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HP e3000 business update

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Today's agenda:

I. Business Update
   - Overall updates and changes since last year
   - Review current status of e3000 R&D lab and Support efforts
   - Review current status of e3000 transition efforts
   - What to expect during the coming year
   - Contributor's award
   - Q&A

II. Break

III. R&D Technical Talk

Recap of key events

- Role change (5/07)
  - Many thanks to Dave Wilde, Jeff Vance, and Mike Paivinen
  - Business Manager: Jennie Hou
  - Customer Advocacy: Craig Fairchild
  - OpenMPE Board Liaison: Jeff Bandle

- Upgrade Policy Statement and Right To Use (RTU) MPE/iX License (2/07)
  - Issued a policy statement to clarify possible confusion regarding after-market upgrades
  - Created a stand-alone MPE/iX RTU license product (AD377A)

Recap of key events

- Partner and user engagement (ongoing)
  - Ongoing connections with the partners
  - Ongoing engagement with the OpenMPE Board regarding EOL activities
  - Providing updates at various user-group sponsored events

- Support continues through at least 12/31/2008
  - Continue to provide Basic Support to all customers until 12/31/2008
  - Mission Critical customers needing more than Basic Support can work with HP to explore structuring a customer-specific support package

We continue to focus on these three areas

Moving forward

Transitioning effectively

Running your business today

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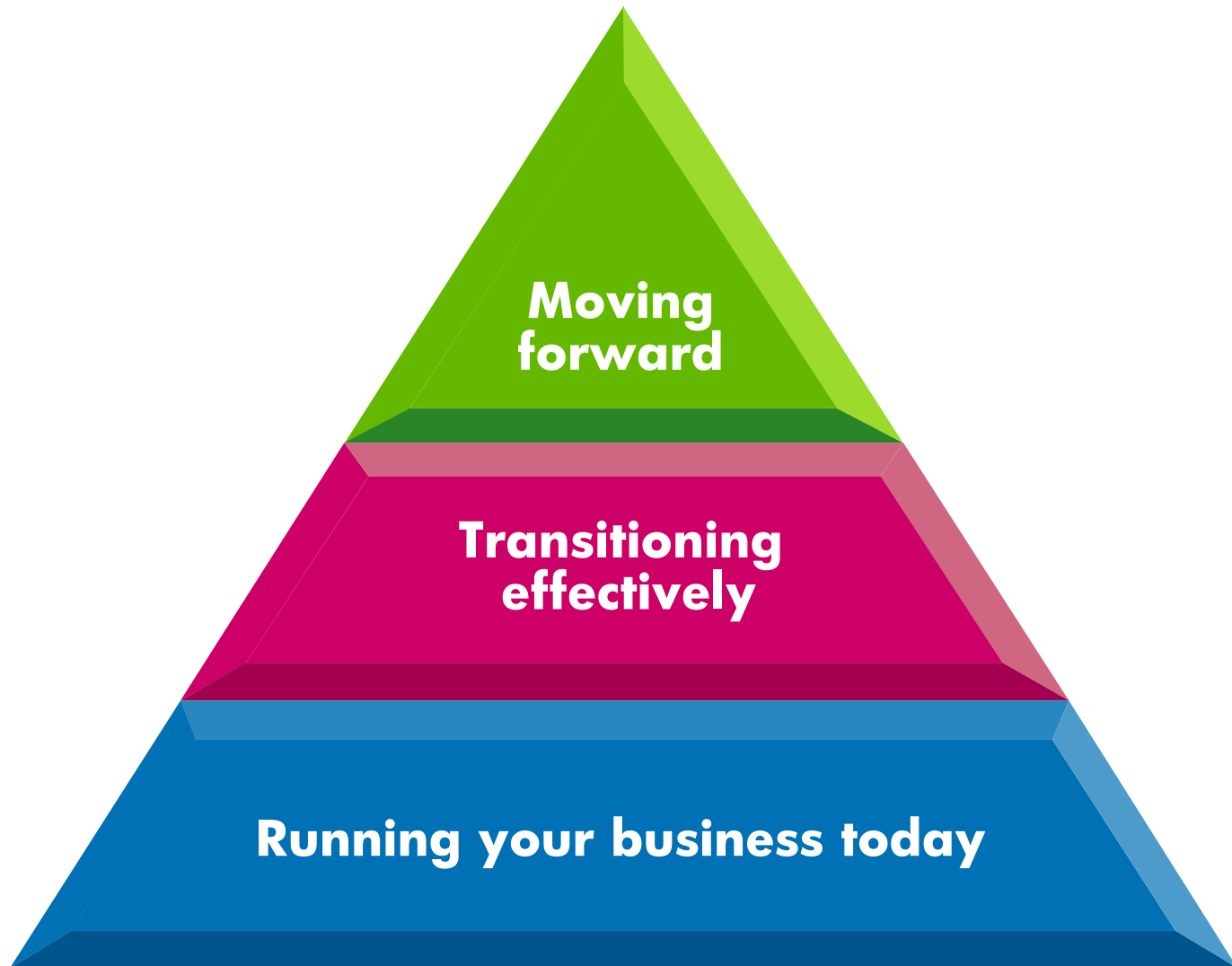
R&D and Support summary update

1. Running your business today

"Running your business" means:

Our aim is to enable the successful running of your business by providing:

- Stability and support
- Communications to enable business continuity and connectivity
- Access to remarketed systems/parts and add-on software
- Clear guidelines on remarketed hardware upgrades and RTU licenses
- Bidirectional communications with customers and partners
- An understanding of the Support lifecycle model

Which involves:

- Stabilizing and supporting your current environment
  - Basic support extended through 2008
  - Customized support packages available on a case-by-case basis
  - Create patches for critical defects
  - Continuation of PowerPatch releases (at least 1/year)

- Providing information on peripherals, storage, and networking continuity and connectivity in the forms of white papers and enhancements, etc.
  - "Securing FTP" white paper and associated scripting
  - "Samba" Release 3.0.22

And also involves…

- Accessing remarketed HP e3000 systems and parts through HP EMR, Client Systems and others.
  - Be sure to engage HP's Software License Transfer (SLT) organization when selling a system

- Offering access to selected add-on software products and associated user license upgrades through HP or authorized resellers (e.g., Client Systems)
  - www.hp.com/products1/evolution/e3000/supported.html

And also involves…

- Providing clear guidelines in hardware upgrades in the secondary market

    – Issued a Policy statement

    – Listed supported hardware upgraded paths

    – Created a stand-alone MPE/iX RTU license product (AD377A)
        - 7 license levels
        - based on performance units
        - provided investment protection

    – For more info:
        - www.hp.com/products1/evolution/e3000/hw_lic_update.html

And also involves…

- Providing updates to customers and partners
  - Delivered three e3000 technical webcasts through partnership with Encompass user group
  - Presented at the Greater Houston RUG
  - Ongoing third-party outreach program (regular connections with partners to determine what HP help can be given)
  - Ongoing work with OPENMPE on post-HP Support activities
  - Contact us through your HP account team or HP authorized resellers
  - Updates, announcements, and a wealth of resources about the HP e3000 are always on the web: www.hp.com/go/e3000

- Understanding the different phases of the support lifecycle model

HP e3000 Support Lifecycle

Pre-2000	2001	2002	2003	2004	2005	2006	2007	2008	Future

Full Support with Active Development
(1972-2001)

Full Support with Limited Development
(2001-2003)

Full Support with Patch Creation
(2003-2006)

Basic Support Critical Patch Creation

Customized Legacy Support

No HP Support
(HP end-of-support)

HP e3000 Support Lifecycle Notes (for slide #14)

This is a "conceptual model" of what the different stages of the HP e3000 support model could look like:

More detailed notes on these two stages:

- Basic Support (Offering: 1/01/2007 through at least 12/31/2008):
  - Regular PowerPatch release schedule (at least one per year)
  - No new peripheral support
  - Critical bug fixes only
  - Limited enhancements only to improve stability
  - Customized support for mission critical customers
  - May have fewer support options
    - Support dropped for some products
    - Some geographic limitations

- "Customized Legacy Support" (a **conceptual** stage after the Basic Support stage)
  - Specific customer needs evaluated based on regional and local resource/knowledge availability
  - No enhancements or generally released patches
  - Will provide problem isolation, workarounds, access to existing patches, and site specific binary patches whenever possible

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HP Support benefits

- Worldwide infrastructure
  - standardized processes
  - consistent customer experience
- Experienced workforce
  - access to source code
  - in-depth understanding of products
- Ability to deliver
  - general release patches
  - powerpatch releases
  - site specific binary patches
  - hardware spare parts

R&D accomplishment highlights

- Samba Release 3.0.22 (5/07)
- Securing FTP White Paper (5/07)
- 2007 Daylight Savings Time Changes (3/07)
- MPE/iX 6.5 PowerPatch 6 (12/06)
- FTP Phase 2 Enhancements (2006)
- CI User Functions (2006)
- Patch to disable Large File Datasets (2006)

In addition to those from the previous year:
- Delivered MPE/iX 7.5 PowerPatch 3 in August 2006
- Delivered both 7.0 PP3 and 6.5 PP5 during 2005
- Completed 15K JBOD Disk Certification
- Wrote HVD-LVD Converter "Reference" (to help address peripheral availability needs)
- Delivered CI Functions and User Functions (7.5 BT) (SIB)

R&D plans for the rest of 2007

- Samba Porting white paper (coming 2H 2007)

- SCSI Pass-Through Driver (coming 2H 2007)

- MPE/iX 7.0 PowerPatch 5 (C.70.05) (targeted for 2H 2007)
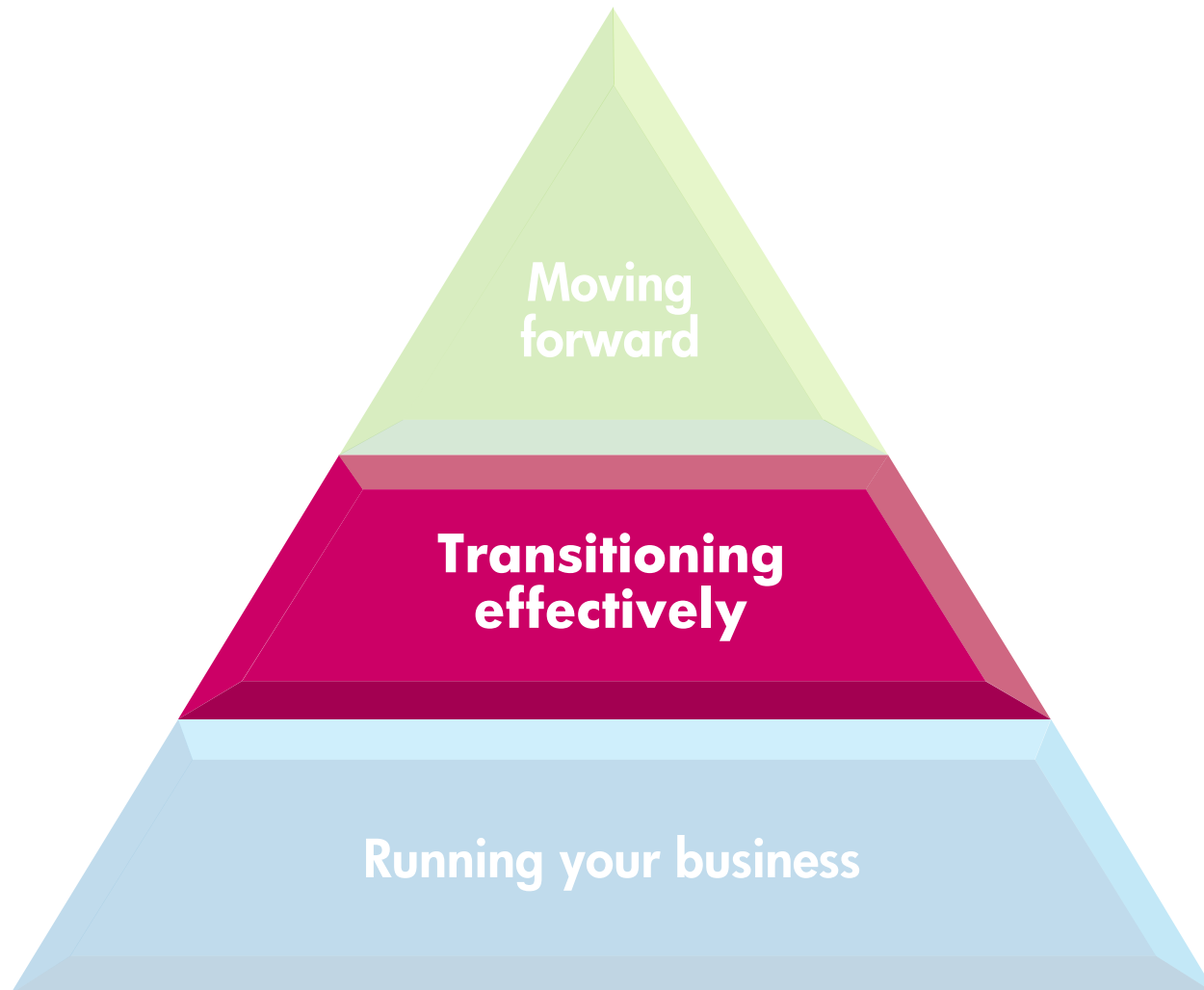
R&D and Support Summary

- Our goal is to enable the successful running of your business
  - Stability
  - Support
  - Ongoing communication & partnership
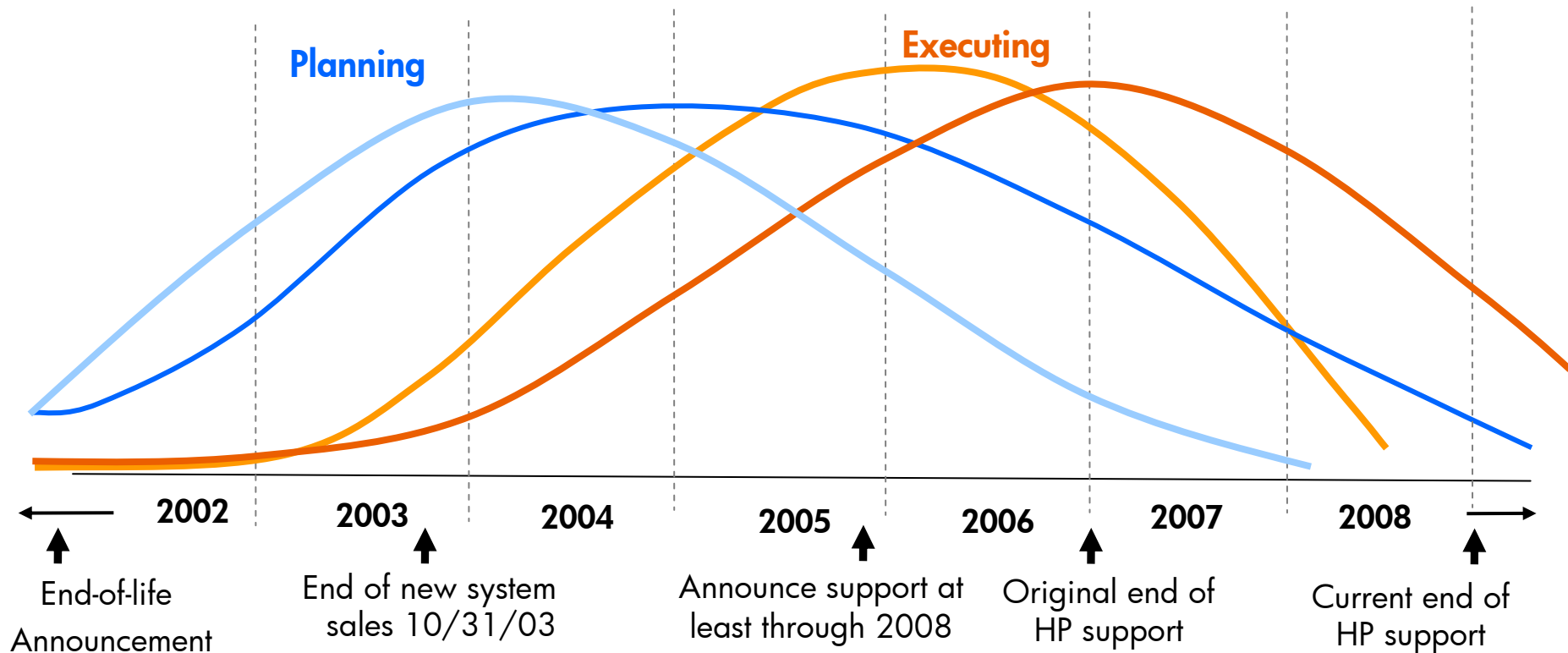
Transition update

2. Transitioning effectively

Moving forward

Transitioning effectively

Running your business

Transition lifecycle

Planning and implementation peaks moving out over time

Transition Lifecycle Notes
(for slide #22)

- Migration is taking longer than anticipated due to many reasons; therefore, the timelines shifted further out (to the right).

- From the feedback from partners and customers, HP believes that the installed base has passed the migration plateau. It's now a downward curve. However, there will still be some customers planning and migrating beyond 2008.

HP & Partner resources to help you migrate off the e3000 quickly and efficiently

- HW and SW assistance programs*

- Special financing options*

- Tools promotion*

- Training & reference utilities

- Transition Services*
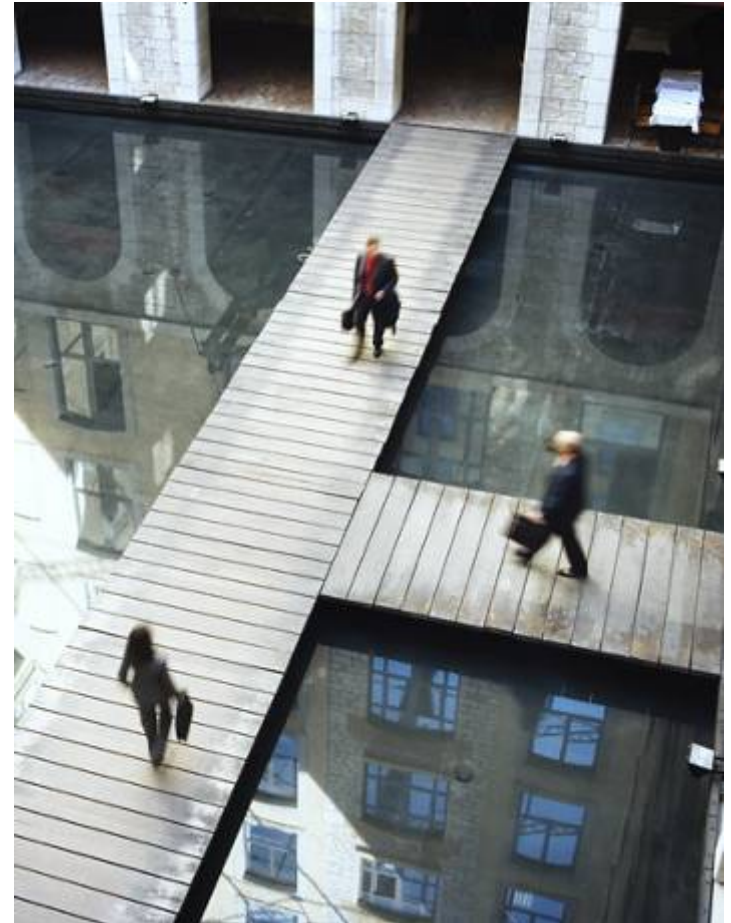
Program specifics may vary across geographic regions

Hardware rebate and loaner programs

- Servers
  - Trade-In/Trade-Up rebates for HP 9000, HP Integrity and HP ProLiant

- Loaner Program
  - Value-add service to help the migration process
  - Qualified customers are eligible for 6-month HP 9000 or HP Integrity loaner systems
  - Customers have option to do a buy-out at the end of the loan term for a substantial discount

- Storage
  - Storage trade-in rebates
    http://www.hp.com/united-states/tradein/home_flash.html

Offering customers a complete and robust Adaptive Enterprise Server Portfolio

HP ProLiant server

XC3000 HPTC cluster

HP ProLiant ML series

HP ProLiant DL series

HP ProLiant BL series

BladeSystem C-class

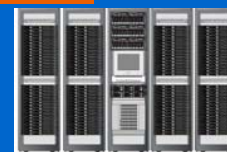## HP Integrity server

High-end

√ Dual Core Itanium 2 Processor

√ Itanium 2 9M Processor

HP Integrity Superdome
up to 128 processor cores

XC6000 HPTC cluster

Midrange

√ Dual Core Itanium 2 Processor

√ Itanium 2 9M Processor

HP Integrity rx8640
(32-processor cores)

HP Integrity rx7640
(16-processor cores)

Entry Level

√ Itanium 2 9M Processor

√ Itanium 2 9M

√ Dual Core Itanium 2 Processor 9000 Sequence

HP Integrity Blade BL860C (2-procs)

HP Integrity rx1620 (2-procs)

HP Integrity rx2660 (2/4 cores)

HP Integrity rx3600 (4 cores)

HP Integrity rx4640 (4/8-cores)

HP Integrity rx6600 (8 cores)

HP Integrity NonStop server

Intel® Itanium® architecture

NonStop Advanced Architecture

Multi-OS

HP-UX 11i   Microsoft Windows Server 2003   HP NonStop OS

Software cross-platform trade-in policy

- **From** MPE/iX HP e3000 **to** HP-UX HP 9000 or Integrity Server or OpenVMS I64

  - Supported customers
    - Equivalent licenses can be traded-in at no cost

  - Non-supported customers
    - Equivalent licenses can be traded-in at a discount

  - Commitment to continue support for 1 year*

  - http://www.hp.com/products1/evolution/crossplatform.html

 Support = Service contract with Software Update Services (SUS)

Special HP financing options (HPFS)

- Cash flow management
- Pre-packaged financing
- Customized financing

HP e3000 Transition Tools Promotion

- Offers current HP e3000 customers their choice of a free third-party transition tool with the purchase of a qualifying HP server

- **Tools:** Acucorp ACUCOBOL-GT, Marxmeier Eloquence, MB Foster UDACentral and JDBCLink, Ordina Denkart, Speedware AMXW or DBMotion

- **Servers:** HP 9000 (except RP24xx models), HP Integrity or a ProLiant model server

- Qualifying customers need to receive their free tool(s) from one of HP's e3000 Transition Platinum Partners

- There is a limit of one free transition tool per qualifying server

Transition training and information still available for e3000 customers at no charge

- No-charge web-based training covering a variety of topics (HP-UX, Microsoft .NET, system admin, etc.)
- HP e3000 transitional reference tools (e.g., sysadmin, programmer, user views)
- System Inventory Tool (SIU)
  - http://jazz.external.hp.com/src/scripts/siu/index.html
- HP e3000 Transition Series Webcasts (including .NET)
- 7 transition white papers still available
- Key HP e3000 web resources:
  - www.hp.com/go/e3000
  - www.hp.com/go/e3000partners
  - www.education.hp.com/curr-mpe.htm
  - jazz.external.hp.com

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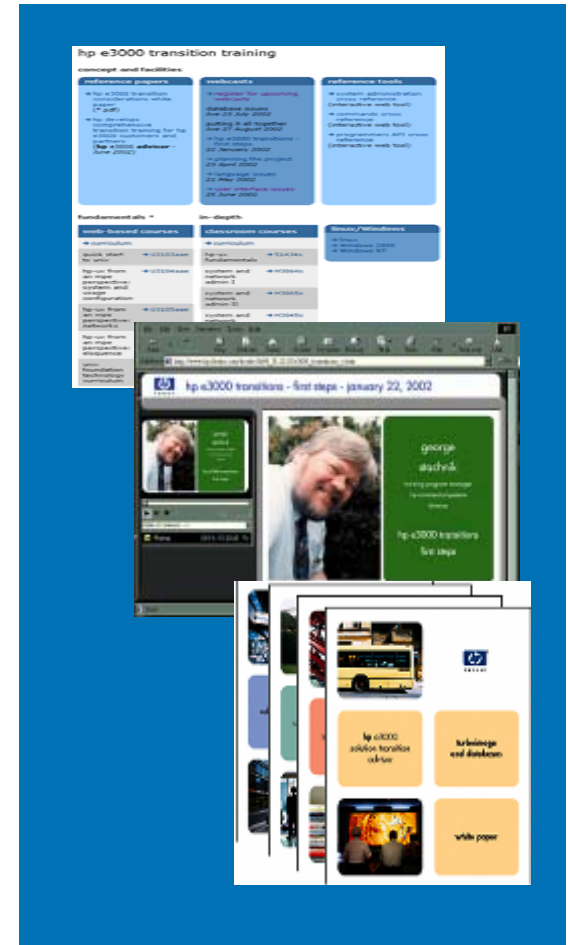
E-coupon code for no-cost online transition training

- Available to all HP e3000 customers
- Contact HP for the coupon code: e3000.training@hp.com
- http://www.education.hp.com/curr-mpe-e3000.htm

Top HP e3000 Application ISVs are available on other HP Platforms

HP e3000 Platinum Partners

HP e3000 Transition Partners

HP Services can assist throughout your transition process

Applying the full scope of service capabilities across multiple operating systems (HP-UX, Windows, Linux, etc.)

| Plan and Design	Integrate	Install	Manage
• Business/IT assessments • Detailed design	• Application porting, migration, modernization, implementation • IT consolidation • Factory integration • Testing and piloting design	• Solution deployment • Education • Technical services	• Ongoing reactive and proactive support • Mission-critical support • Outsourced solutions • Technical services

HP e3000 transition case studies—Success story examples

- HP e3000 customers are successfully making the transition from MPE/iX to other HP solutions, including HP-UX 11i, Microsoft Windows, and Linux operating environments

- Read and download case study discussions at: www.hp.com/go/e3000
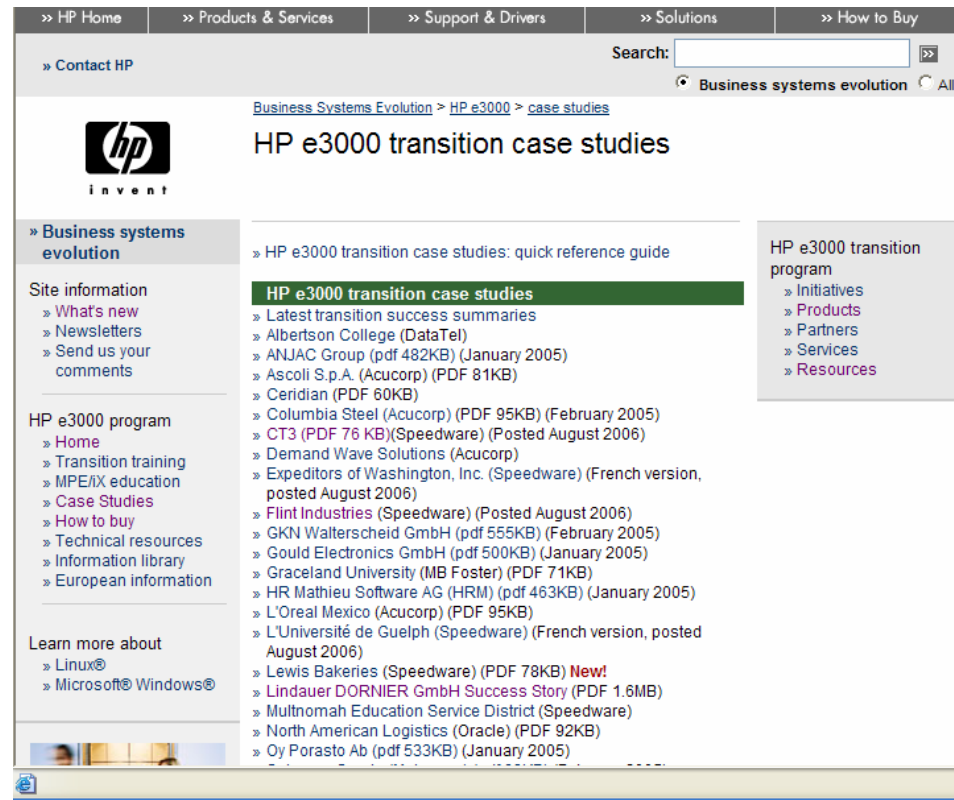
What to expect in the coming year

3. Moving forward

Listening and responding to the needs and concerns of the e3000 community

Bi-directional communication:

- Support extension until the end of 2008

- Active secondary market and RTU licensing availability

- Continued partnership with transition partners

- Preparing for the timeframe after HP stops supporting the HP e3000

- Continuing to work with OpenMPE

Continuing our focus for the coming year

Supporting your current environment

- Quality, sustainability, and internal process efficiencies
- User community: patch releases, product/supply chain management
- Continued HP support at consistent, predictable levels

Maintenance of transition program offerings

- Working closely across HP and our valued partner community
    - those of you who are helping others transition
    - those who are transitioning yourselves

Listening and responding

- Continued partnership with OpenMPE, etc.
- Continuing to clarify details & expectations to help you plan with confidence

Moving
forward

Transitioning
effectively

Running your business today

HP e3000 Contributor Award

Selection criteria:

- Customer advocacy
- Contribution back to e3000 community
- Sustained results over long-term
- Effective collaboration with HP and community
- Above and beyond primary job
- Endorsed by the user community through the past recipients
- Previous Contributor Award recipients:
  - Denys Beauchemin, Mark Bixby, Jerry Fochtman, Birket Foster, Donna Garverick, Mark Klein, Chris Koppe, Bill Lancaster, Jeanette Nutsford, Alfredo Rego, Ken Sletten

HP e3000 Contributor Award

The **2007 Contributor Award** goes to…

Stan Sieler

Questions, discussion, feedback?

R&D Technical Talk

R&D technical talk agenda

I. Drill downs:
- Securing FTP   (10 mins)
- Samba   (15 mins)
- SCSI pass-through driver   (15 mins)

II. Quick updates:
- CI user functions
- PowerPatch
- 2007 daylight savings time changes

Securing FTP

- Developed as SIB items in two phases
- "SETPARMS" file enhancement
- Added configuration files in @.ARPA.SYS
  - "FTPHELLO"
  - "FTPUSERS"
  - "FTPACCES"
- More secure "NETRC" file
- Detailed whitepaper available on the Jazz server.

Securing FTP (cont.)

- "SETPARMS" file enhancement
  - Permission changes effecting how existing files on a target system are handled. Toggled with ON or OFF in the configuration file. ON is the default.
  - PERMISSION_DELETE
    - Controls whether file can be deleted
  - PERMISSION_OVERWRITE
    - Controls whether file can be overwritten
  - PERMISSION_RENAME
    - Controls whether file can be renamed

Securing FTP (cont.)

- FTPHELLO.ARPA.SYS
  - Contains a display message output on the screen when establishing an FTP connection.

- FTPUSERS.ARPA.SYS
  - Controls which users are allowed to login to the FTP server system.

- FTPACCES.ARPA.SYS
  - Controls which files can be accessed on the FTP server system via the GET/MGET commands. Also limits user ability to change the working directory via the CD command.

Securing FTP (cont.)

- More secure NETRC file
  - Made readable by FTP client when set with EXECUTE only privileges.
- FTP White Paper
  - Document written that details both FTP phase I and Phase II enhancements
  - Outlines the use of a script ("SFTPPUT") that will enable more secure transfer of files from an MPE system using FTP/iX.
  - Provides alternatives for securing FTP besides those described in the Phase I & II enhancements.
  - Available at http://jazz.external.hp.com.

Samba/iX 3.0.22

- Overview
- Major functionality beyond Samba 2.2.8a
- Features not supported on MPE/iX
- Other considerations
- Further information

Samba/iX 3.0.22 (cont.)

- New major version of SAMBA (previously 2.2.8a)
- Delivering via the following patch id:
  SMBMXY6 (BT) for MPE/iX 6.5, 7.0, & 7.5

- Information available on Jazz server

http://jazz.external.hp.com/src/samba/index.html

Samba/iX 3.0.22— Changes since 2.2.8

- Password encryption defaults to "on"
- New password database back ends
- New account management tools
- Enhanced "net" command
- New name mangling method
- Stackable VFS (Virtual File System) objects
- Unicode support
- Samba backup and logging enhancements
- SMB ports

Samba/iX 3.0.22—Features not supported on MPE/iX

- ADS

- CUPS printing support

- PDC/BDC

- Winbindd

- MySQLSam and XMLSam

Samba/iX 3.0.22— Other considerations

Performance tuning tips:

- Change notify timeout

- Debug level

- Socket configuration

- Maximum transmit size

- Read size

Refer to Chapter 43 of the Samba-HOWTO (swat/help/Samba3-HOWTO/speed.html) guide for more details

Samba/iX 3.0.22—
Other considerations (cont.)

Configuring SWAT:

SWAT (Samba Web Administration Tool) is very useful in configuring Samba efficiently through popular web browsers like Internet Explorer, Netscape, Firefox, etc. The steps to configure SWAT are as follows:

1. Make sure that Samba is installed properly and that the SWAT program file is owned by the user MANAGER.SYS.
2. Enable 901 service:
   - Edit SERVICES.NET.SYS to include port 901 as

   `"swat 901/tcp  # SWAT tool"`.
3. Configure inetd:
   - Edit INETDCNF.NET.SYS to include the line:

   ```
   "swat stream tcp nowait.400 MANAGER.SYS
      /SAMBA/SMB3022/SWAT swat"
   ```
   and then issue the command ":`inetd -c`" at the MPE/iX command prompt. Please note that SAMBA/SMB3022/SWAT is the location of the SWAT program file.

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Samba/iX 3.0.22—
Other considerations (cont.)

Running SWAT:

- – Open your favorite internet browser and issue the address http://samba_machine_name:901. When prompted for a user and password, use the MPE/iX user (USER.ACCT) and password (userpw,acctpw).

You will be welcomed to the Samba world of documentation and configuration. The SWAT tool helps configure Samba with associated help for every option. The main page has various links for utilities documentation and books related to Samba.
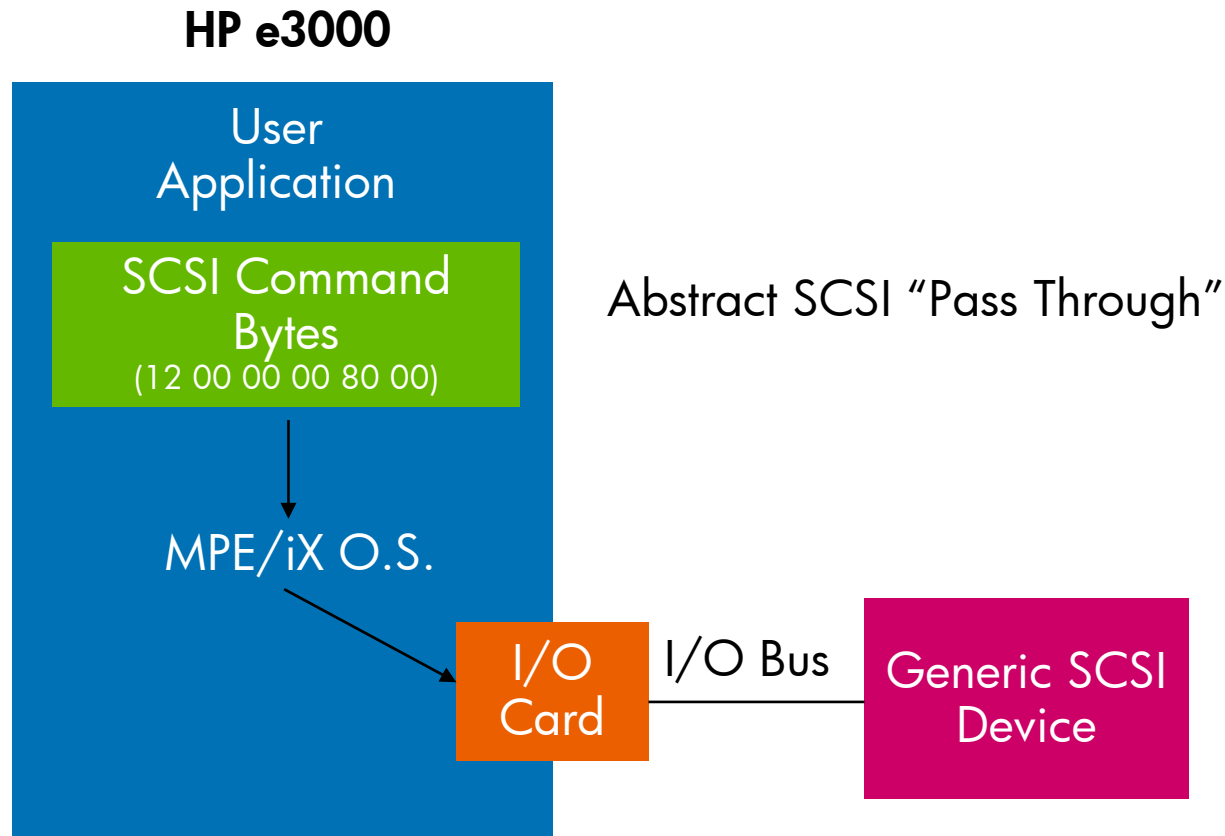
Samba/iX 3.0.22— Porting white paper (coming soon)

- Intended for:

  - non-HP e3000 programmers to be come more adept at porting open source software to MPE/iX

  - documenting the steps used in the porting of Samba/iX version 3.0.22.

  - expansion of a few selected porting concepts beyond Samba

  - supplementing existing porting sources on the Jazz website at: http://jazz.external.hp.com/papers/

- We are currently planning to complete this white paper by 2H 2007.

Samba/iX 3.0.22— For further information

- http://www.samba.org/

- http://jazz.external.hp.com/src/samba/

- Configuring and Managing MPE/iX Internet Services manual (contains useful Samba information not duplicated here)

- On your HP e3000 system:
  - /usr/local/samba/ReadME.mpe.228a (Old Samba/iX info)
  - /usr/local/samba/docs
  - /usr/local/samba/man

What is "SCSI Pass Through" (SPT)?

HP e3000

User Application

SCSI Command Bytes
(12 00 00 00 80 00)

Abstract SCSI "Pass Through"

MPE/iX O.S.

I/O Card

I/O Bus

Generic SCSI Device

When might you use SPT?

- To access a new type of SCSI device that is not supported by MPE/iX (like an enclosure manager or tape library robotics)

- To teach existing SCSI devices new tricks

- Not recommended for use with MPE/iX disk volumes or CSLTs / STORE tapes

What is the SPT interface?

- Externalization of an existing (MPE/iX 6.5, 7.x) diagnostic Interface
- Mostly file system base
  - *mknod()* to create a special device file
  - *open()* to open the special device file
  - *ioctl()* to send commands to the device file
  - *close()* to close the file
  - *unlink()* to purge the file
- HPLDEVTOIOPATH

Creating a file using *mknod()*

```
. . .
  hpldevtoiopath (ldev, path_ptr, &status);
. . .
  (void) io_str_to_hw_path (path_ptr, device_ptr);
. . .
  token = 0;    /*  start at "root" of io tree  */
  token = io_search ( token, S_IOTREE, 0, "hw_path", device_ptr);
. . .
  (void) io_query (token, S_IOTREE, "minor_num", query_minor_num);
. . .

 r = mknod (file_name, S_IFCHR, makedev (0, query_minor_num));
```

Passing a SCSI command via *ioctl()*

```
. . .
   command.flags = SCTL_READ;
   command.cdb_length = 6;
   command.cdb[0] = CMDinquiry;   /* Inquiry */
   command.cdb[4] = sizeof(struct inquiry_2);
   command.data = buf;
   command.data_length = 64*1024;
   command.max_msecs = timeout;
. . .
   r = ioctl(fd, SIOC_IO, &command);
```

ioctl() SCSI status checking

```
if ( command.cdb_status != S_GOOD )
{ printf("SCSI command returned status 0x%02x\n", command.sense_status);
  if ( command.cdb_status == S_CHECK_CONDITION )
  {
   if ( command.sense_status == S_GOOD )
     printf("Request sense returned status 0x%02x\n", command.sense_status);
   else
   { memcpy(&sense_data,&(command.sense),command.sense_xfer);
     printf("Sense error code: 0x%02x\n", sense_data.error_code);
     printf("Sense key: 0x%02x\n", sense_data.key);
     printf("Sense code: 0x%02x\n", sense_data.code);
     printf("Sense qualifier: 0x%02x\n", sense_data.qualifier);
   }
  }
}
else
  printf("Good status, %d bytes returned (in hex): \n", command.data_xfer);
```

Configuration recommendations

- Supported to the following SCSI device managers:
  - *scsi_disc_dm* (SE-SCSI Discs),
  - *scsi_disk_and_and_array_dm* (Disks & disc arrays),
  - *scsi_tape_dm* (DDS tape drives),
  - *scsi_tape2_dm* (non-DDS (DLT) tape drives),
  - *mo_scsi_pthru_dm* (MO devices).

- It is recommended that most users of SPT consider configuring SCSI devices with device ID=PTHRU, which results in using the *mo_scsi_pthru_dm* pmgr
  - This device driver provides basic connectivity to SCSI devices without a lot of overhead.

How will it be delivered?

- Planning for BT release in 2H 2007 (3000-L)
- Will be available on 7.5 via the following patches:
  - MPENX03A User Notification of SCSI Bus Reset
  - MPENX04A HPLDEVTOIOPATH, *dup()* support for *fork()*, and special device files usable across system boots
  - MPENX01A Fix for libIO.h include file bug
- Communicator style documentation will also be published on http://JAZZ.external.hp.com.

Return

New CI predefined user functions

- Patch MPEMXW9 (supersedes MPEMXV0) delivers three new CI predefined functions:
  - DEVINFO: a CI interface to the AIFDEVICEGET interface
  - SPOOLINFO: a CI interface to the AIFSPGET interface
  - VOLINFO: a CI interface to the HPVOLINFO intrinsic
- MPEMXW9 also delivers the CICAT and CICATERR changes required for this enhancement (formerly delivered in MPEMXV1)
- MPEMXV2 delivers the CATALOG.PUB.SYS changes required for this enhancement
- Currently available for MPE/iX 7.5 only
- http://jazz.external.hp.com/papers/Communicator/7.5/CIInfoFunctions.html

PowerPatch releases

- Frequency: At least one release per year until HP ends support
  - 7.0 PowerPatch 3 – May, 2005
  - 6.5 PowerPatch 5 – Dec, 2005
  - 7.5 PowerPatch 3 – July, 2006
  - 6.5 PowerPatch 6 – Dec, 2006

- Next: 7.0 PowerPatch – 2H 2007

2007 Daylight Savings Time changes

- Patch LBCMXY5 delivers the updated time zone definitions for the U.S. and those countries following the new U.S. rules.

- Available for all three supported MPE/iX versions (6.5, 7.0, 7.5)

- TZTAB file also made available for download from Jazz, please visit:
http://jazz.external.hp.com/TZTAB/

Questions, discussion, feedback?