

COMMAND

your infrastructure like a
visionary, not a functionary.

OpenVMS Strategy and Roadmap

Sep 2011

Matter is subject to change without notice



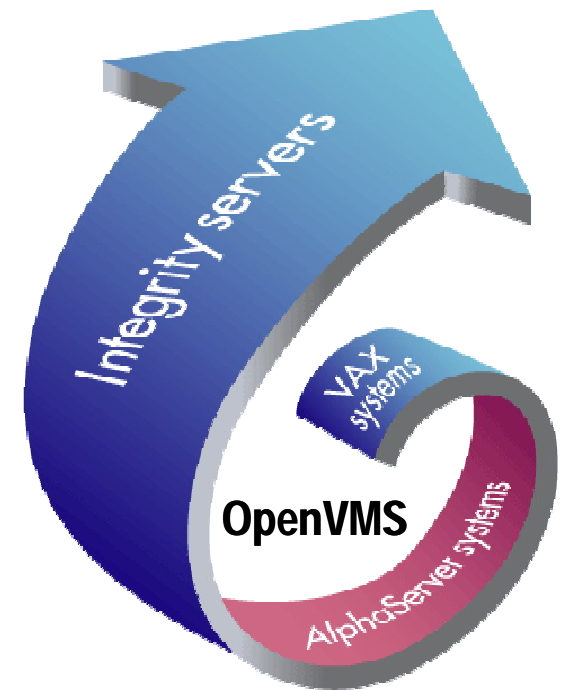
OpenVMS: MOVING STRONGLY INTO IT'S 4TH DECADE

OpenVMS profile

What's New with OpenVMS?

Roadmap and Future Directions

OpenVMS Customer Program



OpenVMS PROFILE



HP OpenVMS

MISSION-CRITICAL & SECURE COMPUTING

Hundreds of thousands of systems installed, millions of users

OpenVMS provides core IT infrastructure for:

Mobile telecom billing systems scaling
to millions of users

Major hospitals

Government offices worldwide
demanding security & high availability

World's largest CPU chip manufacturer

Majority of automated lottery systems

Prominent futures and derivative
exchanges worldwide



Quest Diagnostics

“HP OpenVMS is among the **world’s most secure operating systems**, we feel confident in our decision to run such a secure operating system, because we are constantly dealing with sensitive personal medical information.”

“HP BladeSystem and HP Virtual Connect are basically a **data center in a box**. With them, we have built a environment that is more affordable, requires less time to maintain, uses less power, and can scale easily.



Jim Diorio
Executive Director, IT Infrastructure
Quest Diagnostics Incorporated

November' 2010



Fraport AG

“We can’t allow much more than five minutes of downtime, which is why we have always relied on HP OpenVMS due to its reliability, fault tolerance, and proven robust clustering capabilities.”



Kay Belke
Software Engineer
Fraport AG (Frankfurt Airport)

January' 2010



ABF-Industrielle Automation GmbH

“OpenVMS on Integrity servers provides a stable and reliable platform for our customers’ mission-critical environments. OpenVMS also maximizes security and minimizes system administration, so our customers can focus on optimizing their manufacturing, assembly, material flow, and other processes—instead of maintaining their process control systems.”



Günther Adelwoehrer
General Manager
ABF-Industrielle Automation GmbH

January' 2010



ICAP Electronic Brokering

“We connect the largest professional foreign exchange trading community in the world, so we need to ensure our technology remains leading edge and resilient. HP OpenVMS on HP Integrity systems has given us the trading infrastructure necessary to continue delivering the high level of service our customers expect.”



Rob Perez
Head of FX Development
ICAP Electronic Broking
NY, USA



Savant

“We started using OpenVMS back in the 1980s because of its high availability. Today, OpenVMS offers advanced features like volume shadowing between nodes to synchronously replicate data between sites and storage arrays – capabilities like this still don’t exist in other operating systems available today.”



Ian Gray
Technical Director
Savant

January' 2010



UK National Health Services Blood & Transplant

“Our experience with the OpenVMS operating system is that it is **incredibly stable and reliable, and it supports the uptimes we need for a critical system.** Then we saw that **moving to HP Integrity servers** would save operating costs, data center space, and give us better performance, reliability, and headroom for the future – there really was no downside.”



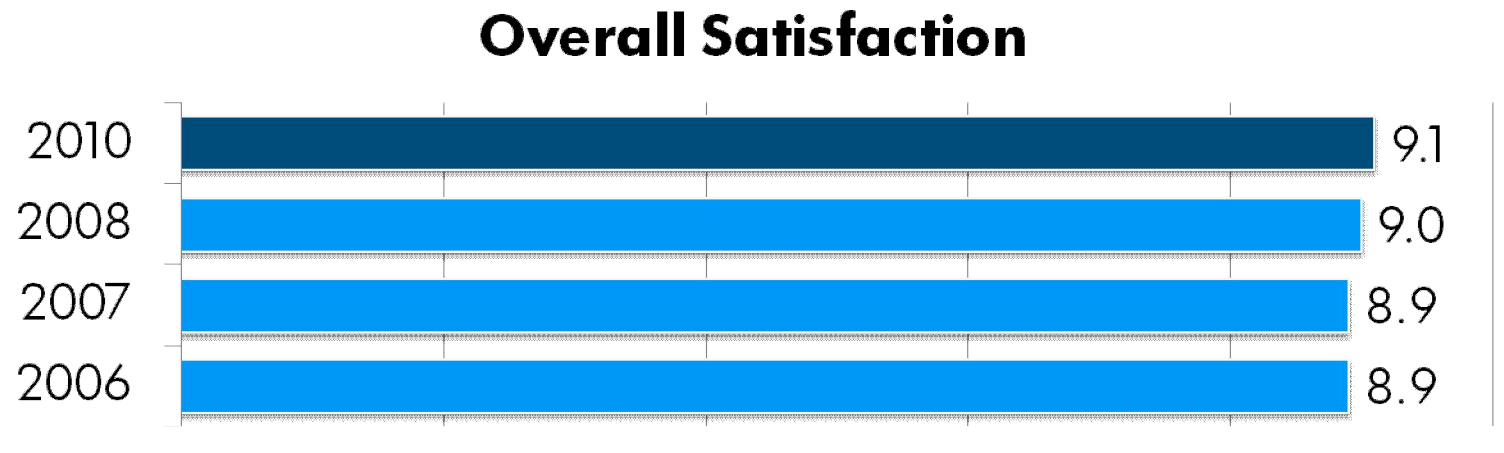
Andrew O'Connor
Systems Engineering and Operations Manager
UK National Health Services Blood & Transplant

January' 2010



Highlights From Worldwide Customer Advocacy Survey*

We're all about our customers!



OpenVMS continues to receive a high overall satisfaction rating

Top areas customers want OpenVMS to focus on going forward:
Open Source, System Management Tools, Development Tools and Performance Enhancements

*

2006-2008: HP user group world wide survey
2010: HP Connect OpenVMS Customer Survey



WHAT'S NEW ON OpenVMS?



WHAT'S NEW IN OpenVMS?

Key Releases

- OpenVMS V8.4 – June 2010
- OpenVMS on Integrity i2 server blades – August 2010
- OpenVMS on Integrity rx2800 i2 – February 2011

20+ Product Updates

- RTR v5.2
- ABS v4.5
- CIFS v1.1, CIFS v1.2
- OpenView Operations Agent V8.6
- ...And many more

ISV & Partner Ecosystem

- Over 90% of ISVs with OpenVMS applications have migrated to HP Integrity
- New and Updates of ISV Products available

Integrity i2 Adoption Up

- HP Integrity adoption continues increase every quarter
- Migrations to HP Integrity span all industries

Marketing

- 2 new white paper from Techwise - Total Cost of Upgrade, Performance benefit of i2 Servers
- Blogs and tweets , Brochures, data sheets, rx2800 i2 solution brief, 6 new success stories



OpenVMS V8.4

Virtualization | Always On | Simplified Management

- 65+ New Features & Enhancements
- Up to 2x per socket performance improvement with BL8x0c i2 Server Blades
- Support for VC, Flex-10
- Simplified OEs
- Per Socket Licensing : Simple Yet Affordable
- Extensively Field Tested by 250+ customers, partners, ISVs world wide.

Virtualization

Clustering Over TCP/IP

Hardware and Storage

Improved Performance

Strengthened Security

Availability

System and Server Management

Application development, Migration, and ISV Support

Open Source

OpenVMS V8.4 New Features & Enhancements



RECENT DEPLOYMENTS & MIGRATIONS TO HP INTEGRITY

- A Major Market Analytics Company upgraded their Data Centre from rx8640 to BL890c i2 Bladed environment, 15% performance improvement while saving on operations and service cost
- Leading US healthcare support migrated to i2 servers
- Major retail chain owned insurance company chose OpenVMS
- Leading Asian stock exchange adopted OpenVMS for their new trading platform
- Large telecom operator in South America migrated to OpenVMS on Integrity
- Prominent insurance company in Canada migrated from Alpha to Integrity
- Major online medical prescription provider migrated to OpenVMS on Integrity
- Leading bank in Europe adopted Integrity
- Major federal establishment deployed Integrity blades



OpenVMS CUSTOMER PROGRAM – RECENT EVENTS

Events

- HP premium events
 - Tech@Work, Frankfurt
 - HPTF, Las Vegas
 - HP Discover, Las Vegas, June 2011
- Technical Update Days
 - Chicago, Dallas, Washington and New York, Close to 200 customers and partners
 - Amsterdam, Frankfurt, London, Paris, Stockholm, Vienna, Close to 300 customers and partners
 - In APJ - Singapore, Sydney, Melbourne
- HP Connect Boot camp at Nashua
 - Connect Symposium – May 2011
 - Next OpenVMS Connect Boot camp, New England, September 2011
- Webinars – Engineering, Partner Delivered
- User Group events in various cities
- See you at EMEA TUD - Frankfurt, Stockholm, Paris, London, Amsterdam, Vienna



ROADMAP & FUTURE DIRECTIONS



CONVERGED INFRASTRUCTURE



Mission-Critical Customer Challenges

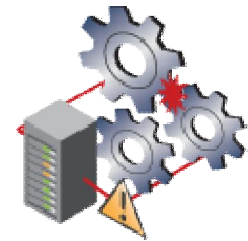
Financial Services

Every minute of
downtime = a minute of
lost revenue!



Manufacturing and Distribution

Production comes
to grinding halt



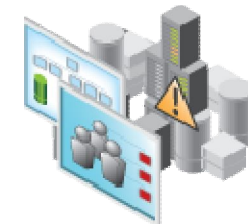
Healthcare

Patient outcomes
depend on 24x7
access to data



Public Sector and CME

Customer retention
and fraud detection at risk



No tolerance for downtime

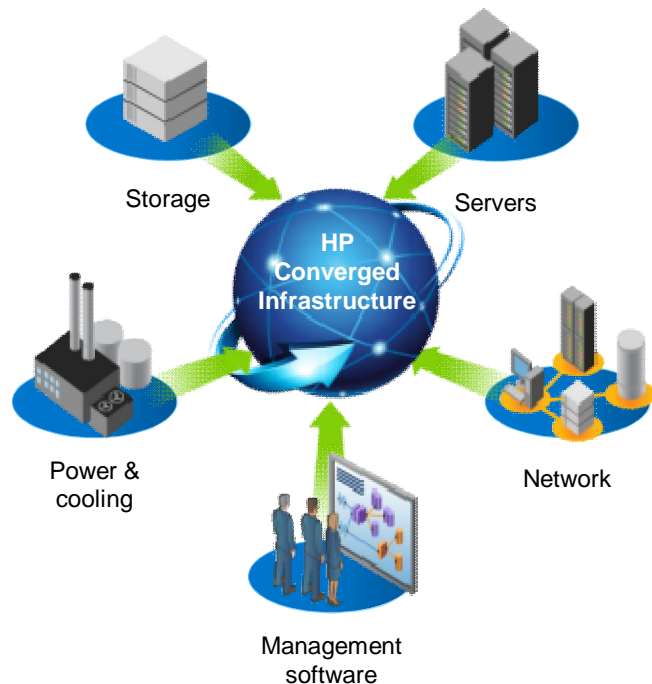
Increasing SLAs with decreasing budgets

Islands of legacy apps and monolithic systems



The First Mission-Critical Converged Infrastructure

New Integrity systems optimized for the converged infrastructure



A common, modular architecture that simplifies, consolidates, and automates everything

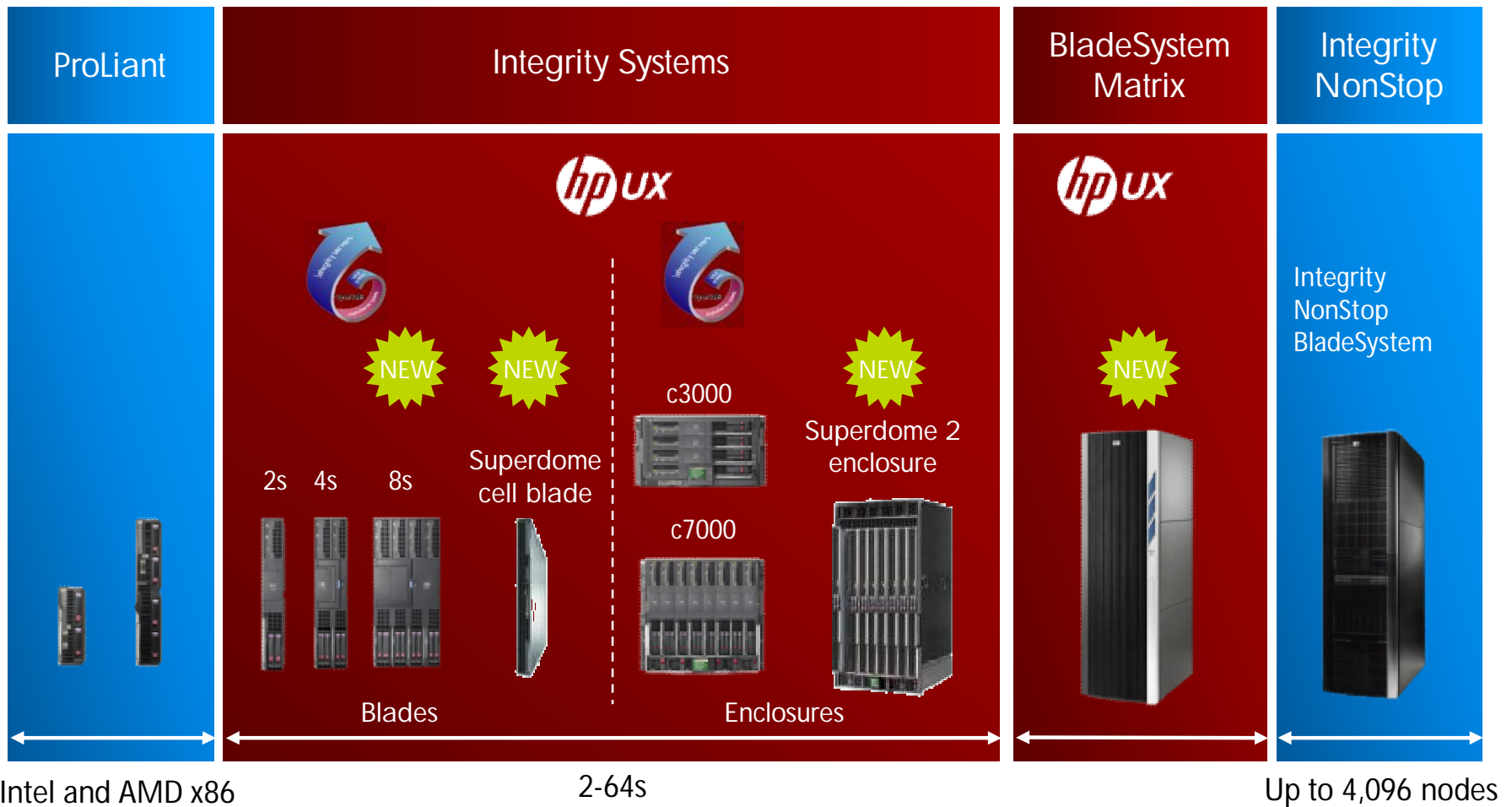


A mission-critical infrastructure delivering the highest levels of reliability and flexibility



Unified Blade Architecture from x86 to Superdome

Simplify by consolidating applications on a common platform



Train once, certify once, deploy once

OpenVMS IN A CONVERGED INFRASTRUCTURE

Components of Converged Infrastructure in an OpenVMS environment

Virtual Resource Pools Modular Infrastructure - i2 blades and StorageWorks arrays, HPVM Guest

FlexFabric supported with scalable blade links & support for Virtual Connect & Flex-10

Data Centre Smart Grid with Integrity platform and OpenVMS power management capability

Matrix Operating Environment with support for Insight Control via HP SIM IPM, HP Insight Dynamics - VSE

Integrity Server Blades with HP OpenVMS



Eliminate downtime

Exceed SLAs with reduced resources

Eliminate islands of legacy applications
& monolithic

ROADMAP

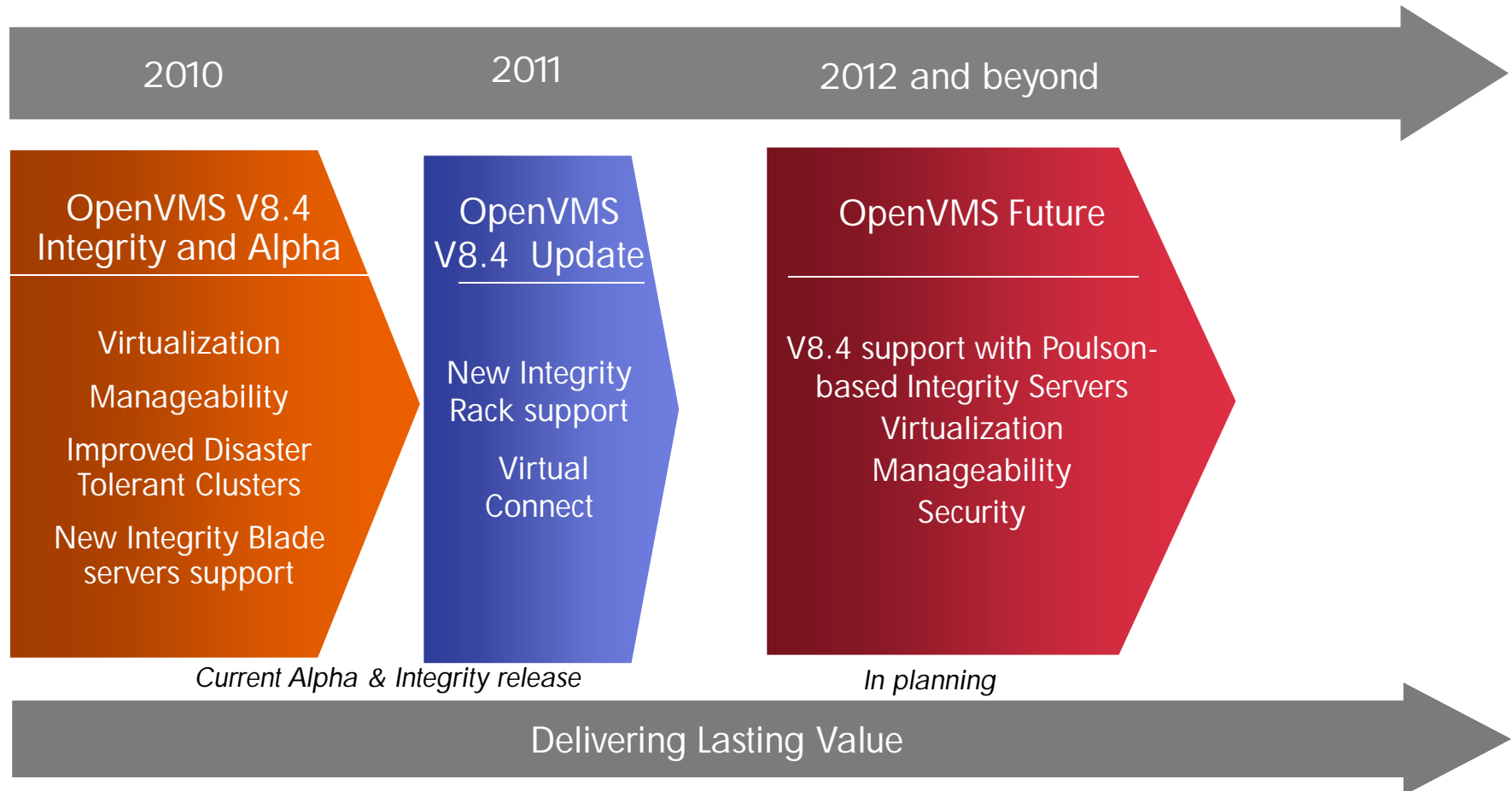
The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any products remains at the sole discretion of HP.

April 2011



HP OpenVMS SOFTWARE ROADMAP

Continuously delivering mission-critical solutions for over 30 years!



OPENVMS TODAY AND TOMORROW

Continuously releasing new functionality

Future:

- Align with hardware roadmap and support new Poulson based Integrity platforms with OpenVMS V8.4
- Continued quality, virtualization, manageability and security
- OpenVMS V8.4 Update 6 (Nov 2011)

Current release:

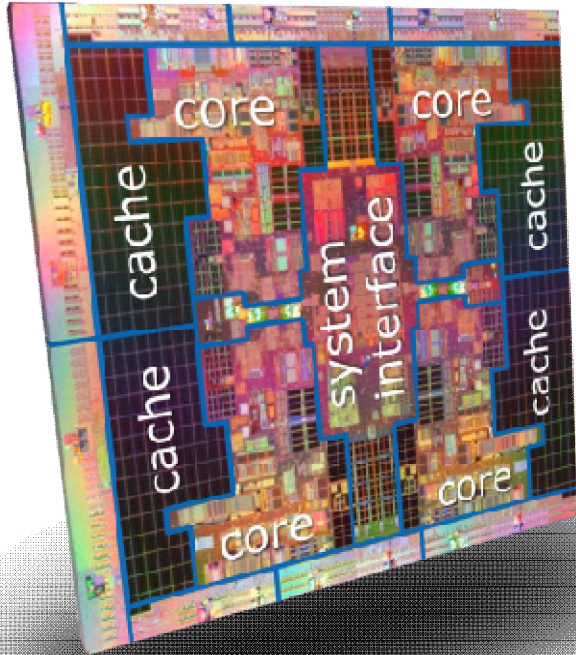
- OpenVMS V8.4 Update:
 - New Integrity rack systems running Itanium processors
 - Virtual Connect / Flex 10 Support for HP Integrity BL8x0c i2 systems
- OpenVMS V8.4 (Integrity and Alpha)
 - New Integrity systems running Itanium processors
 - OpenVMS as a guest operating system on HP Integrity Virtual Machine
 - Clusters over TCP/IP protocol
 - Host-based volume shadowing with up to 6-member shadow sets
 - 2 TB volumes
 - Performance enhancements

Time



ITANIUM 9300 SERIES (TUKWILA) ADVANCED SCALABLE PERFORMANCE

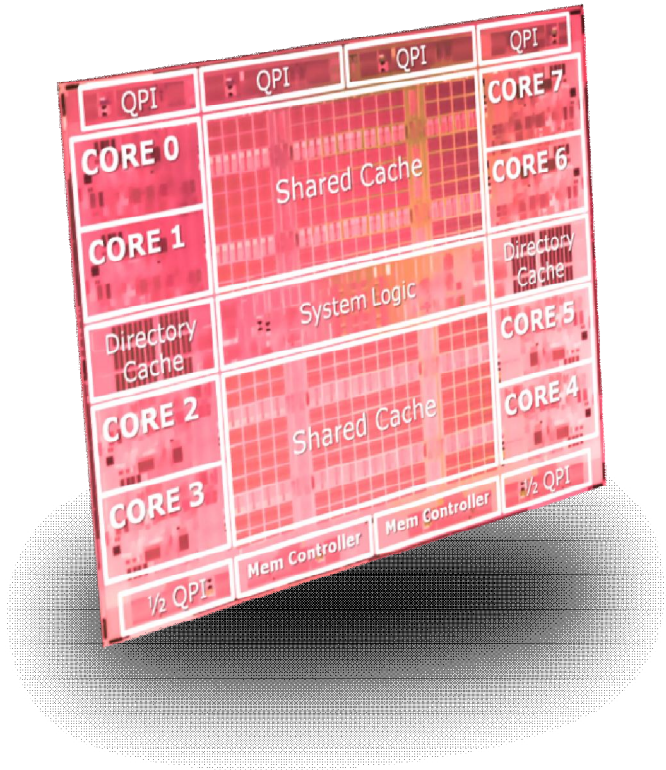
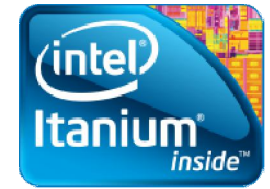
World-Class Resiliency
Advanced Scalable Performance
System Level/OS Innovations



- QuickPath™ Interconnect delivers up to **9x** increase in interconnect bandwidth
- Memory subsystem delivers **8x** increase in memory capacity and up to **6x** increase in bandwidth
- 4 high capacity cores deliver **>2x** Integer and Floating Point Throughput
- Supports Static (electrically isolated) and Dynamic Domain Partitioning
- Directory-based coherency protocol delivers efficient scaling
- Scalable to 8 sockets glueless
Scalable to 32+ sockets with OEM chipset

Enables Boosting Mission Critical performance to higher levels with new capabilities

POULSON: ADVANCES ITANIUM® ARCHITECTURE



Key Highlights

- New architecture, 2x the cores, 2x instructions throughput
- Total 54MB on-die memory
- 3.1 Billion Transistors on 32nm process

Key Capabilities

New!

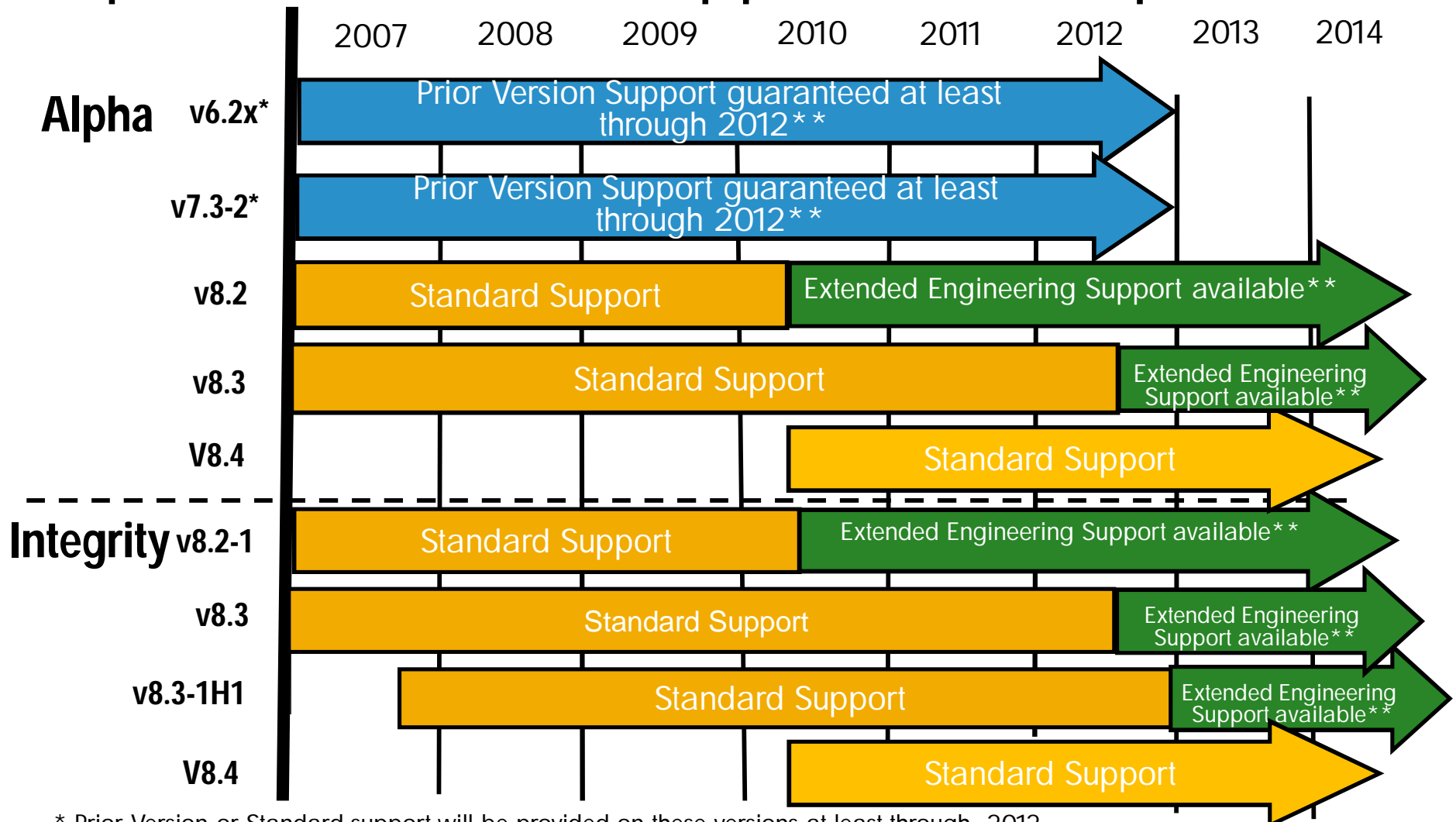
- Intel® Instruction Replay Technology
- Intel® Hyper-Threading Technology, enhanced with dual-domain multi-threading support

Poulson: the most sophisticated Intel® processor to date

RECENT OPENVMS COMMITMENTS BY HP

- HP Letter to OpenVMS Customers by Martin Fink Mar-2011
 - HP values the relationships we have built with our customers and partners, and we want you to know that despite Oracle's announcement to discontinue all software development on the Intel Itanium microprocessor, we remain committed to supporting you and your IT environment. We will continue to support OpenVMS on Tukwila-based and Poulson-based Integrity systems **beyond the next decade.**
- HP puts customers first and remains committed to Integrity environments by Martin Fink 1-Apr-2011
 - Let me reassure you. HP plans to continue the development and innovation of Itanium-based Integrity NonStop and Integrity server platforms with our HP-UX and **OpenVMS operating systems** for more than **10 years.**

OpenVMS Service Support Roadmap



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

** w/24 months prior expiration 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.

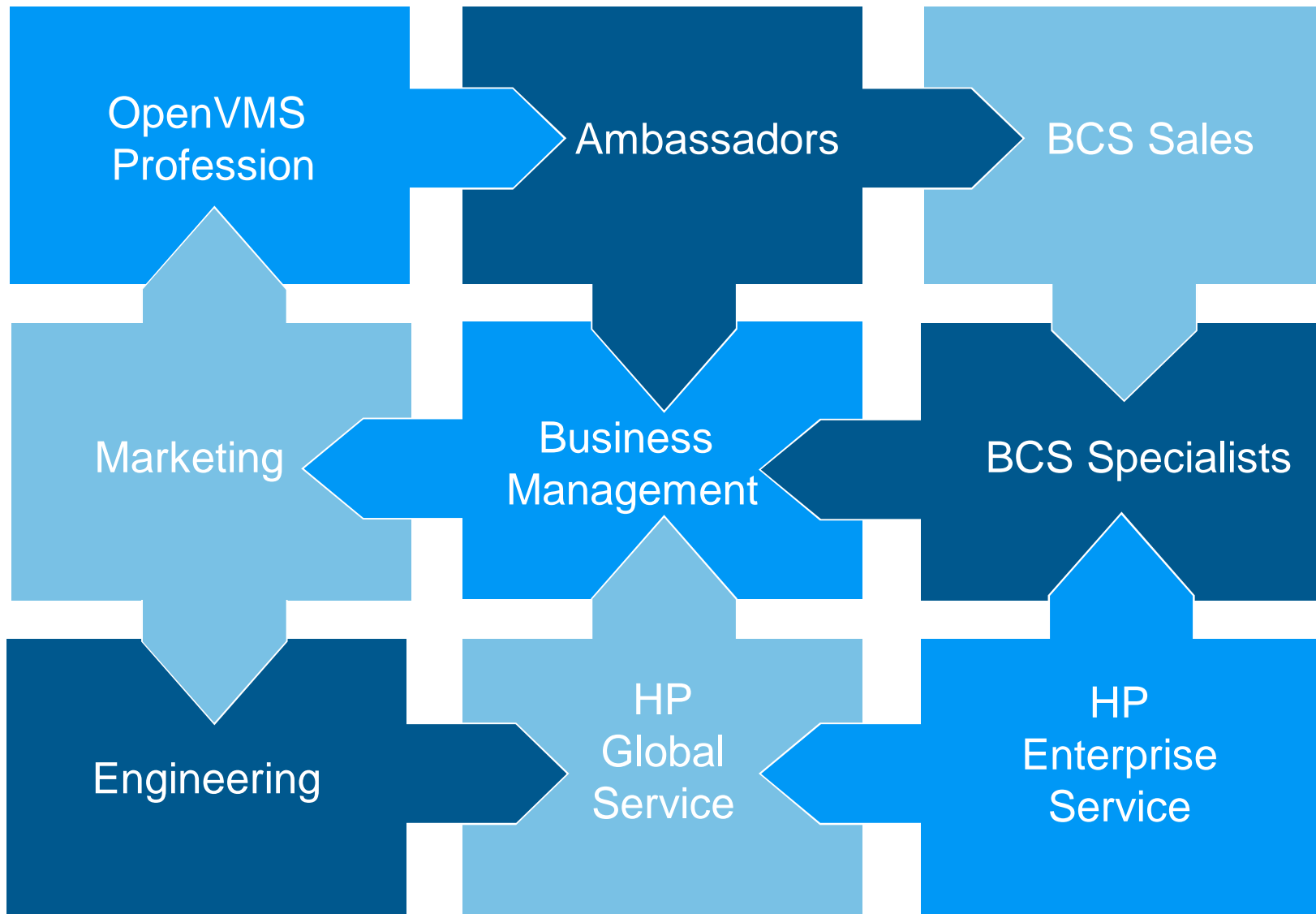
Extended Engineering Support will be available for additional cost. Future version shipment dates are estimates.



OpenVMS CUSTOMER PROGRAM



OpenVMS COMMUNITY ACROSS HP



OpenVMS CUSTOMER PROGRAMS

Nourishing our strong relationships with Customers, Partners and ISV's

- Enable Customers, Partners & ISVs
 - Connect HP OpenVMS Experts to customers/partners on long term basis
 - Assist field deliver quality OpenVMS technical solutions
- Enable Developer & Solution Partner Program (DSPP www.hp.com/go/dspp)
- Close working with universities through EDU & Hobbyist program
- Access to HP Technologies through Customer Lab (similar to PTAC labs)
 - Porting and Migration assistance
 - Technical Consulting
 - Privileged Technology Previews
- Connect with OpenVMS eco system
 - Technical Update Days (TUD), Technology podcasts, Webinars – Engineering & Partner Delivered, HP Connect, VMS Tech Journal, OpenVMS.org
 - Designed for both business and technical audience
- OpenVMS Ambassadors program
 - Direct customer information shaping long term product development
- 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>



“We managed to reach a max throughput of 3300 private car insurance quotations per minute, each generating up to 50 Insurer results totaling 165,000 complex calculations which is approximately 4 times the maximum load any of our live system currently reach.

The use of different hardware configurations (in the OpenVMS Customer Lab) allowed us to test various deployment options and see the effects of each, comparing single larger systems to multiple smaller system configurations.

The HP OpenVMS customer lab sessions and the results thereof have assisted CDL in gaining new clients and specifying system upgrades for existing clients more accurately.

Robert Trueman

Senior IT Engineer

CDL Internet Services Ltd



OPEN SOURCE ENABLEMENT

We heard you

- Availability of Open Source application on OpenVMS, Version lag
- Effort to Port Open Source applications to OpenVMS and support them
- Community Engagement

Provide Hardware / Software resources to the Community to Port/Test/host Open Source applications on OpenVMS

Work with Open Source foundations/teams to support OpenVMS as a platform

UNIX portability framework



- Hardware made available
 - 26 request community in the first month
- Porting Guidelines
- Webinars
- GNV v2.1-3 shipping, 101 components. Updated on SourceForge
- Freeware CD restructuring and Web enablement

OpenVMS FUNDAMENTALS TRAINING

HP Education - interactive, distance learning

HP OpenVMS customers can access OpenVMS Fundamentals training via new, interactive distance learning program

Online courses are:

- Instructor led
- Pre-recorded
- Self paced

Content is the same as that taught in instructor-led version, u3716s

Includes OpenVMS simulated environment for students to practice

Offers a follow-on opportunity to access HP Virtual Lab for hands-on practice in fully configured OpenVMS environment, with live mentoring from an OpenVMS expert

Full curriculum details on course offerings, schedule, and registration at: www.hp.com/learn/openvms

Updated for OpenVMS V8.4



BUSINESS CASE : UPGRADE TO OpenVMS V8.4 & BL8X0C i2 SERVER BLADES



THE TechWise REPORT

***“Total Cost of Upgrading HP OpenVMS
Environments to HP Integrity i2 Server Blades.”***

– TechWise Research

http://h71000.www7.hp.com/techwise_openvms_itanium_i2_tcu_sep10.pdf



CASE STUDY: UPGRADING ALPHA ES80

Payback in 6 months – Findings from Techwise white paper

Original Server	<ul style="list-style-type: none">• AlphaServer ES80 1150MHz• 8 chips (8 cores)• 16 GB RAM
New Server	<ul style="list-style-type: none">• Integrity BL860c i2• 2 chips (8 cores)• 16 GB RAM
Result	<ul style="list-style-type: none">• Overall savings of \$162,000 over 3 years• Payback in 6 months• Savings of 87% in energy

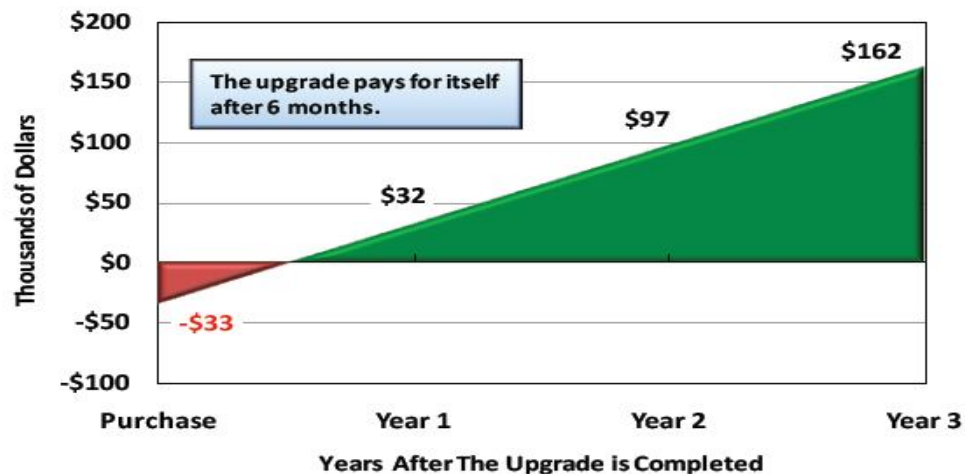


TECHWISE
RESEARCH, INC.

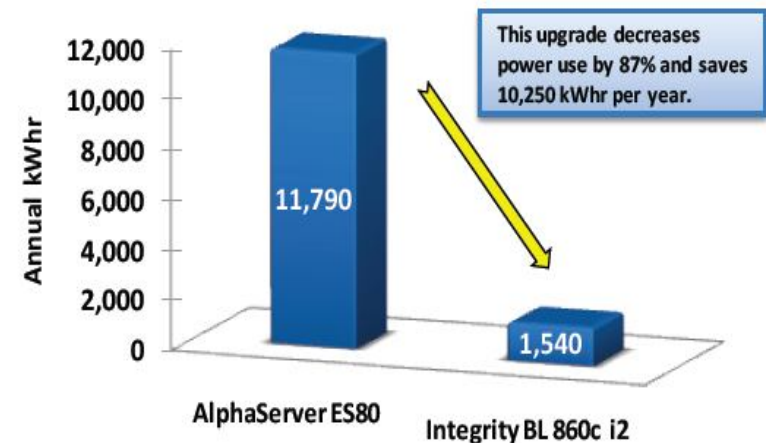
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<http://techwise-research.com>

First Midrange Upgrade Cash Flow Analysis
AlphaServer ES80 to Integrity BL 860c i2



AlphaServer ES80 to Integrity BL860c i2



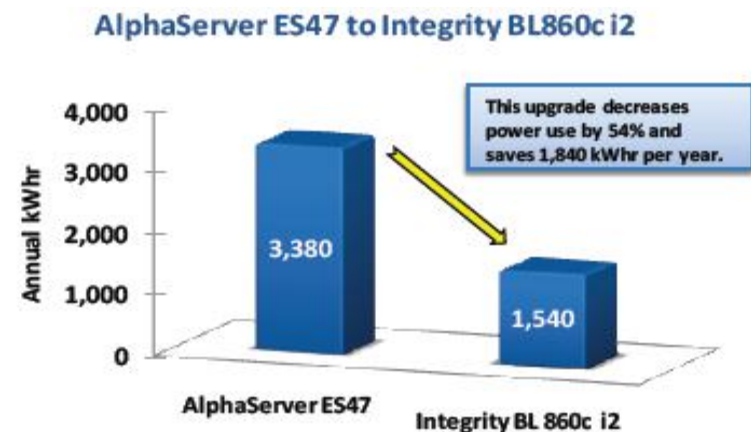
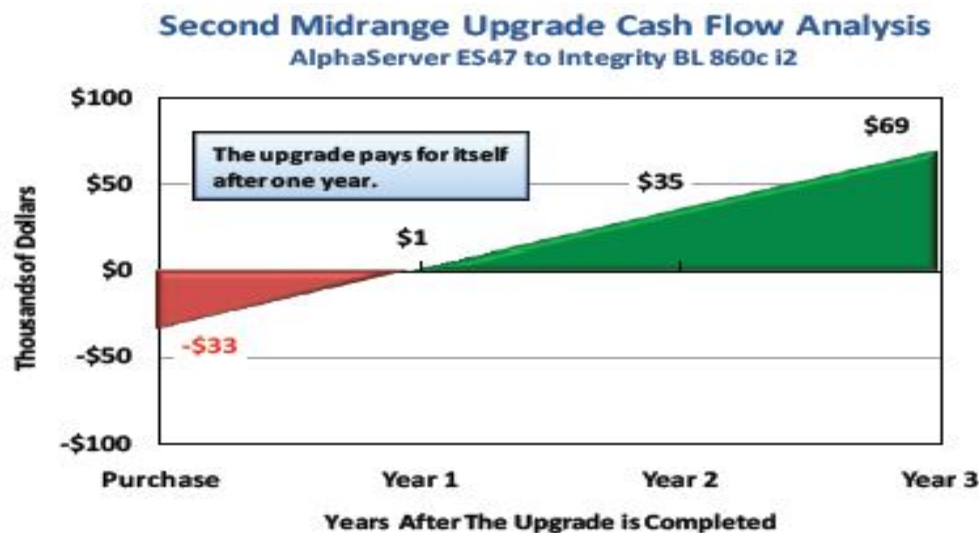
CASE STUDY: UPGRADING ALPHA ES47

Payback in 12 months

Original Server	<ul style="list-style-type: none">• AlphaServer ES47 1150MHz• 4 chips (4 cores)• 16 GB RAM
New Server	<ul style="list-style-type: none">• Integrity BL860c i2• 2 chips (8 cores)• 16 GB RAM
Result	<ul style="list-style-type: none">• Overall savings of \$69,000 over 3 years• Payback in 12 months• Savings of 54% in energy



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CASE STUDY: UPGRADING ALPHA GS1280

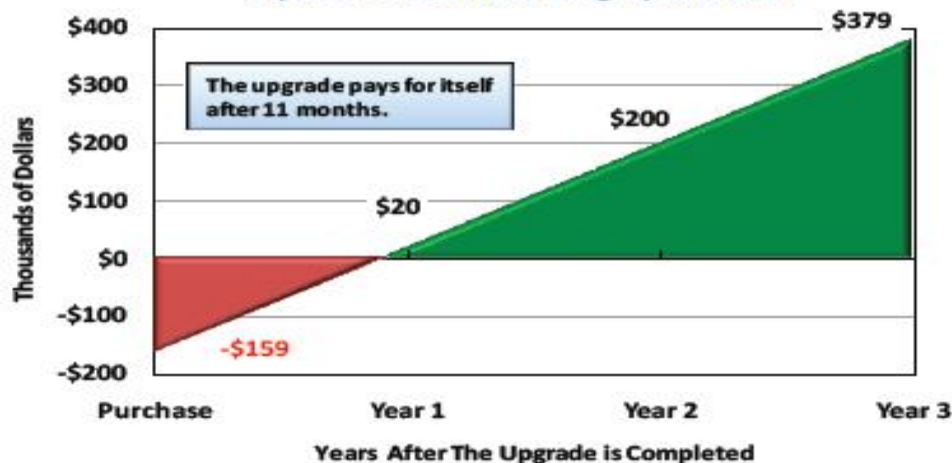
Savings of ~\$380,000 over 3 years

Original Server	<ul style="list-style-type: none"> AlphaServer GS1280 1300MHz 32 chips (32 cores) 128 GB RAM
New Server	<ul style="list-style-type: none"> Integrity BL890c i2 8 chips (32 cores) 128 GB RAM
Result	<ul style="list-style-type: none"> Overall savings of \$379,000 over 3 years Payback in 11 months Savings of 69% in energy

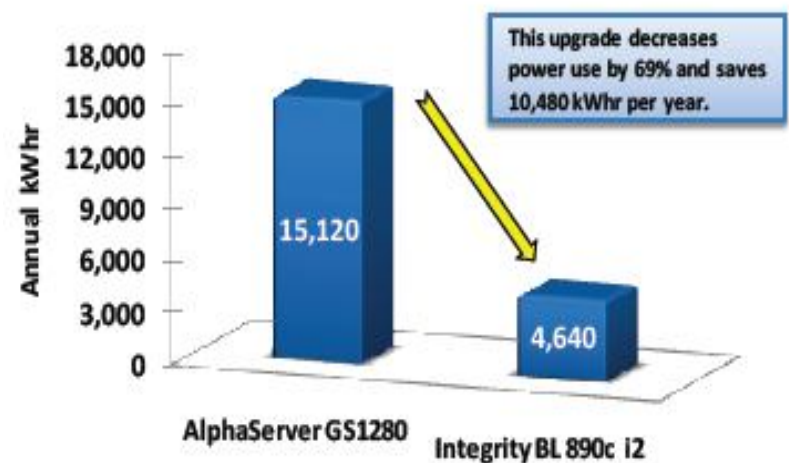


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Enterprise-Class Upgrade Cash Flow Analysis
 AlphaServer GS1280 to Integrity BL 890c i2



AlphaServer GS1280 to Integrity BL890c i2



CASE STUDY: CONSOLIDATING 5 ALPHA DS25

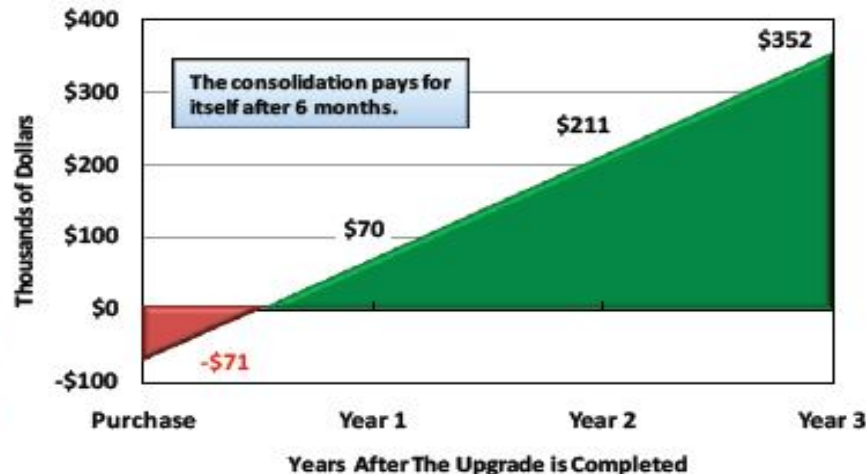
Payback in 6 months

Original Multi-Server Configuration	<ul style="list-style-type: none"> • 5 AlphaServer DS25 servers • 2 chips each (10 total cores) • 2 GB RAM each (10 GB total)
One New Server Blade	<ul style="list-style-type: none"> • Integrity BL870c i2 • 4 chips (16 cores) • OpenVMS as a guest OS using HP Integrity Virtual Machine
Result	<ul style="list-style-type: none"> • Overall savings of \$352,000 over 3 years • Payback in 6 months • Savings of 51% in energy

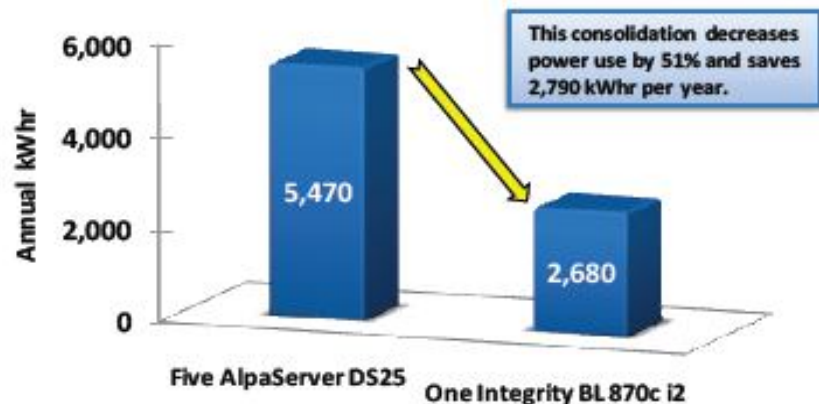


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Entry-Level Consolidation Cash Flow Analysis
 Five AlphaServer DS25 to One Integrity BL 870c i2



Five AlphaServer DS25 to One Integrity BL870c i2



CASE STUDY: CONSOLIDATING 10 INTEGRITY RX3600

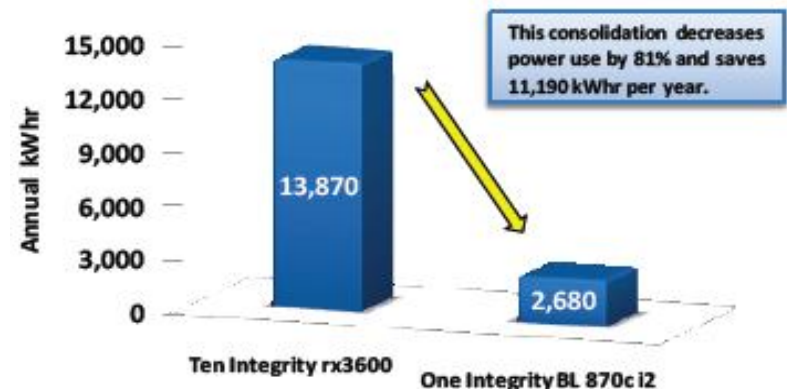
Payback in 8 months

Original Multi-Server Configuration	<ul style="list-style-type: none">• 10 Integrity rx3600• 4 chips each (40 total cores)• 160 GB RAM
One New Server Blade	<ul style="list-style-type: none">• Integrity BL870c i2• 4 chips (16 cores)• OpenVMS as a guest OS using HP Integrity Virtual Machine
Result	<ul style="list-style-type: none">• Overall savings of \$213,000 over 3 years• Payback in 8 months• Savings of 81% in energy




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<http://techwise-research.com>

Ten Integrity rx3600 to One Integrity BL870c i2



Gartner Report on OpenVMS

"Best Practices: Migration Planning for Alpha Server Users"

The image is a composite graphic. On the left, a white rectangular area with a blue border contains text. At the top right of this area is the 'Gartner.' logo. Below it, the title 'Best Practices: Migration Planning for Alpha Server Users' is displayed in blue. Further down, the text 'Gartner ID: G00164706' and 'Close to 1200 downloads' are shown in blue. To the right of this white area is a solid blue vertical rectangle featuring the 'Gartner' logo in white. Below the blue rectangle is a photograph of a metal magazine rack filled with various publications, including one with the word 'Argomenti' visible on its cover.



Thank You



Outcomes that matter.

