

HP OpenVMS Rolling Roadmaps

These roadmaps are provided to you solely for your convenience and are updated approximately every 3 months. While it contains our current plans, all information in the roadmaps is subject to change without notice. We don't warrant that we'll introduce any product or feature discussed in the roadmap at any time, nor that the information is accurate.

May 2006





HP Systems Roadmaps



Moving to 3 leadership product lines – built on 2 industry standard architectures

Current

HP NonStop

HP Integrity

HP 9000 / e3000

HP AlphaServer

> HP ProLiant

Enabling larger investment in value-add innovation

Future

Industry Standard

HP NonStop (Itanium based) '05

HP Integrity (Itanium based)

HP ProLiant (IA-32 based)

Common Technologies

- Management
- Virtualization
- HA
- Storage
- Clustering







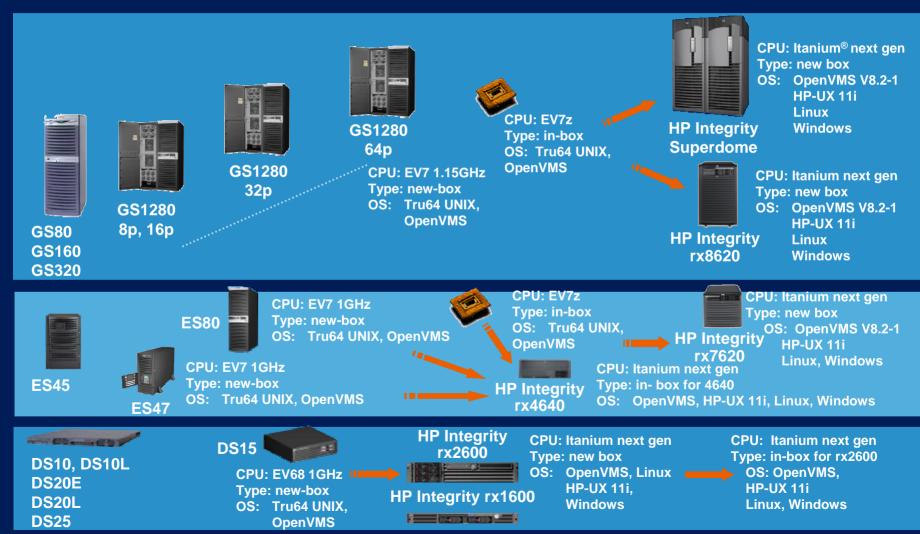


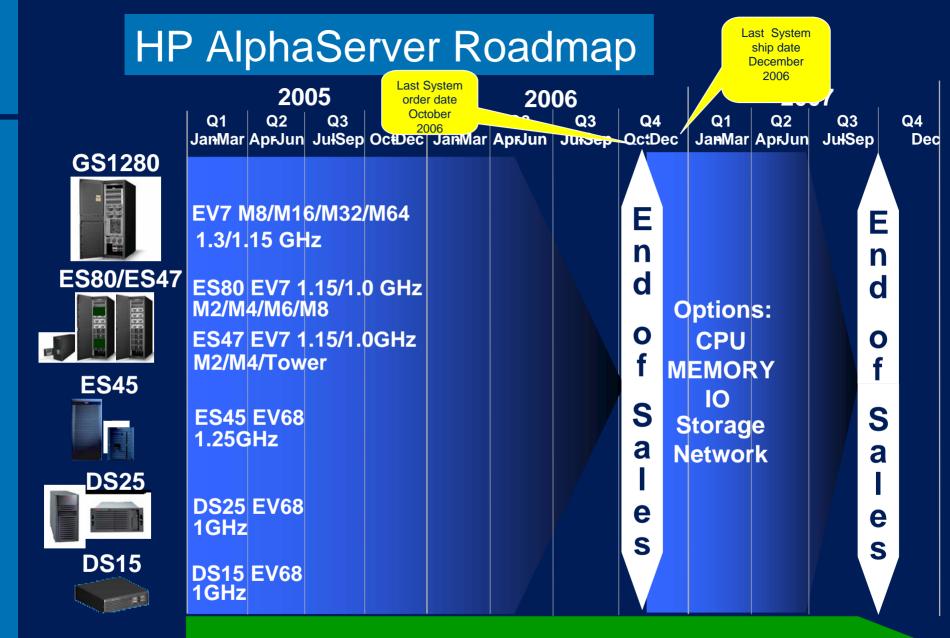
HP's multi investment strategy allows for phased evolution to Integrity servers

PA-RISC	PA-8700 speed-up	PA-8800	PA-8900	
Intel [®] Itanium [™] architecture	ltanium2	Madison	Itanium [™] Mx2 Madison+ Deerfield	Itanium [™] processor family Montecito
Alpha	EV68	EV7	EV7z	
MIPS®	MIPS R12000	MIPS R14000	MIPS speed-up	

HP AlphaServer Evolution

Sales until 2006, with support at least through 2011





Support at least through 2011



HP OpenVMS Operating System for Integrity servers, AlphaServers and VAX

- OpenVMS Releases
- OpenVMS on Integrity Servers
- UNIX Portability
- Clusters
- Storage
- LAN
- Security

Note: Bright green shaded product boxes means product is already available



HP OpenVMS roadmap

<u> </u>	06	07	08	09	10
HP AlphaServer Systems	V8.3, H2 2006ProductionIntegrity andAlpha release		V8.n, +12 – 18 months Continued functional releases	V8.n, +12 – 18 months Continued functions releases on	
HP Integrity servers	 Montecito upgrades Security enhancements iCAP & TiCAP 	HP Integrity servers • New Integrity systems • Scalability • Ongoing standards	on AlphaServer and HP Integrity servers	AlphaServer an Integrity servers	

Continued enhancements, sales of AlphaServer systems at least until 2006, with support at least until 2011 Integrity Server support:

- Support for new Montecito platforms plus upgrades for rx2620 and rx4640 supported in OpenVMS V8.3
- Support for Next Generation HP Blade Server with OpenVMS in H2 2007
- Focus areas:
- Virtualization: Global Workload Manager, Pay Per Use, iCAP, TiCAP
- OpenView support for OpenVMS: Network Node Manager, Data Protector, Storage Area Manager, OVO Agent available today; adding Performance Agent, database SPI, upgrade to OVO v8, Storage Essentials
- Continued enhancements in performance and scaling, disaster tolerance, security and standards
- Support for current and next generation storage architectures
- Continued J2EE and .Net support
- · Mixed Alpha and Integrity cluster support with shared fibre channel storage today

Services

- Full set of tools/services to support ISVs and customer transition to HP Integrity servers
- · Investment protection through Alpha RetainTrust Program

ISV support

5/20/2006

- Nearly 1,000 applications committed for porting to OpenVMS for Integrity servers
- FastTrack program to assist with ISV support

HP OpenVMS Operating System Rolling Roadmap

2006 2007 2008 2009 <u>2010</u>

OpenVMS V8.3

FRS: H2 2006

Platforms: Alpha and

Integrity

- New Platform support with Montecito
- rx2620 & rx4640
 Montecito upgrades
- VLAN support
- Performance & Scalability enhancements
- Industry Standards: Web Services, Java, Security, UNIX/Linux interoperability
- Virtualization: iCAP,TiCAP and PPU

OpenVMS V8.3-1H1

FRS: H2 2007 Platform: Integrity only

- Montvale upgrade support
- New I/O option support (PCI Express)
- Next Generation Integrity Blades support

OpenVMS V8.4

FRS: 2008

Platforms: Alpha and

Integrity

- Storage performance and connectivity
- Performance & Scalability enhancements
- Industry Standards: Security, Integration software, Web Services, Java, UNIX/Linux Interoperability
- Virtualization: VSE Manager

HPVM – HP Integrity
 Virtual Machine

OpenVMS V8.n FRS: +12-18 months Platforms: Alpha

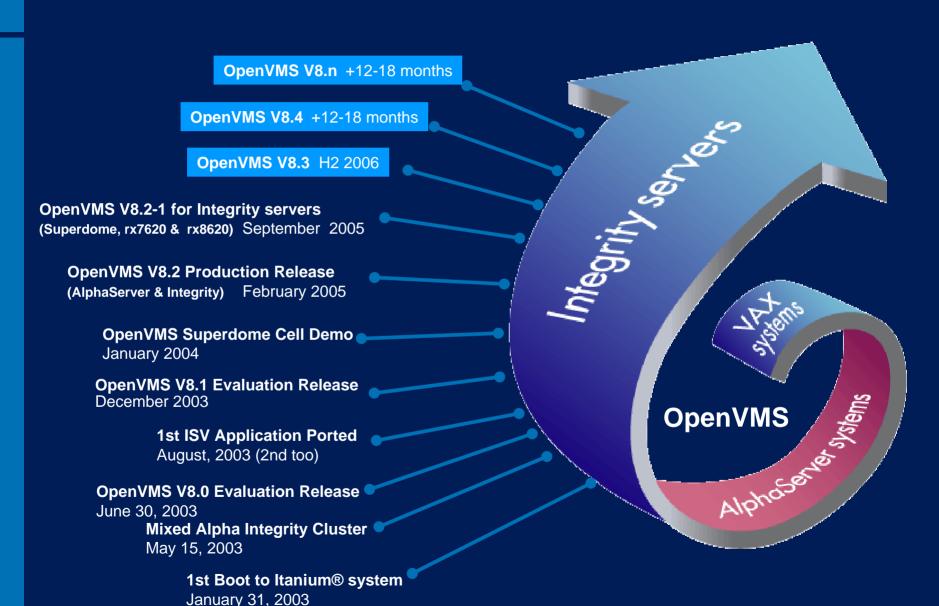
New Integrity systems

and Integrity

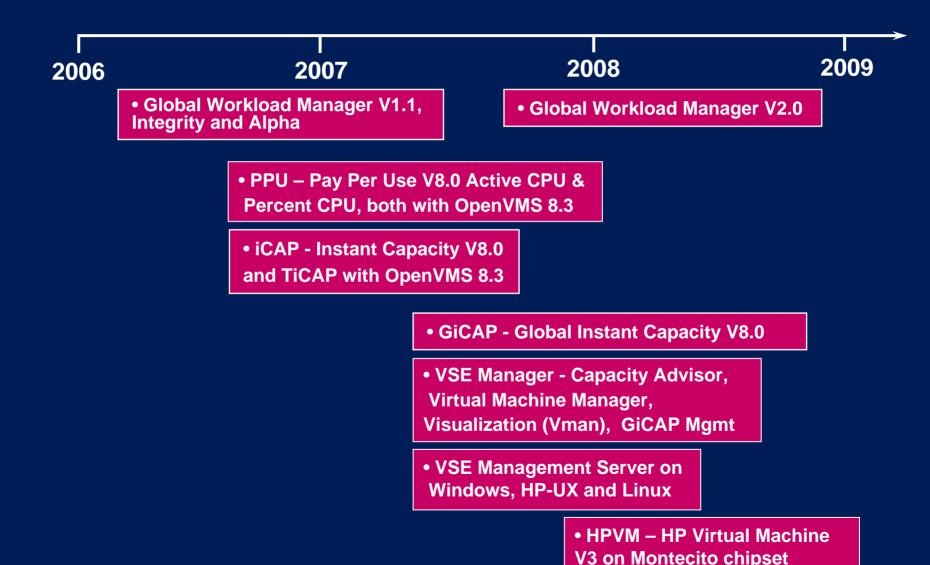
- Industry standards
- Performance & Scalability enhancements
- Virtualization

OpenVMS releases continue...

HP OpenVMS – The Road to Integrity



OpenVMS Virtual Server Environment Virtualization Roadmap



All implementations Integrity only unless otherwise specified

The information contained herein is subject to change without notice

OpenVMS Cluster Roadmap



V8.2-1 (Integrity Only) – Improved Cluster Support

- Full 96 node mixed Alpha/Integrity server cluster
- 2-node Shared SCSI cluster support w/MSA30MI (Multiinitiator) shelf

<u>V8.3 – Improved Mixed-Architecture Alpha/Integrity Clusters</u>
• Integrity Server Satellite Boot Support

Disaster Tolerant (DT) Cluster Interconnect

- Qualify "FC to IP" bridge technology
- Share Storage and SCS traffic over single protocol path

Post V8.3 – Cluster Interconnect Update

SCS Traffic over TCP/IP Protocol

New Cluster Interconnect (Post V8.3)

 Investigation of Next-generation Low-Latency Interconnect (RDMA-based)
 (Integrity Servers Only)

OpenVMS Cluster Support Matrix

V7 2 2

AlphaServer Releases

V0 2

V8.2

V8.3

Integrity server Releases V8.2

V8.2-1

V8.3

V / .3-Z	V O.Z	V 0.3
Warranted	Warranted	Migration
Warranted	Warranted	Migration
Migration	Migration	Warranted

Notes:

- Same platform/version pairings 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 exist in the same cluster ONLY for temporary migration purposes

UNIX Portability Roadmap



OpenVMS V8.2 Symbolic Links SDK

- •CRTL APIs
- DCL support
- NFS support (in TCP/IP ECO)

OpenVMS V8.x

Ongoing enhancements

OpenVMS V8.3

- Symbolic Links
- Byte range locking

POSIX Pathname SDK

- Support for OpenVMS 8.2-1 and 8.3
- GNV update

OpenVMS V8.4

- POSIX style pathname support
- Semaphores
- Shared write for stream files
- ioctl()
- GNV update
- Shared memory APIs

OpenVMS Storage HW Roadmap



XP Storage Family (Alpha and Integrity)

- Support of XP12000/XP10000 (Now Supported!)
- Enhanced XP CA Support (ongoing)

HSG80 Support (Alpha and Integrity)

Support for ACS 8.8x final firmware update

General Storage Support

- U320 RAID (SmartArray) (Alpha and Integrity Q1 2006)
- 4gb FC (Integrity Server Only, H2 2006) (Ships with OpenVMS V8.3)
- iSCSI (Integrity Only, Software w/existing LAN) (Post V8.3)

Tape Library/Drive Support by OpenVMS (not necessarily backup applications)

- Ongoing support MSL, ESL/eSeries (Including partitioning support), VLS, EML Libraries
 - Support of LTO2, LTO3, and SDLTx drives in these libraries
- 1/8 Autoloader Support (direct-attach only, Alpha and Integrity)

OpenVMS Enterprise Backup Solutions Roadmap

2006 2007 2008 2009 2010

HP OpenView Data Protector Enhancements

- Post V5.5 Enhancements
 - Oracle (H2 2005), Oracle Rdb Support (late 2006), port to Integrity (H1 2006)
- Standalone restore, server support (TBD)

Legato NetWorker Enhancements

- ODS5, Oracle, Oracle Rdb (Shipped mid-2004)
- Integrity port (2006)
- Standalone Support OpenVMS Server Support (TBD)

Archive/Backup System V4.3A (Q1 2006)

- Support for 1/8 Autoloader
- Support for e-Series tape library partitioning
- Bug fixes

Storage Library System V2.9J (Q1 2005)

- Support for OpenVMS Alpha V8.2
- No Integrity port

Archive/Backup System V4.4 (Q3 2006) Alpha/Integrity

- Support for OpenVMS V8.3
- Performance Enhancements
- Bug Fixes

ABS V4.3A.01 (Q2 2006) Alpha

• RDF Support Alpha 8.2 +

SLS V2.9J ECO1 (Q3 2006) Alpha

- RDF Support Alpha 8.2 +
- Bug Fixes

New Features, New Tape Support, New O/S Support

Maintenance only -New O/S Support, Releases as Needed

OpenVMS Storage SW Roadmap

2006 2007 2008 2009 2010

Media Robot Utility V1.8A (Q1 2006)

- Partitioning Support
- 1/8 Autoloader Support

DCSC V3.3

- OpenVMS V8.2
- ACSLS PL4 Transfers

Disk File Optimizer V2.9

- OpenVMS V8.2 Support
- Integrity & Alpha Support

Hierarchical Storage Manager V4.3

- OpenVMS V8.2 Support
- Integrity & Alpha Support

RAID Software V3.0

- OpenVMS V8.2 Support
- Integrity & Alpha Support
- Support PCSI installation Alpha & Integrity

Save Set Manager V1.8

- OpenVMS V8.2 Support
- Integrity & Alpha Support

Update Releases done as needed for ongoing support of environmental changes and new O/S releases on Integrity, Alpha, & VAX

OpenVMS LAN HW Roadmap



OpenVMS V8.3

- Integrity Network Boot support
- VLAN support
- 10 Gigabit NIC support (Integrity Servers only)

Post OpenVMS V8.3:

RNIC Support

OpenVMS Security Roadmap

2006 2007 2008 2009 2010

OpenVMS V8.3

- Production Quality
 ACME Login with LDAP &
 Kerberos Agents
- CDSA/Secure Delivery
- Encrypt for OpenVMS Integration with AES support
- Kerberos & SSL version updates
- Kerberized SSH

Post OpenVMS V8.3: (Futures)

- PKCS11
- IPSEC

Open Source Security Tools

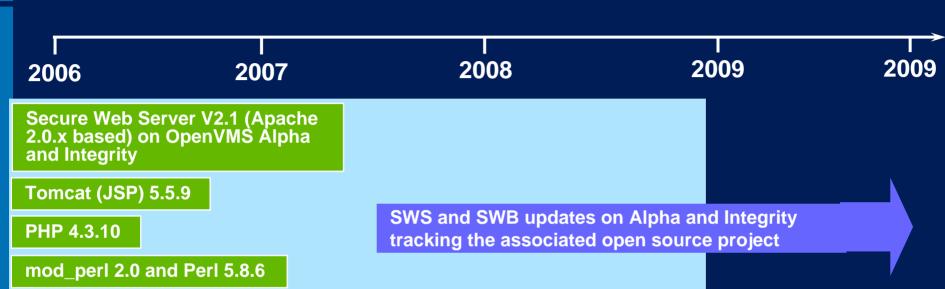
- SSLDump
- SNORT for Network Intrusion Detection
- GNV Update



OpenVMS eBusiness and Integration Technologies



OpenVMS eBusiness and Integration Technologies



Secure Web Browser V1.7-11 on OpenVMS Alpha and Integrity

BridgeWorks V3.0A on OpenVMS Alpha

COM V1.4 on OpenVMS Alpha

OPC Transport for OpenVMS Integrity

DCE V3.2 for OpenVMS Alpha and Integrity

OpenVMS eBusiness and Integration Technologies

2006 2007 2008 2009 2010

Java™ Platform, Standard Edition, v 1.4.2, for OpenVMS Alpha and Integrity

Java SE 5.0 on OpenVMS Alpha

Java SE 5.x updates on Alpha

Java SE 5.0 on OpenVMS Integrity

Java SE 6.0 on OpenVMS Integrity

Native JDBC/ODBC (via Attunity Connect)

Java SE updates on Integrity

XML Technology on OpenVMS Integrity Web Services Tools (XML, SOAP, WSDL, UDDI)

SOAP Toolkit on OpenVMS Integrity

UDDI Client Toolkit (UDDI4J) on Alpha and Integrity

Web Services Tools updates on OpenVMS Alpha and Integrity

Web Services Integration Toolkit (WSIT) 1.1 for OpenVMS Alpha and Integrity

OpenVMS eBusiness and Integration Technologies



BEA WebLogic 8.1 sp3 on OpenVMS Alpha and Integrity

BEA WebLogic Integrate 8.1 sp3 on OpenVMS Alpha

BEA MessageQ 5.01 on OpenVMS Alpha and Integrity

2AB Orb2 (CORBA) on OpenVMS Alpha and Integrity

IBM WebSphere MQ V5.3 on OpenVMS Alpha and Integrity

WRQ Reflections and VeraStream for OpenVMS Alpha and Integrity

Attunity Integration Suite on OpenVMS Alpha and Integrity

Compuware: Uniface - a component based development environment





Database Solutions



Oracle Roadmap - OpenVMS

Future Now **Q3CY06** •8 iR3(8.1.7.4) Next Major Oracle10gR2 Database •9iR2(9.2.0.7) **Database Production for** Releases •20% perf boost Release Itanium (Aug) & •10gR1(10.1.0.3) **Itanium only** Alpha (Sept) •10qR2 Client Early Drop for •Alpha 9i/10g **Itanium** patchsets •10g (10.1.x) Split •10g (9.0.4) Split **Application** Configuration Configuration Server •11.5.10 w/10gR1 •11.0.3 w/8.1.7 E-Business •11.5.8 w/8.1.7 (Split Suite **Configuration**) •11.5.10 w/9.2 (Split Configurations) •VMS 7.3-2, 8.2 w/8*i*R3, 9*i*R2, 10gR2 OS •Split Configurations allow backend database to reside on Cert OpenVMS. Apps must be on supported middle-tier: HP-UX PA-RISC, Tru64 UNIX, Linux x86, Windows x86 Support for OpenVMS Alpha Database 10gR2 until at least 2011



•8.3 Certification Planning Underway

Oracle Rdb Roadmap

Development Stream	Q1 CY06	Q2 CY06	Q3 CY06	Q4 CY06	Q1 CY07	Q2 CY07	Q3 CY07	Q4 CY07
Rdb 7.0	7.0.8.3		7.0.9.0	'	Maintenance		Maintenance	
VAX & Alpha	Maintenance Patch Release		Maintenance Patch Release + VMS 8.3 Certification		Patch Release		Patch Release	
Rdb 7.1			7.1.5.0		Maintenance	Maintenance Patch Releas	Maintenance	
Alpha			Maintenance Patch Release +		Patch Release		Patch Release	
			VMS 8.3 Certification					
Rdb 7.2	7.2.0.0	7.2.0.1	7.2.1.0	Maintenance Patch Release	Maintenance Patch Release	Maintenance Patch Release	Maintenance Patch Release	
IA64 & Alpha	Production Release	Maintenance Patch Release						
			VMS 8.3 Certification					
Rdb 7.3				7.3.0.0	Patch Release lre + nce		Maintenance Patch Release	7.3.1.0
IA64 & Alpha				New Feature + Maintenance Patch Release				New Feature plus Maintenance Patch Release



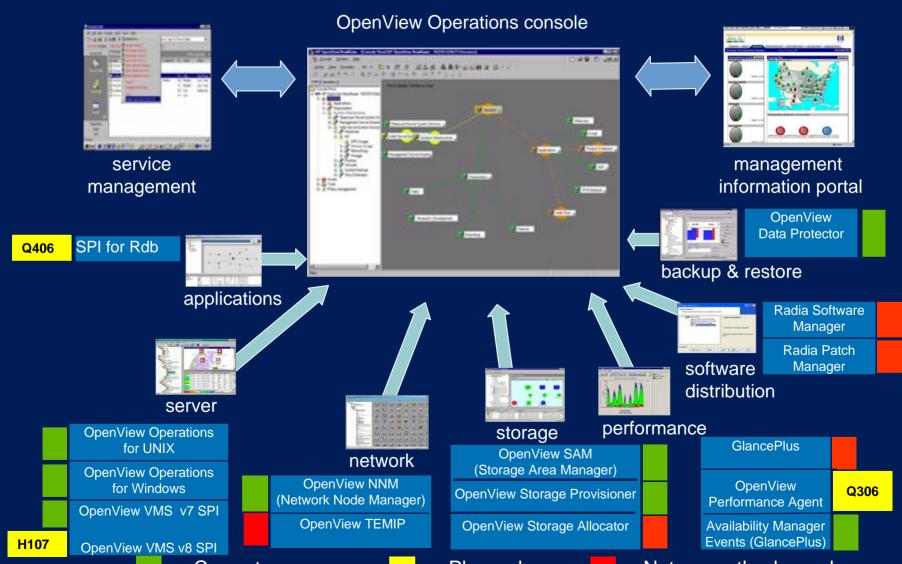


System Management

- HP OpenView Integration Planning
- HP Web Management Agents
- HP OpenVMS Solutions



HP OpenView Portfolio Roadmap



OpenVMS OpenView Roadmap



OpenView Operations (OVO) V7
Agent and OpenVMS SPI for
OpenVMS Alpha and Integrity

OVO V8 Agent and OpenVMS SPI on Alpha and Integrity

OpenView Performance Agent 4.0 for OpenVMS Alpha and Integrity OpenView Performance Agent 4.6 for OpenVMS Alpha and Integrity

Oracle Rdb SPI for OpenVMS Alpha and Integrity

Ongoing releases to support OpenView infrastructure

OpenVMS Server Management



Ongoing support and integration with HP Systems Insight Manager (SIM)

Management Agents V3.3 for OpenVMS Alpha and Integrity

WBEM Developers Kit V1.0 for OpenVMS Alpha (based on Pegasus)

WBEM Developers Kit V2.0 for Alpha and Integrity (based on Open Pegasus 2.5)

Ongoing releases to support WBEM infrastructure

Tools Integrated with OpenVMS



Availability Mgr V2.5 on OpenVMS Alpha & Integrity

Availability Mgr V2.6 on OpenVMS Alpha & Integrity

Availability Mgr V3.0 on OpenVMS Alpha & Integrity

Management Station V3.2D on OpenVMS Alpha and Integrity

ECP Performance Analyzer V5.5a for OpenVMS Alpha uses TDC 2.1

ECP Performance Analyzer V5.6 for OpenVMS Alpha uses TDC 2.2 and later

Ongoing support and maintenance of integrated tools

Tools Integrated with OpenVMS



Performance Data Collector (TDC) V2.1 for OpenVMS Alpha and Integrity

TDC V2.2 for Alpha and Integrity

TDC V2.3 for Alpha and Integrity

Graphical Configuration Manager (GCM) V1.1 for OpenVMS Alpha

Ongoing support and maintenance of integrated tools



Networking Products

- TCP/IP Services Server Products
- DECnet, WAN & X.25
- File/Print Servers and Common Internet File System (Samba)
- IBM SNA Products



TCP/IP Services for OpenVMS



TCP/IP V5.6 H2 2006 - Alpha & Integrity for OVMS V8.3

- DNS /BIND 9 Resolver & V9.3 Server
- NFS enhancements
- FTP performance improvements
- Security modifications
 DNS security extensions
 NTP sec update (SSL)
 SSH upgrade w/Kerberos
- Mail improvements
- •TELNET Server Device limit
- •IPV6 support LPD & TELNETSYM
- •TCPIP\$CONFIG (failSAFE) update
- Improved Mgt Utilities (ifconfig)

TCP/IP (Next)

- Continued focus on Networking enhancements to support interoperability, connectivity, discovery, and security
- IPSec

IPsec EAK available post OpenVMS V8.3 & TCP/IP V5.6

DECnet & X.25 Product Roadmap



DECnet

V8.2 & V 8.2-1 DECnet Phase IV on Alpha & Integrity available now

V8.2 & V8.2-1 DECnet-Plus on Alpha & Integrity available now

Continued support for DECnet Phase IV and DECnet-Plus on OpenVMS Versions (V8.3) H2 2006

X.25

V 2.0 & V2.1-1 X.25 H2 2005 (Alpha and Integrity) Available now!

Continued support for X.25 on OpenVMS Versions (V8.3) H2 2006

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 V7.3"n" OpenVMS V8.3 Alpha – H2 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

OpenVMS IBM SNA Solutions



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

IBM SNA product port to Integrity Supporting OpenVMS V8.2-1 November 2006

- 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

Support for HP OpenVMS SNA product set on OpenVMS V8.3 H2 2006

DECprint Supervisor (DCPS) Roadmap

2006 2007 2008 2009 2010

DCPS V2.5 Q4 2005 - Q1 2006

- Alpha, Integrity, VAX
- New HP printer support
- Better LPD support

DCPS V2.6 Q4 2006

- Alpha, Integrity, VAX
- New HP printer support
- Select 3rd party printer support
- IPV6 support (Alpha & Integrity)
- USB port printing

Future functionality under consideration:

- PDF Printing
- Print to file
- Parallel port printing
- PPD file parsing
- Release-independent new printer support

DCPS V2.7 Q4 2007

- Alpha, Integrity, VAX
- New HP printer support
- Select 3rd party printer support

DCPS V2.8 Q4 2008

- Alpha, Integrity, VAX
- New HP printer support
- Select 3rd party printer support



Transaction Processing and Middleware Software



Reliable Transaction Router (RTR) Roadmap

2008 2009 2010 2007 2006

RTR V5.1 Early Adopters Kit – **HP-UX** and Linux Integrity Q2 2006

5/20/2006

RTR V5.1 Field Test Q3 2006

RTR V5.1 H1 2007

Features:

- Group Channel Failover
- Multiple value ranges in one partition
- New Platform Support:
 - HP-UX Integrity
 - Linux Integrity
- Continued Platform support:
 - OpenVMS Integrity
 - OpenVMS Alpha
 - Windows 32 bit
 - Linux I32 front end

RTR V5.2 Q4 2008

Gathering requirements

Note: RTR for OpenVMS VAX platform end of service life - August 31, 2006. RTR version 4.2 for Sun Solaris and Tru64 UNIX are in Mature Product Status.

ACMS and DECforms Roadmap



ACMS V5.0 - Integrity, Alpha Q1 2006

- OpenVMS Integrity product release
- TP Desktop Connector Licensed with ACMS

ACMS V5.1 Integrity, Alpha

 Gathering customer requirements for consideration

DECforms V4.0 – Integrity, Alpha
Q1 2006

OpenVMS Integrity product release

DECforms V4.1 - Integrity, Alpha

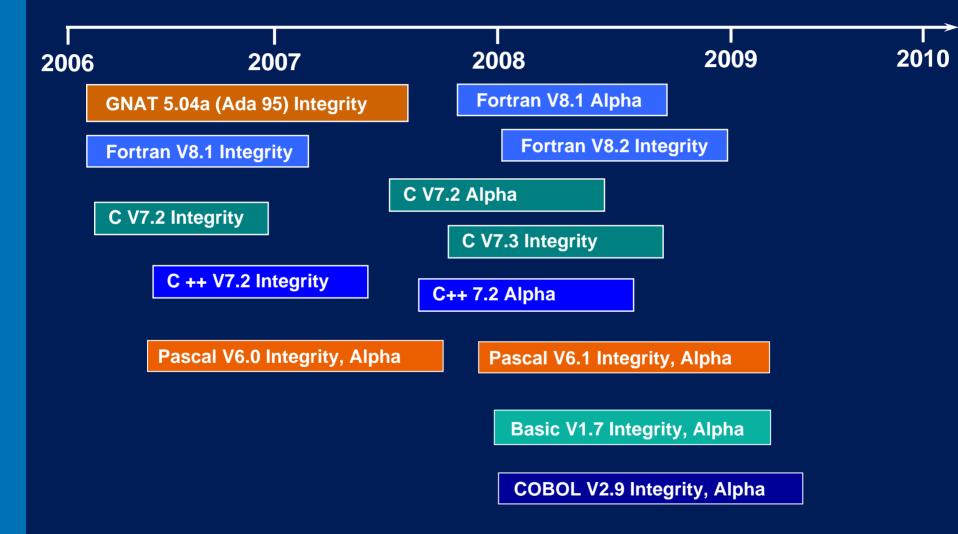
 Gathering customer requirements for consideration



Application Development Into The Future



Application Development and Deployment - Compilers



Application Development and Deployment - Tools



NetBeans 3.6 on OpenVMS Alpha and Integrity

Distributed NetBeans V1.1-1 on Alpha and Integrity (based on NetBeans 3.6)

Distributed NetBeans V2.0 on Alpha and Integrity (based on NetBeans 5.x)

Ongoing Tool Releases

DECset V12.7 on Alpha, Integrity, VAX

DECset V12.8 on Alpha and Integrity

OpenVMS Unified Messaging and Directory Roadmap



 CommuniGate Pro - Unified Messaging and Voice over IP SIP Server (CommuniGate Systems)
 OpenVMS Integrity and AlphaServer
 The endorsed replacement for ALL-IN-1, Office Server,
 TeamLinks, MAPI Driver

Enterprise Directory V5.4

 on OpenVMS 8.2 Foundation
 Operating Environment for Integrity
 and OpenVMS 8.2 AlphaServer



BASEstar Products



BASEstar Roadmap



BASEstar V3.2 – January 2006

- New OpenVMS release for Integrity
- New HP-UX release for Integrity
- Specific components: BASEstar Open Server, DEComni API, DECoasp/H1, DECosap/ AP, Siemens S7
- Quality enhancements
- Point Locking functional enhancement

BASEstar V3.2 Platforms supported

- OpenVMS VAX & Alpha
- Tru64 UNIX
- Windows
- HP-UX PA-RISC

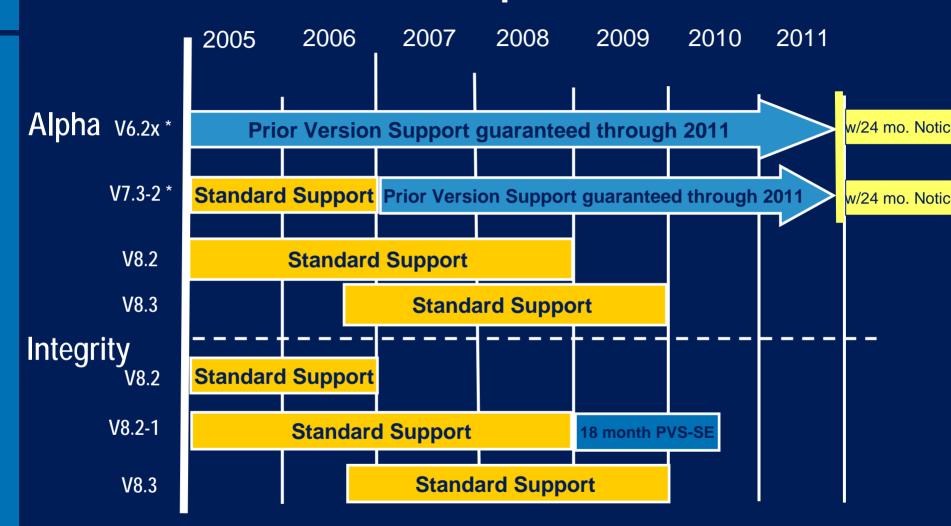
Continued support for BASEstar



OpenVMS Service Support



Enhanced OpenVMS Service Support Roadmap



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

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

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

Enhanced OpenVMS Service Support Roadmap



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