

**Read Before Installing  
MPE/iX PowerPatch 1  
Based on Release 6.5**

**HP 3000 MPE/iX Computer Systems**



**Manufacturing Part Number: 30216-90319  
E0900**

**U.S.A. September 2000**

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# Contents

## 1. Information You Need Before Installing MPE/iX 6.5 PowerPatch 1

Release Notes .....	5
STM Releases and Patches (MPE/iX) .....	6
Patch Bundle for MPE/iX 6.5 (ODILX77) .....	7
Process for Installing the ODILX77 Patch Bundle for MPE/iX 6.5 .....	8
Patch MPELX33C .....	10
UPSCNFIG.PUB.SYS : THE DEFAULT UPS MONITOR CONFIGURATION FILE .....	12
IF NO UPSCNFIG.PUB.SYS FILE EXISTS .....	13
OBSERVING RESULTS OF NEWCONFIG COMMAND .....	13
Patch ARMLX35 .....	17
MPE/iX Release 6.5 Supports >3.75 GBs of Memory .....	17
Support for Releases 5.5 and 6.0 .....	18
Patch Matrix Table .....	19

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## **Contents**

# **1 Information You Need Before Installing MPE/iX 6.5 PowerPatch 1**

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## **Release Notes**

Before starting an installation or an update, please review this section which includes information about the following CR topics.

- STM Releases and Patches
- Patch MPELX33C - New UPS MONITOR (Version 8) and UPSUTIL Utility (Ver. A.01.03)
- Patch ARMLX35 - AutoRAID Manager
- MPE/iX Release 6.5 Supports >3.75 GBs of Memory

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## STM Releases and Patches (MPE/iX)

This page covers the different releases (versions) of the Support Tools for MPE/iX. Patches are also covered.

STM Version	MPE/iX Version	Release Date	HP-UX Version	Description
A.11.00	MPE/iX 6.5, Patch bundle ODILX77	July 00	IPR 9806 HP-UX 11.00	<p>The ODILX77 patch bundle fixes several intermittent problems. HP recommends that this patch be loaded. on page 1, see Detailed information</p> <p>A on page 2, see special process is required to install this patch.</p>
A.11.00	MPE/iX 6.5	Mar 00	IPR 9806 HP-UX 11.00	<p>This first release of STM for MPE/iX includes:</p> <ul style="list-style-type: none"> <li>• The diagnostic platform.</li> <li>• Information tools, expert tools, and firmware download tools for SCSI peripherals.</li> <li>• Information tools for CPUs and memory.</li> <li>• Expert tool for memory.</li> <li>• Some SYSDIAG diagnostics will be "wrapped" for STM.</li> <li>• Logtool for I/O and hardware-related logs (based on the HP-UX version of logtool). Used for I/O events, LPMCs, memory, etc.</li> <li>• A second, standalone version of logtool similar to the existing SYSDIAG logtool. This version will handle system logs (e.g. auditing, security, etc.) not covered by the STM version of logtool. To start this version of logtool, simply enter logtool at the OS prompt.</li> </ul> <p>Information tools, expert tools, and firmware download tools for SCSI peripherals.</p>

## Patch Bundle for MPE/iX 6.5 (ODILX77)

The ODILX77 patch bundle for MPE/iX 6.5 fixes several intermittent problems. A special process is required to install this patch. (See following Process for Installing the ODILX77 Patch Bundle for MPE/iX 6.5)

**Problem 1** (CHART JAGad09956). On some systems, issuing the SSD command (system shutdown) via cstm will hang the system.

**Problem 2** (CHART JAGad09957). On heavily loaded systems, none of the STM tools will run. The more heavily loaded the system, the greater the chance of this problem occurring. Symptoms: tools abort from cstm with a message similar to the following.

-- Error --

Failed to start running a utility.

An unexpected failure occurred

in the Support Tool system.

The User Interface is

disconnecting from the Unit

Under Test. Please Refer to the

UI Activity Log for more details.

**Problem 3** (no CHART #). At bootup, about 25 identical copies of the following entry are logged into the test activity log. The error information in this entry is obsolete and can be ignored.

After the patch is installed, these entries are no longer logged to the test activity log at bootup.

Access system call failed with errno (2), when

diaglogd daemon attempted to determine if program file

(/usr/sbin/stm/uut/bin/diaglogd\_progs/pharaymon\_exec)

exists and is executable.

ENOENT(2) errno returned from an access system call

indicates that the file does not exist.

**Possible Causes/Recommended Action:**

Create the program file. Problem 4 (CHART JAGac95177). When the DUMP option is used in the tool TERMDSM, the tool may fail to take the dump of the requested port.

## **Process for Installing the ODILX77 Patch Bundle for MPE/iX 6.5**

Because of the nature of the patch bundle (the fix for Problem #3), you have to manually shut down the diaglogd daemon before loading the patches, and manually start the daemon afterwards. If you don't do this, the system may hang.

Before installing the patch, execute the "dsd diaglogd" command at the cstm prompt. (dsd = daemonshutdown). After the deamon is shut down, execute the "exit" command at the cstm prompt. Sample dialog:

:cstm

.

cstm> dsd diaglogd

-- Daemon Shutdown --

The daemon diaglogd will be aborted on the host

hpdst185.cup.hp.com.

Diaglogd Description:

OS Error Logging Daemon, logs information from the OS into log files.

Are you sure you want to shutdown diaglogd?

Enter Cancel, Help, or OK: [Cancel]ok

cstm>exit

-- Exit the Support Tool Manager --

Are you sure you want to exit the Support Tool Manager?

Enter Cancel, Help, or OK: [OK] ok

:

After the patch has completed installation, restart the Support Tools Manager by entering "cstm" at the MPE/iX system prompt. Because the diaglogd daemon has been shut down, you will see some warning-type messages. Type CONTROL-Y to exit from the messages. At the cstm prompt, type "ssu" (stmstartup) to start the diaglogd daemon. You can now use cstm as you normally would. Sample dialog:

:cstm

.

If you cancel this message, the User Interface (UI) will not automatically connect to a Unit Under Test (UUT). It will be necessary to use the Select Current System command in the System menu to attach the UI to a UUT.

<control y>

.

.

cstm> ssu

cstm>exit

-- Exit the Support Tool Manager --

Are you sure you want to exit the Support Tool Manager?

Enter Cancel, Help, or OK: [OK] ok

## Patch MPELX33C

### New UPS MONITOR (Version 8) and UPSUTIL Utility (Ver. A.01.03)

This patch enhances the UPS MONITOR subsystem to work with the new versions of HP PowerTrust UPS hardware devices, called PowerTrust-II UPSs. The UPS MONITOR remains backwards compatible with the older PowerTrust UPSs as well.

In addition, this patch enhances UPS MONITOR and its companion UPSUTIL utility program to permit the system manager to configure UPS MONITOR's handling of \*\* RECOVERY FROM POWERFAIL \*\* messages that occur as a result of an AC power failure and power restoration cycle.

The \*\* RECOVERY FROM POWERFAIL \*\* messages may be configured to be sent to the system console and to all logged-on user terminals, as has been done traditionally on MPE systems, or may be configured to be sent ONLY to the system console.

This configuration is accomplished by providing a UPS Monitor Configuration File that will be read and processed by UPS MONITOR each time the system is started (booted).

By default, UPS MONITOR Version 8 will look for file UPSCNFIG.PUB.SYS at system startup time, and, if that file exists, will process that file as the UPS Monitor Configuration File. If that file does not exist, then UPS Monitor will self-configure using a default internal configuration. In this case, the system operator will be notified by a system console message during system startup that the file UPSCNFIG.PUB.SYS does not exist. The operator can then create the UPSCNFIG.PUB.SYS file and either re-boot the system to activate it, or use UPSUTIL's interactive commands to activate the configuration file.

The UPSUTIL utility program for UPS Monitor management has been enhanced with a new command, called "newconfig", which will allow the system manager to select and activate any particular UPS Monitor configuration file he wishes, online -- while the system is running.

The details of the UPSUTIL "newconfig" command, and the details of UPS Monitor Configuration Files are presented in the rest of this article.

### UPSUTIL's NEWCONFIG COMMAND

The NEWCONFIG command causes UPSUTIL to instruct the UPS Monitor subsystem to begin using a new UPS Monitor configuration file, specified by the user in the NEWCONFIG command. (The NEWCONFIG command executor prompts the user to enter the file name of the desired new UPS Monitor configuration file.)

A UPS Monitor configuration file is a simple ASCII line-oriented text file that the user can create with a text editor. Conceptually, the file contains a set of UPS Monitor configuration commands which establish various operating characteristics or options in the UPS Monitor. In its first implementation (March 2000) the NEWCONFIG configuration file permits only one kind of UPS Monitor configuration option to be set: namely, the option to have the UPS Monitor's \*\*\* RECOVERY FROM POWERFAIL \*\*\* messages either routed to the system console and to all logged-on user terminals, or to have those messages sent only to the system console, and not to any user terminals. This configuration option is

called the "powerfail message routing" option. In the future, more configuration options may be added to the UPS Monitor configuration file facility, as the need arises.

When you type-in the newconfig command in response to the UPSUTIL > command prompt, UPSUTIL will then prompt you to enter the name of your UPS Monitor configuration file that you want to activate.

## REQUIREMENTS FOR UPS MONITOR CONFIGURATION FILES

UPS Monitor configuration files handled by the NEWCONFIG command must adhere to the following requirements of structure and placement:

1. ASCII text files of standard file structure (MPE file type STD).  
These are simple, line-by-line, flat ASCII text files, of the most basic kind, as created by any of the HP3000 text editors.
2. The file resides in the standard MPE/iX file system, and hence the file's name is of the form "file.group.account", according to standard file system naming rules.  
POSIX-style HFS (hierarchical file system) files are NOT allowed.
3. Record size (line length) from 32 bytes to 128 bytes long.  
Any record size within these limits is acceptable. EDITOR-style line numbered files are acceptable.
4. The first line (record) of the file must consist solely of the file's file name.  
This is a simple means of verifying that a file specified in a NEWCONFIG command is, in fact, a UPS Monitor configuration file. It protects against accidentally using an incorrect file.
5. Subsequent lines (records) in the file contain UPS Monitor configuration information settings, and are of the general form:

<configuration parameter name> = <configuration parameter value>

For example, the first (and at present, the only) implemented UPS Monitor configuration command establishes the setting of how to route \*\* RECOVERY FROM POWERFAIL \*\* messages, and it appears as follows in a UPS Monitor configuration file:

powerfail\_message\_routing = all\_terminals

-or-

powerfail\_message\_routing = console\_only

6. Configuration parameter names and non-numeric configuration parameter values are alpha-numeric symbols, using the underscore character (\_) to connect the parts of a multi-part name or value.
7. Configuration file contents are NOT case sensitive. Use upper and/or lower case text as you wish.

## UPS MONITOR CONFIGURATION OPTIONS

Here are the available configuration options (configuration "commands") for UPS Monitor configuration files. At present, there is only one configuration command defined. More may be added in the future if/as needed.

### POWERFAIL MESSAGE ROUTING

The powerfail message routing configuration option allows you to choose how the UPS Monitor will handle its issuance of the HP3000 system's \*\* RECOVERY FROM POWERFAIL \*\* message, which is issued at the end of every power failure event -- when AC power has returned to all UPSs -- to notify the system operator and (optionally) system users of the completion of a power failure cycle.

parameter name: powerfail\_message\_routing

parameter values:

1. all\_terminals

To send the notification message to the system console and to all user terminals.

2. console\_only

To send the notification message only to the system console. No notification messages are sent to any user terminals.

### UPSCNFIG.PUB.SYS : THE DEFAULT UPS MONITOR CONFIGURATION FILE

You can still control the UPS Monitor with a configuration file even if you never use UPSUTIL's newconfig command. This is because the latest version of the UPS Monitor (Version 8 of March 2000), which is the first to implement UPS Monitor configuration files, automatically attempts to open and read a default UPS Monitor configuration file, named UPSCNFIG.PUB.SYS, at each system startup (each system boot).

Therefore, before or after installing Version 8 (or later) of the UPS Monitor software on your system, you need only use your favorite editor to create a UPSCNFIG.PUB.SYS text file, following one of the examples shown below, and then re-boot the system. From this point on, the file UPSCNFIG.PUB.SYS will govern your system's UPS Monitor's configurable behavior. The file UPSCNFIG.PUB.SYS will be read by and acted upon by the UPS Monitor during every system startup, and also (should you choose to use this facility) every time the UPS Monitor is started or re-started by using the UPSUTIL "start" command.

The UPSUTIL "start" command causes a fresh-from-scratch startup of the UPS Monitor (when it is not already running). Hence, a start will cause UPS Monitor to read the default configuration file UPSCNFIG.PUB.SYS.

The UPSUTIL "restart" command causes a re-initializing restart of the UPS Monitor, when it is already running. In this case, UPS Monitor will remember the file name of the most recently active configuration file, and will re-process that same file during the restart.

Use either one of the following two examples to create your UPSCNFIG.PUB.SYS file:

- to send \*\* RECOVERY FROM POWERFAIL \*\* messages to the system console and to all logged-on user terminals, which is the traditional method:

```
upscnfig.pub.sys
powerfail_message_routing = all_terminals
• to send the recovery messages ONLY to the system console:
  upscnfig.pub.sys
  powerfail_message_routing = console_only
```

## IF NO UPSCNFIG.PUB.SYS FILE EXISTS

UPSCNFIG.PUB.SYS is the default UPS Monitor configuration file, to be used unless/until you use UPSUTIL's newconfig command to choose a different configuration file.

The UPS Monitor's final default, in case there is no UPSCNFIG.PUB.SYS default configuration file on the system, is to assume case (a) above: The powerfail messages routing option will be assumed to be "to all terminals", the same as it has been in the past.

## OBSERVING RESULTS OF NEWCONFIG COMMAND

After you have used the newconfig command to activate a new UPS Monitor configuration file through UPSUTIL, then use the status command of UPSUTIL to see the results of the new configuration file activation. (Refer to the status command elsewhere in this document.)

UPSUTIL's "newconfig" command causes your chosen configuration file to be "sent to" the UPS Monitor software; but UPSUTIL itself does not do error checking on the configuration file. (The UPS Monitor module does perform error checking on the file. Any problems with the configuration file will be reported to the system operator via console messages issued by the UPS Monitor. These error messages will also be recorded in the system diagnostic log file.)

The UPSUTIL "status" command obtains a status report from the UPS Monitor module, which will show you whether the UPS Monitor detected any errors in your new configuration file, and what the current settings of the configurable options are after your newconfig command has executed.

### Example #1 - Using UPSCNFIG.PUB.SYS

The first example shows a "newconfig" command being used to set the configuration using the default UPSCNFIG.PUB.SYS configuration file. A status command following the newconfig command reports the results of using UPSCNFIG.PUB.SYS.

```
UPSUTIL: Command > newconfig
```

**Begin SET NEW CONFIG FILE UPS Monitor operation**

```
Enter the file name of the new configuration file (file.group.account)
```

```
New config file name? upscnfig.pub.sys
```

```
SET NEW CONFIG FILE UPS Monitor operation successfully initiated.
```

```
End SET NEW CONFIG FILE UPS Monitor operation
```

```
UPSUTIL: Command > status
```

Begin display of UPS Monitor status.

UPS MONITOR PROCESS STATUS:

UPS Monitor Operating State : Running	(PIN = 52)
UPS Monitor Version Number : 8	3 UPS Devices Configured
System Power State : Power is normal.	3 UPS Devices Monitored
Powerfail Recovery Messages : All terminals.	3 UPS Devices Allocated
Configuration File Name : UPSCNFIG.PUB.SYS (Config File Ok)	

UPS DEVICES STATUS:

UPS# Ldev# Alloc Init State Power Hardware Status

1	22	Yes	Yes	Monitoring	Normal	AC Power	Normal
2	101	Yes	Yes	Monitoring	Normal	AC Power	Normal
3	103	Yes	Yes	Monitoring	Normal	AC Power	Normal

End display of UPS Monitor status.

UPSUTIL: Command >

### **Example #2 - Using UPSCNFGB.PUB.SYS**

The next example shows the selection of a new UPS Monitor configuration file, UPSCNFGB.PUB.SYS, in which the powerfail message routing option is set to "console only". Again, the status command shows the results. UPSUTIL: Command > newconfig

Begin SET NEW CONFIG FILE UPS Monitor operation

```
Enter the file name of the new configuration file (file.group.account)
New config file name? upscnfgb.pub.sys
SET NEW CONFIG FILE UPS Monitor operation successfully initiated.
```

End SET NEW CONFIG FILE UPS Monitor operation

UPSUTIL: Command > status

Begin display of UPS Monitor status.

UPS MONITOR PROCESS STATUS:

```
UPS Monitor Operating State : Running (PIN = 52)
UPS Monitor Version Number : 8 3 UPS Devices Configured
System Power State : Power is normal. 3 UPS Devices Monitored
Powerfail Recovery Messages : Console only. 3 UPS Devices Allocated
Configuration File Name : UPSCNFGB.PUB.SYS (Config File Ok)
```

UPS DEVICES STATUS:

UPS#	Ldev#	Alloc	Init	State	Power	Hardware Status
1	22	Yes	Yes	Monitoring	Normal	AC Power Normal
2	101	Yes	Yes	Monitoring	Normal	AC Power Normal
3	103	Yes	Yes	Monitoring	Normal	AC Power Normal

End display of UPS Monitor status.

UPSUTIL: Command >

### Example #3 - Error in Configuration File

The final example shows what happens when an error is detected in a UPS Monitor configuration file. In this case, the configuration file UPSCNFGC.PUB.SYS was attempting to set the powerfail message routing to "all terminals", but there was a typographic error in the "all terminals" parameter. The UPS Monitor reports the error to the system console, and the UPSUTIL status command shows that the UPS Monitor has found an error in the current configuration file, UPSCNFGC.

UPSUTIL: Command > newconfig

Begin SET NEW CONFIG FILE UPS Monitor operation

Enter the file name of the new configuration file (file.group.account)

New config file name? upscnfgc.pub.sys

12:09/52/Illegal configuration command parameter in UPS Monitor configuration file "UPSCNFGC.PUB.SYS" at record 2, column 29. (UPSERR 0640)

SET NEW CONFIG FILE UPS Monitor operation successfully initiated.

End SET NEW CONFIG FILE UPS Monitor operation

UPSUTIL: Command > status

Information You Need Before Installing MPE/iX 6.5 PowerPatch 1  
Patch MPELX33C

Begin display of UPS Monitor status.

UPS MONITOR PROCESS STATUS:

```
UPS Monitor Operating State : Running          (PIN = 52)
UPS Monitor Version Number : 8                 3 UPS Devices Configured
System Power State        : Power is normal.   3 UPS Devices Monitored
Powerfail Recovery Messages : Console only.    3 UPS Devices Allocated
Configuration File Name   : UPSCNFGC.PUB.SYS  (** Config File Has Error **)
```

UPS DEVICES STATUS:

UPS#	Ldev#	Alloc	Init	State	Power	Hardware Status
1	22	Yes	Yes	Monitoring	Normal	AC Power Normal
2	101	Yes	Yes	Monitoring	Normal	AC Power Normal
3	103	Yes	Yes	Monitoring	Normal	AC Power Normal

End display of UPS Monitor status.

UPSTUTIL: Command >

## Patch ARMLX35

This patch installs the AutoRAID Manager for HP Sure Store E Disk Array 12H. For systems which do not have any HP Disk Array connected, no further action is required. For systems which have an HP Disk Array connected, the customer should read the 'READDOC.MPEXL.SYS' file and follow the steps to complete the installation of HP SureStore E Disk Array 12H AutoRAID Manager.

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## MPE/iX Release 6.5 Supports >3.75 GBs of Memory

With the March 2000 shipment of MPE/iX Release 6.5, HP e3000 Servers now support greater than 3.75 GBs of main memory. This is good news for many applications for which memory sizes limited the number of users that could be supported or for which had the application's performance was limited by the 3.75 GB maximum memory size. However, since the MPE/iX Release 6.5 Communicator only indicates that "some" HP e3000 Servers will benefit from this increase, clarifications need to be given as to which HP e3000 Servers will actually benefit from this maximum memory size increase.

HP e3000 Ordering Menus for adding HP e3000 memory used by HP sales people and by HP e3000 Authorized Resellers already note these limitations.

Only HP e3000 Servers that use the PA8000 or PA8200 processor chips (the PA-RISC 64 bit chips) with MPE/iX Release 6.5 will be able to use memory sizes greater than 3.75 GBs. This includes a number of 9x9KS Servers (the 929KS/030, 939KS/030, 979KS, 989KS/x00 and 989KS/x50 Servers) and the 997 Servers.

A number of HP e3000 Servers based on PA7xxx processor chips (the PA-RISC 32 bit chips) can still use Release 6.5 and many of its added new features (e.g. WebServer software, file sizes up to 128 GBs, up to 511 disk spindles, etc.). However these PA7xxx processor based servers will not be able to support memory sizes greater than 3.75 GBs. These include the 9x7, 9x8, 939KS, 929KS/020, 939KS/020, 959KS, 969KS/x00, 969KS/x20, 992/990, 995/991 and 996 Servers.

For those HP e3000 9x9KS Servers that do support greater than 3.75 GB of memory, the upper limit is now 8 GB with MPE/iX Release 6.5. To achieve these large memory sizes, customers should consider using the 9x9KS 512 MB memory modules, which can be intermixed with the smaller 9x9KS memory modules.

For the HP e3000 997 Servers, the upper limit is now 16 GB with MPE/iX Release 6.5. To achieve these large memory sizes, customers should consider using one or two 8 GB memory carrier cards. This 8 GB memory carrier card can support from one to eight 1 GB memory modules. The 8 GB memory carrier card can be field installed and can be intermixed with the 128 MB (not actively sold), 256 MB, 512 MB and 768 MB HP e3000 997 memory array boards. However, since there are a limited number of slots for plugging memory into the 997 Server, some smaller memory array cards may need to be removed to support large processor and large memory configurations.

Previous communications (e.g., the Spring 2000 HP e3000 Advisor) to 99x end-users have noted that sales of some 99x memory products (the 256 MB, 512 MB and 768 MB memory arrays) will be discontinued as of August 1, 2000. HP e3000 996/995/992/991/990 customers will need to buy any required additional HP supported memory prior to August 1, 2000. HP e3000 997 customers using MPE/iX Release 6.0 Express 1 or 6.5 will be able to continue to purchase the 8 GB memory carrier board after August 1, 2000 (although Release 6.0 Express 1 customers are limited to using only the first 3.75 GB of any loaded memory).

So in summary, many HP e3000 applications will see added performance or greater numbers of users using larger memory configurations (please check with your application providers for details). However, greater than 3.75 GB memory configurations are limited to PA8000 and PA8200 based servers (929KS/030, 939KS/030, 979KS, 989KS/x00, 989KS/x50 Servers and the 997 Servers) using MPE/iX Release 6.5.

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## **Support for Releases 5.5 and 6.0**

End of Support Dates for MPE/iX Releases 5.5 and 6.0:

Support for the 5.5 release will end on December 31, 2000. Customers should plan to update to either MPE/iX 6.0 or MPE/iX 6.5 prior to this date. We would encourage most customers to update to the 6.5 release since that release contains many performance and capacity enhancements for high-end systems and bundled tools for using the HP e3000 with the Internet. Additionally, the 6.5 release will be supported longer than 6.0.

Support for the 6.0 release has been extended until April 30, 2002. Please be aware that support for the 9x7 servers (917-987) will also end at this same time.

In the future, Hewlett-Packard will continue to provide 18 months notice before terminating support of a given release as we have done for 5.5 and 6.0.

## **Patch Matrix Table**

	<b>C.65.00</b>	<b>C.65.01</b>	
<b>Software Product ID Number</b>	<b>Vuf</b>	<b>Vuf in Power Patch</b>	<b>Patchid</b>
A3700A		A.00.01	ARMLX35C
HP32022	C.00.00	C.03.00	DTSFDP0A
HP35071 (NARC support tool)	B.00.35	B.00.37	NRCLX54B
B8343AA(Mesa Diagnostics)		A.11.00	ODILX77A
HP50779 (HP Predictive SUP)	B.65.01	B.65.02	OSPLX78A
HP36216 (Allbase SQL)	A.G3.08	A.G3.15	SQLLX50C
MPE ix Core patches	C.65.00	C.65.00	STRFDP5A SNMFDL0A PTDFDN5A NSTFDN9A FTPFDP2A INTFDP9A MPEKX86A MPEKXE9C MPEKXJ4I MPEKXR9C MPEKXV3B MPEKXY7E MPELX15D MPELX33C MPELX39C MPLX47B MELX59C MPELX69A MPELX71A MPELX75A NSSFDQ4A