



Securing your future with HP
Moving forward with OpenVMS



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Resources

Corporate Web sites

HP OpenVMS

www.hp.com/go/openvms

AlphaServer Transition Planning

www.hp.com/go/alphaplanning

OpenVMS Rolling Roadmap

http://h71000.www7.hp.com/openvms/roadmap/openvms_roadmaps.htm

OpenVMS AlphaServer- to Integrity White Papers

<http://h71000.www7.hp.com/openvms/whitepapers/index.html>

OpenVMS to Integrity Transition Resources

<http://h71000.www7.hp.com/openvms/integrity/resources.html>

OpenVMS to Integrity Transition Modules

<http://h71000.www7.hp.com/openvms/integrity/transition/modules.html>

OpenVMS VAX to Integrity Transition Modules

<http://h71000.www7.hp.com/openvms/integrity/transition/vax/modules.html>

HP OpenVMS Software Public Rollout Reports

<http://h71000.www7.hp.com/openvms/os/swroll/index.html>

ISV Availability Status – OpenVMS on Integrity Server

<http://h71000.www7.hp.com/openvms/integrity/partners.html>

HP Software Licensing Trade-in Information

<http://licensing.hp.com/swl/view.slm?page=index>

OpenVMS Training Site

<http://www.hp.com/learn/openvms>

Executive summary

In 2001, HP announced that it planned to standardize on Intel® Itanium® 2 processors and design and build standards-based, flexible systems (now called HP Integrity servers) that surpassed AlphaServer performance across a broad spectrum of workloads and delivered greatly improved price/performance. HP announced plans to port OpenVMS, its layered software products and compilers, to the Integrity server architecture and to ensure a smooth transition from OpenVMS on AlphaServer to OpenVMS on Integrity server. HP provided notice that, five years hence, in 2006, it would discontinue selling AlphaServer systems. It assured customers that HP would continue to support AlphaServer systems for a minimum of five years after the last AlphaServer sales date.

You can integrate an Integrity server into an existing OpenVMS cluster easily and get increased capabilities through the combination of Integrity server and OpenVMS. HP continues to invest in improvements to the OpenVMS ecosystem with new and improved software development tools. ISVs have enthusiastically supported the availability of OpenVMS on Integrity servers, including key database applications from Oracle (Oracle 10gR2 and Rdb).

The purpose of this document is to assure you that you can continue to use your AlphaServer running OpenVMS well into the future, to help you understand what you need to do to transition to Integrity servers when your business needs require a transition, and to identify the resources available to help you do so.

A sound investment and a great path forward

For nearly three decades, HP OpenVMS has met the most challenging IT demands, earning its well-deserved reputation for managing large volumes of information, at high transaction rates, instantly, reliably and securely – year after year. Clustering, which OpenVMS pioneered, enables interruption-free maintenance and upgrades, even when you add new servers to the cluster.

OpenVMS supports thousands of major hospitals, some of the world's largest manufacturers including almost 90% of the world's microprocessor fabrication plants, major futures and derivatives exchanges, electronic gaming enterprises, and financial services firms – where business continuity is mandatory. Major telecommunications providers choose it to run their billing systems that scale to millions of users. And it is

deployed in many of the world's government IT operations – where security, data integrity, and availability can never be compromised.

Meeting customer requirements

IT is integral to your business success. Most IT environments have too many applications, too much customization and too much complexity. Thanks to server sprawl, data center hardware, software, power and cooling costs are becoming prohibitive. IT management and maintenance are too expensive and consume valuable resources that are better applied to delivering innovative solutions that increase business value. You may have underutilized server capacity because you have inflexible computing resources that cannot meet rapidly changing requirements. You struggle to meet service-level agreements and response times for critical application workloads. Data management is becoming critical to meeting regulatory compliance requirements.

HP's strategy to address these emerging requirements is called the HP Adaptive Infrastructure. An Adaptive Infrastructure helps you move from high-cost IT islands to low-cost pools of IT assets. By breaking down the barriers of isolated discrete systems, valuable computing and storage resources can be re-provisioned in real time and allocated among different applications. Your IT resources and applications can be delivered as a set of standard services available to authorized users via a shared and protected infrastructure.

Searching for a suitable server platform

In 2000, Compaq engineers evaluated requirements for systems that would follow the EV7-based AlphaServer systems. They estimated the cost to design and build the next generation of Alpha microprocessors and compared that with likely competition when these systems began shipping. At the Microprocessor Forum, an annual industry event, Intel presented the Itanium architecture and future roadmap. Following the forum, under Non-Disclosure Agreement (NDA), Intel shared details of their five-year

Itanium roadmap. The Compaq engineers concluded that the Alpha processor's performance advantage was not sustainable, and Intel would drive the Itanium manufacturing cost lower than Compaq could for EV8 and successive generations.

As a result, in June 2001, Compaq announced that it would stop further Alpha processor development and stop selling AlphaServer systems in 2006. Compaq sold intellectual property and assets (Alpha microprocessor technology, compilers, and assets) to Intel and announced plans to utilize Intel Itanium microprocessors in their next generation of servers and to focus development efforts on other elements of the system – high-performance system chipsets, robust enterprise operating environments that provided flexible capacity, simplified management and secured availability. Shortly afterward, HP merged with Compaq. Independently, HP engineers had reached the same conclusion – to replace their PA-RISC microprocessors with Itanium processors and create a server line based on industry-standard Intel Itanium 2 microprocessors called Integrity servers, which would provide the increased performance, lower price, and flexibility required for an Adaptive Infrastructure.

These servers extend the capabilities of the Intel Itanium 2 Series 9000, dual-core processor through high-performance system chipsets that deliver balanced performance, excellent memory and I/O subsystem scalability, as well as tremendous resiliency, reliability, and reparability. The HP sx2000 chipset adds greater performance, scalability, reliability and manageability to mid-range and high-end Integrity servers – and supports both single and dual-core Intel® Itanium processors – with larger bandwidths and lower latencies. The zx2 chipset, for entry-level Integrity servers, has a well-balanced architecture that maximizes the performance of the Itanium 2 Series 9000, dual-core processors and delivers excellent mission-critical capabilities at a very competitive price point.

Meeting our commitments to you

In 2001, HP made several commitments to you:

- HP would safeguard your AlphaServer investment, ensuring that you gained the business benefits that you projected when you purchased the system.
- HP would design and build standards-based, flexible systems that provided excellent price/performance across a broad spectrum of workloads and ensured a smooth transition from AlphaServer to Integrity server.
- HP provided advance notice of its intention to continue selling AlphaServer systems for five more years, providing customers with a timeline on which to base their purchases.
- HP would port OpenVMS, its layered applications, compilers, and tools to Integrity server.
- HP would work with ISV partners to deliver a complete OpenVMS ecosystem to support your business needs.

Extending the value of your OpenVMS investment to the future

For OpenVMS customers, the path forward is simple and compelling. HP ported OpenVMS and its ecosystem (layered software products including

compilers, applications, middleware, and application development tools) to HP Integrity servers. Since OpenVMS v8.2 or later is based on a common source code stream for AlphaServer and Integrity server, all non-hardware-dependent OS enhancements are available on both HP Integrity servers and AlphaServer systems. OpenVMS V8.2-1 was released for Integrity only and raised the maximum nodes supported to 96 in a mixed Integrity and AlphaServer cluster.

OpenVMS V8.3 for AlphaServer and Integrity server began shipment in September 2006. This release supports Intel Itanium 2 Series 9000, dual-core processor-based systems as well as upgrades to the rx2620 and rx4640 systems, expanded cluster configuration support, performance and scalability enhancements, updates for security and standards, and enhanced virtualization support. OpenVMS 8.3 also integrates HP Integrity Essentials for OpenVMS to provide configuration management (OpenView Integration), virtualization and automation management (enhanced virtualization – Global Workload Manager, Pay-per-use, iCAP/TiCAP), remote server management, Integrated Lights-Out (iLO) for entry-level Integrity servers, and a Management Processor for mid-range and high-end Integrity servers.

Table 1. HP OpenVMS operating system rolling roadmap 2006 through 2010 (updated every three months)

OpenVMS V8.3	OpenVMS V8.3-1H1	OpenVMS V8.4	OpenVMS V8.n	OpenVMS releases continue
General availability: H2 2006	General availability: H2 2007	General availability: 2008	General availability: +18-24 months (2009-2010)	
Platforms: Alpha and Integrity	Platform: Integrity only	Platforms: Alpha and Integrity	Platforms: Alpha and Integrity	
Dual-core Intel Itanium 2 processor support	HP c-Class Integrity Blades support	Storage performance and connectivity	New Integrity systems	
rx2620 and rx4640 upgrades	Dual-core Intel Itanium 2 processor upgrades	Performance and scalability enhancements	Industry standards	
VLAN support	New I/O option support (PCI Express)	Industry standards: security, integration software, Web services, Java, UNIX/Linux interoperability	Performance and scalability enhancements	
Performance and scalability enhancements		Virtualization: VSE Manager	Virtualization	
Industry standards: Web Services, Java, Security, UNIX/Linux interoperability				
Virtualization: iCAP, TiCAP and PPU	HP Integrity Virtual Machine (HPVM)			

In addition, it provides continued enhancements in performance and scaling, disaster tolerance, security and standards, supports current and next generation StorageWorks architectures, continued J2EE and .NET support.

OpenVMS V8.3-1H1 is planned to be an Integrity-only (hardware only) release that will add support for dual-core Intel Itanium 2 processor upgrades and new support for the HP c-Class Integrity Blades server and is targeted for the second half of 2007. OpenVMS V8.4 targets both Integrity server and AlphaServer, and will provide continued enhancements in performance and scaling, disaster tolerance, security and standards, support for current and next-generation StorageWorks architectures, and continued J2EE and .NET support. After that, OpenVMS is targeting an 18-24-month cycle schedule between releases.

OpenVMS layered products

The majority of layered applications running on OpenVMS AlphaServer V7.3 have moved forward to OpenVMS on Integrity servers. For a complete listing of applications on OpenVMS for Integrity servers, see

the Resources section for the link to the Software Public Rollout Reports for OpenVMS.

Many of the layered products are available today for OpenVMS on Integrity server; target release for others is over the next two-to-three calendar quarters (Q4 CY06 through Q2 CY07). HP has no plans to support BASEstar Classic (will support BASEstar OpenServer on Integrity server) and Advanced Server (replaced by Common Internet File Server (CIFS) based on SAMBA Version 3; available March 2007 on AlphaServer and Integrity Server).

AlphaServer continues to perform for OpenVMS customers

From entry-level to high-end systems, HP AlphaServer systems deliver the same set of core capabilities – balanced systems performance and dynamic, multi-path I/O to provide a reliable, scalable I/O subsystem for demanding workloads, along with outstanding reliability and availability. All EV7-based systems (HP AlphaServer ES47, ES80 and GS1280) have the same core capabilities – hard partitions, clustering, dynamic

Table 2. AlphaServer and Integrity server comparison

System	U.S. System List Price*	Relative List Price	Performance**	Relative Performance
Enterprise				
GS1280 64P, Alpha EV7 1.3 GHz	\$3,200,000	100%	16.0	100%
Superdome 32P/64C, Itanium dual-core 1.6 GHz 24M	\$1,900,000	59%	26.0	163%
Departmental				
ES80 8P, Alpha EV7 1.15 GHz	\$240,000	100%	1.9	100%
rx6600 4P/8C, Itanium DC 1.6 GHz 24M	\$67,000	28%	3.4	179%
Workgroup				
ES47 4P, Alpha EV7 1.15 GHz	\$110,000	100%	1.0	100%
rx3600 2P/4C, Itanium DC 1.6 GHz 18M	\$19,000	17%	2.0	200%

*U.S. List Price includes 2 GB memory per CPU, minimum I/O, O/S; no storage or adapters

**Geometric mean of SPECint_rate, SPECfp_rate, and tpm; normalized to ES47 4P

multi-path I/O, RAID memory, and integrated server management tools. HP has ensured that all AlphaServer systems and their components are RoHS-compliant (Reduction of Hazardous Substances) and added support for new StorageWorks storage arrays, storage controllers and backup peripherals, enabling you to continue to purchase AlphaServer to meet your business needs. While you can continue using AlphaServer as long as it meets your business requirements, it's worth noting that moving applications from OpenVMS on AlphaServer over to Integrity server is relatively straight-forward (typically, re-compile, re-link, and test).

Relative price and performance comparison – AlphaServer and Integrity Server

A comparison of AlphaServer and Integrity may help you decide which is appropriate for your business. Table 2 compares price and performance for comparably-configured Enterprise, Departmental and Workgroup class systems. Across the board, Integrity systems carry dramatically lower prices, while delivering substantially more performance than AlphaServer systems.

- Enterprise: Integrity Superdome has 41% lower list price, and delivers 63% more performance than a comparably-configured AlphaServer GS1280.
- Departmental: The new rx6600 Integrity system is priced 72% lower than an AlphaServer ES80, and provides 79% more performance.
- Workgroup: The new rx3600 is priced 83% below the comparable AlphaServer ES47, yet delivers double the performance.

Continued OS and compiler improvements, coupled with future Integrity server enhancements, will widen this price/performance advantage. For many customers, the key decisions to make are when do business needs suggest AlphaServer replacement and which elements of your IT infrastructure should be addressed first. Moving some OpenVMS applications to Integrity servers and moving other applications to AlphaServer systems to address near-term capacity needs or reduce Total Cost of Ownership (TCO) are complementary activities. A good example of this is

moving the database tier to an Integrity server and consolidating the application tier on AlphaServer systems. HP understands that this is not an overnight process and has made investments to ensure smooth co-existence of AlphaServer systems and Integrity servers by seamless integration of Integrity servers into your OpenVMS cluster.

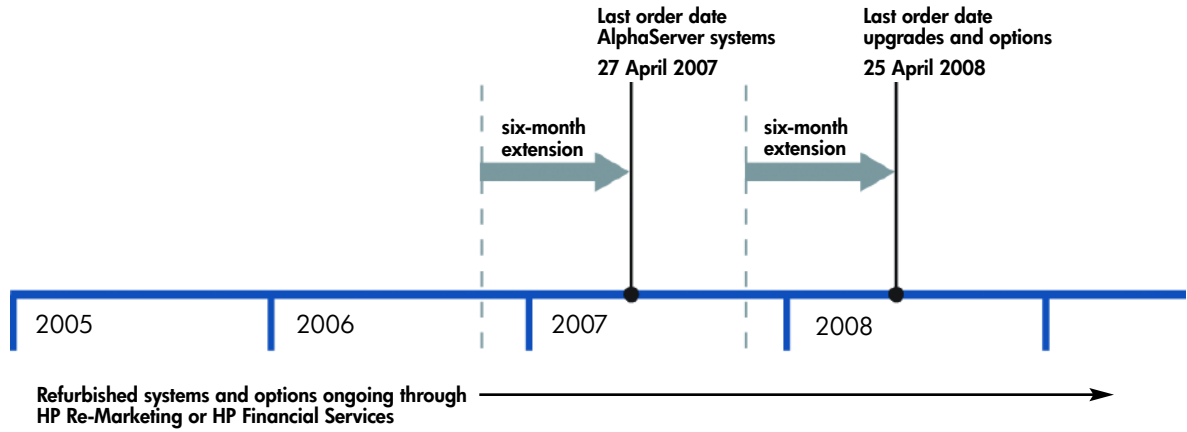
The situation today

AlphaServer product availability

It is important that you understand the key dates and conditions of the last sales order date for AlphaServer systems (Figure 1). Customers requested a six-month extension to the original last sales date of 27 October 2006 to give them more time to assess their AlphaServer requirements. The planned last sales date for AlphaServer has passed and we have checked remaining materials inventory, and are able to continue general availability sales while inventory lasts, through no later than 27 April 2007. You should submit your AlphaServer order as soon as possible to ensure that the system configuration you need is available. HP will sell upgrades and options for these systems for one year following the revised last sales date. HP built flexibility into this process and will ensure that your business needs are addressed satisfactorily. If you have special circumstances that need addressing, please contact your authorized HP representative.

Finally, HP sells refurbished systems on an ongoing basis, based on the inventory of returned lease equipment and trade-ins (HP Financial Services for Americas, and HP Re-Marketing for the rest of the world). These programs offer you a comprehensive portfolio of completely remanufactured HP products at competitive and attractive prices. HP warranty covers the same period as a new product and quality is assured, as all refurbished products undergo the same rigorous process as new products. HP will provide AlphaServer hardware support (maintenance, repair and advisory) for a minimum of five years after last system shipment. Warranty coverage ends one year after shipment.

Figure 1. Important AlphaServer sales dates



AlphaServer service and support commitment

Figure 2 shows that HP will provide AlphaServer hardware support (maintenance, repair, and advisory) for a minimum of five years after last system shipment. Warranty coverage ends one year after shipment. HP guarantees operating system support through at least 2012. HP policy is to provide support for the server platform at least five years after end of new product sales. However, HP Services' business practice is to continue support as long as there is a viable support capability. As of December 2006, all AlphaServer platforms introduced since 1993 are still supported. When HP Services determines an end-of-service-life date for a given server platform, customers are notified at least twelve months in advance. Where appropriate, HP can work with you to develop and implement a custom support plan to meet your specific needs.

OpenVMS support roadmap

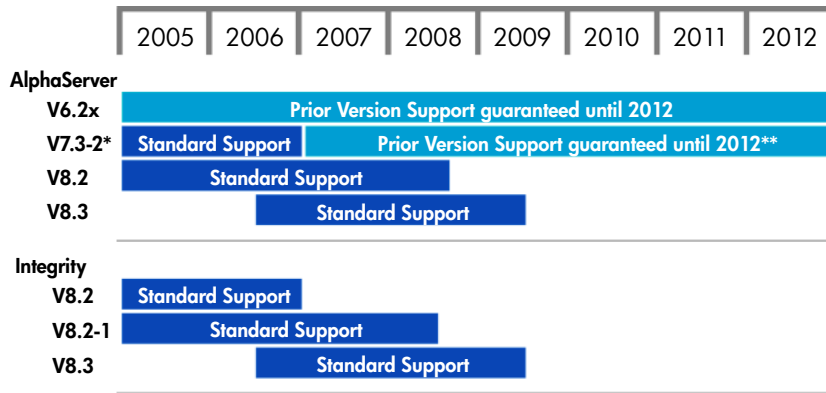
During the transition from VAX to AlphaServer systems, OpenVMS releases were available for many years on both of these platforms, enabling customers to move to the new server as their business needs required and porting resources were available. Likewise, the transition from AlphaServer systems to Integrity servers will include concurrent releases of OpenVMS on both AlphaServer systems and Integrity servers. This will

allow you to prioritize the applications that you want to move over to Integrity server first, while continuing to use your existing AlphaServer systems running OpenVMS.

Typically, OpenVMS standard support ends when the second subsequent release ships. HP is pleased to announce enhancements to customer support services for the OpenVMS operating system and associated core software products on AlphaServer. These extensions provide customers with the confidence that they can continue using AlphaServer running older releases of OpenVMS until at least 2012.

HP also guarantees to provide you with 24-months notice should support for those releases be withdrawn. Under Prior Version Support – Sustaining Engineering (PVS-SE), fixes will be provided on the latest patch kit only. Customers requiring support on earlier patch kits or unsupported releases should contact their HP account teams to determine if custom support is available and under what terms and conditions such custom support may be purchased. Version 7.3-2 moves to Prior Version Support at the end of 2006. The two current releases (OpenVMS V8.2 and V8.3) on AlphaServer and Integrity server are on Standard Support.

Figure 2. HP supports AlphaServer OpenVMS customers through 2012



*Prior Version or Standard Support will be provided until at least 2012.

**24-month notification will be provided prior to support termination.

Standard Support covers the current and previous versions and ends when the second subsequent release ships.

This chart applies to currently-shipping releases. The next OpenVMS release is planned for 2008 shipment.

Porting applications to Integrity server

Beginning with V8.2, OpenVMS is based on a single-source-code stream for both HP Integrity servers and AlphaServer systems, enabling simultaneous release of new, non-hardware-dependent features and functions on both platforms. Current investments in AlphaServer systems are protected and customers can take advantage of the lower predicted total cost of ownership and greater flexibility afforded by Integrity servers.

With binary data file compatibility, HP AlphaServer systems run seamlessly with Integrity servers. Most existing OpenVMS applications – whether developed in-house or purchased from a third party – will run on HP Integrity servers by simply re-compiling and re-linking the source code. If source code is not available, HP has tools available to ensure that customers are able to take the fullest possible advantage of this advanced enterprise server platform.

One powerful tool is the HP OpenVMS Migration Software for HP Alpha to Integrity Servers (OMSAIS). The HP OMSAIS product includes two components:

- Alpha Environment Software Translator (AEST) – an HP OMSAIS utility that translates executable and shareable OpenVMS AlphaServer system images into functionally equivalent images that run on

OpenVMS on Integrity servers. A translated image is an OpenVMS Integrity server image containing both AlphaServer system code translated into Integrity server code, as well as the original OpenVMS AlphaServer system image.

- Translated Image Environment (TIE) – a software component within OpenVMS that provides the run-time environment for translated image execution.

The porting project: What's involved?

OpenVMS customers can make the decision to integrate Integrity servers into their OpenVMS environments with full confidence that the transition will not overly tax their technical and operational resources. Operating system, middleware, development tools, and compiler compatibility protect long-term OpenVMS investments, while extensive porting support for customers and ISVs further minimizes the effort involved.

Common application development techniques allow ISVs and end-user developers to continue using their current and future AlphaServer systems while transitioning to or adding Integrity servers. An organization can incrementally enhance operations without disruption and gain a lower TCO. For hands-on experience, HP OpenVMS customers and business partners can take advantage of a secure environment

for testing applications on OpenVMS in HP labs in Nashua, New Hampshire, and other sites around the world. HP has invested heavily in creating lab environments to help customers evaluate software and hardware technology on the latest versions of OpenVMS.

Compilers and development tools available on Integrity server

HP's strategy for application development is to make it easy to develop OpenVMS applications for enterprise

computing with a choice of industry-standard compilers, tools, and middleware to fit your development style. We provide a robust and stable set of compilers and tools for developing and deploying applications on OpenVMS. We will continue to enhance, as needed, and support this set of products. Table 3 lists the OpenVMS compilers and development tools available on AlphaServer and Integrity server.

Table 3. Compilers and development tools

	On OpenVMS AlphaServer	On OpenVMS Integrity server	Notes
Compilers			
BASIC	Yes	Yes	
BLISS	Yes	Yes	
COBOL	Yes	Yes	
Acucorp ACUCOBOL-GT	Yes	Yes	
Synergex Synergy/DE (DIBOL)	Yes	Yes	
Fortran 77	Yes	Not available	Compiler is platform-specific (AlphaServer only)
Fortran 90	Yes	Yes	
GNAT Pro Ada 95	Yes	Yes	Available from AdaCore, on both AlphaServer and Integrity server
HP Ada 83	Yes	Not available	Compiler is platform-specific (AlphaServer only)
HP C	Yes	Yes	
HP C++	Yes	Yes	
HP Pascal	Yes	Yes	
Java	Yes	Yes	
Macro-32	Yes	Yes	
Macro-64	Yes	Not available	Compiler is platform-specific (AlphaServer only)
OpenVMS development tools			
OpenVMS Linker	The OpenVMS Linker accepts I64 object files to produce an I64 image.		
OpenVMS Debugger	The OpenVMS Debugger running on OpenVMS I64 has the same command interface as the current OpenVMS Alpha debugger. The graphical interface on OpenVMS Alpha systems will be available in a later release.		
XDelta Debugger	The XDelta Debugger is an address location debugger that is used for debugging programs that run in privileged processor mode or at an elevated interrupt priority level. The XDelta Debugger is available for this release but the related Delta Debugger is not yet available.		
OpenVMS Librarian utility	The OpenVMS Librarian utility creates I64 libraries.		
OpenVMS Message utility	The OpenVMS Message utility allows you to supplement the OpenVMS system messages with your own messages.		
Analyze/Image	The Analyze/Image utility can analyze I64 images.		
Analyze/Object	The Analyze/Object utility can analyze I64 objects.		
DECset	Includes the Language Sensitive Editor (LSE), the Digital Test Manager (DTM), Code Management System (CMS), and Module Management System (MMS). The two remaining DECset tools, Performance and Coverage Analyzer (PCA) and the Source Code Analyzer (SCA), will be available in a future release.		
Command Definition utility	Enables application developers to create commands with a syntax similar to DCL commands.		
System Dump Analyzer (SDA)	Extended to display information specific to OpenVMS I64 systems.		
Crash Log Utility Extractor (CLUE)	CLUE is a tool for recording a history of crash dumps and key parameters for each crash dump, and for extracting and summarizing key information.		
Distributed NetBeans	A modular, integrated development environment (IDE) for Java and JavaBeans development. HP provides modular plugins for NetBeans, including COBOL, FORTRAN, C, C++, OpenVMS DCL, OpenVMS CMS, and OpenVMS EDT Editor.		
Web Services Integrated Toolkit	New product that provides a set of tools to expose legacy application logic as part of implementing an integration solution. You can use these tools individually or in combination and generate JavaBean, Java, and JavaServer Page (JSP) clients.		

VAX to Integrity Server

The rock-solid reliability of OpenVMS is the reason why you may still be using VAX servers. However, it's probably a good time to consider moving from VAX servers to Integrity server to capitalize on the excellent price/performance of Integrity server. HP has substantial experience helping customers migrate their VAX systems to 64-bit technology. HP preserved compatibility with the OpenVMS VAX user, system management, and programming environments, to be as close to a "re-compile, re-link, and run" model as possible.

The work required to port those sources to Integrity server is roughly equivalent to the work that would be required to port them to AlphaServer systems, and you can port directly from VAX to Integrity server without having to first port to AlphaServer. If you don't have the VAX source code, binary translation is available to enable you to first translate the image to an AlphaServer image using OpenVMS Migration Software for VAX to Alpha (OMSVAX; previously known as DECmigrate), then translate it to an Integrity server image using OpenVMS Migration Software for HP

Alpha to Integrity Servers (OMSAIS). VAX systems can participate in an OpenVMS cluster containing Integrity servers solely for the purposes of development and migration. This unsupported configuration can only be used as part of a transition to Integrity server. For more information, see the "Making the transition from HP OpenVMS VAX to HP OpenVMS on Integrity servers" white paper.

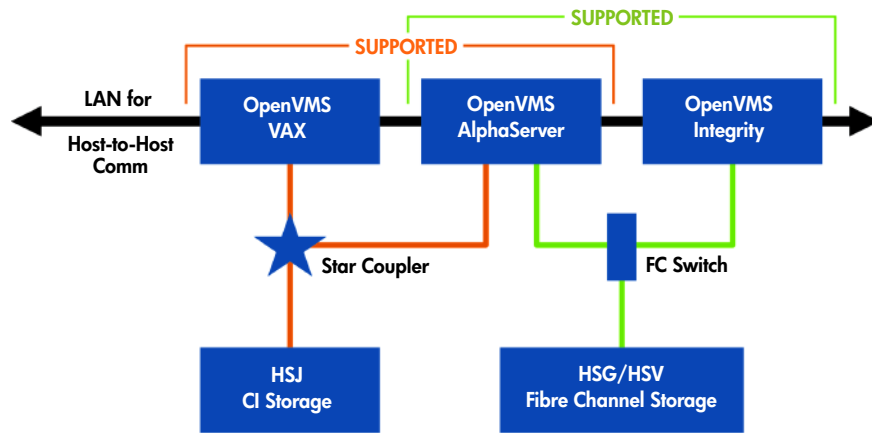
Evaluate your options

HP wants to reinforce that your business needs will indicate what your best path forward is for your AlphaServer. Each of these options is designed to ensure that you continue to get the best possible business benefit from AlphaServer. We understand that you need to prioritize the transition activities that result in immediate business benefits, while ensuring the continuity of the rest of your IT environment. The options listed in Table 4 should help you achieve the stability you need, to free the resources you require to develop innovative solutions that deliver value to your business.

Table 4. Choosing the best path forward

Option	Rationale
Keep present AlphaServer and upgrade OpenVMS to Version 8.x stream	Enhanced capabilities, new StorageWorks device support, networking support Move from prior version support to standard support
Upgrade/consolidate on AlphaServer	Improve RAS profile of AlphaServer OpenVMS environment, add enhanced OpenVMS capabilities, storage device support, networking device support Move from prior version support to standard support AlphaServer meets functional requirements of your business and is not yet in the critical path for IT infrastructure modernization Business growth is anticipated and you will need additional performance capacity Consider IT consolidation to lower management costs and stretch IT resources and budget. Server and Storage Consolidation is an intermediate step along the road to an Adaptive Infrastructure. Free resources to work on higher priority projects that deliver increased value to the business
Transition to Integrity server	Prioritize applications to transition to Integrity that will yield the greatest immediate ROI Application is available on Integrity server or source code can be easily ported Easy to integrate Integrity server into an OpenVMS cluster Price/performance comparison greatly favors Integrity server as compared to AlphaServer Move from prior version support to standard support

Figure 3. OpenVMS clusters facilitate Integrity adoption



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

Interoperability of AlphaServer and Integrity server

The ability to deploy various generations of AlphaServer systems technology while incorporating Integrity servers offers bottom-line investment protection. With OpenVMS, the combination of HP AlphaServer systems and Integrity servers will enhance your computing environments by capitalizing on the economy of an industry-standard architecture while adding value through HP innovation.

OpenVMS clustering supports both AlphaServer and Integrity servers as well as mixed architecture clusters spanning AlphaServer and Integrity server. A key prerequisite is to ensure that your storage configuration can be used in both the AlphaServer and Integrity server environments. Application investments are also protected because the vast majority of AlphaServer system-based OpenVMS applications need only be recompiled, re-linked, and tested in order to run on Integrity servers, making it relatively easy to move to Integrity server when your business needs require you to change.

OpenVMS storage solutions include the hardware and associated software that provide the data storage infrastructure supporting customer applications. HP StorageWorks solutions based on the Fibre Channel SAN solutions are supported by all HP operating

systems. Typical solutions in this area are the MSA, EVA, and XP array families, and SCSI solutions such as Backplane RAID.

HP smoothes the transition to Integrity server

HP's Alpha RetainTrust (ART) program has two purposes. The first is to ensure that customers planning to continue using their existing AlphaServer systems or purchase new AlphaServer systems are confident that HP will support them to meet the needs of their business. The second is to develop tools, guides, business practices, and services to help customers plan and implement their transition to Integrity servers. Its key components are:

- Strong ISV support – Working with our ISV partners to ensure a smooth transition to Integrity server, providing continued support for existing ISV application releases on AlphaServer while new application revisions are ported to Integrity server.
- Extensive tools, services, and resources – Transition planning, design and implementation tools, training, and services to help minimize disruption and cost while adding business value.
- Compelling business practices – A suite of investment protection options including generous trade-in, leasing and upgrade programs.

ISV applications

HP works with the ISV community to encourage them to port to HP Integrity servers and develop tools to simplify the process. ISVs have strongly endorsed the HP transition to Integrity server. HP created the OpenVMS FastTrack program to help key ISVs port their software to OpenVMS on Integrity server, validate functionality of the base operating systems, layered products and compilers, and demonstrate how straightforward it is to move their applications and custom code from AlphaServer to Integrity server – in most cases, simply re-compile and re-link applications. These porting experiences provided valuable insights that are included in the OpenVMS Porting Guide.

OpenVMS partners are enthusiastically porting to Integrity server. More than 1,000 applications are currently or soon will be available on OpenVMS on HP Integrity servers – and the numbers are continually growing. Key database applications, including Oracle Rdb, Oracle 10gR2, InterSystems Caché, and RMS, are shipping, as well as applications in key OpenVMS vertical markets – Communications, Media, and Entertainment; Manufacturing & Distribution; Financial Services; and Public Sector, Healthcare, and Education.

HP is continually working with ISV partners to ensure that applications that complete their solution stacks are also available on Integrity server. Most of the applications available on AlphaServer are now available on Integrity server or have a scheduled availability date. HP also has a process to work with ISVs not yet on Integrity server to help them port their applications. The HP Enterprise Solutions Alliances group tracks ISV activities in its ISV Application Status Database, which can help confirm that an application is available on Integrity server or when it will be available. (See link in the Resources section.)

The Developer and Solution Partner Program (DSPP) helps ISVs, developers and system integrators create solutions on HP servers and operating systems. Members are ISVs who may not have an HP partner

manager or customers who develop their own software. The program includes a personalized portal for access to equipment, business and technical services programs, sales and marketing support, product information and access to application migration and testing centers.

HP and Intel jointly sponsor Integrity Porting Workshops on an ongoing basis for both ISVs and customers who develop in-house applications.. HP and Intel provide porting assistance and created a specially-priced package that includes three days of interactive lectures, an entry-level Integrity server with choice of OS (OpenVMS, HP-UX 11i, Red Hat Linux (64-bit), or Windows Server 2003), software development tools, and porting assistance.

The Itanium Solutions Alliance is a worldwide consortium of Itanium solution providers. The initial members consist of leading computer vendors Bull, Fujitsu, Fujitsu-Siemens, Hitachi, Hewlett-Packard, Intel, NEC, SGI, and Unisys, and software vendors BEA, Microsoft, Novell, Oracle, Red Hat, and SAS. The Alliance focuses on implementing Itanium-based solutions in key vertical market segments (energy, financial services, government/defense, healthcare, manufacturing, telecommunications, and transportation) and on delivering solutions across key application and workload solutions, including business intelligence, database, ERP, HPTC, infrastructure and supply chain management.

ISV Stack Assessment Service and Recruit-to-Win

The HP Transition Engineering and Consulting group offers an ISV Application Stack Assessment Service. Available globally, this complimentary service helps you build a transition timeframe. By working across many accounts, HP flags ISV applications that are not yet available on Integrity server, and works to recruit the ISV to port to Integrity server. ISVs typically port to Integrity server when approached in this manner. Ask your account manager or HP partner for more information on getting an assessment.

HP OpenVMS Transition Modules

HP Transition Modules (TMs) provide detailed information and best practices that make the transition from OpenVMS on AlphaServer systems to OpenVMS on Integrity servers as seamless as possible. The OpenVMS AlphaServer systems to OpenVMS Integrity server Transition Modules demonstrate the business value of moving forward with HP by providing information to help plan, design, and implement the transition to OpenVMS on Integrity servers. The modules provide a method and framework to approach the transition across each of the planning, design, implementation, and management phases by providing:

- Guidance to estimate the level of effort and transition duration
- Help in identifying areas within each module that require further planning or design, and those that do not pertain to the transition
- Help in defining a customized plan for those areas that require further planning and design

The Transition Modules address key topic areas of the transition process, including platform infrastructure (servers, operating systems, storage, and tape devices), custom code applications, packaged applications from independent software vendors, and Oracle Rdb databases.

Implementing a smooth transition requires excellent blueprints and tools. HP's extensive investment in Transition Modules consolidates HP-developed tools, documentation, best practices, white papers, porting guides and software tools. Mapped to the transition phases to help identify requirements, timing and required resources for each step, TMs are modular, with cross-references to other modules to avoid repetition. These "living tools" incorporate periodic improvements gained from our successful transition experiences.

Table 5. OpenVMS Transition Modules

Module	Source	Destination	Description
Platform Infrastructure	OpenVMS AlphaServer; OpenVMS VAX	OpenVMS on Integrity server	Provides high-level planning information and recommendations to help assess what is required to transition platform infrastructure, including servers, operating systems, storage, and tape devices.
Custom Code	OpenVMS AlphaServer; OpenVMS VAX	OpenVMS on Integrity server	Provides high-level planning and design information and recommendations to help assess your efforts to transition custom code applications and addresses programming-related transition issues.
Packaged Applications	OpenVMS AlphaServer; OpenVMS VAX	OpenVMS on Integrity server	Provides planning and design information and recommendations to help identify what is required to transition packaged applications from ISVs.
Database for Oracle and Rdb	OpenVMS AlphaServer	OpenVMS on Integrity server	Provides planning information and recommendations to help you plan the transition of your Oracle databases.
Database for Rdb	OpenVMS VAX	OpenVMS on Integrity server	Provides planning information and recommendations to help you plan the transition of your Oracle Rdb databases.

“As a premier provider of secure, real-time communications integrating voice and data for companies worldwide, CommuniGate Systems is very pleased that HP is now offering the security and availability of OpenVMS on the entire line of HP Integrity servers, from entry-class servers to the high-end Superdome. We work with HP to enable the largest communications deployments in the world to communicate faster, safer, smarter, every day.”

Vladimir Butenko, CEO, CommuniGate Systems

Training

In addition to the OpenVMS to Integrity Transition White Papers, which are excellent resources to help you plan and design your transition to Integrity server, HP provides excellent training courses. For training on new OpenVMS features, you can register for courses at the HP OpenVMS training site. The training curriculum is job-role-focused. Starting with the entry-level course *OpenVMS Fundamentals*, for students who have no HP OpenVMS experience, the curriculum leads the student through to being an efficient and confident system and network administrator. For system managers with at least one year's OpenVMS experience, there is the fast-paced *OpenVMS Boot Camp*, which focuses on many topics of the HP OpenVMS system and network management. Once you've mastered key system manager skills, you can go on to specialize in specific areas such as complex systems, performance and advanced networking.

Business practices – hardware trade-in

HP provides generous trade-in programs, implemented at the regional level, so check your local program for details. During your transition, HP provides concurrent usage of your previous server(s) and your new server(s). Standard practice is for 90 days. If more time is required, discuss this with your HP

representative or HP partner. In addition, HP Financial Services offers a complete array of leasing and financial lifecycle management services to help you increase the return on your IT investment, reduce risk, and get the most from your HP solution while improving your cash flow and reducing your total cost of ownership. Please contact your HP account representative or HP partner account manager for more information on system trade-in programs.

Business practices – OpenVMS software license trade-in policy

You can trade in single or multiple OpenVMS (on AlphaServer or VAX) software licenses for the equivalent product license(s) on HP Integrity server. Customers with support contracts with right-to-new-version get 100% trade-in credit. Customers without these support contracts receive 60% trade-in credit toward the purchase of new software licenses. All license trade-ins apply to equivalent products or equivalent operating environment licenses on Integrity server. You should work with your HP representative or HP business partner to determine valid trade-ins when mapping out your transition to HP Integrity servers. Details of the trade-in policy and product are on the HP Software Licensing Web site.

Develop your plan – identify and prioritize projects

Determine your plan for extending your AlphaServer environment

- Ensure that you have the hardware and software support contracts that you need
- Upgrade current AlphaServer to latest OpenVMS standard support OS release, if possible
- Upgrade to new AlphaServer to increase capacity or reduce TCO and order AlphaServer prior to last sales date to ensure availability

Assess readiness to move to Integrity server

- Identify and prioritize projects to improve your IT infrastructure
- Ensure that your storage configuration enables you to transition easily to Integrity server
- Request ISV Solution Stack Assessment to verify that all elements of your solution are available on Integrity or identify when they will be available
- Work with HP or your HP partner to schedule a complimentary Account Consulting Session (ACS) or Transition Workshop to plan for your needs
- Request Business Value Assessment workshop to validate the business case for moving forward with Integrity
- If you're ready to port your custom code, attend a porting workshop

The secret to a smooth transition lies in careful planning, design, and implementation. We encourage you to contact HP or its authorized partners to start the process to ensure that we help you continue to meet the needs of your business.

To learn more, visit www.hp.com

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