTER ITEM CLAUSE

Starting with Access Server A.06, the item clause length has been increased from 1024 to 2048 bytes. This will allow users to create view tables that are far more complex and useful. The current 1024 byte limit is very restrictive when a need for sophisticated view tables arises.

GROUP BY CLAUSE INCREASED

The GROUP BY clause in Access Server has been increased from 160 characters to 320 characters. This is because NewWave Access will often fully qualify the item names if duplicate names exists in tables that are joined, making the 160 character limit too severe.

HP DeskManager 36570 B.05.00

by Stuart Craig
Pinewood Information Systems Division

(Release 23)

The latest version of HP DeskManager (B.05.00) is now available and includes the following major enhancements:

TRANSPORT

The following enhancements have been made to the transport system provided by HP DeskManager:

Network Services (NS) Transport

The ability to configure NS connections with adjacent computers, and to utilize the new NS Transport mechanism. Fully qualified NS Node names can be used to identify remote systems. It is no longer necessary to store passwords of remote systems on the local database, thus improving system security and reducing the administration involved with changing passwords. New operator commands exist to enable and disable NS Slave trucks, and MAILSTATUS now shows receiving truck status.

Optionally, the IP Address of the remote computer can be specified. It is included to allow customers to improve security, as it can be used to check to ensure against unauthorized applications "masquerading" as Master Trucks.

The following UDCs for NS & DS transport are modified:

- MAILON Starts the NS slave process in addition the the DS slave and other processes.
- MAILSLAVEON Starts the NS slave monitor in addition to enabling the DS slave.
- MAILSLAVEOFF Stops the NS monitor process and disables the DS Slave.

The following UDCs have been added:

- MAILNSSLAVEON Starts just the NS slave monitor process.
- MAILNSSLAVEOFF Stops just the NS slave monitor process.
- MAILDSSLAVEON Enables just the DS slaves.
- MAILDSSLAVEOFF Disables just the DS slaves.

The MAILSTATUS UDC includes an extra line to show whether the NS transport subsystem for receiving mail is running. In addition, there will be one line for each incoming NS Slave Truck, identifying the sending computer and mailnode being serviced.

NOTE

Communication via NS transport is available only between one HP DeskManager/DeskManagerPLUS version B.05.00 system and another. DS communication must continue to be used to link HP DeskManager/ DeskManagerPLUS B.05.00 to pre B.05.00 versions of the product.

Enhanced Transport Controls

The limit on the maximum number of Master Trucks running on a system has been increased from 8 to 36. To complement this increase, the ability to start and stop additional Master Trucks is provided, thus allowing the number of concurrent Master Trucks to be adjusted dynamically without the need to restart the entire Transport system. Two new operator commands, STARTMTRUCKS and STOPMTRUCKS are available for this purpose.

Previously, if a Master Truck hung while sending to a remote node, messages for that node were blocked until the transport system was restarted. With DeskManager B.05.00, once a hung Master Truck has been identified, the ability to disable it and release the associated mailnode and computer, and to "schedule around" the hung truck is provided using a new operator command, DISABLEMTRUCK.

Return-to-sender facility

DeskManager B.05.00 features a new mechanism, available by default, to control what is returned to the sender of a message when it is found that one or more names in the Distribution List are unable to be resolved. The default is to return the original message to the sender with an informative message attached giving the reason for non-delivery.

USER INTERFACE

The following enhanced functionality is available with the DeskManager B.05.00 release:

New Script functions

DeskManager B.05.00 introduces formal support for some previously unsupported Script Active functions and Directives, and introduces some new capabilities. The result of this is better integration of applications and the ability to do more sophisticated operations.

New (or previously unsupported) Script Directives:

- &AB - allows abbreviations of commonly used commands to be set up.
- &BREAK - enables and Disables the Break key.
- &CALLFATHER - forces the HP DeskManager User Interface program to suspend and activate its father process. This is to allow data passing where HP DeskManager is invoked as a son process, rather than the other way around. The father process calling HP DeskManager is able to use the application umbrella as if it were a son of the HP DeskManager User Interface.

- &NOECHO - provides the same function as &ECHO 0. That is it disables echo of each script command as it is executed
- &STORE - allows the archiving of a complete folder to an MPE file in internal HP DeskManager format.
- &RESTORE - provides the reverse function of &STORE
- &SIGNON - provides the means to set up a Script which is automatically executed each time the user signs on.
- &DPAGELNGTH - allows setting of page length for diary displays, in the same way &PAGELENGTH is used for other parts of the product.
- NOCLOSEBRAC - provides a means to allow the usage of "(" characters in following active functions (for example within escape sequences). This option prevents the parsing algorithm from supplying erroneously a matching ")" which could invalidate the sequence.

New (or previously unsupported) Script Active functions:

- <CREATED {item}> - returns the date that an item was created, in days relative to the current date.
- <ATTDATE {item}> - returns the date that an item was attached to its parent item, again in days relative to the current date.
- Provide variable substitution with the + string facility.
- <MPEXL> - returns true (1) if the processor on which the script is running is an MPE/XL machine, otherwise it returns false (0).

An example of the use of some of these new script capabilities would be a script to delete messages from the intray which are older than a certain age.

User Password Controls

HP DeskManager B.05.00 introduces controls which allow the Systems Administrator to enforce the usage of passwords with the following new functions:

The Administrator may use a new Passwords screen in MAILCONFIG to

- ensure users set a password.
- specify a minimum length and minimum composition requirements.
- set expiry dates on passwords to ensure users change their passwords after a specified time.

NOTE

The new password controls will not apply when HP DeskManager is run as a batch job, or for HP DeskManager Intrinsics users. Current versions of HP AdvanceMail and HP NewWave Mail also do not provide support for the new controls.

Hooks for ISO7 Support

DeskManager B.05.00 includes an extension to the previous converter mechanism, whereby character set converters can be integrated, thus allowing specially written converter programs to handle the translation issues. This functionality will be particularly useful for customers wishing to use ISO7, a variant of ASCII, whereby certain characters are interpreted and displayed as country-specific characters. The mechanism allows converters to be integrated with the DeskManager User Interface, providing:

- The permanent conversion of "Text Compatible" items, such as TEXT and HPSLATE in the Work Area to an alternative character set.
- The temporary conversion of TEXT items as they are read or printed in any area.

CONFIGURATION AND ADMINISTRATION

The following enhancements have been made to configuration and administration for the DeskManager B.05.00 release:

Local system data configuration in batch

It is possible to configure in batch using MAILUTIL local data that can currently only be accessed via MAILCONFIG. New transactions have been introduced to allow configuration of (for example) local user passwords, capabilities, computer/gateway details, etc.

NOTE

With HP DeskManager B.05.00, the batch transaction formats used by MAILUTIL and *ADMIN have been enhanced over those used in release B.03.R0. In particular, the width of transaction records has been extended from 72 to 80 characters. As a result, this causes problems with text editors, such as TDP and EDIT/3000, which keep line numbers in these columns. The solution is to save such files as unnumbered by using the "k fname,unn" option within TDP and EDIT/3000, for example.

MISCELLANEOUS ENHANCEMENTS

- A new command, LOOKUP is available at any prompt in DeskManager, so that the user can search the directory independently from sending a message or creating a Distribution List. The user may scan down the directory of names or may supply a name and have alternatives supplied if the name is non-unique. Extra user information will also be returned, if configured by the System Administrator.

- Enhanced editing of distribution lists of Replies and Replies-to-all, which allows the creator of the reply to add his own name and also CCs and BCCs to the Distribution List.

- When the user enters a Distribution List name at one of the TO.. prompts, HP DeskManager B.05.00 offers the choice of retaining categories within the list, or the (pre B.05.00) action of giving them all the category of the current prompt. The User Profile is used to select whether the choice is offered.

- If selected from the User Profile, then any extra user attributes which may have been configured (such as job title, extension number, company site) can now be displayed when adding names to distribution lists.

- The display of messages is altered so that the original creator of a forwarded message can be displayed without the user opening the message and reading the individual parts. This feature is selectable from the User Profile.

- The List command has been extended, and now includes:
  LIST NEW

  LIST URGENT

  LIST PRIVATE

  LIST FROM <Creator name>

- The PASSEDIT password program will run in batch mode, thus allowing further improvement to centralized administration.

- Support for the removal of a sort-chain from the Global Database significantly improves the performance of the batch-update mechanics when manipulating user names.

- VT LAN performance for terminal users improved.

- MAILSTREAM enhanced to support date and times.

HP DeskManagerPLUS 36567 B.05.00

by Stuart Craig
Pinewood Information Systems Division

(Release 23)

The latest version of HP DeskManagerPLUS (B.05.00) is now available and includes all of the enhancements included in HP DeskManager B.05.00 plus the following major enhancements:

TRANSPORT

The following enhancements have been made to the transport system provided by DeskManagerPLUS B.05.00:

NS Transport Data Compression

The Administrator can specify in the configurator, that data will be compressed before it is transmitted over an NS link between two HP DeskManagerPLUS systems, to provide an opportunity to reduce line utilization and consequently data communications costs.

USER INTERFACE

The following enhanced functionality is available with the DeskManagerPLUS B.05.00 release:

Routing & Authorization

DeskManagerPLUS allows users to indicate in an HP DeskManager message that its contents require the authorization/approval of a defined set of recipients, in a specified sequence. Each recipient can approve the request, in which case it is sent to the next on the list, or can reject it, in which case it is returned to the originator. This approval/rejection is password controlled. Routed messages can be tracked by the originator, using the pending tray. Designates and stand-ins (that is a deputy that a user can nominate, to whom routed messages should be autoforwarded in his absence) can approve or reject by proxy.

NOTE

Routed messages will not be recognized by HP DeskManager systems that have software prior to B.05.00. The effect of this is that routed messages will become blocked along the route, since the receiving system does not apply any more processing to these items than to standard messages. It is important, therefore, that all HP DeskManager systems in a network are upgraded to HP DeskManagerPLUS version B.05.00 before Routing and Authorization is fully implemented. Routed messages sent to Regular HP DeskManager version B.05.00 (that is non-DeskManagerPLUS) can be actioned (so blocking can be avoided), but cannot be originated on those systems.

NOTE

Current versions of HP Advancemail and HP NewWave Mail do not provide support for the Routing & Authorization capabilities of HP DeskManagerPLUS.

CONFIGURATION AND ADMINISTRATION

The following enhancements have been made to configuration and administration for the DeskManagerPLUS B.05.00 release:

High Availability Maintenance/Garbage Collection

It is possible to run garbage collection continuously, and fully concurrently with all other HP DeskManagerPLUS processes, thus improving system availability over previous versions of HP DeskManagerPLUS. Two new facilities are provided to achieve this:

- WASTE BIN EMPTIER

  This is intended to run at discreet times, for example at the end of each day, to release users' waste baskets for deletion by the other component, the Garbage Collector. The effect of the bin emptier is similar to that of the existing maintenance program, in that when users sign on again afterwards, their waste bins would appear empty, however the contents still exist in the database (until the Garbage Collector is run).

- GARBAGE COLLECTOR

  This may be run continuously and fully concurrently with the rest of the system and will physically delete garbage from the database, including emptied waste baskets, releasing space in the ITEM-HEADER, ITEM-STRUCTURE and ITEM-CONTENT datasets.

The previous method of operation (MAILMAINT) will still be available wit h this version of HP DeskManagerPLUS, and will be the default mode of operation.

Centralized Administration

This release of HP DeskManagerPLUS provides extensions to the *ADMIN server to allow local data (users, routing information, etc.) to be added, modified and deleted from another (remote) system. It is also possible to configure in batch using MAILUTIL local data that can currently only be accessed via MAILCONFIG. New transactions have been introduced to allow configuration of (for example) local user passwords, capabilities, computer/gateway details, etc.

NOTE

With HP DeskManagerPLUS B.05.00, the batch transaction formats used by MAILUTIL and *ADMIN have been enhanced over those used in release B.03.R0. In particular, the width of transaction records has been extended from 72 to 80 characters. As a result, this causes problems with text editors, such as TDP and EDIT/3000, which keep line numbers in these columns. The solution is to save such files as unnumbered by using the "k fname,unn" option within TDP and EDIT/3000, for example.

HP DESKMANAGER INTRINSICS B.05.00

HP DeskManager Intrinsics provide a programmatic interface to HP DeskManager's mailing, Diary and directory functions. The intrinsics have been enhanced to integrate correctly with the DeskmanagerPLUS B.05.00.

NOTE

HP DeskManager Intrinsics is now a component of HP DeskManagerPLUS, and as such, can no longer be purchased separately.

HP DESKMON

HP DeskMon provides the Administrator with the ability to monitor several HP DeskManager systems from a central point. This release of HP DeskMon has been produced primarily to ensure that it is consistent with HP DeskManagerPLUS B.05.00.

NOTE

HP DeskMon is now a component of HP DeskManagerPLUS, and as such, can no longer be purchased separately.

HP SCHEDULE

HP Schedule is a component of HP DeskManagerPLUS which allows users to schedule meetings with other users, and book resources such as rooms and cars. This release of HP Schedule has been produced primarily to ensure that it is consistent with HP DeskManagerPLUS B.05.00.

NOTE

HP Schedule is now a component of HP DeskManagerPLUS, and as such, can no longer be purchased separately.

DCA CONVERTERS

The DCA FFT and RFT converters are included with this release of HP DeskManagerPLUS.

NOTE

The DCA FFT and RFT converters can no longer be purchased separately from the HP DeskManagerPLUS product.

HP File/Library 27520 B.05.00

by Stuart Craig
Pinewood Information Systems Division

(Release 23)

In this release of HP File/Library there are no major or minor enhancements. Primarily this release has been produced to allow the new release of HP DeskManager and HP DeskManagerPLUS (B.05.00) to integrate correctly with the product.

HP Word Intrinsics A.01.06

by Stuart Craig
Pinewood Information Systems Division

(Release 23)

HP Word Intrinsics A.01.06 contains no changes to the product itself. The only changes are in the installation process, which has been fully automated such that no manual steps are required.

INSTALLATION STRATEGY

HP Word Intrinsics A.01.06 is installed via the AUTOINST process. No manual steps are required. Specifically, it is no longer necessary to allocate a Resource Identification Number (RIN) manually for a first time installation. This is now done programmatically if necessary and configured automatically.

HP Listkeeper A.03.20

by Stuart Craig
Pinewood Information Systems Division

(Release 23)

This release of HP Listkeeper contains no changes to the product itself. The only changes are in the installation process, which has been fully automated such that no manual steps are required.

INSTALLATION STRATEGY

HP Listkeeper A.03.20 is installed via the AUTOINST process, which requires no manual steps to be performed. The correct version for MPE V or MPE/iX will be installed automatically.

HP COBOL II/V Enhancement

by Jan Merrill
Systems Technology Division

(Release 23)

This version of the HP COBOL II/V compiler was enhanced to output a new message at compile time if the definition of sort or merge files in the program indicates that data may be lost. The enhancement can help your programs more fully conform to the ANSI Standard.

NEW MESSAGE FOR SORT/MERGE FILES

The compiler outputs the new Questionable message 323, "Record size of FD <file-name> conflicts with the SD," if one of the following situations is detected:

With USING file(s):

For a sort or merge file (SD) with fixed length records,

- the largest record size of a USING file is greater than the largest SD record size.

For a sort or merge file with variable length records,

- the largest record size of a USING file is greater than the largest SD record size or
- the smallest record size of a USING file is less than the smallest SD record size.

With GIVING file(s):

For a GIVING file with fixed length records,

- the largest record size of a GIVING file is less than the largest SD record size.

For a GIVING file with variable length records,

- the largest record size of a GIVING file is less than the largest SD record size or
- the smallest record size of a GIVING file is greater than the smallest SD record size.

The following paragraphs describe examples of this new enhancement.

If the record size of an input file specified in the USING phrase is 50 bytes and the SD record size is 40 bytes, the compiler will output error 323 because only 40 bytes of each 50-byte record will be sorted.

If the record size of an input file specified in the USING phrase is 50 bytes and the SD specifies records varying from 30 to 40 bytes, the compiler will output error 323 because only 40 bytes of each 50-byte record will be sorted.

If the record size of an output file specified in the GIVING phrase is 30 bytes and the SD record size is 40 bytes, the compiler will output error 323 because data may be lost when the SORT outputs 40-byte records to 30-byte records in the output file.

To better implement the ANSI Standard, the compiler compares the USING file(s) to the SD file, and compares the SD file to the GIVING file(s). Because the compiler does not compare the USING to the GIVING files, the compiler outputs error 323 if the record sizes of the USING and GIVING files are the same and the SD record size is larger, although this case does not cause data loss.

You may receive error 323 in other cases that will not cause data loss. The error is a Questionable so that you can determine whether the data loss will impact the execution of your program. If not, you can ignore the message. To modify your program to conform to the ANSI Standard and to eliminate the message, you can change the record length of the USING and GIVING files to match the record length of the SD. Another alternative is to add or change the RECORD clause of the SD or GIVING file to specify variable length records that pass the new checking.

VPLUS Enhancements for Release 23

by Cory Cooper
Commercial Systems Division

(Release 23)

Three new enhancements have been added to VPLUS. These enhancements are: native character recognition for the MATCH statement, new state codes for the $STATE table, and the VGETARBINFO intrinsic.

Native Character Pattern Matching

VPLUS has been enhanced to allow native character pattern matching as an option for VPLUS MATCH statements. The VPLUS intrinsics and FORMSPEC have been enhanced to allow the application writer the option of choosing the Native Language Support (NLS) native character pattern matching facility instead of the existing VPLUS (Native 3000 only) pattern matching facility.

A new field has been added on the Terminal/Language Selection Menu to enable native character recognition for the existing MATCH statement. The field is named "Native character pattern matching", and will allow 'Y' or 'N' as input. A 'Y' or 'y' value will enable native pattern matching. This field defaults to 'N' for new forms files; it defaults to blank for existing forms files.

New State Codes Added

The following new valid postal abbreviations have been added to the $STATE table for FORMSPEC edits:

AP: Area Pacific
AA: Area Americas
AE: Area Europe
FM: Federated States of Micronesia
MH: Marshall Islands
MP: Northern Mariana Islands
PW: Palau

New VGETARBINFO Intrinsic

A new VPLUS intrinsic has been added to retrieve the VPLUS ARB field mapping information. The intrinsic is named VGETARBINFO and is callable as follows:

```
CALL "VGETARBINFO" USING VPLUS-COMAREA,
                         ARB-INFO-BUF,
                         INFO-BUF-LEN.

Record VPLUS-COMAREA.  << use existing definitions >>

Record ARB-INFO-BUF:
  Record ARB-INFO-HEADER:
```

```
    2 byte integer NUM-OF-ENTRIES;      << input only >>
    2 byte integer ENTRY-LEN;           << input only >>
    16 byte array FORM-NAME;            << input only >>
    16 byte array FILLER;               << reserved for future use >>
    2 byte integer NUM-ARB-FLDS.        << output only >>

  Table of record ARB-INFO-DETAIL:

    2 byte integer FIELD-NUM;           << input only >>
    10 byte array ARB-DATA-TYPE;        << output only >>
    2 byte integer ARB-DATA-LEN;        << output only >>
    2 byte integer ARB-BUF-OFFSET.      << output only >>

2 byte integer INFO-BUF-LEN.    << total 2 byte word length of >>
                                << ARB-INFO-BUF, minimum valid >>
                                << length is 27.               >>
```

NUM-OF-ENTRIES indicates number of ARB-INFO-DETAIL table entries and must be zero or greater; if number of entries is zero then the intrinsic returns immediately to the application (i.e., does a no-op).

ENTRY-LEN indicates size of ARB-INFO-DETAIL table entries (in 2 byte words), and must be equal to the value of 8.

FORM-NAME contains left justified, upshifted form name of 1 to 15 characters, blank terminated.

FILLER is reserved for future use and should be initialized to 16 blanks.

NUM-ARB-FLDS at output indicates the number of ARB fields defined for the specified form; values for NUM-ARB-FLDS range from zero, i.e., no active ARB fields in specified form ARB (all are "filler"), to 128, i.e., maximum number of fields in any one form. (Note: if this intrinsic is called for a form with zero active fields in the form's ARB, the intrinsic will continue to process all ARB-INFO-DETAIL entries, returning $NOTARBFLD for each entry.)

FIELD-NUM is ARB-INFO-DETAIL table key and contains field number assigned by FORMSPEC.

ARB-DATA-TYPE at output contains field type conversion notation from FORMSPEC, e.g., CHAR, DINT, SPACK2, or token $NOTARBFLD which indicates that the requested field does not exist within the ARB.

ARB-DATA-LEN at output contains ARB field length in bytes (not updated if field does not exist in ARB).

ARB-BUF-OFFSET at output contains zero relative byte offset of the ARB field (not updated if field does not exist in ARB).

BUSINESS REPORT WRITER/V Enhancements

by Mary Wernette
Software Technology Division

(Release 23)

This release of HP Business Report Writer/V on Release 23 adds several of the most frequently requested enhancements, as well as fixes a number of defects.

DICTIONARY MAINTENANCE MADE SIMPLE

Now you can modify BRW dictionaries much more easily!

BRW has always provided a set of conversion programs to take other dictionary formats and convert them into BRW's dictionary format. But, until now, there was no provision for modifying a BRW dictionary. You needed to modify the original dictionary, such as a system dictionary, then run the conversion program again. This created quite an obstacle for those needing to maintain both dictionaries. And, in the case where the original data dictionary is no longer available, the task is impossible!

A new utility, RDICUSER.PUB.SYS, is now available as part of the BRW product. The utility takes a BRW data dictionary, RDIC, and generates a script file that can recreate the dictionary via the RGENDIC.PUB.SYS program.

The intent of RDICUSER is to simplify maintenance of BRW data dictionaries. Some customers have told us that they often exchange BRW dictionary files and reports with other users. They usually don't get the original source to the dictionary file or may misplace it over time. With RDICUSER, you can decompile the dictionary file into a script file, edit that file, then recreate RDIC from the modified script file.

The syntax of script files is fully documented in the User- Generated Source File section of the BUSINESS REPORT WRITER/V Reference Manual.

To use RDICUSER, you run RDICUSER.PUB.SYS and answer two prompts. The first prompt is for the BRW data dictionary name; the default is RDIC.PUB. The second prompt is for the output script filename; the default is GENDEF.

STREAMLINED REPORT DEVELOPMENT

A report developer can now test and debug a report with a limited amount of data, instead of running the whole report. This saves precious development time and paper.

Two JCWs have been created, BRWLINELIMIT and BRWRECORDLIMIT, which allow developers to test reports with only a subset of data from the full report.

SUPPRESS REPETITION ON ANY LINESET

A large number of you have requested greater flexibility in suppressing repetition. Now, you can suppress repetition on ANY lineset, not just the Detail lineset.

NEW JCWS ADD FUNCTIONALITY

The following four JCWs may be optionally set by the user to expand the functionality of BRW.

BRWLINELIMIT

Used in REXEC, this JCW together with BRWRECORDLIMIT provide a 'sample values' feature for BRW. They let users test reports with only a subset of the data from the full report.

BRWLINELIMIT provides a value from 1 to 32000, and will place a limit on the number of lines written to the report file. If BRWLINELIMIT is used without BRWRECORDLIMIT, then BRW will complete the full data access portion of the report, but will quit early when printing the result.

BRWNULLCCTL

Used in REXEC, this JCW protects us from potentially introducing an incompatibility problem. Previously, the default CCTL code used by BRW was a binary zero. Because binary zeros in ASCII files cause problems on the PC, the default CCTL code is now a blank (Hex 20). If switching from binary zero to blank causes undesired results, you may simply go back to the binary zeros by setting BRWNULLCCTL to 1.

BRWRECORDLIMIT

Used in REXEC, this JCW together with BRWLINELIMIT provide a 'Sample Values' feature for BRW. They let users test reports with only a subset of the data from the full report.

BRWRECORDLIMIT provides a value from 1 to 32000, and will place a limit on the number of records written to a BRW workfile.

Note: If a BRW report only references one source table, or if all JOINed tables are tuned to use keyed access, there is only one workfile. More complicated reports will have multiple workfiles. Since each workfile is limited to N records, the joins and selection criteria applied on later workfiles may cause the final access table to have less than N records.

BRWWARNSTDLIST

Used in REXEC, this JCW when set to 1 causes warning and spool file continuation messages to be printed to STDLIST instead of the report file device. Some customers have expressed annoyance with runtime warning messages and spool file continuation messages being printed to the same place as the report output.

HP GLANCEPLUS/V 60-DAY TRIAL SOFTWARE

by Jim Jen
Software Technology Division

(Release 23)

HP GlancePlus/V, Hewlett-Packard's powerful and easy-to-use performance tool, has been enhanced to monitor the full 1024 process maximum allowed on MPE V systems. A one-time, 60-day trial copy which includes this enhancement is now available to you with the installation of MPE V Platform Release 2P. 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 GlancePlus/XL purchase. The consistent interface of the two GlancePlus products also insures that no retraining is required in moving from one to another.

Installing the GlancePlus/V trial copy is a simple, quick 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 GLUNPACK in the PUB.SYS group.

HP LaserRX/MPE Enhanced

by Gerry Wade
Software Technology Division

(Release 23)

This release of LaserRX/MPE has several exciting new features. The "B" version added major new functionality over the original "A" version. Even more enhancements have been made with this release.

UPDATES SHIPPED WITH MPE V

Beginning with MPE/ix Release 4.0 and MPE V Release 23, the LaserRX/MPE Collection Software may be updated using standard MPE update procedures. Customers with support for LaserRX/MPE, part number 50700B, will receive the LaserRX/MPE Collector software update along with their other HP3000 product updates. The LaserRX update will be installed by the AUTOINST program.

CAUTION

A New Group and User will be added to the SYS account as part of the LaserRX/MPE product support. If they already exist then they will have their capabilities altered as follows:

```
NEWGROUP SCOPE;CAP=IA,BA,PH,DS,MR,PM
NEWUSER  SCOPE;HOME=SCOPE;CAP=GL,ND,SF,IA,BA
```

The group will be added only if the LaserRX/MPE product is being installed. Since the SCOPE.SYS group requires PM capability, you will probably want to add a password to this group. The user will be added to every system regardless of whether the LaserRX/MPE product is being installed. Existing passwords and access restrictions will not be altered.

HOST ACCESS TO DATA

Access to LaserRX log file data is now available on the HP3000. The EXTRACT program has a new EXPORT command which will produce ASCII or BINARY files of LaserRX performance data. Flexible output formatting allows easy generation of custom reports and transfer of data to other analysis packages.

SERVICE LEVEL SUPPORT

The Performance Data Collector now allows you to specify a target response time for each LaserRX application. The percentage of terminal transactions which meet this target is then available as a measure of service level agreements. The service level agreement percentage is available using the host export facility.

SCHEDULED LOG FILE ADJUSTMENTS

As LaserRX log files become full they are adjusted by rolling out the oldest 25% of the data. If log files are large then this process may take place during undesirable times. Now the Data Collector will examine each log file at a user defined time each day and, if it predicts that the log file will fill in the next 24 hours, adjusts it at that time. This allows scheduling log file adjustments at off hours, avoiding any possible impact on critical processing.

LOG FILE ANALYSIS

The UTILITY program has been enhanced to process performance alarms against LaserRX log file data. This can be used to identify times which bear closer analysis. It can also be used in a periodic batch job to scan the latest log file data and take actions automatically if system or application performance met user defined criteria.

HP GlancePlus Pak for MPE V

by Jim Jen
Software Technology Division

(Release 23)

HP GlancePlus Pak for MPE V is an exciting new performance tool offering from Hewlett-Packard. Now you can get the online diagnostic capabilities of HP GlancePlus and the long term performance trending all for one low price. HP GlancePlus Pak for MPE V combines HP GlancePlus/V and the patented performance data collection software from HP LaserRX into a single package. Here is what you get:

HP GlancePlus Pak for MPE V =

HP GlancePlus/V (Powerful but friendly online diagnostic tool)

+ Performance Collector (Host portion of HP LaserRX/MPE)

. Patented SCOPE program efficiently logs performance metrics for GLOBAL, APPLICATION, PROCESS, and DISC SPACE.

. Selected data can be easily exported for further analysis on the HP3000 or other systems. A variety of formats makes it easy to move data into popular spreadsheet and graphics packages or into your own analysis programs.

. Log file monitoring is provided by applying the performance alarming techniques against existing log files. You may create a batch job to periodically scan a system's logs and then notify you if there is anything out of the ordinary which requires your attention.

Compatibility with HP GlancePlus/V

HP GlancePlus Pak for MPE V includes the current HP GlancePlus/V software. If you buy HP GlancePlus Pak for MPE V then you do not need to purchase HP GlancePlus/V. Current owners of HP GlancePlus/V may elect to upgrade to HP GlancePlus Pak for MPE V at any time for a very low cost and with no change in monthly support costs.

Compatibility with HP LaserRX/MPE

If you currently own HP LaserRX/MPE then you can use it to analyze the data collected by HP GlancePlus Pak for MPE V as long as you don't exceed the number of analyzed systems in your HP LaserRX license.

You do not need to own the HP LaserRX/MPE Analyzer Software in order to utilize the trending performance data collected by HP GlancePlus Pak for MPE V. This means that you can start analyzing

your system's performance trends or billing for system resources with your investment in HP GlancePlus Pak. (The HP LaserRX Analyzer software may be easily added at a later time if desired).

A new option has been added to HP LaserRX/MPE which will allow you to purchase just the Analyzer Software. The license on this new option is to analyze an unlimited number of systems but it does not include the data collection software. You may purchase HP GlancePlus Pak for MPE V today and add the Analyzer software later. You may also use this option to add a second analysis station to an existing LaserRX package.

Have it Your Way

You now have even more flexibility in purchasing exactly the performance tool capabilities you need, when you need them. All tools are compatible with each other.

HP GlancePlus/V (P/N 50733B)
The Premier On-line Diagnostic Tool

HP GlancePlus Pak for MPE V (P/N B2954A)
Online Diagnostic plus long term trending data collection.

HP LaserRX/MPE Analyzer (P/N 50700B Opt 005)
Easy analysis of trending data using a state of the art interactive graphical user interface on a Personal Computer. It utilizes a top down methodology for performance management which helps you quickly isolate important data in the log files without losing sight of the big picture.

HP LaserRX/MPE Product (P/N 50700B Opt 001, 002, 003, or 004)
Combines long term trending data collection and HP LaserRX/MPE Analyzer software in packages for different numbers of total systems.

RX Forecast (P/N B1764B)
Statistical data projection tool allows predictions of future system performance based on existing trending data.

Buy only as much capability as you need, add more easily as you need it. Have it your way!

For more information see the articles in this publication on HP GlancePlus/V and the Performance Data Collector for HP LaserRX/MPE or call your sales representative and ask about:

Part Number: **B2954A HP GlancePlus Pak for MPE V**

HPVOLINFO Volume Intrinsic

by Pat Alvarez, Wayne Booth, Marck Dovi and Lalitha Pejavar
Computer Systems Division

(Release 22)

HPVOLINFO

Returns volume information.

SYNTAX

```
HPVOLINFO
        ( status,
          volspecifiernum, volspecifier [,itemnum, item][...]
        );
```

Volume information is returned by the HPVOLINFO intrinsic. Up to six items of information can be retrieved by specifying one or more itemnum/item pairs. The itemnum/item parameters must appear in pairs. Note, some of the itemnums to HPVOLINFO are MPE V specific while others are MPE/iX specific.

PARAMETERS

status

32-bit signed integer (optional)
Returns the status of the HPVOLINFO 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 represented by these bits, defines the subsystem that set the status information. On MPE/iX, the volume management identification number is 163. On MPE V, this field will contain a 0.

WARNING

Since HPVOLINFO can return information on the success of its execution in the *status* parameter, it is good programming practice to specify this parameter and check its value after the intrinsic call. If an error condition is encountered and the caller did not specify the *status* parameter, HPVOLINFO causes the calling process to abort.

The values of status.info that can be returned from a call to HPVOLINFO are listed below.

Error Number	Meaning
0	No errors or warnings (Successful call).
-150	Invalid itemnum.
-151	Itemnum or item missing (not paired).
-152	Required parameter omitted.
-153	Parameter address out of bounds
-154	Split stack calls not allowed.
-155	Ldev, volume set/class, volume not mounted.
-156	Invalid volume specifier number.
-157	Invalid volume specifier.
-158	Ldev not a disc ldev.
-159	Device class not configured for volumes.
-160	Device class does not map into a volume class.
-161	Free space range sizes not in ascending order.
-162	Invalid number of free space ranges specified.
-163	Volume class cannot be specified with system set.
-164	Error while scanning the directory.
-165	Volume label is unreadable.

-166	Disc free space map is bad.
-167	Allocation is disabled for disc free space map.
-168	Defective tracks table is unreadable.
-169	Disc I/O error.
-170	Virtual memory is only valid on system volumes.
-171	Directory size is not valid for specified volume.
-172	Spool files are only valid on system volumes.
-173	Item number is only valid on MPE/iX systems.
-174	Item number is only valid on MPE V systems.
-175	List length specified is invalid.
-176	Item number / volume specifier number combination is illegal.
-177	Item is not yet implemented.
-178	Volume table is in an inconsistent state.
-179	Unrecognized drive type.
150	Array passed in cannot hold all names - List truncated.
151	File label is unreadable.

In addition, the following warnings/errors may be returned by the MPE\iX version of HPVOLINFO:

-180	Physical I/O error.
-181	An unexpected error was detected. The error stack should be checked to determine the exact error.
-182	An error was detected in the label management subsystem. The error stack should be checked to determine the exact error.
-183	Disc access error. The error stack should be checked to determine the exact error.
-184	A mirrored volume that was specified is disabled.
-185	The volume set specified is not a volume set on the system.

-186	The volume class specified is not present in the volume set specified.
-187	The member volume specified is not present in the volume set specified.
152	Parts of the set or class are not mounted. Data was only gathered on the portion of the set or class that was mounted so the data may be incomplete.

volspecifiernum

16-bit signed integer by value (optional)
A 16-bit integer indicating which volume specifier is to be used to obtain information from HPVOLINFO. The default value for this parameter is 0 if it is not included by the caller. This parameter is used in conjunction with the volspecifier parameter. The following are valid volume specifier numbers:

0	volume specifier is ignored. Using this specifier number is equivalent to specifying all the volumes on the system.
1	volume specifier is the logical device number of the volume for which information is to be obtained.
2	volume specifier is a volume set name.
3	volume specifier is a volume set/volume class name pair.
4	volume specifier is a volume set/volume name pair.
5	volume specifier is a device class name.

volspecifier

type varies (optional)
The volspecifier is optional when the volspecifiernum is 0 since the volspecifier is ignored. However, for volspecifiernums 1 through 5, the volspecifier parameter must be specified. On MPE V, volspecifier must be declared as a byte array. The data type of the volspecifier depends on the volspecifiernum:

volspecifiernum	volspecifier
0	ignored
1	16-bit signed integer
2,3,4,5	character array

When a 0 is used as the volspecifiernum, the volspecifier is ignored. When a volspecifiernum of 0 is used, it refers to all the volumes on the system. This includes all the system and nonsystem volumes.

When a 1 is used as the volspecifiernum, the volspecifier must be a ldev number which corresponds to a configured and mounted volume. An ldev number can be any number between 1 and 999.

For the character specifiers, the first character determines the delimiter character for the parameter. The delimiter must be printable, cannot be alphanumeric, and cannot be one of the special characters ".", ":", or "__" as explained below. For example, to pass the volume set FOO, the following array is a valid way to pass FOO using '%' as the delimiter: %FOO%.

For specifiers 3 and 4, the volume set name and the volume class or volume name must be separated by a colon. For example, %SET1:CLASS0% or %SET2:VOLUME8% may be used. A colon (:) *cannot* be used as a delimiter character.

Since a volume set or class can be fully qualified on MPE V, periods (.) are allowed in the name. Because periods (.) and underscores (_) are allowed in a MPE/iX name, these characters (period and underscore) *cannot* be used as delimiters.

With specifiers 2 and 3 on MPE V, for private volumes, a volume set/class name may be partially or fully qualified (e.g. VSETNAME.GROUP.ACCNT or CLASSNAM.GROUP.ACCNT). Each field of the name must be one to eight alphanumeric characters (beginning with a letter) for a possible total of 55 characters, e.g.:

%SETxxxxx.GROUPxxx.ACCOUNTx:CLASSxxx.GROUPxxx.ACCOUNTx%

has six eight-character fields, four periods, a colon, and two delimiters. When the volume set or class name is not fully qualified, it refers to the volume set or class in the logon group and/or account.

On MPE/iX, a valid volume set or class name consists of as many as 32 characters, where the first character is alphabetic, followed by any combination of alphanumeric characters. The MPE/iX name may include the underscore (_) and the period (.).

On MPE/iX, the name of the system volume set is "MPE/iX_SYSTEM_VOLUME_SET". Since the system volume set on MPE V does not have a predefined name, the name "MPE/iX_SYSTEM_VOLUME_SET" is used to be compatible with MPE/iX. On both MPE V and MPE/iX, for items that return volume set names (i.e. item #3 and item #12), this name is returned when returning the system volume set name.

Note that when the system volume set name is used on MPE V, it cannot be followed by a class name (see discussion of volume specifier number 5 below). Also, on MPE V group and account names cannot be used to partially or fully

qualify the set or volume name when the system volume set name is specified.

For specifier 4 on MPE V, a volume name consists of up to 8 alphanumeric characters, beginning with a letter. For private volumes, names may be partially or fully qualified (e.g. VNAME.GROUP.ACCNT). Each field of the name must be one to eight alphanumeric characters (beginning with a letter) for a possible total of 55 characters, e.g.:

%SETxxxxx.GROUPxxx.ACCOUNTx:NAMExxxx.GROUPxxx.ACCOUNTx%

has six eight-character fields, four periods, a colon, and two delimiters. When the volume name is not fully qualified, it refers to the volume name in the logon group and/or account.

On MPE/iX for specifier 4, the volume name consists of any string consisting of 1 to 16 alphanumeric characters, underscores, or periods, where the first character is alphabetic.

On MPE V, the concept of a volume class does not exist for the system volume set, therefore, in order to access a subset of the system volume set, device classes are used. But, on MPE/iX, the concept of volume classes is valid for both system and nonsystem volume sets and therefore, volume classes take the place of device classes. Specifier 5, for Item# 6 and 7 provides compatibility between MPE V and MPE/iX. Specifier 5 passes the device class of a group of volumes as they apply to the I/O configuration. The maximum number of characters allowed in the string is 8. On MPE V, when this specifier is used, it must refer to a device class that is configured to a group of volumes.

On MPE/iX, when a device class name is specified, a configured and mounted volume class with the same name must exist in the system volume set. Data will be returned based on this *volume class* in the *system volume set* if it exists; otherwise an error will result.

itemnum

16-bit signed integer by value (optional)
Cardinal number of the item desired. This specifies which item value is to be returned. Refer to Item# in Table 2-2.

item

type varies (optional)
On MPE V, item must be declared as a byte array. The actual type of the item specified by the corresponding item number. Refer to Item in Table 2-2.

SPECIAL CONSIDERATIONS

No special capabilities are required in order to use the HPVOLINFO intrinsic.

Split-stack calls are not permitted.

When an error is returned, the values in the item parameters are all undefined. It is not guaranteed that the data returned in an item is meaningful if any status value less than 0 is returned.

On MPE V, real values are accepted from the caller and returned to the caller in 64-bit HP3000 format. This is the default format for MPE V.

On MPE/iX, real values are accepted from the caller and returned to the caller in the format that is the default for the mode of the caller. If the intrinsic is called from compatibility mode, then any real values specified to HPVOLINFO must be in 64-bit HP3000 format and any real values returned by HPVOLINFO will be in that format. If the intrinsic is called from native mode, then any real values specified to HPVOLINFO must be in 64-bit IEEE format and any real values returned by HPVOLINFO will be returned in that format. Since the format used is always the default for the mode of the caller, this difference will have no impact on porting between MPE V and MPE/iX.

If a lot of activity is occurring on the system while this intrinsic is called, some of the item values returned may not reflect the expected result. For example, when HPVOLINFO is called to return the disc space used by permanent files, a value is returned. But, if immediately after the value is returned, a process on the system purges a file (FCLOSEs a file with disposition 4), the value will not reflect this difference.

On MPE V, a set or class is considered to be logically mounted if all of its members are logically mounted (i.e. LMOUNT or MOUNT command was used).

On MPE/iX, if the volume specifier is a set or class then at least the master volume must be logically mounted (i.e. volume must be in a master or member state). If the volume specifier is a logical device number or a volume name then both the volume specified and the master volume (of the set enclosing the volume specified) must be logically mounted.

If the volume specifier is a logical device number then it must be a member of a set or class that is logically mounted. If the volume specifier is a volume set name then the set must be logically mounted. If the volume specifier is a volume class name then the class must be logically mounted. If the volume specifier is a volume name then that volume must be a member of a set or class that is logically mounted. When the volume specifier is a device class name, all of the logical device numbers in the specified device class must be members of logically mounted sets/classes. Finally, all the volumes on the system (whether they are logically mounted or not) may be specified by using volume specifier number 0.

If the volumes for volume specifier numbers 1 through 5 are not logically mounted as specified above then the HPVOLINFO intrinsic will return a "volume not mounted" error. If the caller chooses to continue with the same specifier, the LMOUNT (on MPE V) or VSOPEN (on MPE/iX) command can be used with the COMMAND or HPCICOMMAND intrinsic to logically mount the appropriate volume sets/classes. If a volume is taken offline while the intrinsic is accessing it, the process will hang (because IOs cannot complete to the disc) until the volume is back online.

On MPE/iX, since mirrored discs maintain identical copies of the same information on two discs, the values that are returned by this intrinsic reflect information from only one of the volumes in a mirrored disc pair. When retrieving an ldev number (Item# 13) using a volume name that is associated with a mirrored disc pair, only one of the ldev numbers of the mirrored pair will be returned. Which one of the two ldev numbers will be returned is random and therefore, it should be noted that the ldev number returned in this case may be different across system start ups. Subsequent use of the ldev numbers returned for mirrored discs are guaranteed to provide accurate information for the mirrored volume set.

On MPE/iX, if information is requested for the split backup volume set the information returned will be for the split user volume set.

ITEM NUMBER, ITEM SUMMARY

The itemnums and items are described here. All item parameters are passed by reference.

Item# = 2

Number of Volume Sets
Returns the number of system and nonsystem volume sets that are configured on the system. This item may be used in conjunction with Item# 3. This item returns a 32-bit signed integer containing the number of volume sets. Note: 0 is the only valid specifier.

Item# = 3

List of Volume Set Names
Returns a list of all the system and nonsystem volume set names mounted on the system. On MPE V, the volume set name is fully qualified for private volumes (i.e. "volume-set-name.group.account"), each field consisting of one to eight alphanumeric characters, for a possible total of 26 characters (a name, group, and account and two periods). On MPE/iX, the volume set name consists of a string consisting of 1 to 32 alphanumeric characters, underscores, or periods. The item must be a character array where the list of set names will be returned. The first 4 bytes of the array are interpreted as a 32-bit integer describing the length of the array. The caller must set this value to equal the maximum number of names that will fit in the array being passed. Item# 2 can be used to determine the maximum number of names that could be returned. Upon return, the value will have been modified to reflect the actual number of names returned. The remaining bytes will be mapped to a list of 32-byte names.

Item# = 4

Number of Volume Classes
Returns the number of volume classes that a volume or volume set is associated with. This item may be used in conjunction with Item# 5. A volume can be associated with more than one volume class, therefore, when a 1 or 4 is used as the specifier, the number returned is the number of volume classes that the volume is a member of. When a 2 is used as the specifier, the number returned is the number of volume classes that are a subset of the volume set. On MPE/iX, this number only includes classes whose members are all logically mounted. This item returns a 32-bit signed integer containing the number of volume classes.

Item# = 5

List of Volume Class Name
Returns a list of volume class names. A volume can be associated with more than one volume class, therefore, when a 1 or 4 is used as the specifier, the list returned is a list of volume classes that the volume is a member of. When a 2 is used as the specifier, the list returned is a list of volume classes that are a subset of the volume set. On MPE/iX, the list only includes the names of classes whose members are all logically mounted. On MPE V, the volume class name is fully qualified for private volumes (i.e. "volume-class-name.group.account"), each field consisting of one to eight alphanumeric characters, for a possible total of 26 characters (a name, group, and account and two periods). On MPE/iX, the volume class name consists of

a string consisting of 1 to 32 alphanumeric characters, underscores, or periods. The item must be a character array where the list of class names will be returned. The first 4 bytes of the array are interpreted as a 32-bit integer describing the length of the array. The caller must set this value to equal the maximum number of names that will fit in the array being passed. Item# 4 can be used to determine the maximum number of names that could be returned. Upon return, the value will have been modified to reflect the actual number of names returned. The remaining bytes will be mapped to a list of 32-byte names.

Item# = 6

Number of Member Volumes
Returns the number of member volumes in the specified volume set/class or device class. This item may be used in conjunction with Item# 7. When a 2 or 3 is used as the specifier, the number of member volumes that make up the volume set or class is returned. When a 5 is passed, the number of member volumes configured with the passed device class is returned. For specifier 2 or 3, the returned number includes the master volume in the total count. For example, if a volume set consists of a master volume, MASTER and two member volumes, MEMBER1 and MEMBER2, and the specifier used is a volume set name, the number that will be returned for this item is three. On MPE/iX, since you can remove some or all of the volumes in a volume set (excluding the master volume), this number will depend on the number of volumes you have mounted at the time the intrinsic call is made. On MPE V, since the concept of master and member volumes only refer to private volumes, if the system volume set is specified, the count will consist of the number of volumes that are designated as system volumes. On MPE/iX, since mirrored discs maintain identical copies of the same information on two discs, the number returned by this item will reflect only one of the volumes in a mirrored disc pair. This item returns a 32-bit signed integer containing the number of member volumes.

Item# = 7

List of Member Volume Names
Returns the list of names of the member volumes in the specified volume set/class or device class. When a 2 or 3 is used as the specifier, the list of member volumes that make up the set or class is returned. When a 5 is passed, the list of member volumes configured with the passed device class is returned. On MPE V for specifier 2 or 3, the returned list will include the master volume. On MPE/iX, a volume class need not include the master volume so that specifier 3 may return a list that does not include the master volume. On MPE/iX, since you can remove some or all of the volumes in a volume set (excluding the master volume), this list will depend on the number of volumes you have mounted at the time the intrinsic call is made. On MPE V, since the concept of master and member volumes only refer to private volumes, if the system volume set is specified, the list will consist of the list of volumes that are designated as system volumes. The item must be a character array where the list of member volumes will be returned. The first 4 bytes of the array are interpreted as a 32-bit integer describing the length of the array. The caller must set this value to equal the maximum number of names that will fit in the array being passed. Item# 6 can be used to determine the maximum number of names that could be returned. Upon return, the value will have been modified to reflect the actual number of names returned. The remaining bytes will be mapped to a list of 32-byte names.

Drive Type

Item# = 8

Returns the type of the drive specified. The drive type refers to the name of the drive, i.e. HP7935 or HP7937. The character array that is used must be large enough to contain the longest type string, currently 13 characters.

Drive Sector Size

Item# = 9

Returns the drive's logical sector size. Currently this logical size is 256 bytes. In the future, discs may have different physical sector sizes. However, MPE will map them to system wide logical sector sizes. This item returns a 32-bit signed integer containing the drive's logical sector size in bytes.

Item# = 10

Volume Type

Returns a 32-bit integer value specifying the volume type. Valid types are:

1 - System Volume

2 - NonSystem Volume

On MPE, there are two types of volume sets - the system volume set and the nonsystem volume sets. A volume from the system volume set is considered a system volume, and a volume from the nonsystem set is considered a nonsystem volume. On MPE V, a nonsystem set is equivalent to a private volume set.

Item# = 11

Volume Name

Returns the volume name of the specified ldev. On MPE V, the volume name is fully qualified for private volumes (i.e. "volume-name.group.account"), each field consisting of one to eight alphanumeric characters, for a possible total of 26 characters (a name, group, and account and two periods). On MPE/iX, the volume name consists of a string consisting of 1 to 16 alphanumeric characters, underscores, or periods. The character array must be specified with a length of 32 bytes.

Item# = 12

Volume Set Name

Returns the volume set name corresponding to the passed ldev. A ldev can be associated with only one volume set. On MPE V, the volume set name is fully qualified for private volumes (i.e. "volume-set-name.group.account"), each field consisting of one to eight alphanumeric characters, for a possible total of 26 characters (a name, group, and account and two periods). On MPE/iX, the volume set name consists of a string consisting of 1 to 32 alphanumeric characters, underscores, or periods. The character array must be specified with a length of 32 bytes.

Item# = 13

Logical Device Number

Returns the logical device number of the specified volume. On MPE/iX, since mirrored discs maintain identical copies of the same information on two discs, either of the two discs may be returned by this item. This item returns a 16-bit signed integer containing the logical device number.

Volume Capacity

Item# = 14 & 15

Returns the volume capacity. When a 1 or 4 is used as the specifier, the volume capacity consists of the capacity of the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the capacity of the volumes that make up the volume set or class are totaled and this total value is returned. Item# 14 returns a 64-bit signed integer containing the volume capacity in sectors and item# 15 returns it as a 64-bit real.

Total MPE Overhead

Item# = 16 & 17

Returns the total MPE overhead. The total MPE overhead consists of everything on a volume that is not set aside for file space use. In other words, the overhead is the volume space that is used for operating system purposes. Some of the space that is considered MPE overhead includes the following: on MPE V - volume label, virtual memory, directory, defective tracks/sector table, initial segments, disc cold load information table, volume table, free space map and channel programs; on MPE/iX - volume label, file label table, directory, volume set information table, free space map, transient space, and transaction management overhead. A subset of the MPE overhead is returned through itemnums 18 & 19 (MPE/iX transient space), 20 & 21 (MPE/iX configured transient space), 22 & 23 (MPE V virtual memory), 24 & 25 (Directory), 26 & 27 (MPE/iX file label tables), and 28 & 29 (MPE/iX transaction management). When a 1 or 4 is used as the specifier, the total MPE overhead consists of the MPE overhead on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the MPE overhead on the volumes that make up the set or class is returned. Note: the files that comprise the code for the operating system are not included in this overhead. Item# 16 returns a 64-bit signed integer containing the total MPE overhead in sectors and item# 17 returns it as a 64-bit real.

MPE XL Transient Space Overhead

Item# = 18 & 19

Returns the MPE/iX transient space overhead. This item is only valid on MPE/iX. The transient space overhead is volume space that is used for temporary processes such as stacks, heaps, and operating system data structures. When a 1 or 4 is used as the specifier, the transient space consists of the transient space on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the transient space on the volumes that make up the set or class is returned. The transient space overhead is a subset of the total MPE overhead (Item# 16 & 17). Item# 18 returns a 64-bit signed integer containing the transient space overhead in sectors and item# 19 returns it as a 64-bit real.

Configured Maximum MPE/iX Transient Space

Item# = 20 & 21

Returns the configured maximum MPE/iX transient space. This item is only valid on MPE/iX. The configured maximum MPE/iX transient space overhead is volume space that is configured for transient space use, but is not necessarily used. See Item# 18 & 19. It is the space that is configured for stacks, heaps and operating system structures. When a 1 or 4 is used as the specifier, the configured maximum transient space consists of the configured transient space on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the configured transient space on the volumes that make up the volume set or class is returned. Item# 20 returns a 64-bit signed integer containing the configured maximum transient space in sectors and item# 21 returns it as a 64-bit real.

MPE V Virtual Memory Overhead

Item# = 22 & 23

Returns the MPE V virtual memory overhead. This is only valid on MPE V. The MPE V virtual memory overhead is the amount of volume space that is allocated for saving segments of main memory temporarily. The amount of configured virtual memory space is equivalent to the amount of used virtual memory space. Virtual memory on MPE V, is allocated on system volumes only. There is no virtual memory on private volumes. When a 1 or 4 is used as the specifier, the virtual memory overhead consists of the virtual memory on the volume whose ldev or volume name was specified. When a 2 is passed, the only valid specifier is "MPE/iX_SYSTEM_VOLUME_SET" since virtual memory is allocated only on system volumes. Because virtual memory is only valid on the MPE V system volume set and because the concept of volume classes does not hold for the MPE V system volumes, specifier 3 is not a valid specifier for this item. The MPE V virtual memory overhead is a subset of the total MPE overhead (Item# 16 & 17). Item# 22 returns a 64-bit signed integer containing the virtual memory overhead in sectors and item# 23 returns it as a 64-bit real.

Directory Space Overhead

Item# = 24 & 25

Returns the Directory space overhead. Directory space is the area on system and nonsystem volumes reserved for accounting information. More specifically, the directory space overhead consists of the directory space used for permanent files. When a 1 or 4 is used as the specifier, the directory space overhead consists of the directory space on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the directory space overhead on the volumes that make up the volume set or class is returned. On MPE V, the system directory is allocated on ldev 1 and for private volumes the directory is allocated on the master volume of the volume set or class. Therefore, specifying a volume set or class will give you the same results as specifying the master volume of the set or class. The directory space overhead is a subset of the total MPE overhead (Item# 16 & 17). Item# 24 returns a 64-bit signed integer containing the directory space overhead in sectors and item# 25 returns it as a 64-bit real.

MPE XL File Label Overhead

Item# = 26 & 27

Returns the MPE/iX file label overhead. This item is only valid on MPE/iX. On MPE/iX, each volume has its own Label Table. The Label Table contains file labels and extent descriptors for files that begin on that volume. When a 1 or 4 is used as the specifier, the file label overhead consists of the overhead on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the file label overhead on the volumes that make up the set or class is returned. The file label overhead is a subset of the total MPE overhead (Item# 16 & 17). Item# 26 returns a 64-bit signed integer containing the file label overhead in sectors and item# 27 returns it as a 64-bit real.

MPE XL Transaction Management Overhead

Item# = 28 & 29

Returns the MPE/iX transaction management overhead. This item is only valid on MPE/iX. The transaction management overhead consists of any logging information that is maintained in order to provide file consistency and also file recovery. When a 1 or 4 is used as the specifier, the transaction management overhead consists of any logging information kept on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the transaction management overhead on the volumes that make up the volume set or class is returned. The transaction management overhead is a subset of the total MPE overhead (Item# 16 & 17). Item# 28 returns a

64-bit signed integer containing the transaction management overhead in sectors and item# 29 returns it as a 64-bit real.

Item# = 30 & 31

Spool File Disc Space Usage

Returns the MPE spool file disc space usage. Spool file space consists of the volume space that is used by hidden spool files. Hidden spool files are files that are not a part of the permanent file space. This space can only be found on system volumes that are configured with the device class of SPOOL. Spool file space is not allocated on nonsystem volumes. When a 1 or 4 is used as the specifier, the spool file space consists of the space that is used on the volume whose ldev or volume name was specified. When a 2 is used as the specifier, the volume set name must refer to the system volume set name. Using 3 as a specifier is only valid on MPE/iX. Item# 30 returns a 64-bit signed integer containing the spool file disc space usage in sectors and item# 31 returns it as a 64-bit real.

Item# = 32 & 33

Disc Space Used by Permanent Files

Returns the disc space used by permanent files. When a 1 or 4 is used as the specifier, the disc space used by files consists of the disc space used by permanent files on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the disc space used by permanent files on the volumes that make up the volume set or class is returned. Item# 32 returns a 64-bit signed integer containing the disc space used by files in sectors and item# 33 returns it as a 64-bit real.

Item# = 34 & 35

Reserved for Disc Space Used by Temporary Files

Item# = 36 & 37

Free Space Distribution Array

Returns the free space distribution array. The caller passes an array that specifies a series of ranges. The intrinsic will return the number of free areas whose size is within each of the ranges. The caller must pass an array of 64-bit values. The values may be in integer format (Item#36) or real format (Item# 37). On MPE V, the largest value that may be specified in either format is 2,147,483,646. Real values will be rounded off by the intrinsic. The first value is the number of ranges (minimum number of ranges is 2 and the maximum is 16). The remaining values are the lower bounds for the ranges in ascending order. Upon return, the first element will be the number of free areas whose size is smaller than the smallest bound specified. Each remaining element will be the number of free space areas whose size is greater than or equal to the bound and less than the next larger bound. The following shows an example which returns values in 6 ranges.

Array Index	Values Passed In	Free Area Size Ranges
1	6	1 - 9 contiguous sectors
2	10	10 - 99 contiguous sectors
3	100	100 - 999 contiguous sectors
4	1000	1000 - 9999 contiguous sectors
5	10000	10000 - 99999 contiguous sectors
6	100000	100000 - and up contiguous sectors

For example, if there are 4 areas of free space that are between the sizes of 100 and 999, the third value of the free space distribution array would contain a 4 upon return. NOTE: the number of ranges specified in the example (in the first element of the array) is 6, but only 5 lower bounds are specified because the smallest lower bound is assumed to be 1. When a 1 or 4 is used as the specifier, the free space distribution array consists of the contiguous free space areas on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the free space distribution array returns the total values from the volumes that make up the volume set or class. The item passed must be a variable length array of 64-bit numbers (maximum array length of 16 elements). Item# 36 returns an array of 64-bit integers containing the free space distribution and item# 37 returns it as an array of 64-bit reals.

Item# = 38 & 39

Free Space Distribution Sectors Per Range
Returns the free space distribution sectors per range. The caller passes an array that specifies a series of ranges. The intrinsic will return, for each range specified in the array, the total free space for free areas found in that range. See Item# 36 & 37 for the format of the free space distribution array passed to the intrinsic and for the format of the returned array.

For example, using the input array from the example in Item# 36 & 37, if there are 4 areas of free space that are between the sizes of 100 and 999, and the sizes of these areas are 101, 850, 519, and 432 sectors, the third value of the return array would contain a 1902 (101+850+519+432 = 1902). When a 1 or 4 is used as the specifier, the free space distribution sectors per range consists of the contiguous free space areas on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the free space distribution sectors per range returns the total values from the volumes that make up the volume set or class. The item passed must be a variable length array of 64-bit numbers (maximum array length of 16 elements). Item# 38 returns an array of 64-bit integers containing the free space distribution sectors per range and item# 39 returns it as an array of 64-bit reals.

Item# = 40 & 41

Total Free Space
Returns the total free space on a volume or a group of volumes. When a 1 or 4 is used as the specifier, the total free space consists of the total free space on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the total free space on the volumes that make up the volume set or class is returned. Item# 40 returns a 64-bit signed integer containing the total free space in sectors and item# 41 returns it as a 64-bit real.

Item# = 42 & 43

Largest Contiguous Free Space Area
Returns the largest contiguous free space area on a volume or a group of volumes. When a 1 or 4 is used as the specifier, the largest contiguous free space consists of the largest contiguous free space on the volume whose ldev or volume name was specified. When a 2 or 3 is passed, the largest contiguous free space on the volumes that make up the volume set or class is returned. For example, for specifiers 2 or 3, if a volume set is composed of the ldevs 2, 3 and 4, and the largest contiguous free space on these volumes

are 37785, 56528, and 56171, respectively, the value that is returned is 56528. Item# 42 returns a 64-bit signed integer containing the largest contiguous free space area in sectors and item# 43 returns it as a 64-bit real.

ITEM#	ITEM	TYPE	APPLICABLE VOLUME SPECIFIERS
2	Number of volume sets	I32	0
3	List of volume set names	CA	0
4	Number of volume class names	I32	1,2,4
5	List of volume class names	CA	1,2,4
6	Number of member volumes	I32	2,3,5
7	List of member volume names	CA	2,3,5
8	Drive type	CA	1,4
9	Sector size (bytes)	I32	1,4
10	Volume type	I32	1,4
11	Volume name	CA	1
12	Volume set name	CA	1
13	Logical device number	I16	4
14	Volume Capacity (sectors)	I64	1,2,3,4
15	Volume Capacity (sectors)	R64	1,2,3,4
16	Total MPE overhead (sectors)	I64	1,2,3,4
17	Total MPE overhead (sectors)	R64	1,2,3,4
18	MPE XL transient space overhead (sectors)	I64	1,2,3,4
19	MPE XL transient space overhead (sectors)	R64	1,2,3,4
20	Configured maximum MPE XL transient space (sectors)	I64	1,2,3,4
21	Configured maximum MPE XL transient space (sectors)	R64	1,2,3,4
22	MPE V virtual memory overhead (sectors)	I64	1,2,4
23	MPE V virtual memory overhead (sectors)	R64	1,2,4
24	Directory space overhead (sectors)	I64	1,2,3,4
25	Directory space overhead (sectors)	R64	1,2,3,4

26	MPE XL file label overhead (sectors)	I64	1,2,3,4
27	MPE XL file label overhead (sectors)	R64	1,2,3,4
28	MPE XL transaction management overhead (sectors)	I64	1,2,3,4
29	MPE XL transaction management overhead (sectors)	R64	1,2,3,4
30	Spool file disc space usage (sectors)	I64	1,2,3,4
31	Spool file disc space usage (sectors)	R64	1,2,3,4
32	Disc space used by perm files (sectors)	I64	1,2,3,4
33	Disc space used by perm files (sectors)	R64	1,2,3,4
34	(Reserved for) Disc space used by temp files (sectors)	I64	1,2,3,4
35	(Reserved for) Disc space used by temp files (sectors)	R64	1,2,3,4
36	Free space distribution array	I64A	1,2,3,4
37	Free space distribution array	R64A	1,2,3,4
38	Free space distribution sectors per range	I64A	1,2,3,4
39	Free space distribution sectors per range	R64A	1,2,3,4
40	Total free space (sectors)	I64	1,2,3,4
41	Total free space (sectors)	R64	1,2,3,4
42	Largest contiguous free space area (sectors)	I64	1,2,3,4
43	Largest contiguous free space area (sectors)	R64	1,2,3,4

**** I16 = 16-bit signed integer
I32 = 32-bit signed integer
I64 = 64-bit signed integer
R64 = 64-bit real
CA = character array
I64A = 64-bit signed integer array
R64A = 64-bit real array

Table 2-2

NOTE: MPE/iX replaces all references to MPE XL in Table 2-2.

HARDWARE SUPPORT

SECTION 7

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.

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

Guaranteed Minimum Support Dates, (continued)

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

MPE V 1P Through Platform Release 2P Cumulative Fix Table

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INTRODUCTION

This article contains a cumulative listing of all the fixes for MPE V that have been included in the releases from Platform 1P to the present Release 23. This table of fixes offers the 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.

Platform 1P (G.1P.00)

Product	SR Number	Brief Description
HP30167	4700-841593	TURBOSTORE loops creating list file with parallel option, msg S/R 1168
HP30167	4700-414557	TURBOSTORE: process tremendously slowed with a large number of files
HP30167	5000-416255	TURBOSTORE is failing with "FILE # COULD NOT BE FOUND".
HP32002	1650-076513	RELOAD/SPREAD skips the USER FILE section, then hits SF722
HP32002	5000-488692	DISKED5 fails when extent size > 32767
HP32002	5000-444703	SIR deadlock between FI and FMAVT
HP32002	4700-863779	SF16 while executing :SHOWALLOW command. Problem introduced in VD2.
HP32002	5000-090373	Deferred scheduling of STREAM jobs not workng according to documentation
HP32002	4700-851196	Various SFs due to JOBINFO overwriting one memory location with ERROR
HP32002	4700-909358	New DS error messages in Catalog

HP32033	4700-745364	DISABLE-UNDO problem - Intermitent I/O failures / Potential data loss.
HP32231	5000-480947	SDF hangs - cannot dump to a 9140 on V-Delta-3 and later mits

Release 20 (G.20.00)

Product	SR Number	Brief Description
HP30167	4700-918300	TurboStore VUF for Release 20 should be A.00.09
HP32002	4700-812909	Incorrect timestamp (DATE) in user logging log file
HP32002	5000-446922	SPOOK5 Causes SF614 when a corrupt Spool file is read.
HP32002	4700-849679	RECOVER5 SF if file has 1 extent and last extentsize <> extent size
HP32002	4700-886978	ER:PWD is requesting the reservation of a block of 100 file codes.
HP32002	4700-886960	Enhancement to add new file codes for OSI/XL FTAM
HP32002	4700-863258	Enhancement to add new file codes for OSI/XL FTAM
HP32002	1650-101436	IPC timed reads are hanging because first entry of TRL is corrupted
HP32002	4700-820928	sf614 caused by FMAVT overflow into memory region header.
HP32002	5000-467258	Trying to APPEND in SPOOK; SF59 because FCB is no longer present
HP32002	5000-521070	FSERR 118 when reading ANSI labelled tape with variable length records
HP32202	5000-537993	FREADC returns len. of rec. instead of TCOUNT when deleted rec. skipped.
HP32002	5000-461962	PROGRAMMATIC LOGON FROM DSCOPY STOPS LISTF ON CONSOLE AT LOGOFF
HP32002	5000-510388	Purgeuser across accounts does not work correctly with Command.pub.sys
HP32002	4700-856450	System hang after installation of BV92 fix
HP32002	5000-504977	SF311 BECAUSE A SUBS %272 IS DONE IN LISTACD WITH NO ADDS %272

HP32002 5000-443796 SF16 while executing :SHOWALLOW command. Problem introduced in VD2.

HP32002 1650-054528 Fix status about loader error #40 and multiple error #41's

HP32002 4700-767319 Max stack size, STACK'LIMIT, is defined as #31223 not #31232 in KERNELD

HP32202 4700-659771 SF 10 caused by KSAM aborting during the open of a KSAM file.

HP32002 5000-487637 VOLUME TABLE DESTROYED DUE TO SECTORS MARKED FREE IN INITIAL/COLDSTART.

HP32002 4700-807107 SF10 can result if unterminated (no CR) byte array is passed to LOADPROC

HP32002 5000-449298 SF618 in RecoverOC: trying to delete a DRQ that has already complete

HP32002 5000-543025 Two processes using $SCR keyword, 2nd FOPEN will fail (FSERR90)

HP32002 4700-852111 Error 3 - CHANNEL PROGRAM ABORT CPVA %160004 or %100000 on V-Delta-5

HP32002 4700-868752 "ENV=" without an envfile returns an error

HP32002 5000-404921 "FSERR 177 TOO MANY EXTRA DATA SEGMENTS FOR THIS PROCESS" is wrong

HP32002 4701-053561 KSAM does not return FSERR177 when the stack cannot be expanded.

HP32002 4700-898684 Opened wrong labeled tape file using sequence # over multi volume set.

HP32002 4700-901900 SF 311 caused by ADDS instruction done before buffer allocation

HP32002 5000-540963 FSERR 118 and possibility of missing records with labelled tape on VD5

HP32002 5000-547349 Use of 0 or #o0 as a DFID with a SPOOK command will cause problems

HP32033 4700-805754 Vd4 changes to CS80 status logging causing problems for HP Predictive.

HP32033 4700-921320 Sessions or Jobs using Tape Drives will hang after System Powerfail.

HP32033 4700-805515 Data lose during DBLOGGING

HP32033 1650-090191 POWERFAIL: ININ is looping if 2 INP's configured in sys with VTERM

HP32050 4700-916874 SYSDUMP saves TEMPSL as permanent disc file

HP32050 4700-849638 Change the SEGMENTER version number for VD10.

HP32050 1650-086439 SL disappears when using CLEANSL command.

HP32050 5000-488239 Segmenter gives error when working with USL files and preparing them

HP32212 4700-773978 FCOPY to temp file w/ same name as perm file fails with FILE EXISTS

HP32214 5000-463893 MERGE gives an Integer Overflow, then aborts on VD5.

Release 21 (G.21.00)

Product	SR Number	Brief Description
HP30167	5000-543850	RESTORE does not update Group/Acct sectors when using COPYACD.
HP32002	5000-526111	SPOOK deletes wrong file if "ALREADY EXISTS" is asked twice.
HP32002	4700-929901	Initial aborts after IOMAP during LOADs from ctape drives
HP32002	1650-110551	Difference between %320 and CCTL to a laser jet printer
HP32002	5000-471029	Enh. req. to increase the # of users/logging process beyond 256.
HP32002	4700-877464	Enhance Store/Restore to perform faster for labeled tapes.
HP32002	5000-478552	INITIAL PUTS TOO MANY TABLES IN BANK,OUT OF PCB,SWAPTABLE ENTRIES ETC.
HP32002	5000-601773	SPECIAL'SPOOL'CLOSE does not relink or lock around altered ODD entry.
HP32002	5000-591842	Labeled tape code generating erroneous error msg.
HP32002	4700-915561	Sysdump prints garbage characters.
HP32002	5000-523225	LISTLOG truncates last char. if file,group,& acct are each 8 characters

HP32002 5000-504522 Reading an 19B record from 20B msg file overwrites 21st byte of buffer

HP32002 9999-203480 Merging of file lockwords

HP32002 1650-082982 FFILEINFO # 49 RETURNS 0

HP32002 4700-699819 sf 617: User logging process terminated without waiting for processes.

HP32002 4700-944793 misleading error message "misssing dadconf"

HP32002 5000-518589 SF311. Internal interrupt while LISTDIR5 reads PV directory entry.

HP32002 5000-534255 SF679 after attempted release of allocated program.

HP32002 5000-145326 FSERR54 when using fully qualified formal file designator.

HP32002 5000-476507 Able to write different densities to the same volume set with ADDF.

HP32002 4700-674093 SD 16 in IOMOVE called by FREAD.

HP32002 4700-650085 DFS Map left inconsistent after SF during device ACD creation

HP32002 5000-183897 Security enhancement suggestions for KSAM files

HP32002 5000-488163 FLABELINFO gives FSERR 73, bounds violation, if itemnums are all zeros

HP32002 5000-551788 Tape label can be corrupted if tape mounted when not expected.

HP32002 4700-917906 Tape label can be corrupted if tape mounted when not expected.

HP32002 5000-555235 SUSPENDSPOOL;FINISH during 2680 warmup deletes file & no data prints.

HP32002 5000-479709 System hang - appears that spooler process is looping and hogging CPU

HP32002 5000-285825 Altspoolfile can cause 2 files to be "active" at same time on same ldev

HP32002 4700-884056 Request for easy way to determine FILE disposition.

HP32002 4700-903815 Enhancement to force FCLOSE to purge a file regardless of any File Eqn.

HP32002 5000-275214 Enhancement to add duplex mode printing

HP32002	1650-113308	LMAP gives wrong logical segment number (if > %377)
HP32002	4700-935981	Improve the Loader area to provide OPT and GLANCE with needed data.
HP32002	5000-583351	Store handles Bad Tapes differently (label vs unlabel)
HP32002	4700-942227	Recoverable tape errors at EOT forcing rejection of entire reel of tape.
HP32002	4700-906925	TTPCL18 and TTPCL18P has status checking because of wrong VFC
HP32002	5000-554535	DISC RPS CAN'T BE ENABLED ON BLITZ(C220X) DISCS ON VD8,VD9
HP32002	5000-539908	SF59 when FCLOSE encounters a KSAM AFT with a -1 in the IOQX word.
HP32002	4700-945550	INITIAL aborts during load from V-Delta-5 + with a 7911 system disc.
HP32002	1650-015073	Copy command in SPOOK5 caused SF16 (DST violation)
HP32002	1650-042218	I/O STAT 53, SP ERR 361, serial prntr w/ HEADOFF, special forms, REPLY N
HP32002	4700-933648	HPVOLINFO calculation of overhead is negative for system volume
HP32033	4700-870865	Micro 3000s hang after a dump/warmstart is done

Release 22 (G.22.00)

Product	SR Number	Brief Description
HP30167	4701-010439	Enhance TURBO Store/Restore to perform faster for labeled tapes.
HP32002	4700-829945	The MI needs to capture a subset of terminal activity
HP32002	4701-010538	STORE displays wrong ldev number in (S/R 9018).
HP32002	5000-615435	FOPEN Bug: Not reinitializing FCOMTRIED - SIR hangs similar to CV23.
HP32002	5000-606111	SF10: SCAN statement in JOBINFO for JOBSTEP does not terminate correctly
HP32002	4701-011429	New NS Error Message

HP32002	5000-460584	SIR deadlock caused by trying to log event #41: LST locked out of order
HP32002	5000-597088	Hang from DOLOG41 calling PROCFILE when caller holds lower ranked SIRs.
HP32002	5000-612663	CST VIOLATIONS OR SL STAYS LOADED; UNINITIALIZED VAR IN LOAD PROCESS
HP32002	5000-613828	SF617 caused by LSTT expansion,but LST is full. LOAD PROCESS REL'RESOURC
HP32002	5000-568055	SF16 - IOSTATS disabled while another process is in STORE'IOQ.

Release 23 (G.23.00)

Product	SR Number	Brief Description
HP30167	5000-605964	TURBOStore progress msgs --> SYSLIST instead of $STDLIST of session.
HP30167	4701-031971	RESTORE should show date tape was created.
HP30167	4701-049684	Enhance TurboStore to use fast search capability of DAT tape drive
HP30167	4701-063867	Enhance TurboStore to use fast search for UNAPCKED LABELED tapes
HP30167	4701-064667	STORE error S/R 6217 during RESTORE.
HP30392	5000-538207	SF206 running SECCONF from a job and changing device passwords.
HP32002	5000-404921	"FSERR 177 TOO MANY EXTRA DATA SEGMENTS FOR THIS PROCESS" is wrong
HP32002	5000-612663	CST VIOLATIONS OR SL STAYS LOADED; UNINITIALIZED VAR IN LOAD PROCESS
HP32002	5000-613828	SF617 caused by LSTT expansion,but LST is full. LOAD PROCESS REL'RESOURC
HP32002	5000-568055	SF16 - IOSTATS disabled while another process is in STORE'IOQ.
HP32002	5000-478586	ER: have logical console switch back to physical console LDEV on logoff

HP32002 5000-615468 STARTDEVICE & PUTJMAT need to prevent duplicate J/S numbers.

HP32002 1650-124933 Enhance mpe security monitor command password to be exec. by a program

HP32002 1653-000414 STORE looping on I/O error writing to DAT.

HP32002 4701-007278 SF206 due to an invalid data declaration in FORMSG.

HP32202 4701-039545 FOPEN on KSAM key file now works if no lockwork required but specified.

HP32002 5000-614339 SF640 due to NLIOUTIL disabling interrupts and getting stack overflows.

HP32002 1650-049544 After 16383 Session numbers the counter starts with 1 again

HP32002 4700-923748 FOPEN should set unused FOPTION bits to 0.

HP32002 4700-880112 RESTORE should show date tape was created.

HP32002 1650-052936 Since V-MIT with RTM "ABORT" calls "LOADER1", perf degradation for COBOL

HP32002 5000-605642 SF6603 from DELETEBLOCK for corrupt message file, request 2.0 fix on V/E

HP32002 1650-048686 PRINTFILEINFO with negative filenumber in user mode can cause SF59

HP32002 4701-014167 PRINTFILEINFO with negative filenumber in PRIV mode can cause SF59

HP32002 5000-615203 LOADER1/LOAD window updating SLL w/ LSTT seg causes DSP/SWAPIN inf loops

HP32002 5000-274175 MOUNT of PV code calls REQSTATUS with devlist(2).(0:8) should use (8:8)

HP32002 5000-539270 With patch BV50, user associated to a device can reply 0 or Y/N

HP32002 5000-594531 I/O Aborted Externally when shared SDISC file is closed.

HP32002 4700-979088 FAMILY does not traverse the process tree correctly.

HP32002 1650-137448 Session hang - CI and son deadlock.

HP32002 5000-237057 Enhancement Reequest to allow purges of spoolfiles by date

HP32002 9999-203264 Enhance SHOWOUT to show proportion of active spoolfile remaining.

HP32002 4700-785774 Streaming jobs on V-Delta 4 as AM,SM or Creator will change Mod date.

HP32002 1650-110536 SF10 PERFORMING A SHOWCATALOG AND ENTRY IN COMMAND.PUB.SYS IS CORRUPTED

HP32002 5000-447417 Dispatcher doesn't seem to properly decrement process priorities.

HP32002 4701-028928 After install of MPECV33, Fortran programs fail w/FSERR 42 writing tape

HP32002 4701-010629 SF50,59 from calling FFINDBYKEY with file number of an RFA file

HP32002 5000-577247 DPAN5 does not work with C2203A disc drives (type 4 drives).

HP32002 5000-589614 Enhancement request for STORE to have >1 fileset exclusion

HP32002 4701-052977 RESTORE is slow with patterns for candidates

HP32002 4701-054791 SR to track oscillating dispatch queue enhancement on MPE V.

HP32002 4701-009308 IOQ's not returned to free list if $STDLIST can't be allocated at logon.

HP32002 5000-569186 Jobs hang in INTRO: GETDATASEGCHANGESTATE does not thread MPQ correctly.

HP32002 5000-581868 SF10 occurs with PMBC if ITEMS,ITEMNUMS parms not passed to CREATPROCESS

HP32002 4701-051052 Add "EXPLAIN" command to run EXPLAIN.PUB.SYS utility

HP32002 4701-049676 Enhance Store/Restore to use fast search capability of DAT tape drive

HP32002 5000-525295 Request for a 1024 pcb limit for Measurement Interface.

HP32002 5000-171512 Enhance JOBINFO intrinsic to give id of user who streamed the job.

HP32002 5000-201673 Enhance the JOBINFO intrinsic to indicate whether a process is quiet.

HP32002 4701-063859 Enhance Store/Restore to use fast search on unpacked labeled tapes

HP32002 5000-586081 STORE error S/R 6217 during RESTORE.

HP32002 4701-063537 When the Loader Segment Table (LST) is full, can't do LOADPROCs.

HP32002	4701-072918	Add System Failure messages to catalog.pub.sys
HP32033	4701-055145	7980A hangs when using spanning reels with TurboStore
HP32033	4701-067264	Correct procedure comments for NEWPORTSTATUS of 89 (PORTS)
HP32033	4701-055228	Turbostore can corrupt files during restore when encountering EOFs
HP32050	1650-164863	Adding patches to make sl>32k can cause SF10 and others failures.
HP32050	5000-612309	USL command in Segmenter leaves non USL files open after error.
HP32214	4700-047340	Stream files with record length > 133 bytes will abort against LIST file
HP32231	4700-833756	SADUTIL (rev 3.13 and 3.14) do not work correctly with 7962B or 7963B.

Platform Release 2P (G.2P.00)

Product	SR Number	Brief Description
HP32002	4701-052811	Prevent "INTER" option and disallow interleave new message 6310.
HP32002	5000-668202	Change intrinsic to ignore IDD entries
HP32002	5003-029769	Initialize variable in procedure SETSTDLIST
HP32002	5003-057448	Make procedure NLIOSTARTIM uncallable
HP32002	1650-130351	Correct logic bug - CV74 patch
HP32002	4701-085639	Fix ABORTJOB
HP32002	5003-021360	Change ALTSPOOLFILE executor
HP32002	5003-048173	Fix DEFERFILE logic in SPOOLSTUFFOUT
HP32002	4701-091355	HPVOLINFO intrinsic does not dismount
HP32002	4701-103820	Add CREATOR to list of requirements
HP32002	4701-077289	Leap Year fix
HP32002	1653-003129	Change CIWARN 3750 message

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HP32002  4701-085720 HELP text changes

HP32002  4701-090159 HELP text changes

HP32002  4701-069260 HELP text changes

HP32002  4701-069385 Removal of 2 compile errors in code

HP32002  1653-006023 Modify INITIAL so file DACDDST is protected after system
                     update.

HP32002  5000-546747 Fix numerous RECOVER5 bugs introducted in VD4 submittal.
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Please refer to the SRB for more detail on any of these fixes.

PRODUCT RELEASE INFORMATION

SECTION 9

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. It also includes products added after various releases of the Master Documentation Tape (MDT).

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.A3.07	V-Delta-7	R2927	Roll-in of V-Delta-5 and V-Delta-6 HPWORDTEXT/PC (HP27566) HP GLANCE/V (HP50733) HP BRW-Desk/V (HP35365) HP Predictive (HP51467) HP Network Predictive (HP51468) HP Desk NewWave Browsers (HP47950)* AdvanceMail Host (HP27504)*
G.03.08	V-DELTA-8	R2944	Roll-in of V-Delta-7 HP CDINSTAL (HP32437) HP-IB CD-ROM (HPC1707) HP LaserRelease MICRO 3000RX
G.A3.09	V-DELTA-9	R3010	Roll-in of V-Delta-8 HP X.400/3000 Products (HP32056A) NewWave Office (B1720A) (Incorporation of General Release Patches)
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)*

MPE V Product Releases (continued)

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
G.2P.00	Platform Release 2P	R3237	Roll-in of Release 23 21 Customer Requested Fixes No new products

*Product has been retrofitted on this version.

HP POWERPATCH MIT RELEASES

Hewlett-Packard now has a software support service, HP PowerPatch. This service provides you with the ability to order current general-release FOS and workstation patches specifically designed for your system.

HP PowerPatch is provided to those of you who have AMS or RCS software support service agreement. With HP PowerPatch you will receive the most current set of patches available for your system.

If there is an HP PowerPatch tape available for your release, it should be ordered prior to performing the installation or update. Contact your Response Center. They will inform you if there is a current patch tape for the installation/update you are planning to perform. If there is an appropriate HP PowerPatch tape, you can install it at the same time as the installation/update. A PowerPatch is available on **Release 1P**.

These patch sets will be revised periodically and are cumulative.

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.FFs	Supported Systems	Support Termination Date
V-Delta-4	G.03.04	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX	*
V-Delta-7	G.A3.07, G.B3.07	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX	***DEC 1, 1992
V-Delta-8	G.A3.08	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***DEC 1, 1992
V-Delta-9	G.A3.09	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***DEC 1, 1992
Platform Release 1P	G.1P.00, G.1P.10 G.1P.20	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	** SEP 1, 1993
Release 20	G.20.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***DEC 1, 1992
Release 21	G.21.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***DEC 1, 1992
Release 22	G.22.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***DEC 1, 1992
Release 23	G.23.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	***JUN 1, 1993
Platform Release 2P	G.2P.00	37, 39, 4X, 5X, 6X, 70, Micro3000 & 3000XE,LX,GX,RX	****NOV 1, 1996

* 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.

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

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

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

CATALOG OF USER DOCUMENTATION

SECTION 10

INTRODUCTION

This section 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. Contact your HP Representative for specific information about subscription services.

If you would like to order additional copies of individual manuals please call 1-800-227-8164. Use the following table for ordering.

Manual Title	Customer Order No.	Latest Edition	Current Update
Communicator 3000	32033-90270	9/92	

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		

Manual Title	Customer Order No.	Latest Edition	Current Update
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	

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	

Manual Title	Customer Order No.	Latest Edition	Current Update
Making the LAN Connection: A Local Area Network Primer	5957-4624	9/84	
NS3000/V Network Manager Reference Manual Volume 1	32344-90002	7/90	
NS3000/V Network Manager Reference Manual Volume 2	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	
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	

Manual Title	Customer Order No.	Latest Edition	Current Update
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 1	32344-90002	7/90	
NS3000/V Error Message and Recovery Manual	32344-90005	7/90	
NS3000/V Network Manager Reference Manual Volume II	32344-90012	7/90	
Repeater Installation Manual	92223-90002	11/85	12/88

PROGRAMMER PRODUCTIVITY TOOLS MANUALS

Manual Title	Customer Order No.	Latest Edition	Current Update
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 Reference Manual	32570-90034	1/89	

Manual Title	Customer Order No.	Latest Edition	Current Update
Cooperative Services: COBOL Reference Manual	32570-90035	1/89	
Using Information Access PC	B1716-90014	5/90	
Information Access PC Connections and Batch Files	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 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	

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

Manual Title	Customer Order No.	Latest Edition	Current Update
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	
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	

Manual Title	Customer Order No.	Latest Edition	Current Update
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	
COBOL II/V Reference Manual	32223-90001	5/89	
COBOL/3000 to COBOLII/3000 Conversion Guide	32233-90005	12/79	

Manual Title	Customer Order No.	Latest Edition	Current Update

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	
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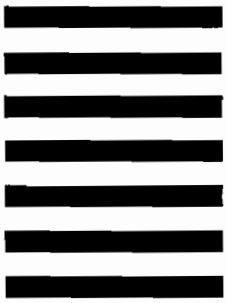

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