OpenVMS Strategy and Roadmap

Where downtime is not an option

Mission Critical Converged Infrastructure – Delivered with Integrity

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Global Lead, Office of OpenVMS Customer Programs

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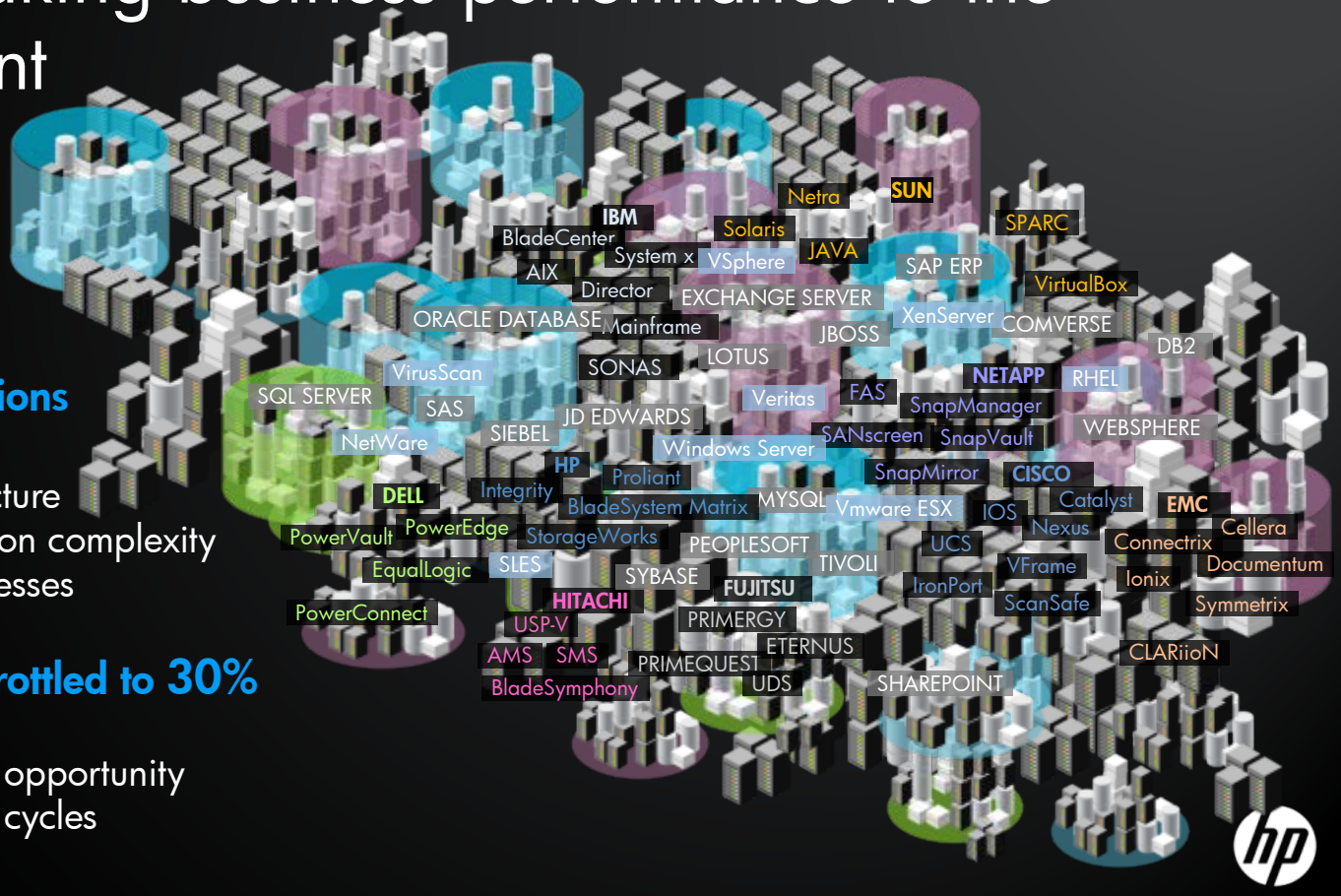
Agenda

- HP Converged Infrastructure
- HP OpenVMS pillars
- HP OpenVMS roadmap
- HP Commitment

IT sprawl is taking business performance to the breaking point



70% captive in operations and maintenance

- Rigid & aging infrastructure
- Application & information complexity
- Inflexible business processes

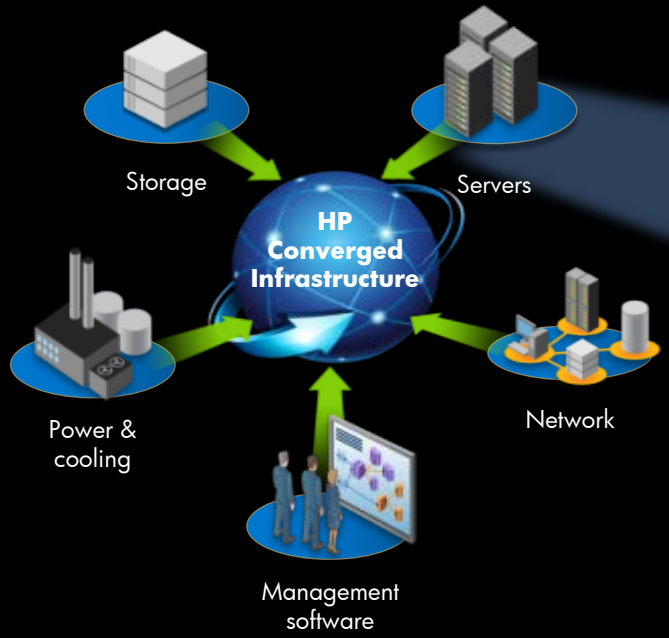
Business innovation throttled to 30%

- Time to revenue
- Cost of lost time, effort, opportunity
- Unpredictable business cycles

From solving IT sprawl to more uptime – mission-critical demands are relentless

- No tolerance for downtime
- Increasing SLAs, decreasing budgets
- Islands of complex / legacy applications
- Rising expectations for instant access to secure, accurate data

Overcome sprawl, achieve service levels in mission-critical computing



The Data Center of the future is built on a Converged Infrastructure

Always-on resiliency and flexibility with Mission-Critical Converged Infrastructure

The first mission-critical converged infrastructure

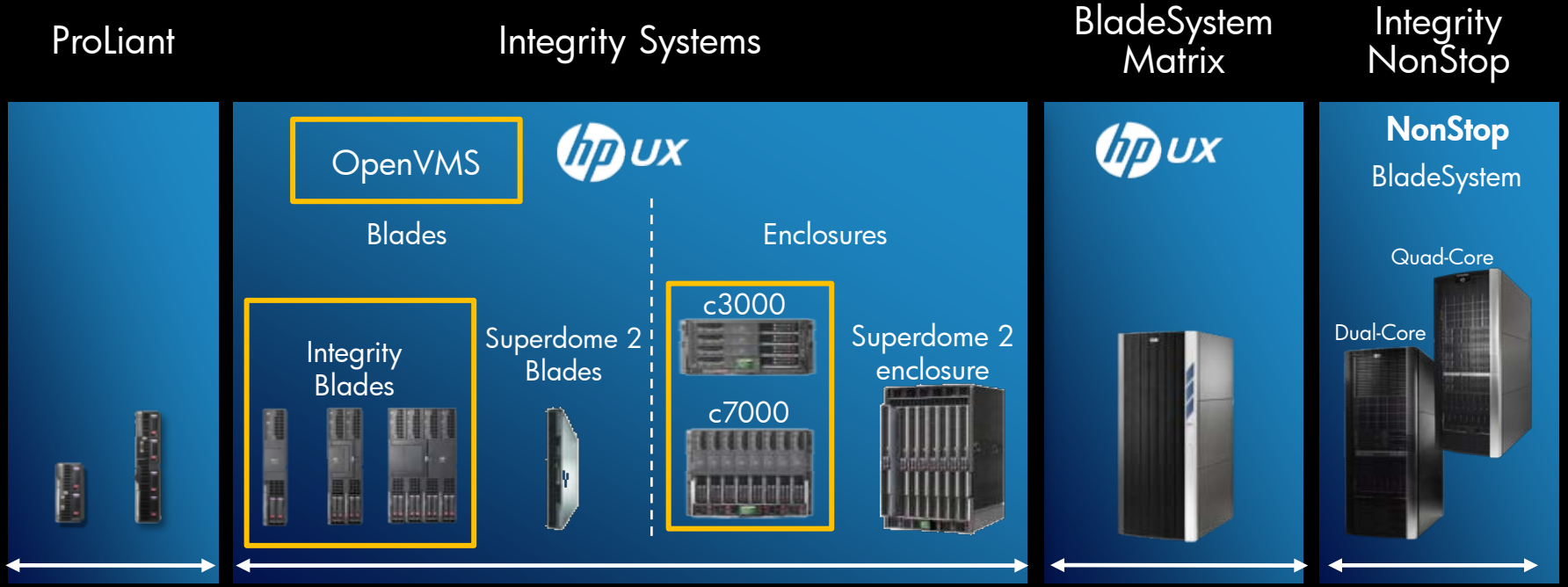
HP Integrity for solid reliability and flexibility

- Simplify and unify IT
- Always-on resiliency
- Dynamic optimization
- Investment protection and stability

HP Mission-Critical
Converged Infrastructure

Unified, bladed architecture from x86 to Superdome 2

Simplify by consolidating applications on a common platform



Common modular building blocks

Simplify through standardization

Common management	Matrix Operating Environment		Onboard Administrator, iLO3
Common networking	Virtual Connect		
Common enclosure	c3000 c7000	Superdome 2 enclosure	Common spares
Common server architecture	ProLiant blades	Integrity blades	Superdome 2 blades

The Converged Infrastructure architecture

Virtual Resource Pools

Delivered through common modular infrastructure
of virtualized compute, memory, storage & network resources

Data Center Smart Grid

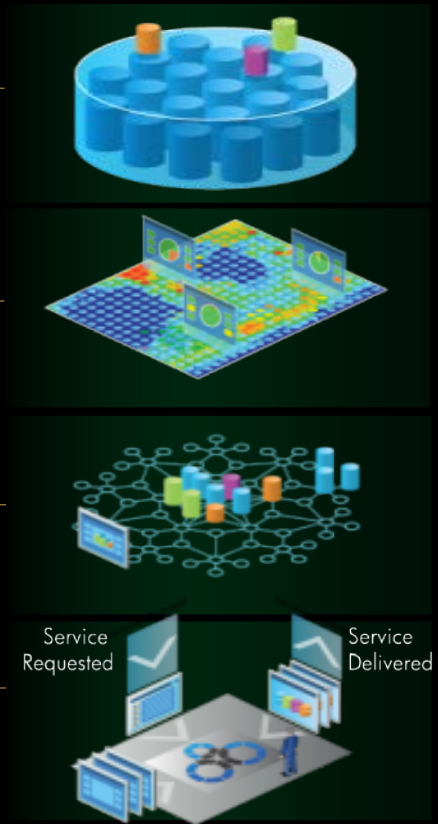
Providing intelligent energy management across
systems and facilities

FlexFabric

Creating a common, wired-once, virtual I/O network

Matrix Operating Environment

Enabling a common management platform to manage
technologies from infrastructure-to-application



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

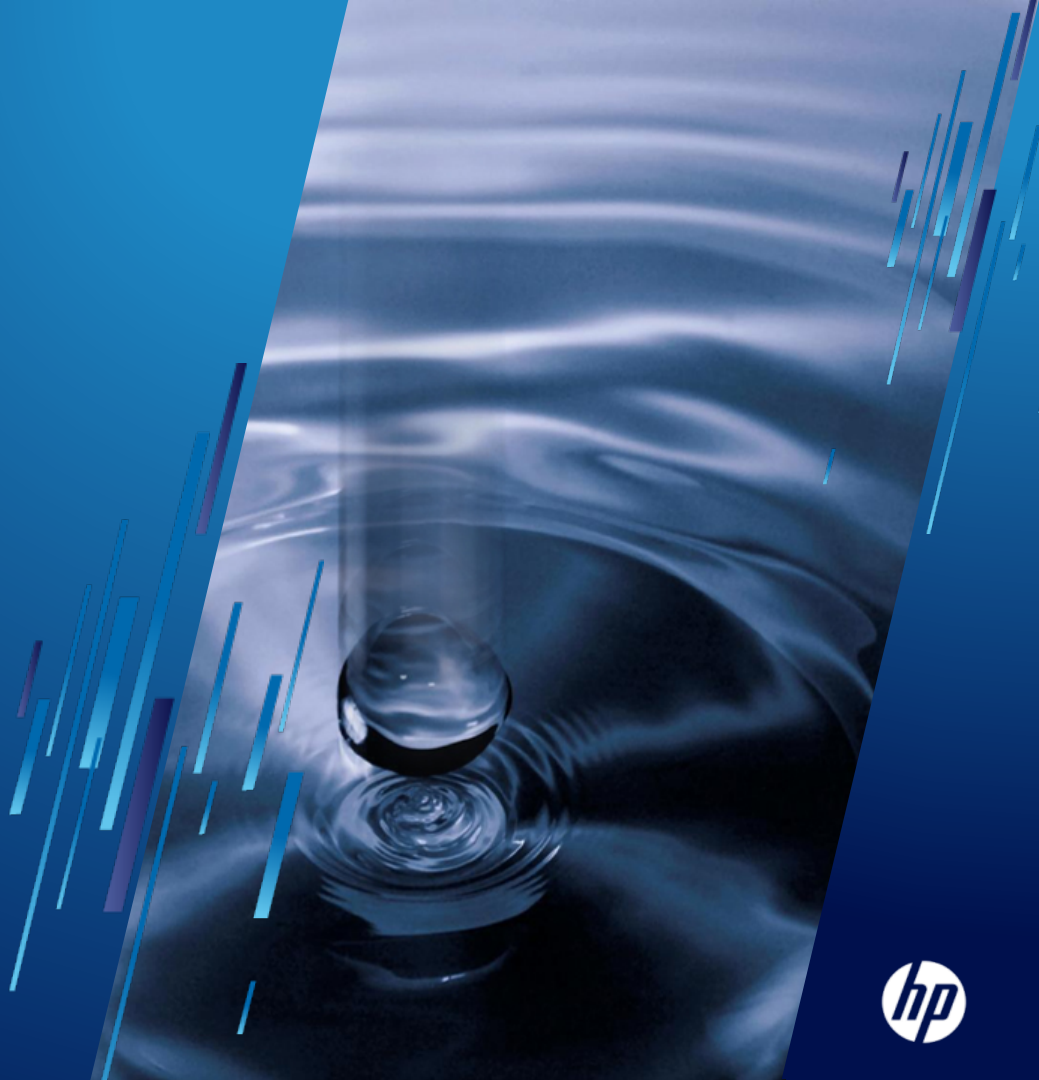
Integrity Server Blades with HP OpenVMS

Eliminate downtime

Exceed SLAs with reduced resources

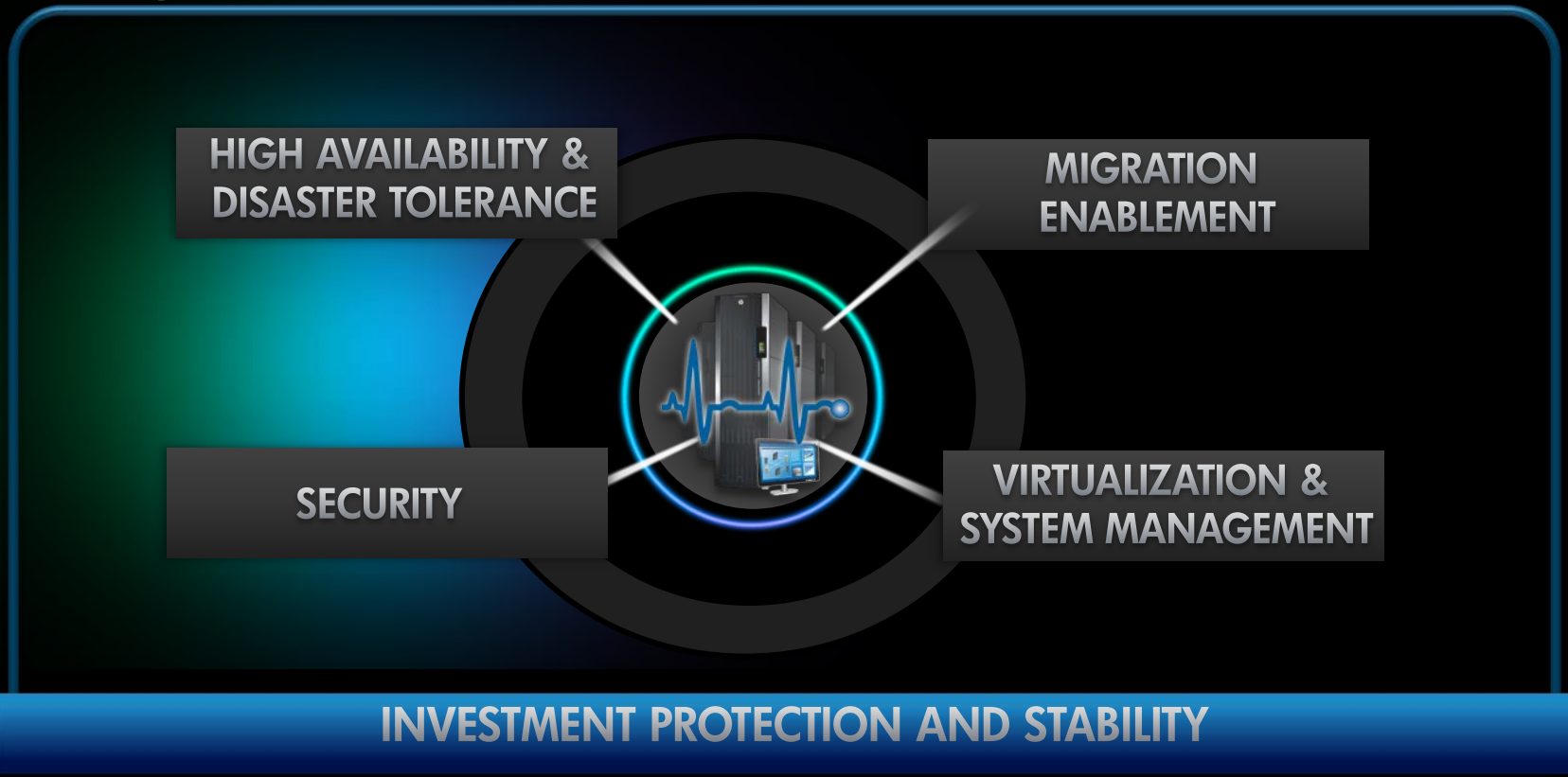
Eliminate islands of legacy applications & monolithic

HP OPENVMS PILLARS



HP Integrity with OpenVMS

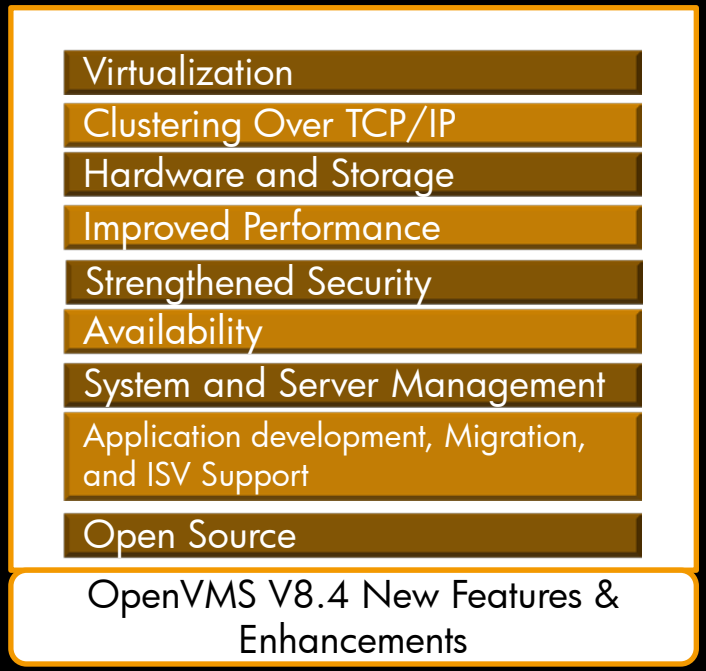
Delivering mission-critical solutions



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
  - 250+ customers, Partners, ISVs world wide.

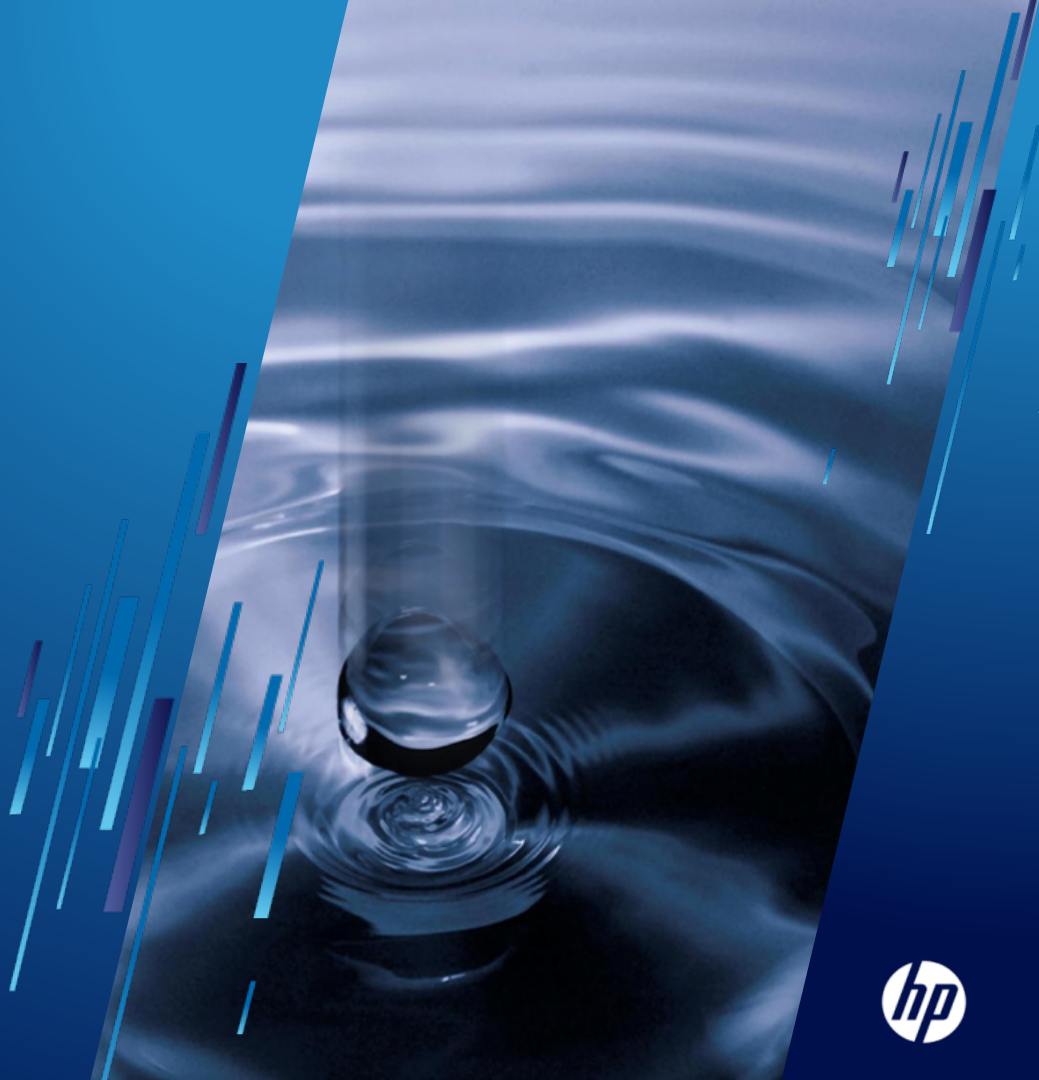


HP Integrity with OpenVMS V8.4

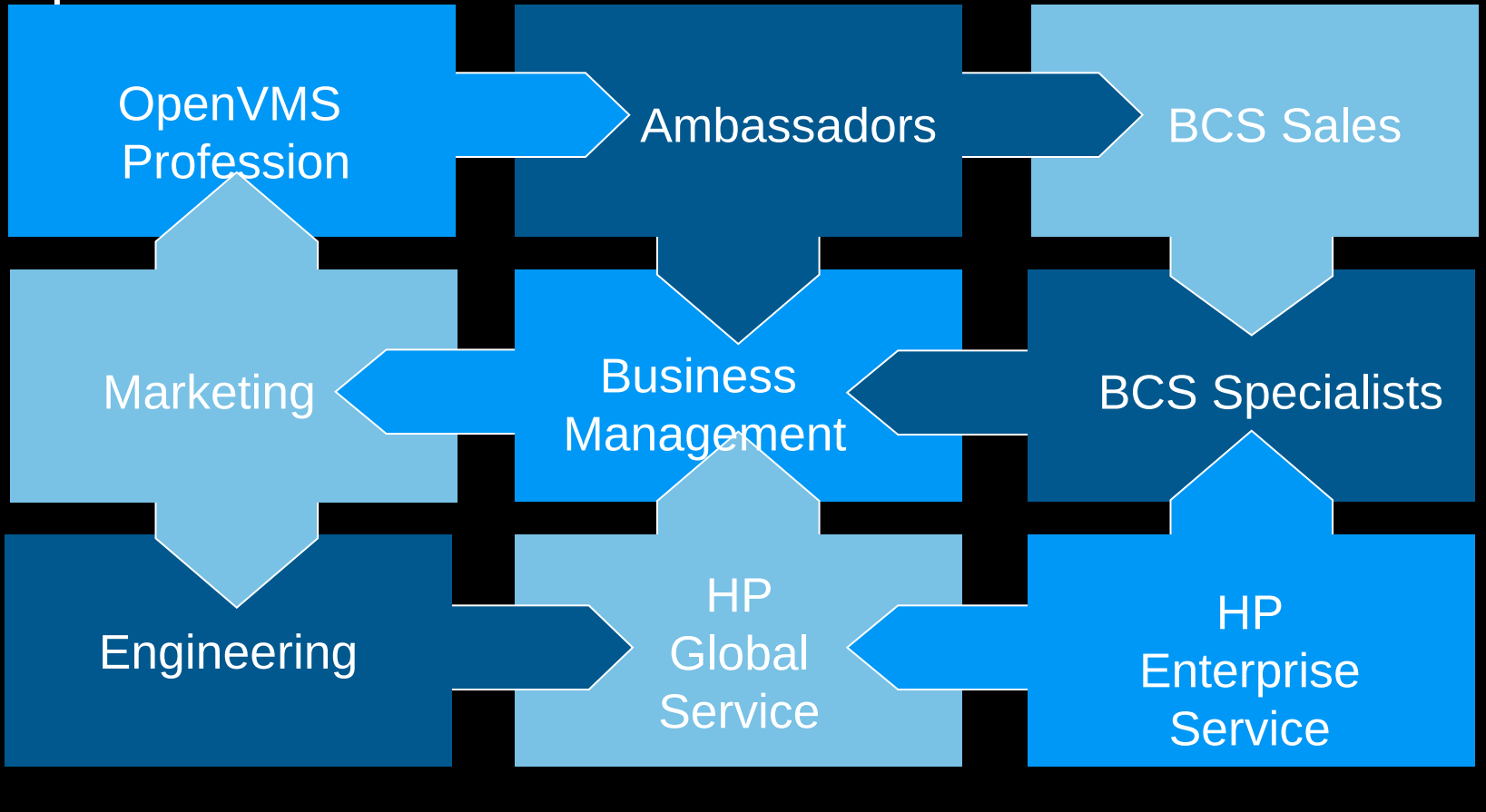
Delivering mission-critical solutions

High Availability & Disaster Tolerance	Disaster-tolerant solutions with improvements in data availability and security • Clustering over industry-standard TCP/IP • Increase from 3 to 6 members in a shadowset
Security	Security strengthened with an SSL refresh which includes new cryptographic algorithms
Virtualization & System Management	Virtualization and compression enhancements: • Guest OS feature on Integrity Virtual Machine v4.2 onward • SCSI supported disk volumes increased from1 TB to 2 TB Easier installation, deployment, and management • Simplified to two operating environments, Base OE and High Availability OE • Automated installation of OS and configuration of TCP/IP on up to 8 Integrity servers or blade systems simultaneously

OpenVMS CUSTOMER PROGRAMS



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

creating powerful partnerships

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
- GNV 3.0 FT - 101 components
- Freeware CD restructuring and Web enablement

OpenVMS CUSTOMER PROGRAM – RECENT EVENTS

Events

- HP premium events
  - HP Discover, Las Vegas
- Technical Update Days
  - Singapore, Sydney and Melbourne - 100 customers and partners
  - Now in EMEA!
- HP Connect Boot camp at Nashua
  - OpenVMS Connect Boot camp, New England, September 2011
- Webinars – Engineering, Partner Delivered
- User Group events in various cities

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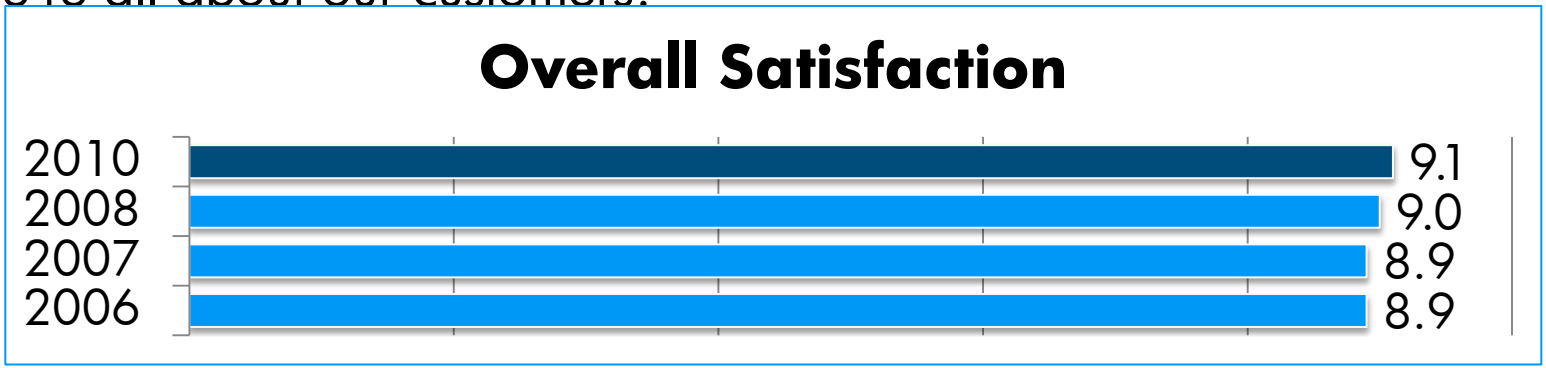
HIGHLIGHTS FROM WORLDWIDE CUSTOMER ADVOCACY SURVEY*

– We're all about our customers!



OpenVMS continues to receives 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

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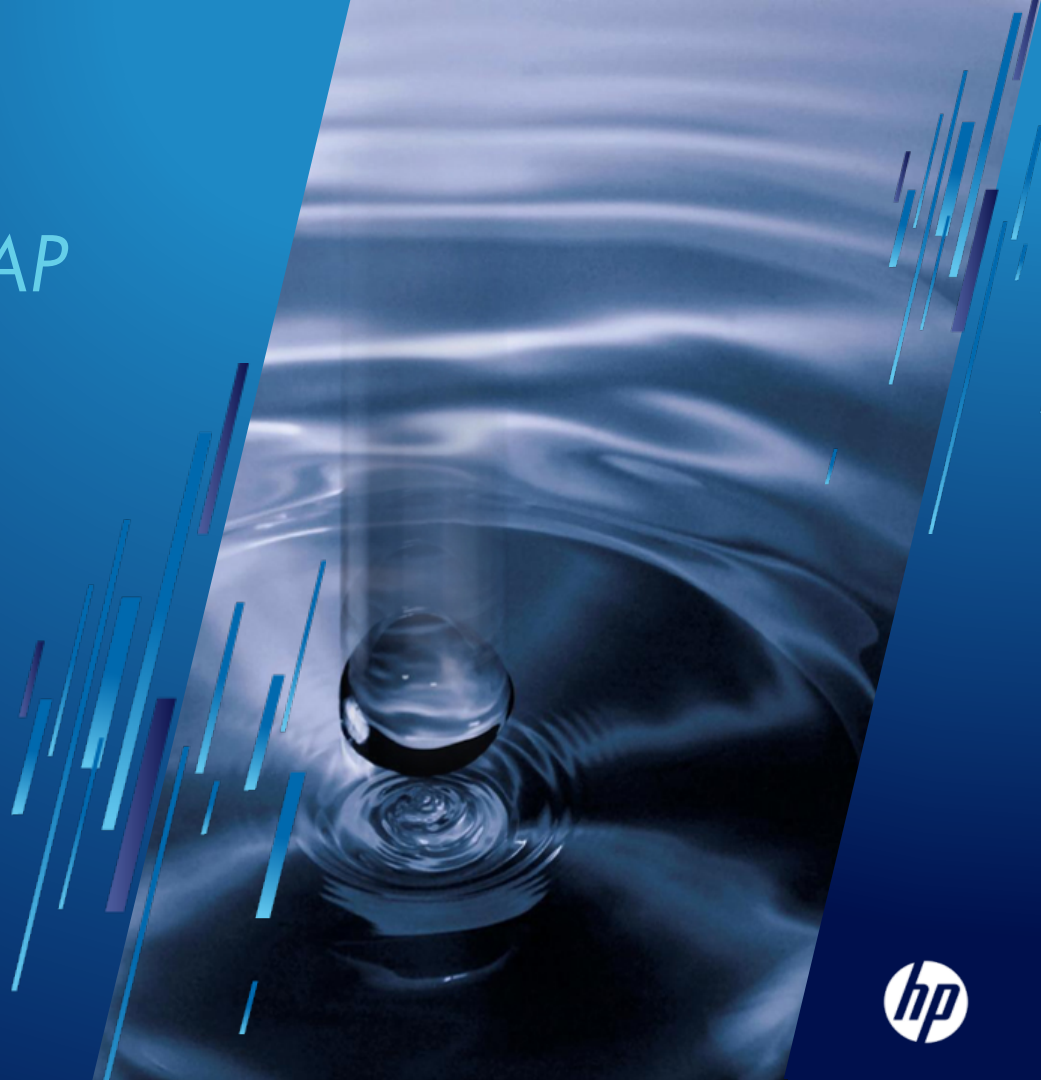
HP OPENVMS ROADMAP

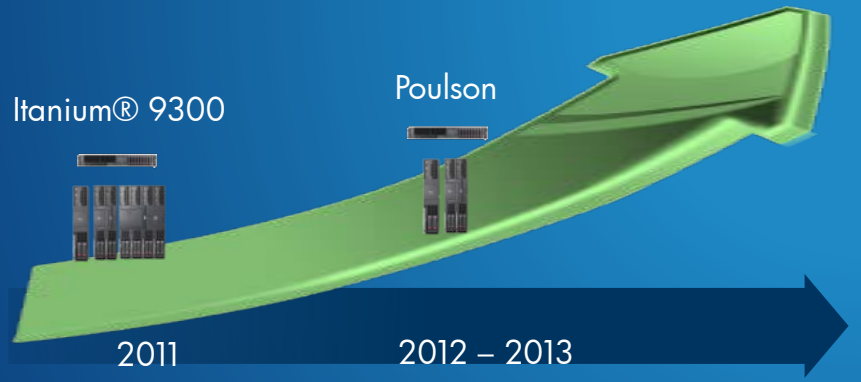


Integrity roadmap

Continued innovation in mission-critical computing

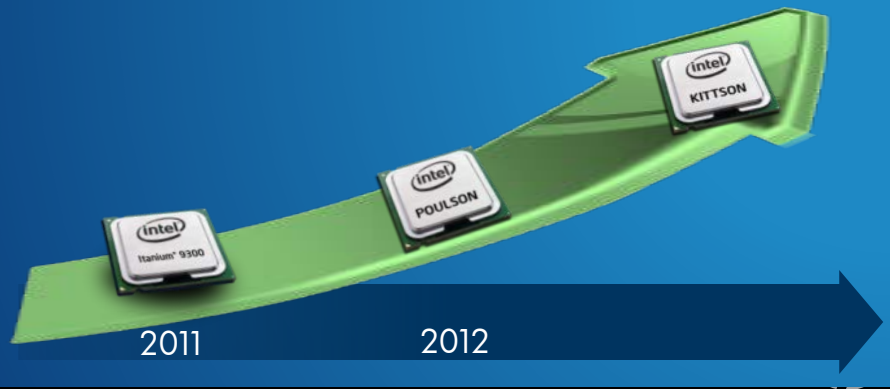
Integrity with OpenVMS

- Mission Critical Converged Infrastructure design for modularity and flexibility
- Unparalleled availability, security and reliability for mission-critical environments



Intel Itanium Processors

- Socket-compatible design for all future releases
- No recompile needed across generations
- Built on a 7 generation foundation of mission-critical processor technology



HP OpenVMS Roadmap

Continuously delivering mission-critical solutions for over 30 years!

2010	2011	Future
OpenVMS V8.4	**OpenVMS V8.4 Update**	**OpenVMS V8.x**
• New Integrity blade server support • Improved disaster tolerant clusters • Guest OS support on Integrity VM • Enhanced system management	• New Integrity rack support • Virtual Connect/Flex10 support • Advance power capping and IPM support *(Nov 2011)*	• "Poulson" based server support • Areas of focus ▪ Continued virtualization and system mgmt support ▪ Enhanced quality ▪ Alpha migration enablement ▪ Security

Sales and support to cover "Poulson" based Integrity servers

Subject to change

HP OpenVMS Detailed Roadmap

Continuously delivering mission-critical solutions for over 30 years!

	Currently supported	Planned	Under Investigation
Platform enablement	• Support for BL8x0c i2 and rx2800 i2 (Tukwila) • EVA P6300/P6500 • LTO5 support • D2D support • 6Gb SAS support • 10GbE support on NGIS blades	• Support for BL8x0c i4 and rx2800 i4 (Poulson) • SAS HBA mode support on rx2800 i2 • 10GbE support on rackmount servers	• 3PAR
Security	• Kerberos V3.2 • SSL 0.9.8o plus security fixes • Secure OS Delivery	• SSL Refresh	

OpenVMS update releases every 6 months

Subject to change

HP OpenVMS Detailed Roadmap

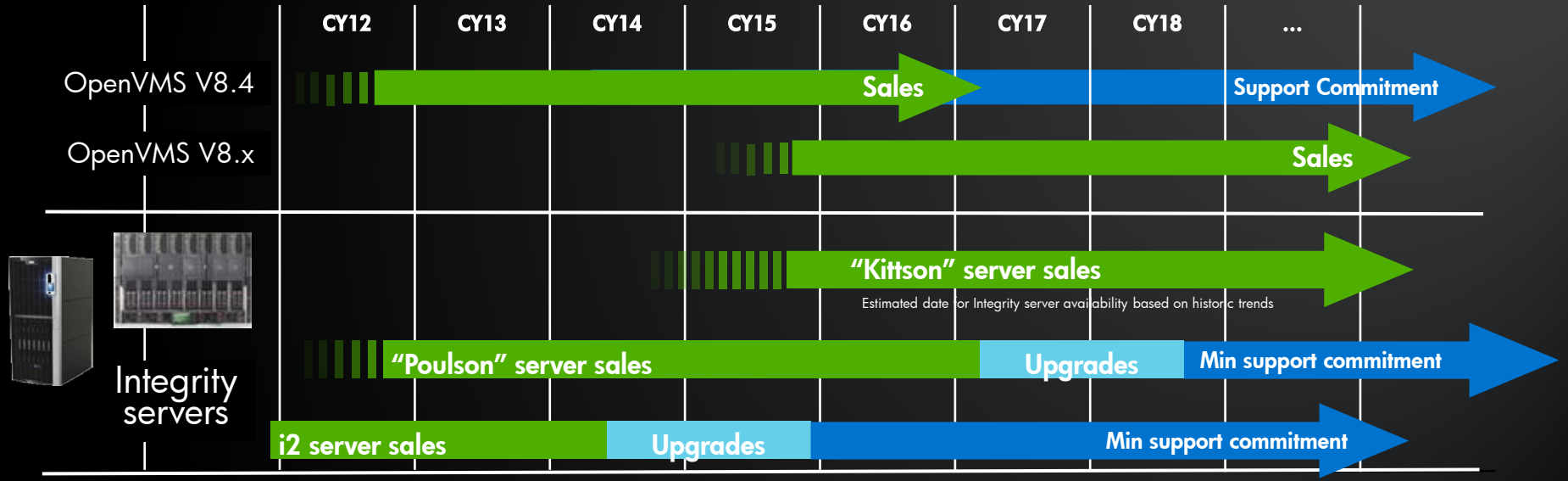
Continuously delivering mission-critical solutions for over 30 years!

	Currently supported	Planned	Under Investigation
Virtualization & System Management	• Support for HP SIM 6.2 • SMH V2.2 (Integrity) • VC/ Flex 10 support	• Integrity VM v4.3 support	• Support for binary translator
Migration Enablement	• GNV V2.1-3	• GNV V3.0 • ACMS workspace extension beyond 64 kb • Open source product updates	

OpenVMS update releases every 6 months

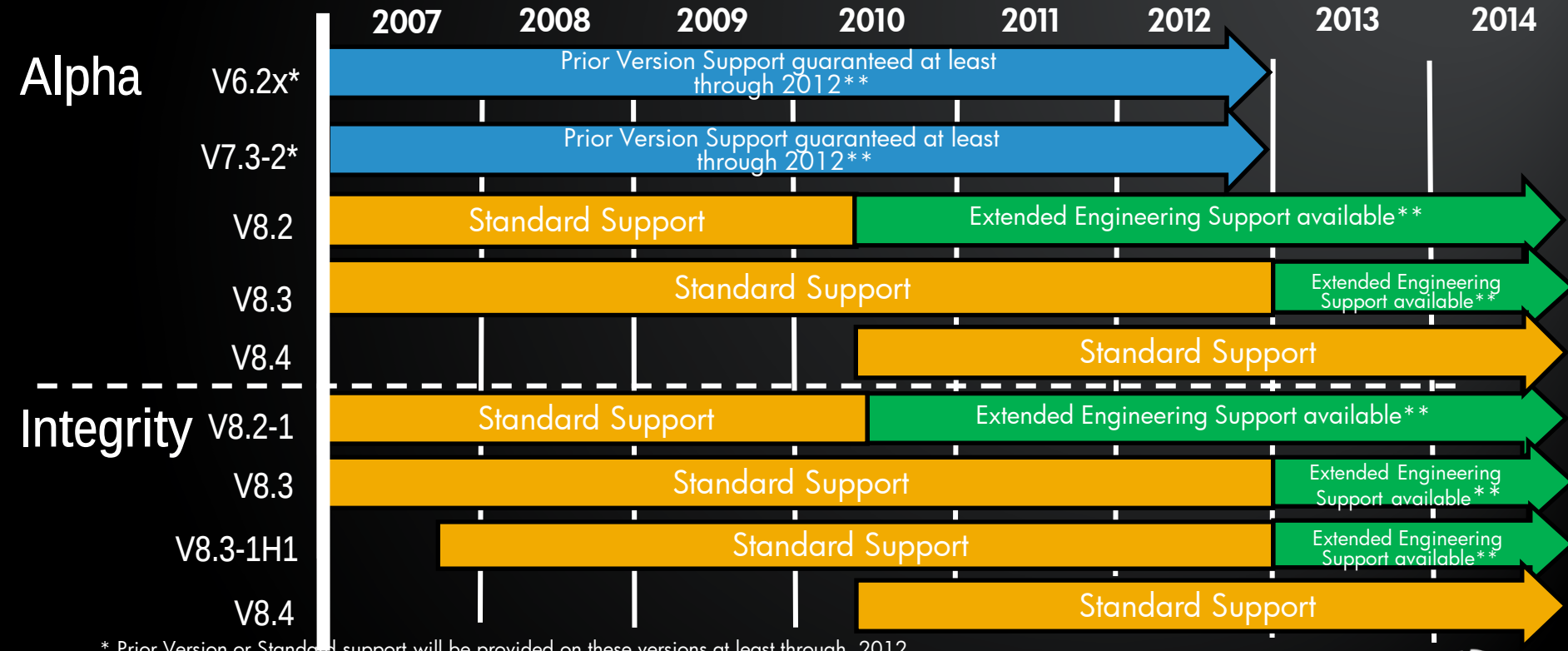
Subject to change

HP Integrity and OpenVMS Lifecycles



- Roadmap is subject to change without notice.
- Integrity server dates reflect historic new platform development lifecycles. Three generations of platforms are currently planned by HP and Intel. Actual availability may not follow historic trends.
- OpenVMS V8.4 is planned to be supported on "Poulson" based Integrity servers and OpenVMS V8.x on Kittson. End of sales and minimum support commitment dates are planned to be extended accordingly.

OpenVMS Service Support Roadmap



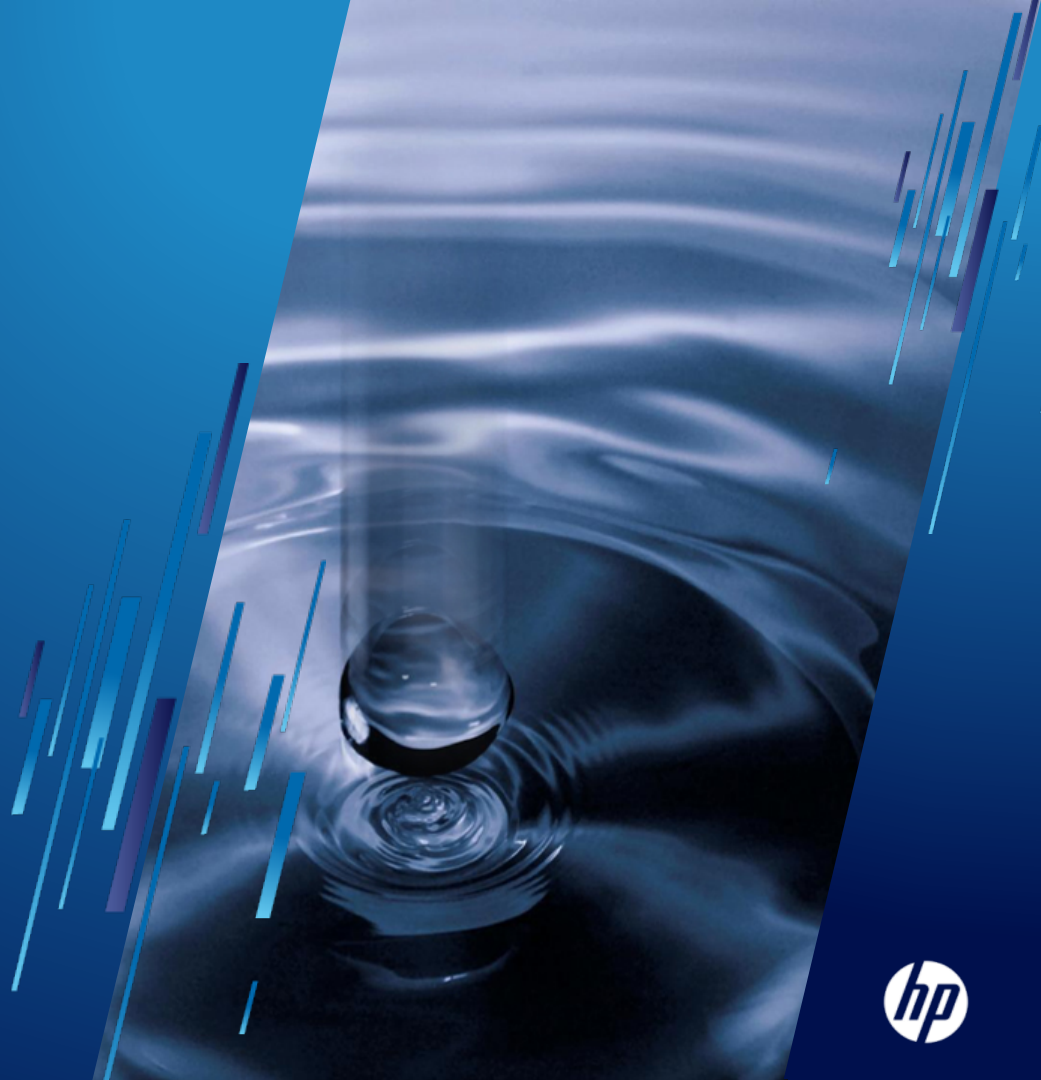
* Prior Version or Standard support will be provided on these versions at least through 2012.

** 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.

Dates and content subject to change without notice.

HP COMMITMENT



HP's commitment to OpenVMS

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**.

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**.

Martin Fink, General Manager, HP BCS

March and April 2011

HP OPENVMS WITH INTEGRITY

HP AlphaServer Evolution

Next Gen Integrity Servers

AlphaServer GS1280

AlphaServer ES80 ES47

AlphaServer ES45

AlphaServer DS25

AlphaServer DS15A

BL890c i2

BL870c i2

rx2800 i2

BL860c i2

Upgrade to New Generation Integrity Servers for better performance & TCO

Tests show that BL8x0c i2 provides

up to **10.4** times increase in max throughput

95% better throughput with Apache

2x number of transactions with Oracle Rdb

Upgrading Alpha GS1280 to BL890c i2

69% Energy Reduction

Savings of $380,000 over 3 years

Upgrading Alpha ES80 to BL860c i2

87% Energy Reduction

Savings of $162,000 over 3 years

5 Alpha DS25 consolidation onto 1 BL870c i2

51% Energy Reduction

Savings of $352,000 over 3 years

Source: *Performance Benefits of OpenVMS V8.4 running on BL8x0c i2 Server Blades*,TechWise Research, March 2011

Source: *Total Cost of upgrading HP OpenVMS environments to HP Integrity i2 Server Blades*,TechWise Research, September 2010

Alpha to Integrity - Customer Examples

Manufacturing & Automotives

ABF - voestalpine

Fraport AG

Financial

Australian Securities Exchange

Deutsche Börse

ICAP

International Securities Exchange

Healthcare

Quest Diagnostics Inc.

UK National Health Service – Blood & Transplant

… and many more!

Call to action

- Please answer the HP OpenVMS customer survey and give us your honest feedback on:
  - What you would like to see in OpenVMS and why?
  - If you have upgraded to Integrity, can you share your experiences and what benefits and/or challenges you encountered?
  - If you have not upgraded, what are some of the issues holding you back and how can HP help?

Summary

HP COMMITMENT

Continue development of Integrity servers with OpenVMS

INVEST

Protect your investment with HP

UPGRADE

Smooth migration from Alpha to Integrity

THANK YOU