

OpenVMS Strategy and Roadmap

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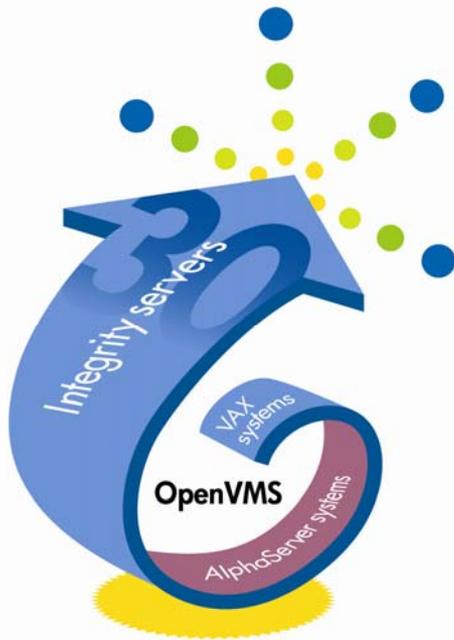
Germany, 17-Sep-2009



Europe 2009 Technical Update Days

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OpenVMS: moving strongly into its 4th decade with full HP commitment



- OpenVMS Directions
- Roadmap
- New Features
- ISVs & Partners
- Customer Programs
- Marketing Activities
- Integrity Migrations
- Q&A

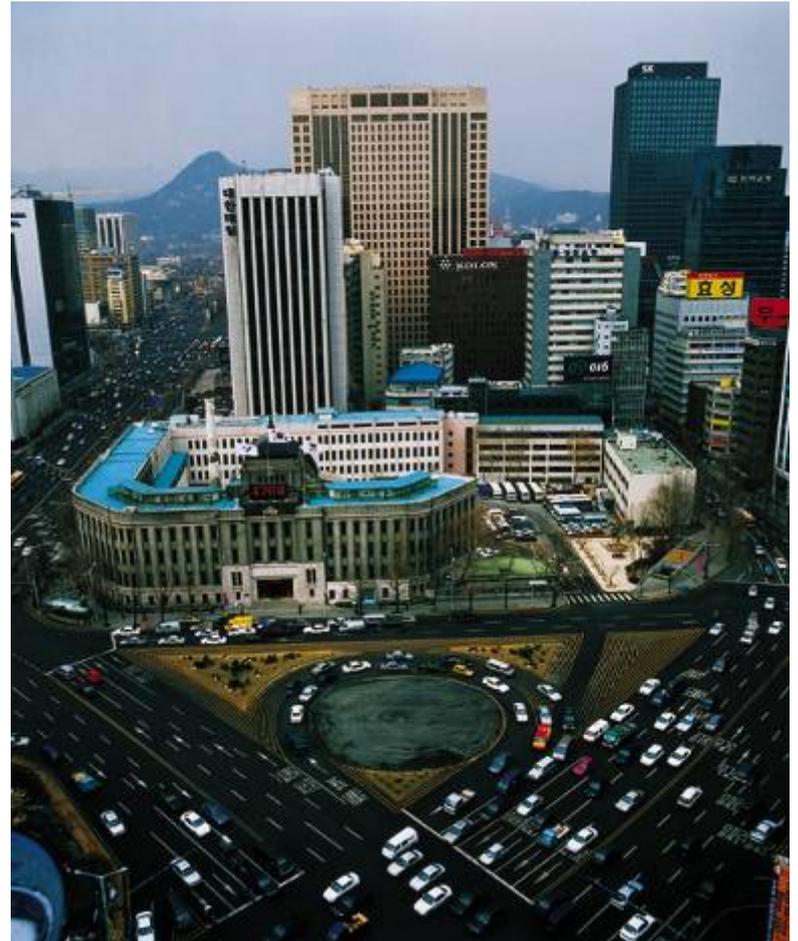
OpenVMS Directions



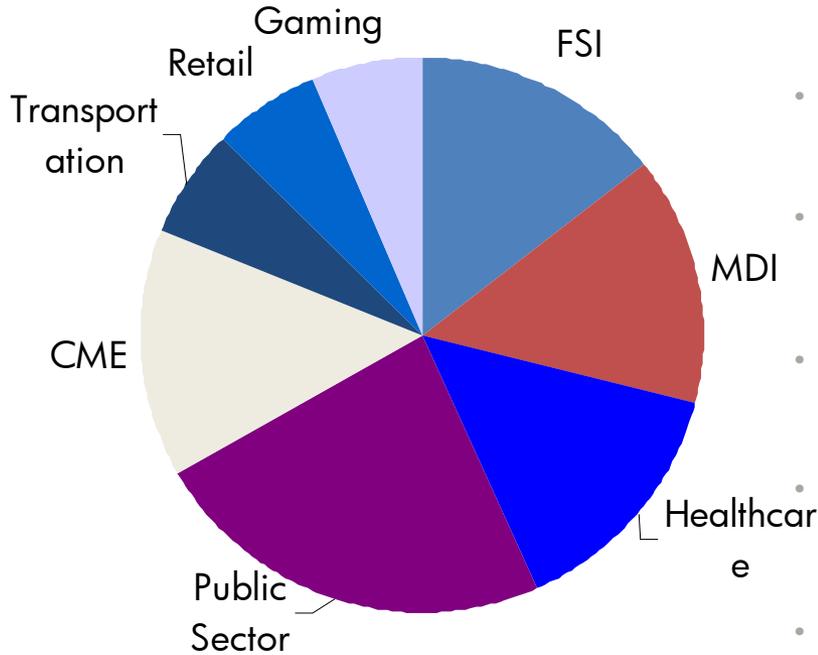
HP OpenVMS

Mission Critical & Secure Computing

- OpenVMS provides the core IT infrastructure for:
 - The world's largest CPU chip manufacturing
 - Mobile phone billing systems scaling to millions of users
 - Major futures and derivative exchanges worldwide
 - Majority of automated lottery systems
 - 1000's of major hospitals
 - Many of the world's most demanding Government environments requiring security and availability



OpenVMS Vertical Sector focus



- Manufacturing & Distribution Industry (MDI)
 - The world's largest CPU chip developer
 - The world's largest chip manufacturer
 - The world's largest camera manufacturer
- Communication, Media & Entertainment (CME)
 - Mobile phone billing systems scaling to millions of users
 - 2/3rds world's SMS traffic
- Public Sector
 - Many of the world's most demanding Government environments requiring security and availability
 - Battlefield radar systems
- Retail
 - World's largest furniture store chain
 - One of the world's largest office supply chains
- Transportation
 - The world's largest employer
 - Many national railway systems
- Financial Services Industry (FSI)
 - Major futures and derivative exchanges worldwide
 - Most of US daily funds transfer
 - Many Banking back-end systems
- Gaming
 - Dominant in automated lottery systems world-wide
- Healthcare
 - 1000's of major hospitals
 - Largest Healthcare provider in US
 - UK Blood Supply Organization

Note: Values are representative not actual

17 September
2009

A day in the life of OpenVMS

The family rests soundly, awaiting the next day.

OpenVMS is found in a wide variety of public sector and educational organizations.

Many of the world's most critical government defense systems and agencies use OpenVMS for their most critical systems.

Many of the world's defense manufacturers rely on OpenVMS in their design and manufacturing operations.



• Mark & Marcia get up in the morning and each have a bowl of their favorite cereal for breakfast.



• Mark gets into his nice new car and makes his way to work.



Many of the world's top vehicle manufacturers use OpenVMS to control production.



Major consumer packaged goods producers use OpenVMS in their manufacturing facilities providing up to the minute management information and control.



• Mark arrives at his office in the city where he works for one of the world's major financial institutions.



OpenVMS is in many of the world's leading banks and exchanges transferring \$100k daily in New York alone.



• Marcia is working from home today on that new presentation on his powerful new computer.



Over 90% of the world's microprocessors are manufactured by processes controlled by OpenVMS.



• At lunchtime Marcia goes out to rent a movie for the family.



Every branch at one of the world's leading video rental concerns has an OpenVMS system to run their POS application.



• Marcia upgrades her mobile phone to one of the newer models.



Most of the world's wireless systems rely on OpenVMS for their billing operations and their short message systems.

Over 60% of the world's SMS messaging is managed by OpenVMS systems.



• Later in the day Mark goes for his annual physical at the hospital.

Many of the health care organizations use OpenVMS to run their Clinical Information systems, labs, radiology, and ADT systems.



• After the hospital visit Mark decided to try the lottery. Why not, he was feeling good that day.



Most of the world's lotteries and other electronic gaming systems run their applications on OpenVMS systems.



• Mark drives one of his workmates to the rental car agency to pick up the families vacation rental.



Two of the world's largest car rental companies use OpenVMS in their order booking system and many of the world's busiest transportation operations use OpenVMS to control their systems.



• At the end of a long day Mark and Marcia responsibly enjoy a bit of liquid refreshment.



Some of the world's great breweries have OpenVMS systems controlling their production lines.

Many other process manufacturers rely on OpenVMS for their operations, as well.



• In the evening, the family watches the Monday night ballgame on satellite TV rather than the rented movie.



A large number of cable, satellite TV, and other media systems run critical applications on OpenVMS servers.



• At the end of the day they go to sleep in their new, comfortable beds from a Swedish furniture retailer.



Large manufacturers and retail outlets around the world rely on OpenVMS.



Strategy to deliver Value

- **Significant technology innovation**
 - Integrity Servers – Industry standard, multi OS, Blades
 - Availability – Disaster Tolerant
 - Clustering – Scalable to 96 nodes up to 800 kms **or more** apart, multi-architecture
 - Security – System and Cluster, Fewest CERT advisories, Never hit by a virus to our knowledge
 - Integration – Premier technologies
- **TCO and TCU**
 - Consistent high scores in “Total cost of ownership” area in user survey
 - High scores for Software Quality & Reliability, Ease of installation ,configuration and administration.
- **Strategic Partners**
 - Over 1500 application Ported and available today on Integrity
- **Commitment**
 - Intel and HP’s continued commitment to the Itanium roadmap and Integrity servers
 - HP’s commitment to the OpenVMS roadmap



Highlights from recent worldwide customer advocacy survey – We're all about our customers!



Summary for OpenVMS

OpenVMS receives a high overall satisfaction rating (9.0), Rating has remained high since 2006
Security features receive the highest satisfaction ratings, followed by software quality and reliability
Significant improvement in the satisfaction scores for ease of ordering products and timeliness of obtaining quotations.

"OpenVMS -- great technology"

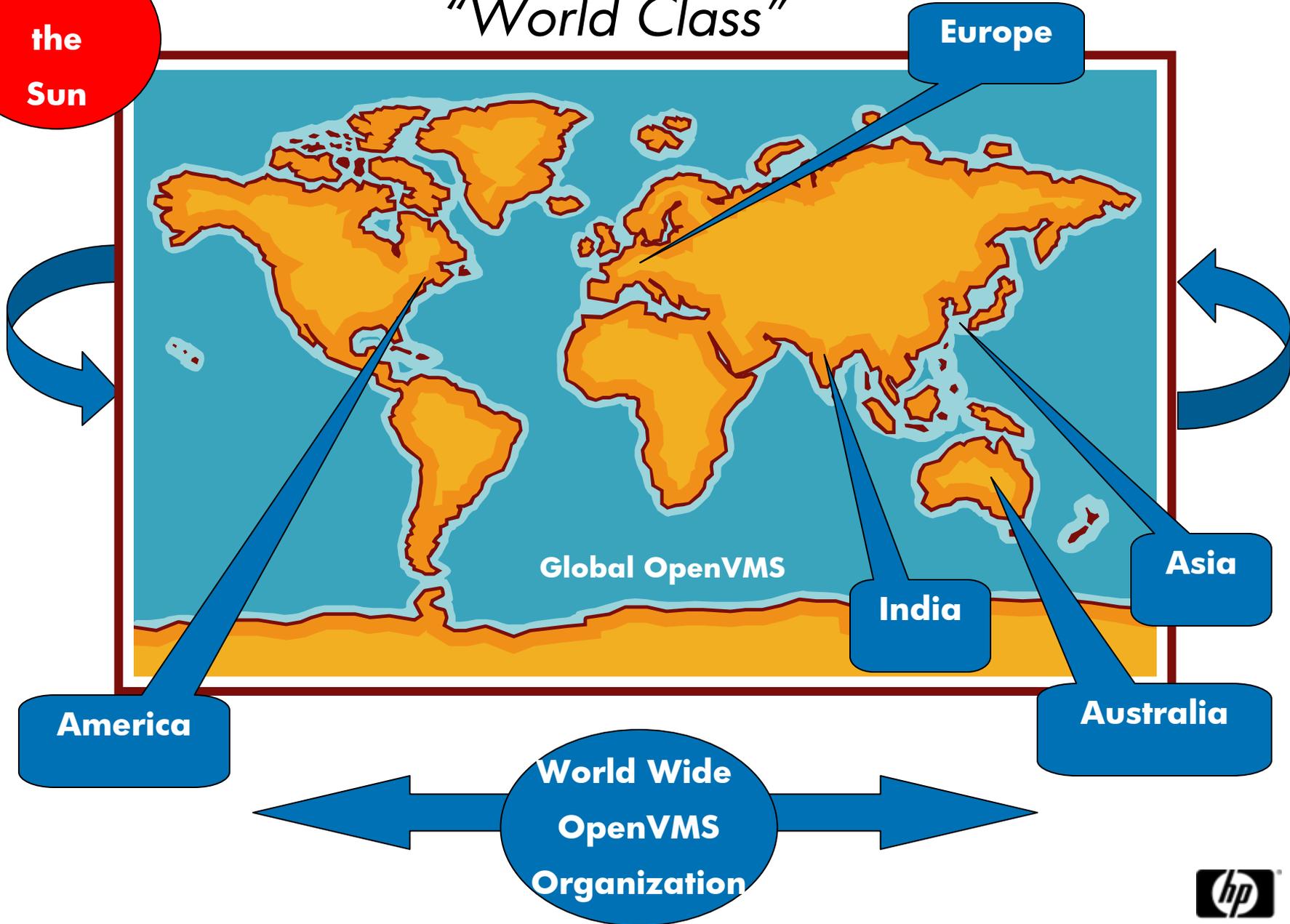
"It's bullet-proof"

Moving Ahead



OpenVMS Today "World Class"

Follow
the
Sun



OpenVMS Community Across HP Today

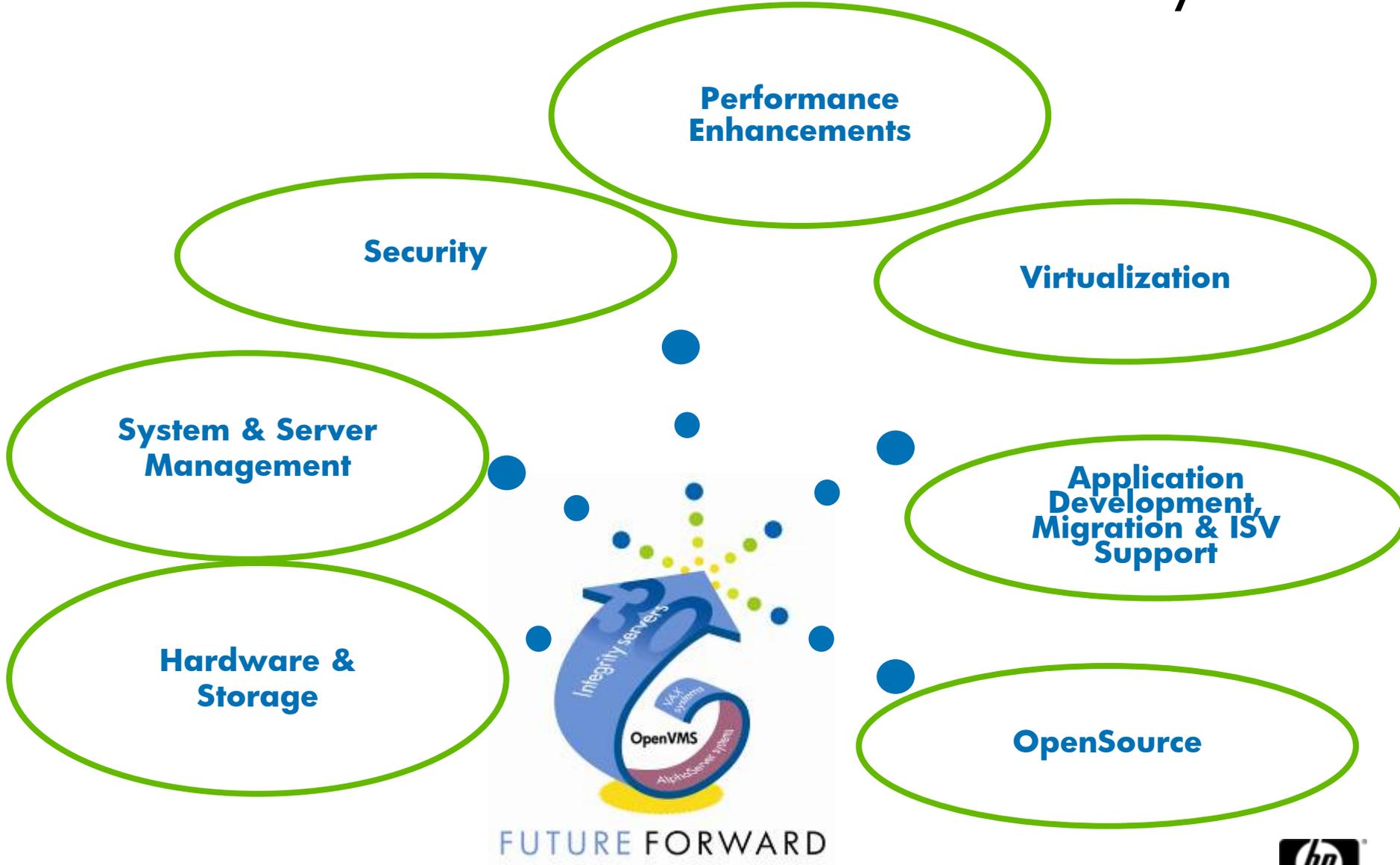
- Engineering
- Marketing
- Business Management
- OpenVMS Ambassadors
- OpenVMS Professions
- HP Global Service
- HP EDS
- BCS Specialists
- BCS Sales



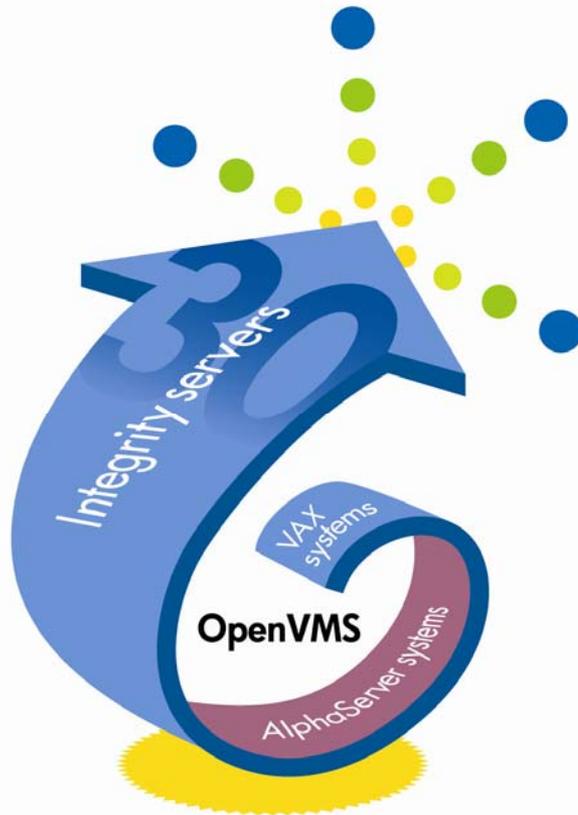
What's New

- OpenVMS T8.4 Field Test release OpenVMSFieldTestOps@hp.com
- We released over 25 product updates
- Partners :Over 1500 OpenVMS Applications now on Integrity
- Integrity Adoption up from last year
 - Integrity Revenue continues grow each quarter
 - Major Alpha to Integrity migrations include gas distributors, customs services, steel manufacturers, banking, healthcare providers, financial changes, many government and public sector
- Continued Performance Improvements

Continued investment in the total ecosystem



HP OpenVMS Rolling Roadmaps

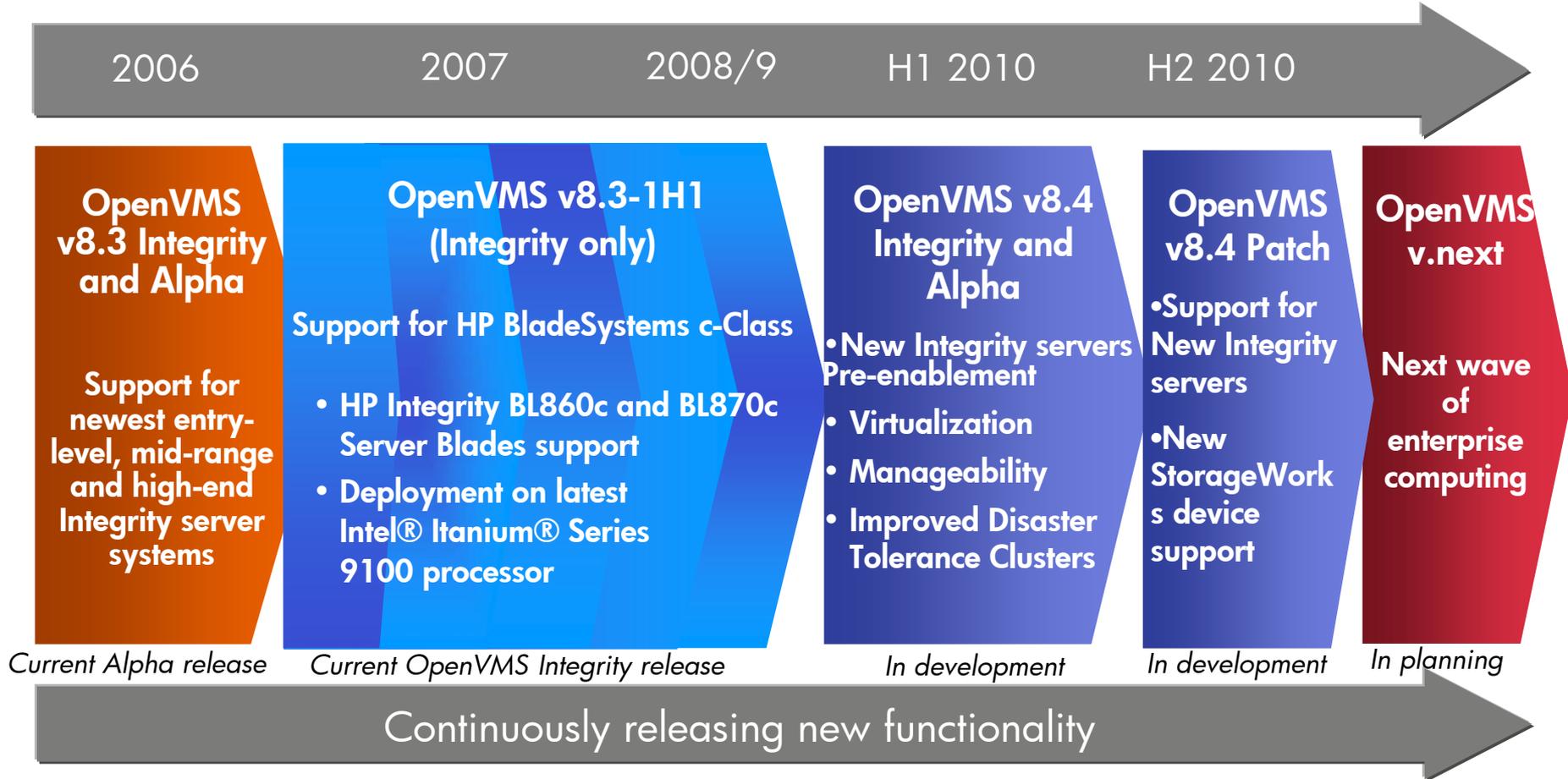


These roadmaps are provided to you solely for your convenience and are updated approximately every 3 months. While it contains our current plans, all information in the roadmaps is subject to change without notice. HP doesn't warrant that we'll introduce any product or feature discussed in the roadmap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

September 2009

HP OpenVMS software roadmap

Continuously delivering mission-critical solutions for over 30 years!

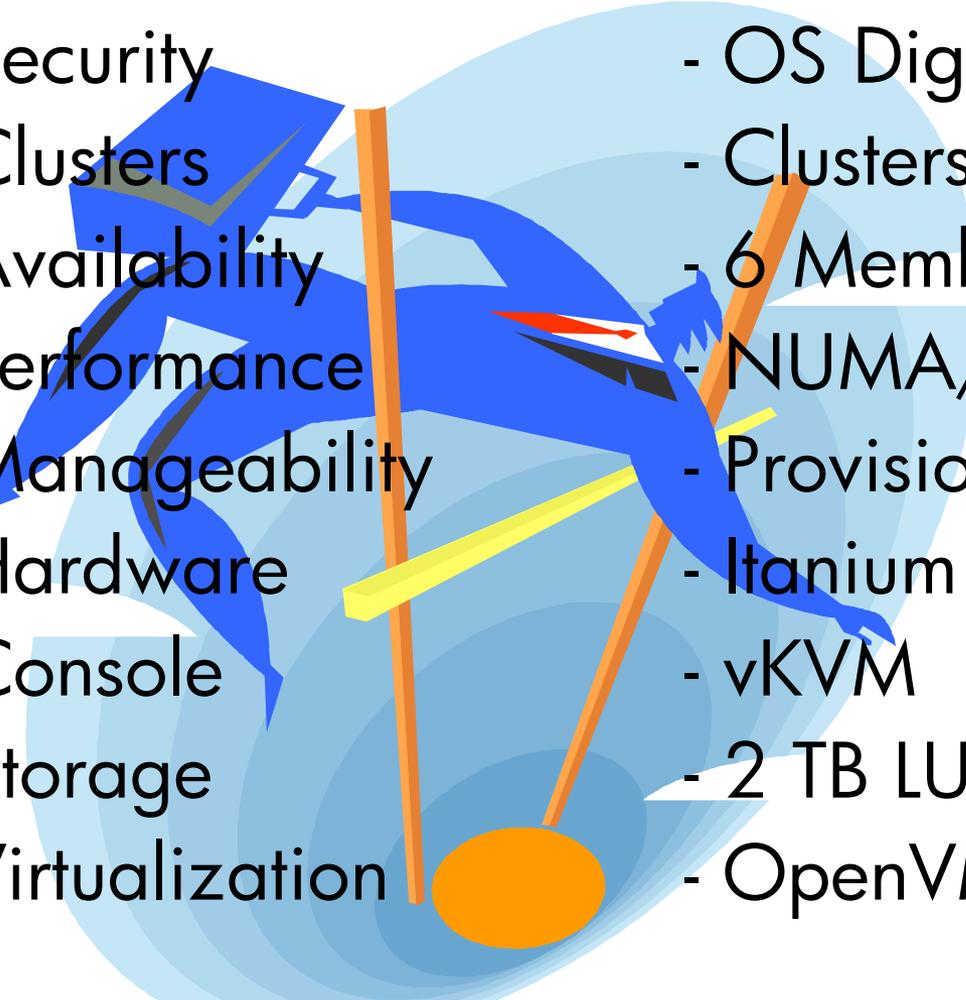


New Releases every 18-24 months



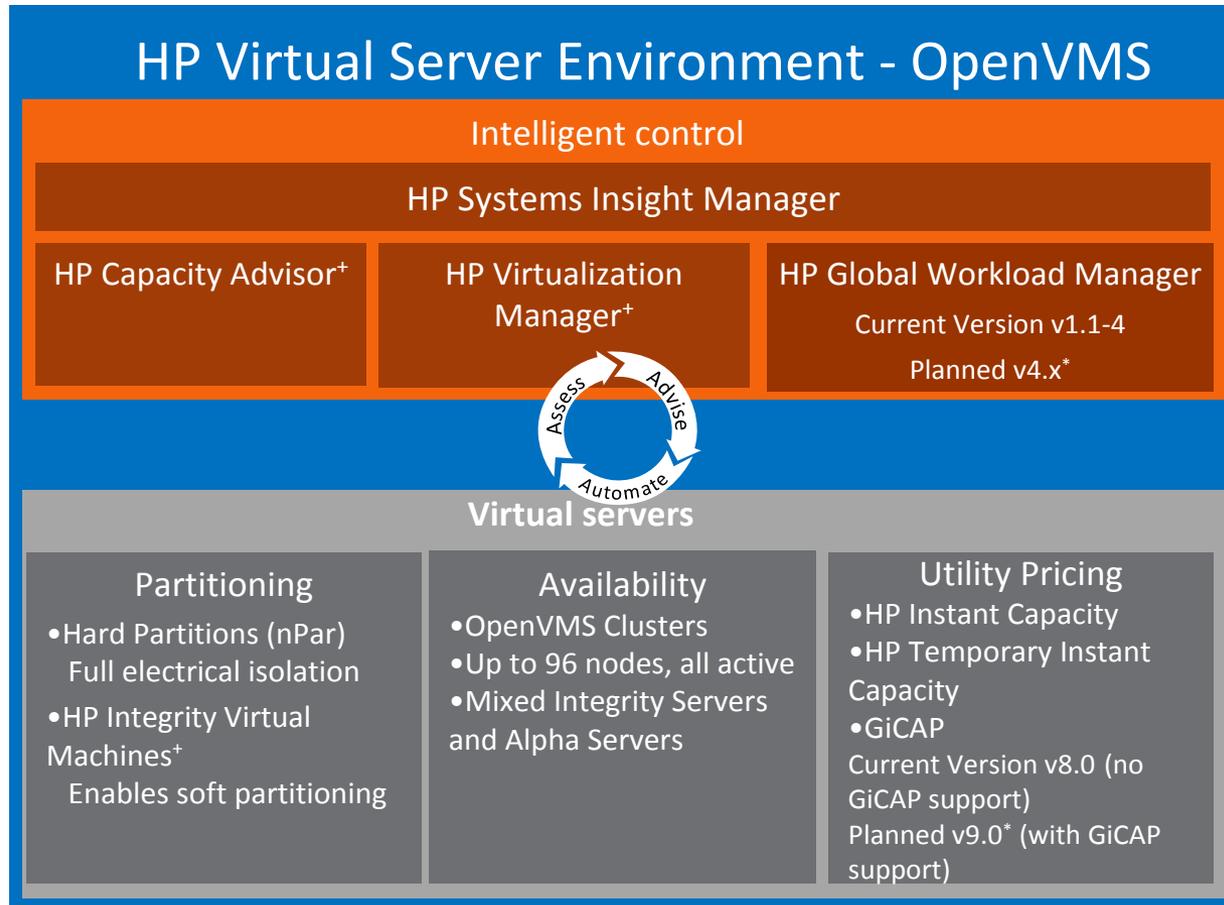
OpenVMS v8.4

Raising the bar - Enhancing Core Strengths

- 
- Security
 - OS Digital Signature Support
 - Clusters
 - Clusters over TCP/IP
 - Availability
 - 6 Member Shadow Sets
 - Performance
 - NUMA/RAD Support
 - Manageability
 - Provisioning O/S & TCP/IP
 - Hardware
 - Itanium Processors
 - Console
 - vKVM
 - Storage
 - 2 TB LUN
 - Virtualization
 - OpenVMS as guest on HPVM

HP Virtual Server Environment for HP OpenVMS Integrity Systems

*Introducing OpenVMS as Virtual Server Environment (VSE) managed node**



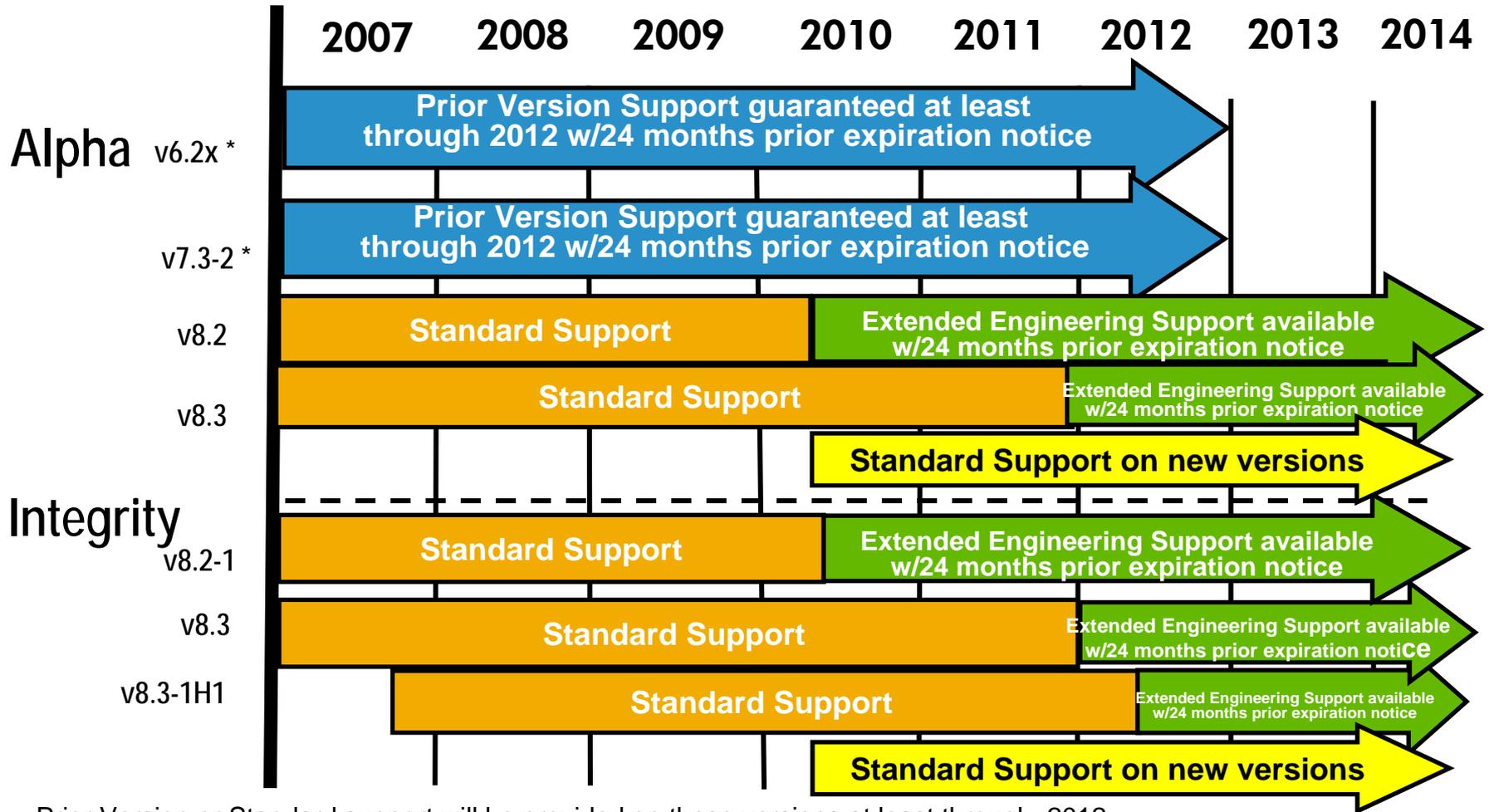
* Planned for release in H2-2009 on OpenVMS v8.3-1H1

Will also be available on OpenVMS v8.4 in H1-2010

+ Planned for release with OpenVMS v8.4 in H1-2010



OpenVMS Service Support Roadmap



• Prior Version or Standard support will be provided on these versions at least through 2012.

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

Standard support ends when the 2nd subsequent release ships. HP supports the current version and one back.

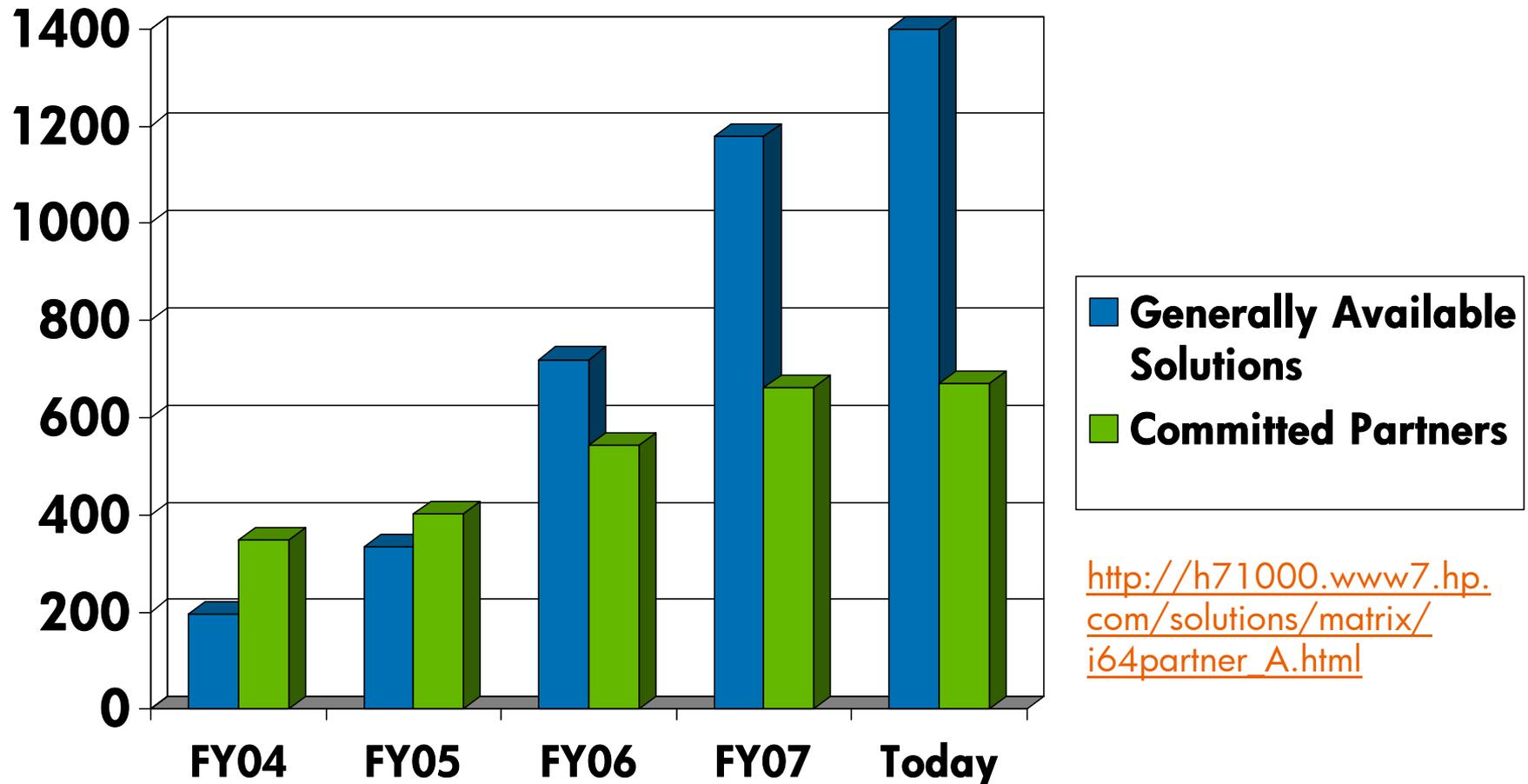
Extended Engineering Support will be available for additional cost. Future version shipment dates are estimates.



ISV Update and Integrity Adoption



Our ISV partners continue to invest in OpenVMS



http://h71000.www7.hp.com/solutions/matrix/i64partner_A.html

90% of OpenVMS Applications are now on Integrity.

HP Integrity servers with OpenVMS provide a smooth transition with easier administration and rock solid security



Compiled approximately 500K lines of code, and had the core applications running in around 6 hours



Flinders Medical
Center

Porting our 1.5 million lines of code to OpenVMS on Integrity required no code changes at all.



500,000 lines of Pascal code, only changing 5 lines of code



OpenVMS provides us with an operating system that requires minimal system administration.

Los Angeles
Community
College District

Data loss and identity theft in particular are huge concerns in the sector

Office of OpenVMS Customer Programs

- Nerve center for all OpenVMS customer programs
 - Continue to nourish our strong relationships with Customers, Partners and ISV's.
 - Assist field deliver quality OpenVMS technical solutions
 - Connect HP OpenVMS Experts to customers/partners on long term basis
 - Evangelize OpenVMS through technical programs
 - HPTF, Technical Update Days (TUD), Tech talks, Connect, VMS Tech Journal, Hobbyist, Edu Programs and other programs
 - Designed for both business and technical audience
 - OpenVMS Ambassadors program
 - Direct customer information shaping long term product development
 - Access to HP Technologies through Customer Lab
 - E-mail: OpenVMS.Programs@hp.com



OpenVMS Customer Lab

- Do you need to know exactly how fast your OpenVMS application will run on Integrity servers?
 - The OpenVMS Customer lab is the answer
- The perfect place to establish the proof points you need to size your OpenVMS solutions on Integrity
- The Customer Lab personnel have already assisted hundreds of Customers and Partners in migrating to Integrity
- For more info, please see <http://h71000.www7.hp.com/custlab/index.html>



OpenVMS Marketing



OpenVMS Publications

Solutions for the adaptive enterprise.



HP OpenVMS
Exceeding the expectations of the world's most demanding enterprises

change + hp



Securing your future with HP
Moving forward with OpenVMS




OpenVMS Technical Journal
V13, July 2009



+ hp




Migration from HP Advanced Server for OpenVMS to HP OpenVMS Common Internet File System (CIFS)

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X.25 over IP Whitepaper

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Partnership for Technical Publications

the **Availability Digest**

NHSBT
UK National Health Service – Blood & Transplant
October 2008

NHS Blood & Transplant (NHSBT) is part of the UK's National Health Service and is responsible for blood services and organ transplantation throughout the UK. The organization manages the supply of blood to hospitals throughout England and North Wales, tracking blood from when it is first donated, through its testing and separation into various products, and, finally, to its dispatch to hospitals.

NHSBT has a particularly important role to play following any major incident where people might be injured and where blood is urgently needed to save lives. Therefore, the efficient operation of NHSBT's computing infrastructure is of paramount importance in ensuring that patients receive the blood they require.

To ensure the effective management and processing of data under all circumstances, NHSBT has two physically separate data centers using split-site OpenVMS clusters that provide multiple levels of redundancy. NHSBT has recently delivered a major upgrade to this system – an upgrade that was accomplished with minimal disruption to service. This article describes the development and delivery of the new NHSBT system.

NHSBT Facts & Figures

NHS Blood & Transplant's services include:

- promoting blood, tissue, and organ donation to the public.
- managing the supply of blood to hospitals in England and North Wales.
- working with hospital colleagues to promote the safe and appropriate use of blood.
- providing a range of tissues to hospitals.
- managing organ donation in the UK.
- managing the British Bone Marrow Register.

There are roughly 2.5 million blood donations per year. NHS Blood & Transplant (www.blood.co.uk) tracks and manages these blood donors and the blood they donate. NHSBT is the sole provider of blood and the majority of blood components to the National Health Service in England and North Wales and also to private healthcare providers.

Every blood sample is individually screened, identified, and tracked. A blood sample is usually split into one or more products, including red cells, plasma, and platelets. These products are stored in thirteen centers around the country.

the **Availability Digest**

OpenVMS Active/Active Split-Site Clusters
June 2008

HP OpenVMS clusters offer a dramatic improvement over contemporary cluster technology. Nodes in an OpenVMS cluster run in an active/active mode in which multiple nodes across multiple sites cooperate in a common application against a common, distributed file system. The recent "Disaster Proof" video from HP,¹ in which a data center was blown up, showed that OpenVMS had the fastest recovery time of all the clustering technologies used (OpenVMS, HP-UX, NonStop, Windows and Linux).

In our earlier article on clusters,² it was pointed out that contemporary clusters do not run in an active/active mode in our sense because a disk volume can be mounted only on one node at a time (unless Oracle RAC is used), and only that node can participate in the application. Consequently, when a node fails, the application has to be started on another node, the volume remounted and repaired, and the users switched. This leads to failover times for contemporary clusters measured in minutes or more.

Like active/active systems, OpenVMS clusters recover in seconds because once a failure is detected, all that must be done to continue operation is to switch the subset of users who were connected to the failed node to surviving nodes at any of the sites. Furthermore, no data is lost following a failure (a Recovery Point Objective, or RPO, of zero is achieved) because the application file system copies are updated synchronously.

OpenVMS Cluster Overview

An HP OpenVMS cluster is a shared-everything cluster that can have up to 96 nodes³ distributed over one or more geographically-separated sites. Redundant data storage is organized as shadow sets using HBVS (Host-Based Volume Shadowing). Each disk (or presented storage device in a fibre channel disk array, where each presented device could itself be a RAID 0+1 entity) can be a member of a shadow set, and a shadow set can have up to three members. All disk members of a shadow set are exact copies of each other.

The three members of a shadow set may be distributed across as many as three of the nodes in the cluster. When fibre channel disk arrays in a storage area network are used, all nodes have simultaneous access to all shadow set members. (The three-member limit is currently being increased with an architectural limit of sixteen members and with support for up to six members anticipated). A cluster can support up to 500 disks in multiple-member sets or up to 10,000 disks in single-member sets.

Posted with permission from Availability Digest, www.availabilitydigest.com



OpenVMS Marketing Outreach

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

OpenVMS.org

– Surveys

– Announcements

• Golden Eggs

– SAS MI Cluster

• HP BCS 2009 Marketing initiatives include OpenVMS

– Webcast

• BCS Blades January-April

• ISV August

– Podcast

OpenVMS.org

Itanium

GOLDEN EGGS



OpenVMS Podcast Available

OpenVMS Marketing Outreach

Check out these podcasts covering the latest developments on OpenVMS.

[HP OpenVMS Success Story](#)

[HP OpenVMS updates - new features](#)

[Virtualisation on OpenVMS - Roadmap](#)

OpenVMS Freeware Program Refresh

Launching Q1 2010

- Freeware available via web downloads starting early 2010
- Developers , Hobbyist can submit freeware to HP OpenVMS team by end of 2009
- For more information stay tuned – Freeware Program details coming soon at www.hp.com/go/openvms

OpenVMS Fundamentals training

Interactive, distance learning from HP Education

- HP OpenVMS customers can access OpenVMS Fundamentals training via the new, interactive distance learning program
- Pre-recorded, instructor-led online, self-paced course
- Includes an OpenVMS simulated environment on which students can practice
- Offers a follow-on opportunity to access the HP Virtual Lab for hands-on practice in a fully configured OpenVMS environment, with live mentoring from an OpenVMS expert.
- Content is the same as taught in the instructor-led version. (u3716s).
- Full curriculum offered on OpenVMS Course offerings, schedule and registration: www.hp.com/learn/openvms



Migrations



Migration Benefits

- 30% drop in power and cooling costs
- 40% lower license cost on OpenVMS
- Reduction in server racks: from 3 to 1
- 50% higher performance with zero downtime



Customer Testimonials

Advocating Use of Customer Lab

Customer - PointSecure

*"Thanks so much for your help in solving our problem in support of our mutual customer. **The use of the Customer Lab equipment and the help and advice provided by all of you was vital in this effort.** We have completed the testing of our new release which incorporates the newly tested code."*

Customer - Major Publishing House in UK

*"With the Sandpit testing now completed, I would like to say a huge thank you to all of you for your **support and expertise** during the engagement to enable us to make the choice of equipment."*

Customer Testimonials

Advocating Use of Customer Lab (Cont'd)

Customer - Solid Access

"One of the world's leading stock exchanges and a satisfied HP technology power user expressed a desire to evaluate and deploy Solid Access and its new generation of silicon data storage sub-systems, named USSD. The main requirement was OpenVMS support, as the customer uses over 40 HP servers (Itanium- and Alpha-based) and is constantly growing. Solid Access, with no previous OpenVMS experience, approached HP and the OpenVMS Customer Lab team.

"The Customer Lab evaluated our request and got us oriented very quickly. A lead advisor was assigned to coordinate the lab work, making sure that our OpenVMS Customer Lab engagements were productive and successful. The lead's contribution was crucial! His practical OpenVMS environment knowledge, resourcefulness to find the correct information or right person to get relevant feedback, allowed us to deliver the results quickly.

"Great job HP! This is how technology/development support should be done, and we wish you luck in sustaining the exceptional level of service currently enjoyed by your Partners and Customers."

Gartner Report on Migration to Integrity with OpenVMS

Available on

HP OpenVMS website at

www.hp.com/go/openvms

The Gartner logo, consisting of the word "Gartner" in a bold, blue, sans-serif font with a registered trademark symbol.

- Gartner has conducted an independent evaluation of transition options for OpenVMS customers
- The report highlights that OpenVMS on Integrity is a viable, risk-free option, and adoption of OpenVMS on Integrity is very strong
- Report is titled 'Best Practices: Migration Planning for Alpha Server Users,' **ID Number: G00164706**

Summary

- Continue to enable customer's business
- Maintain robustness of OpenVMS
- Enhance to support business needs
- Commitment to support



