



HP OpenVMS Technical Update and Roadmaps

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Agenda

- OpenVMS Roadmap Highlights
- OpenVMS Promotion Activities
- HP Support Policies
- Version 8.3 Technical Update
- OpenVMS Technical Futures



OpenVMS Roadmap Highlights



HP Integrity Servers: OpenVMS Itanium Madison9 support



rx1620
1u
2P/2C
OpenVMS V8.2,
V8.2-1, V8.3



rx2620
2u,
2P/2C
OpenVMS V8.2
V8.2-1, V8.3

rx2620 OFS
(Office Friendly
Server)



rx4640
4u
4P/4C or
with MX2 8P/8C
OpenVMS V8.2
V8.2-1, V8.3



rx7620
9u
2 cell (8P/8C)
OpenVMS V8.2-1,
V8.3



rx8620
17u
4 cell (16P/16C)
OpenVMS V8.2-1,
V8.3








Superdome
Max 4 cell
(16P/16C) partition
OpenVMS V8.2-1,
V8.3

HP AlphaServer Roadmap



Last System order date October 2006

Last System ship date December 2006

	2005				2006							
	Q1 JanMar	Q2 AprJun	Q3 JulSep	Q4 OctDec	Q1 JanMar	Q2 AprJun	Q3 JulSep	Q4 OctDec				
GS1280 	EV7 M8/M16/M32/M64 1.3/1.15 GHz				End of Sales Options: CPU MEMORY IO Storage Network				End of Sales			
ES80/ES47 	ES80 EV7 1.15/1.0 GHz M2/M4/M6/M8 ES47 EV7 1.15/1.0GHz M2/M4/Tower											
ES45 	ES45 EV68 1.25GHz											
DS25 	DS25 EV68 1GHz											
DS15 	DS15 EV68 1GHz											

Support at least through 2011

HP Integrity Servers: OpenVMS V8.3 Dual-core support



New Dual-core Processor Integrity Systems



New Entry Level
System H1 2007



rx3600
4u
2P/4C
OpenVMS V8.3+



rx6600
7u
4P/8C
OpenVMS V8.3+



rx7640
9u
2 cell
(8P/16C)
OpenVMS V8.3



rx8640
17u
4 cell
(16P/32C)
OpenVMS V8.3



Superdome
Max 4 cell
(16P/32C)
partition
OpenVMS V8.3

System board upgrade
rx2620 2u, 2P/4C
OpenVMS V8.3



Processor upgrade
rx4640 4u, 4P/8C
OpenVMS V8.3

Dual-core Upgrades

OpenVMS supports the
sx2000 chip with only
Montecito processors
rx7640, rx8640 and
Superdome.

License Trade In Rules to Integrity

- License transfer from AlphaServer or VAX
 - Services contract (with license to use)
 - Even swap at no charge for “equivalent product”
 - Parallel usage for a set period
 - Must purchase at least one year of support
 - No services contract
 - 60% discount on new license price
 - Parallel usage for a set period
 - Must purchase at least one year of support

Configuration Equivalent: Mid-Range Alpha to Integrity Entry-class (Montecito)



Free O/S License
transfer



AlphaServer ES47

4u

4 Alpha CPUs

EV7 1.15GHz/1.75MB

32 GB memory

5 PCIX slots

Integrity Server rx3600

4u

(2 Processors/4 Cores)

1.6 GHz/18MB Cache

48 GB memory

8 PCIX slots

Configuration Equivalent: High End Alpha to Integrity Mid-range (Montecito)



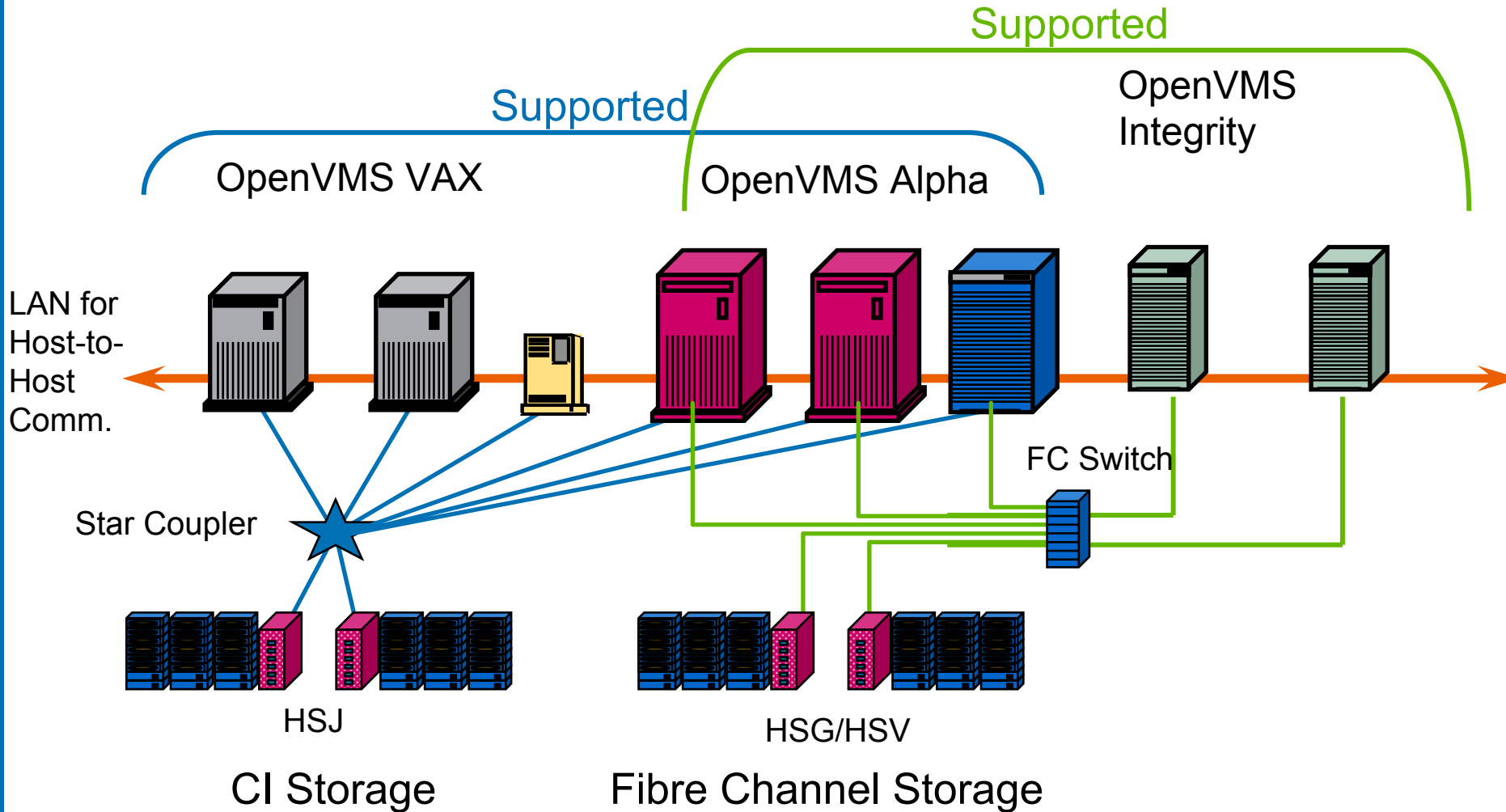
Free O/S License transfer



Alpha server GS1280
Full Cab
16 Alpha CPUs
EV7 1.15GHz/1.75MB
128 GB memory

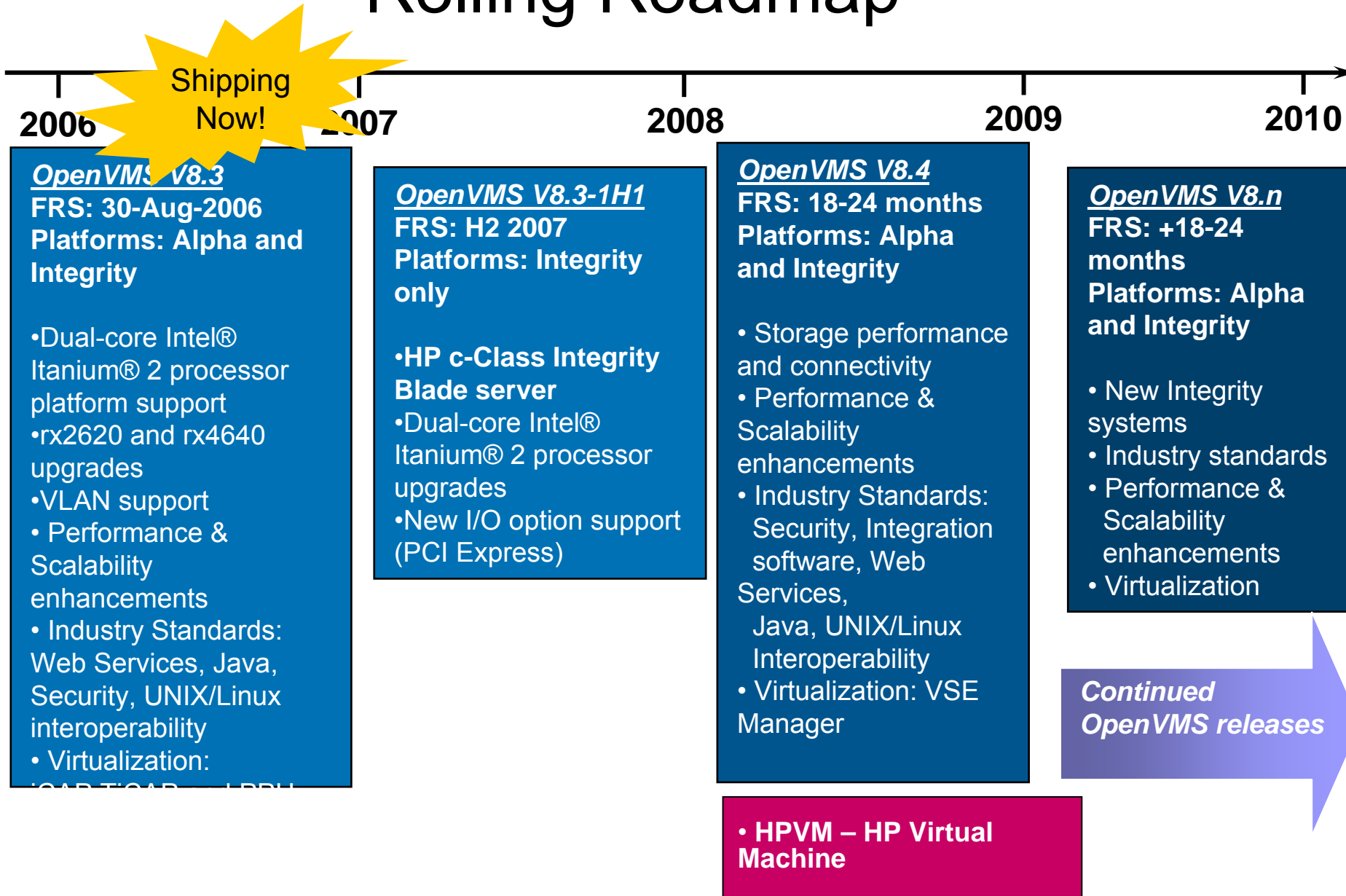
Integrity Server: rx7640
9u
2 cell (8 Processors/16 Cores)
Montecito 1.6 GHz/18MB
128 GB memory

OpenVMS Clusters Facilitate Integrity Adoption

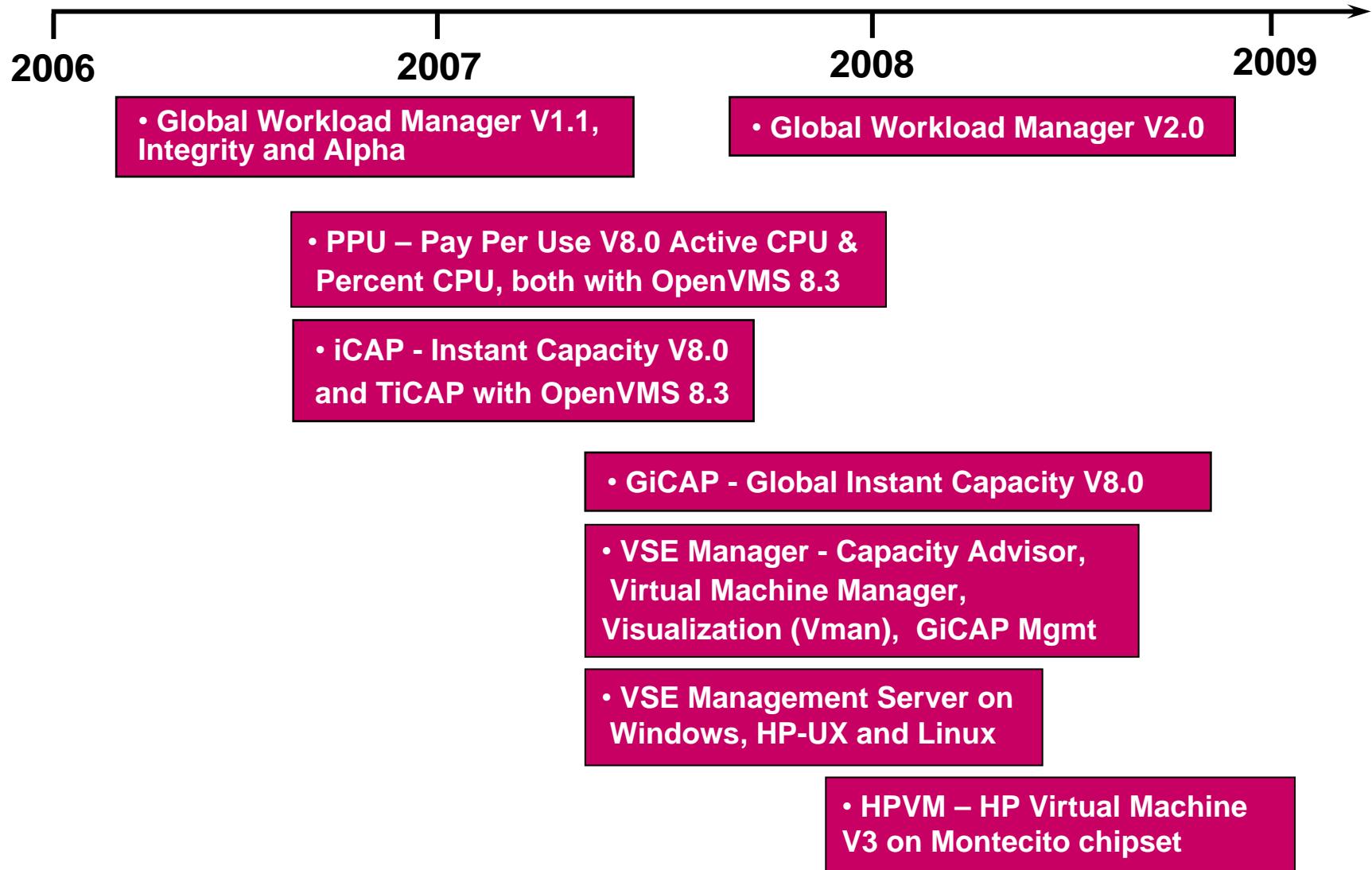


NOTE: Support for VAX and Integrity mixed environment is supported for migration purposes only.

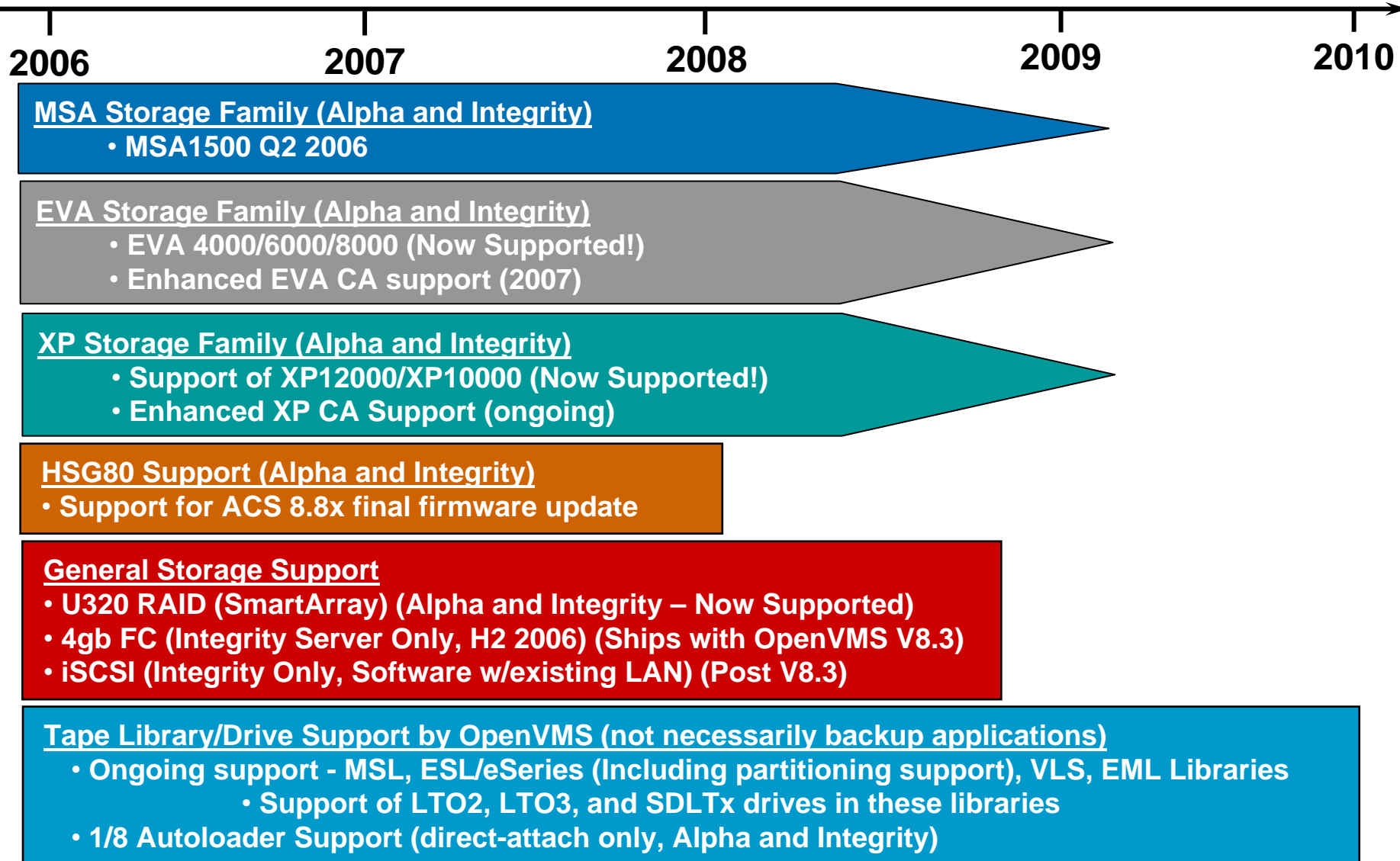
HP OpenVMS Operating System Rolling Roadmap



OpenVMS *Virtual Server Environment* Virtualization Roadmap



OpenVMS Storage HW Roadmap



OpenVMS Operating environments



OpenVMS I64 Mission Critical Operating Environment (MCOE)

OpenVMS I64 Enterprise Operating Environment (EOE)

OpenVMS I64 Foundation Operating Environment (FOE)

- OpenVMS Operating System
- Unlimited User Licensing
- CDSA
- DCE RPC Runtime
- DECnet-Plus End System
- DECnet IV
- DECprint Supervisor
- DECwindows Motif
- Distributed NetBeans
- Enterprise Directory
- Java™ Platform, Standard Edition, Development Kit (JDK)
- Kerberos
- Performance Data Collector
- Secure Web Server, wt Tomcat, PHP and Perl
- Secure Web Browser
- Simple Object Access Protocol (SOAP) Toolkit
- Secure Socket Layer (SSL)
- UDDI Client Toolkit
- (Web) Management Agents (for operation with HP Systems Insight Manager)
- Web Based Enterprise Management (WBEM)
- Web Services Integration Toolkit (WSIT)
- XML

Additions to Foundation:

- RMS Journaling
- Volume Shadowing
- DECram
- OpenVMS Management Station
- Availability Manager
- OpenView Performance Agent

Additions to Enterprise:

- OpenVMS Clusters
- OpenVMS RTR Backend



One DVD media for all 3 OE's

OpenVMS Integrity Operating Environment Per-processor Core License (PCL) Pricing

	<u>US\$ List Price</u>
	<u>PCL Price</u>
Tier 1 - up to 2 socket systems	
Foundation OE	\$ 895
Enterprise OE	\$6,160
Mission Critical OE	\$10,410
Tier 2 - 2 to 4 socket systems	
Foundation OE	\$1,195
Enterprise OE	\$6,160
Mission Critical OE	\$10,410
Tier 3 - unlimited socket systems	
Foundation OE	\$2,970
Enterprise OE	\$7,940
Mission Critical OE	\$12,170



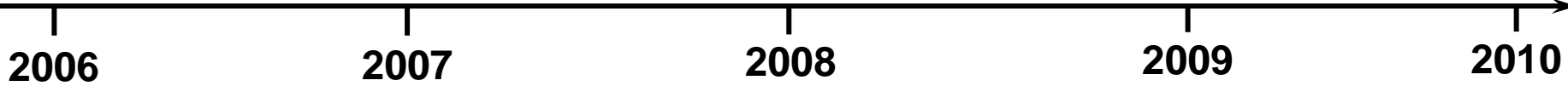
**Operating Environments (OE's) are sold per core.
One OE license is required per active core.**

OpenVMS Integrity Layered Product Phase Rollout Plan



Available Now!	2006/2007
<ul style="list-style-type: none"> • Compilers: <ul style="list-style-type: none"> • BASIC • C • C++ • COBOL • Fortran • Pascal • DECset tools • DCE • DQS • FMS • OpenView OVO Agent • RAID Software • Archive Backup System • Data Cartridge Server • Disk File Optimizer • Hierarchical Storage Manager • Media Robot Utility • Reliable Transaction Router • Save Set Manager • X.25 • HP OpenVMS Migration Software 	<ul style="list-style-type: none"> •ACMS (including TP Web & TP Desktop Connectors) •BaseStar Family <ul style="list-style-type: none"> •BASEstar Open Server •Omni API •Omni MMS •DECoasp/H1 •DECosap/ AP •Siemens S7 •Datatrieve •DECforms •Global Workload Manager (gWLM) •GKS •CIFS evaluation kit •TDMS
	Not Porting
	<ul style="list-style-type: none"> •Advanced Server •Storage Library System (SLS)

OpenVMS IBM SNA Solutions



Support for HP OpenVMS SNA product set on OpenVMS Version 8.2 and 8.3 Alpha available now

IBM SNA product port to Integrity Supporting OpenVMS V8.2-1 and V8.3, February 2007

- HP SNA 3270 Terminal Emulator for OpenVMS
- HP SNA Remote Job Entry for OpenVMS
- HP SNA Application Programming Interface for OpenVMS
- HP SNA 3270 Data Stream Programming Interface for OpenVMS
- HP SNA APPC/LU6.2 Programming Interface for OpenVMS
- HP SNA Printer Emulator for OpenVMS
- HP SNA Data Transfer Facility "Client & Server" for OpenVMS

File/Print Servers & Common Internet File System (CIFS) - Samba



2006 2007 2008 2009 2010

Advanced Server V7.3a ECO4 for OpenVMS
V8.2 Alpha – Available Now!

Advanced Server V7.3b for OpenVMS V8.3
Alpha – December 2006

Common Internet File System (CIFS) Evaluation
Release (Based on Samba V3)
available now for both Integrity & Alpha

CIFS Production release
(Based on Samba V3)
Alpha & Integrity H2 2006

CIFS V.Next
Based on Samba V4

PATHWORKS for OpenVMS V6.1
• Support for OpenVMS V7.3-2 release
• No Integrity support planned

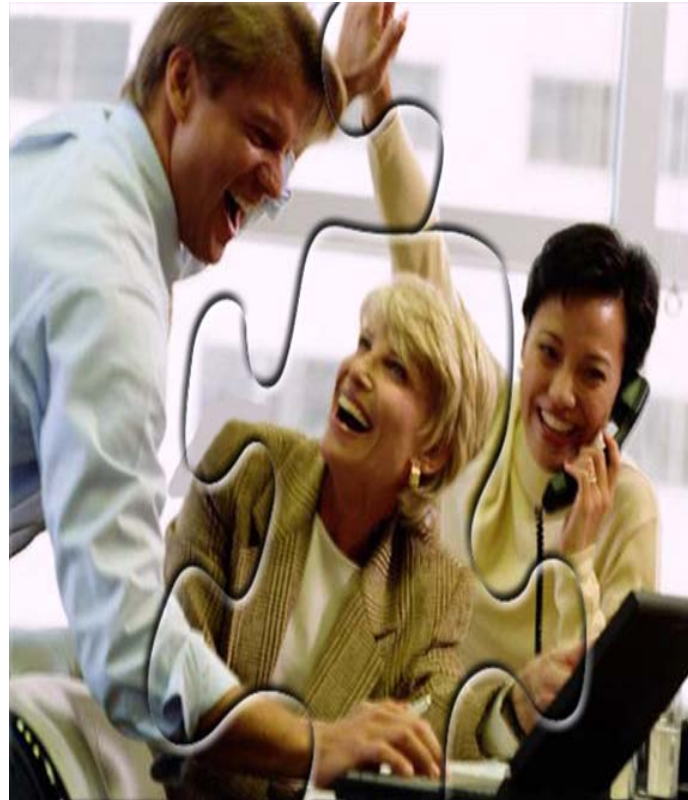
PATHWORKS 32 – V7.4 Continued support for MS Pack
releases for Win 2000, Windows XP & Win Server 2003

BEA MessageQ for OpenVMS Integrity



- BEA MessageQ Version 5.0 has been ported to OpenVMS 8.2 on Integrity.
- Availability – October 2006
- Customers running MessageQ under OpenVMS Alpha with a current Service Contract will receive a 100% trade-in credit for the license to run MessageQ under OpenVMS on Integrity.
- Questions: Contact Gene Spadi at gene.spadi@hp.com

Education
Programs



Hobbyist
Program

OpenVMS Promotion Activities

OpenVMS Integrity Education Programs



- CIP— Campus Investment Program
 - Free or steep discounts for OpenVMS, for teaching and research only (Integrity only)
- CSLG – Campus Software License Grant
 - Low Cost licensing for OpenVMS, for larger education and research institutions
- ELP— Education License Program
 - Free licenses for OpenVMS for teaching and research only.

All of HP's campus software programs can be found on: <http://www.hp.com/go/education/>

OpenVMS Hobbyist Program

Purpose:

To provide a low cost solution for the VMS hobbyist wanting to learn more about VMS for the simple pleasure of using one of the finest operating systems ever developed for their own personal use.

- Started at DECUS Cincinnati, May 1997
- 805335 licenses during the life of the Hobbyist Program
- 1404 currently active VAX hobbyists
- 1397 currently active Alpha hobbyists
- More information
<http://www.openvmshobbyist.com>
- Susan Skonetski – Program Manager



Integrity
program
announced!

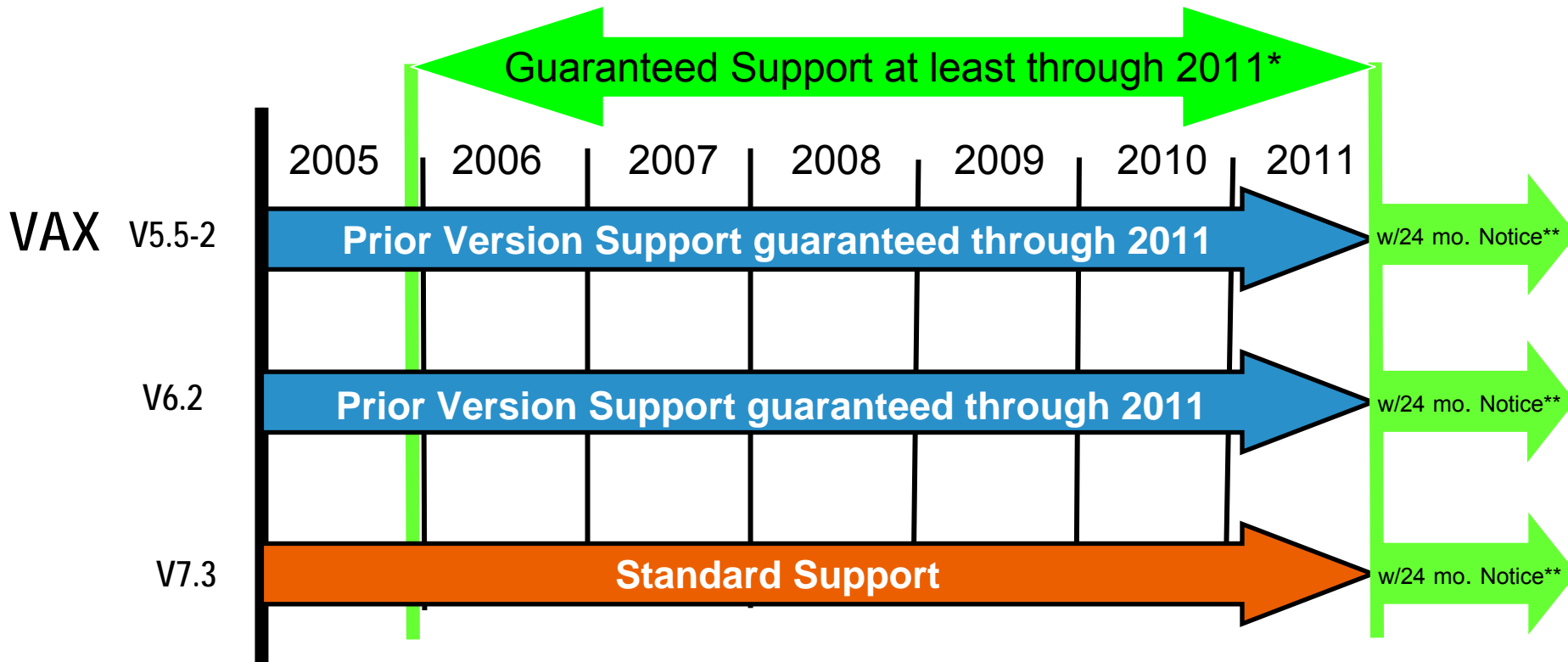
HP Support Policies



HP Support Policy

- Unless otherwise agreed to by Hewlett-Packard Company (HP), HP provides HP Support Services only for the current and immediately preceding versions of HP software, and only when the software is used with hardware that is included in HP-specified configurations. A version is defined as a release of a software product that contains new features, enhancements, and maintenance updates."
- <http://h71000.www7.hp.com/openvms/openvms/supportchart.html>

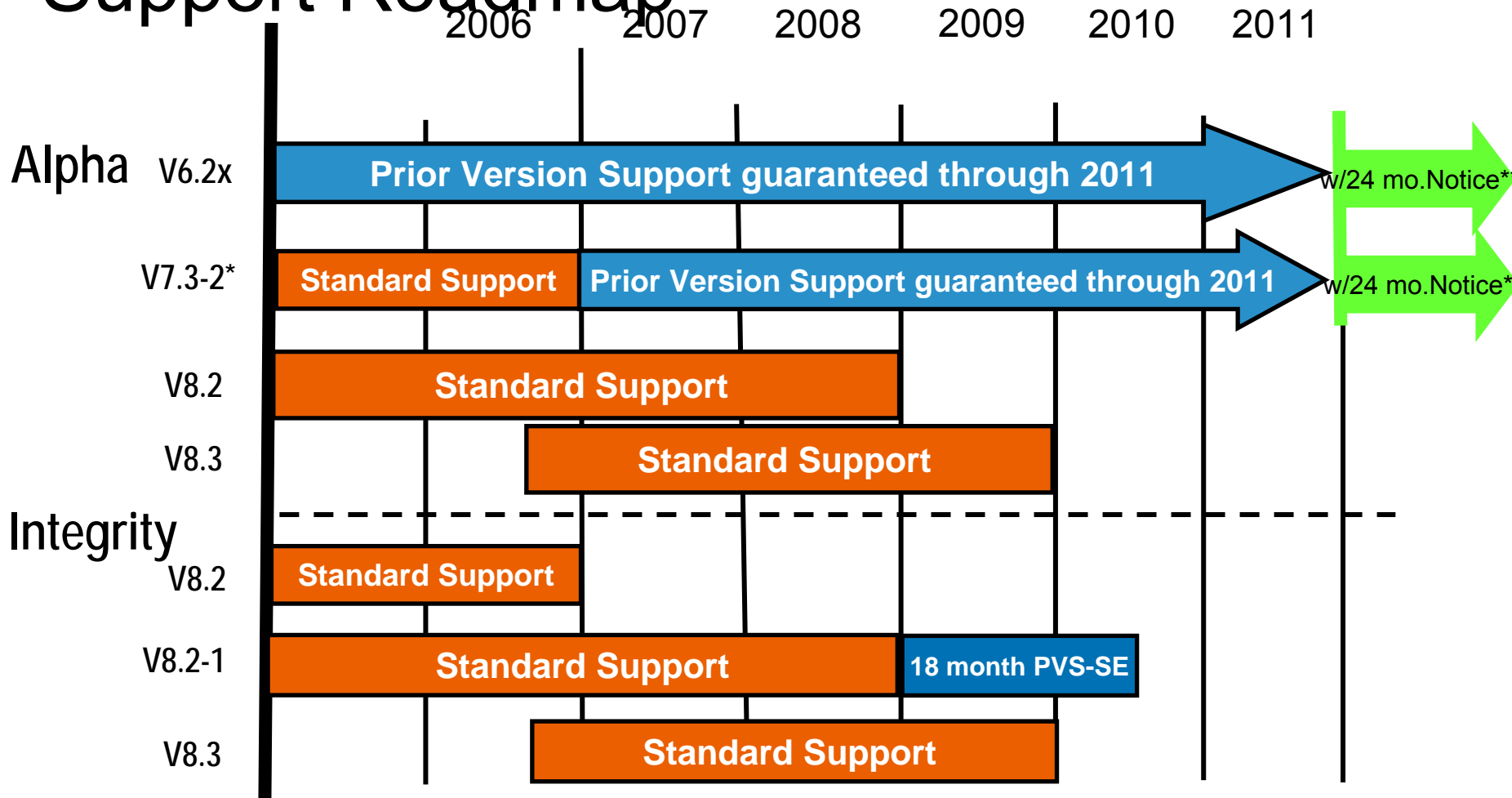
Enhanced OpenVMS Service Support Roadmap



* Prior Version or Standard support will be provided on these versions at least through 2011.

** w/24 mo notice: A 24-month notification will be provided before support is ended.

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Standard support ends when the 2nd subsequent release ships. HP supports the current version and one back. Future version shipment dates are estimates.

OpenVMS Cluster Support Matrix



		AlphaServer Releases		
		V7.3-2	V8.2	V8.3
Integrity server Releases	V8.2	Warranted	Warranted	Migration
	V8.2-1	Warranted	Warranted	Migration
	V8.3	Migration	Migration	Warranted

- Notes:**
- Same platform/version pairings are always warranted
 - Alpha V7.3-2 and V8.2 are warranted together
 - Alpha V7.3-2 goes into Prior Version Support 31-Dec-2006
 - Integrity V8.2 goes EOSL 31-Dec-2006

		AlphaServer Releases		
		V7.3-2	V8.2	V8.3
VAX Release	V7.3	Warranted	Warranted	Warranted

Note: VAX and Integrity Servers can ONLY exist in the same cluster for temporary migration purposes

OpenVMS Technical Update





OpenVMS V8.3

- Shipment date = August 30, 2006
- Highlights:
 - New Integrity platform support
 - New Hardware option support
 - General User enhancements
 - UNIX Portability features
 - Security Enhancements
 - Virtualization: iCAP, TiCAP and PPU
 - Continued Java, web services updates
 - Performance improvements

Hardware and Option support

- Dual-core Intel® Itanium®2 based systems
 - Maximum 32 cores
 - Maximum 4 cells
- 10gb Ethernet NIC (with ECO kit)
- 4gb Fibre channel

Integrity only

- DVD Record: easily record locally mastered volumes/files onto optical media
- USB MUX serial terminal connections
- VLAN: Reduces the number of NICs required for connectivity

General User Features V8.3

- LMF terminology update – Integrity only
- AES encryption support in BACKUP
- Performance improvements to BACKUP, Queue Manager & Copy
- New lexical functions
- Queue job limit increased to 65535 jobs
- "Live view" of Process Quota consumption
- Cluster satellite boot for Integrity

Unix Portability (UP) V8.3

OpenVMS will be like any other “UNIX flavor” for easy application portability

- POSIX style pathname processing brings
 - system-wide root
 - mount points
 - current working directory
- Symbolic Links
- Byte range locking
- Encryption routines
- GNV update

Security Enhancements

- Secure Software Delivery
 - Verification/authenticity of software kits installed on OpenVMS with cryptographic signature
- ACME Login (real external authentication)
 - LDAP ACME
 - Kerberos ACME
- AES Encryption
 - Industry standard, stronger encryption included in the base operating system
- SSL as a SIP
 - Automatically part of operating system installation script

TCP/IP Version 5.6

Highlights:

- NFS Server support for Integrity
- SSH upgrades now with Kerberos support
- SCP/SFTP preserves OpenVMS file attributes
- TCP/IP\$CONFIG.COM enhancements (failSAFE IP)
- DNS/BIND 9 Resolver and v9.3 Server
- DNSSEC
- NTP Security Update (SSL), NTP AutoKey
- SMTP Multi-Domain Zone (Mail improvements)
- TELNET Server Device Limit
- IPv6 support for LPD and TELNETSYM
- FTP Performance Boost
- Improved Management Utilities (ifconfig etc.)

V8.3 Performance & Scaling Enhancements



- RMS Global Buffers in P2 Space
- “File not found” errors perform much faster on Integrity
- Reduced alignment faults in the OS and numerous components
- Installed Resident Images now have code in S2 space (I64)
- Support for shared address data for installed images
- Improvements in the code to Probe access to virtual address
- Improvements for PEDRIVER Block Transfers
- Reduced the time to write an Integrity crash dump
- Lock Manager improvements for computing group grant mode (available in remedial kits too)
- Eliminate usage of the SCHED spinlock for PFW and PFC upcalls affects POSIX threads apps



Performance

- The OpenVMS operating system performs well on Integrity servers with just a few caveats
 - alignment faults – apps as well as OS need to eliminate them
 - exception handling – we are working on significant improvements
- Each OpenVMS release shows performance improvements over the previous – 8.0, 8.1, 8.2, 8.2-1, 8.3.....
- Most applications should show better performance on Integrity servers
- If you port an application and are disappointed in performance, we want to know.
 - Please contact:
OpenVMS_Perf@hp.com



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- Integrity Servers have substantially lower price/performance
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Integration and System Management



- Web Services Integration Toolkit (WSIT) 1.1
 - additional ease of use features and JSP support
- Java releases:
 - Java 1.4.2 update on Integrity
 - Java 5.0 release on Alpha
 - Java 5.0 release on Integrity
 - Available today
- Certification of BEA WebLogic Server 8.1 SP3 on Integrity
- OpenView Performance Agent

OpenVMS Future Directions

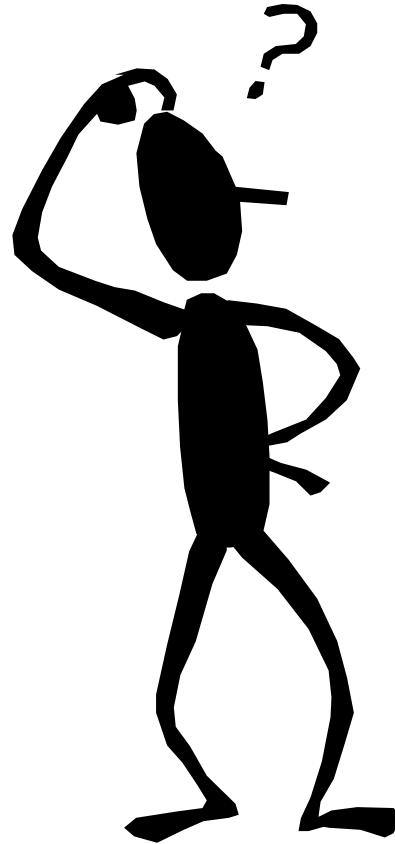


Version 8.4 New Feature Potentials

- >32 core support on Integrity
- 2TB LBN file system support
- iSCSI support
- Shared Stream I/O (SSIO)
- Clusters over IP
- Virtualization tools – Capacity Advisor, Virtualization Mgr.
- Performance enhancements – signaling and condition handling improvements, Threads, I/O, system service dispatching, floating point register save/restore
- New TCP/IP release featuring IPSEC

Version 8.3-1H1:

- Integrity only hardware release
- HP c-Class Integrity Blades support
- New I/O support (PCI Express)
- Dual-core Intel® Itanium®2 upgrade



Any comment?

Questions? Concerns?