

GE Healthcare

Keeping Pace with Technology

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imagination at work

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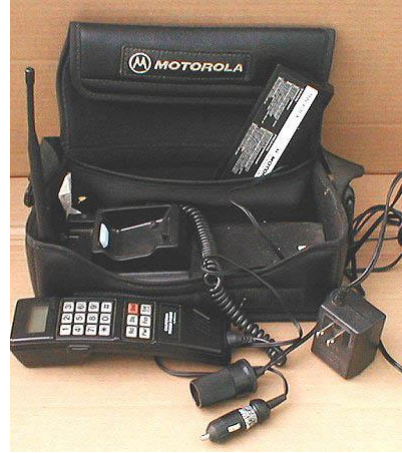
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Are you...Old School?



Are you...Cutting Edge?



Are you...Somewhere in the middle?



Agenda

- Desktop/Virtualization
- Load Balancers
- Servers/Virtualization
- Caché Database Server
- General Recommendations
- Appendix

Risks of not keeping pace

Increased support costs

Lack new features

Less secure

Compatibility

Performance

Fewer upgrade pathways

Technology density doubles every 12 months

The Desktop

Windows Version

- XP extended support ended 4/8/14

Internet Explorer













Java (only needed for EDM)

Microsoft .NET

Hardware Costs and performance



Desktop Compatibility Matrix

	Windows 7	Windows 8.1	IE9	IE11
Centricity Business 4-3 Rev 17				
Centricity Business 5-0 Rev 10				
Centricity Business 5-1				
Centricity Business 5-1-1				
Centricity Business 5-2				
Centricity Business 5-3 (Planned)				

Desktop Virtualization

- Many clients have some level of desktop virtualization
- CB configuration is consistent with a physical desktop
- Support / Issue replication

Benefits

- Dramatically reduces cost to maintain and manage end user desktops
- Delivers a desktop experience from a server operating system
- Increased security
- Provides Scalability



Load Balancers

Benefits

High Availability

Health Check

Direct traffic

Do you know if your load balancer is still supported?



Appendix

Cisco:

The most common Cisco load balancers in use by Centricity Business customers are the CSS 11500 series (11501, 11053 or 11506).

End-of-Sale: September 2011

Last Date to purchase new Service Contracts: September 2012

Last Date to renew existing Service Contracts: December 2015

End of Support: September 2016

See [End of Sale & End of Life for the Cisco CSS 11500 Series](#)

Some clients have the Cisco ACE 4710 or the ACE Module: [End of Sale & End of Life for the ACE 4710](#) or [End of Sale & End of Life for the Cisco ACE Module](#)

Other Cisco models can be found here: [End of Sale & End of Life Products and their End of Life Policy](#)

Appendix

A10 End of Life Policy

F5: The common F5 platforms used by Centricity Business customers are the 1500 or 1600. The relevant dates for the F5 Big-IP LTM 1500 are:

- End-of-Sale: August 2009
- Last Date to purchase new Service Contracts: August 2011
- Last Date to renew existing Service Contracts: July 2015
- End of Support: July 2016
- Here is a link to F5's [Platform life cycle support policy with information](#) for other models.

Load Balancers

Encryption

Available with A10 or F5

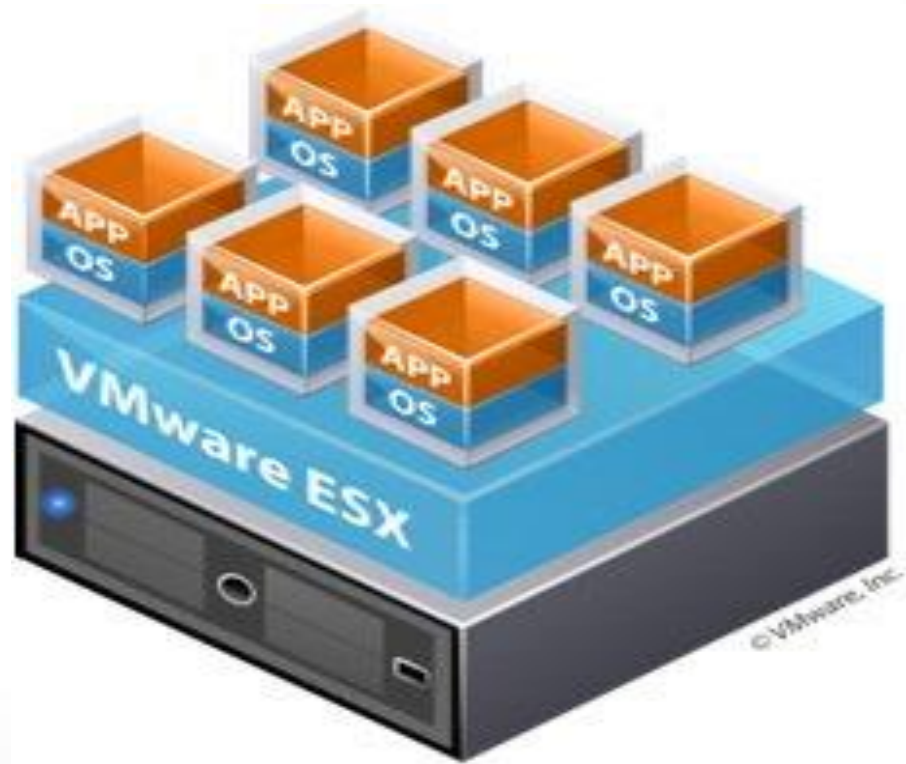
Encrypts traffic from the Desktop to the appliance.

Datacenter should be a secure island





















Server Virtualization (IIS & SQL)

- What is server virtualization
- Data center footprint
- Server cloning
- Backup/Restore



Server Compatibility (IIS & SQL)

	Server 2008R2	Server 2012	SQL 2008	SQL 2012
Centricity Business 4-3 Rev 17				
Centricity Business 5-0 Rev 10				
Centricity Business 5-1				
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Centricity Business 5-2				
Centricity Business 5-3 (Planned)				

Sample Centricity Business VMware Layout

Server name	# vCPUs	Dedicated Memory	VM local Disk/SAN	Comments
Web IIS Application	1	4GB	C: 50GB (OS)	One for every 300 to 500 Concurrent Users (minimum 2 for HA support)
Web Framework DB	1	4GB	C: 50GB (for OS): D: 50GB (local or SAN)	Two for HA failover clustering (MS SQL)
Web IIS Appl Test	1	2GB	C: 50GB (OS)	* NOTE: can be combined on Web/FW Test if required
Web/Framework Test	1	2GB	Same as Web FW DB above	SAN storage options for DB support (MS SQL)
Utility Server	1	4GB	C: 50GB (OS)	For combined EI, HCO, Address Corrector, Cache SMP Server, etc.
Credit Card Test Server	1	2GB	C: 50GB (OS)	NOTE: Production Credit Card server
KAV Report Server	1	4GB	C: 50GB (OS) D: 50GB	KAVart Report Server
Informatics Web	2	4GB	C: 50GB (OS)	Informatics DB server must be discrete server
EDM Web Server	2D	4GB	C: 50GB (OS)	
Web Capture Server	1	4GB	C: 50GB (OS)	Optional – WCO – Web Capture Option
EDM Teleform Server	2D	4GB	C: 50GB (OS); I D: 50GB SQL + Image Storage (SAN)	SAN connection for image storage based on # of images being scanned and stored. Small SQL database (MS SQL)
EDM/Teleform Test	1	2GB	C: 50GB (OS); D: 50GB SQL DB	(MS SQL)
Claims Attachment DB	1	4GB	C: 50GB (OS); D: 100GB DB	SAN optional
Claims Attachment Test	1	2GB	C: 50GB (OS)	

NOTE: Requirements are based on the latest Centricity Business 5.1 System Environment Specifications (SES) and are subject to change with updates to the SES - Assumes latest Intel Nehalem Processor System

Credit Card

PCI compliance

Physical vs. Virtual and
compliance



CB Web (IIS) server

300-500 users per server

Exclusive for CB web

Average CPU and memory today are better than the high end of a few years ago

Microsoft SQL

Centricity Framework

- Standard Edition
- Default SQL installation
- Holds menu meta data, users, connection information and roles/rights

Test IIS servers:

- SQL can be installed local (all in one server)
- Independent SQL for test

Teleform

- Holds Teleform batches / batch information
- SQL is usually locally installed test and live

Caché™ Database Server

Current Caché version supported is 2012.1
on the following servers:

Intel Servers with Windows










































IBM PowerSystems with AIX

HP AlphaServer with OpenVMS

HP Integrity with OpenVMS

HP Integrity with HP-UX

Caché Database Server Compatibility Matrix

	Caché 2012	Caché 2014 (Planned)	AIX 6.1/7.1	HP-UX 11i v3	OpenVMS 8.3	OpenVMS 8.4	Windows 2008 R2
Centricity Business 4-3 Rev 17							
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Centricity Business 5-3 (Planned)							

Caché Database Server: Windows

Intel-based Server

Dedicated server only

VMware VM not supported

Generally for clients with less than 250 concurrent users

MS Windows Server 2008 R2

No high-availability clustering supported

Caché Database Server: IBM AIX

AIX v6.1 and v7.1 supported

IBM PowerSystems (pSeries) Servers

IBM PowerHA (HACMP) high-availability
Active/Passive failover clusters supported

IBM Virtualization (PowerVM)

(dedicated LPAR recommended)

Caché Database Server: HP-UX

HP-UX 11i v3 supported

HP Integrity Servers

HP ServiceGuard available in HA-OE*
OS version for high-availability
Active/Passive failover clusters
supported

*HA-OE – high availability operating environment

Caché Database Server: OpenVMS

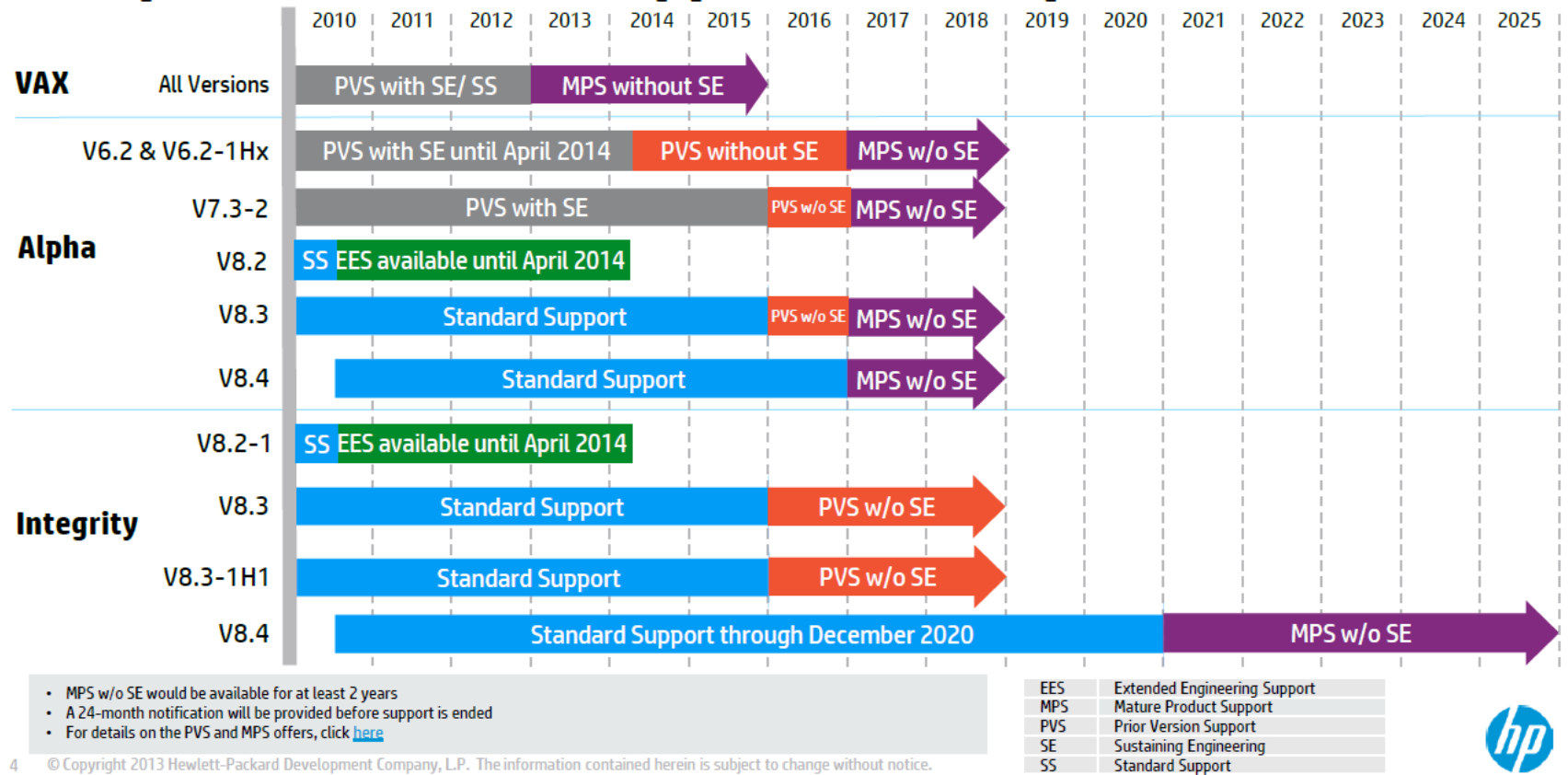
HP AlphaServers (V8.3 or V8.4) –EOS 2006

HP Integrity servers (V8.3-1H1 or V8.4)

HP OpenVMS Clustering, high-availability operating environment (HA-OE) with full Active/Active clustering for highest availability supported

HP's roadmap

HP OpenVMS Service Support Roadmap



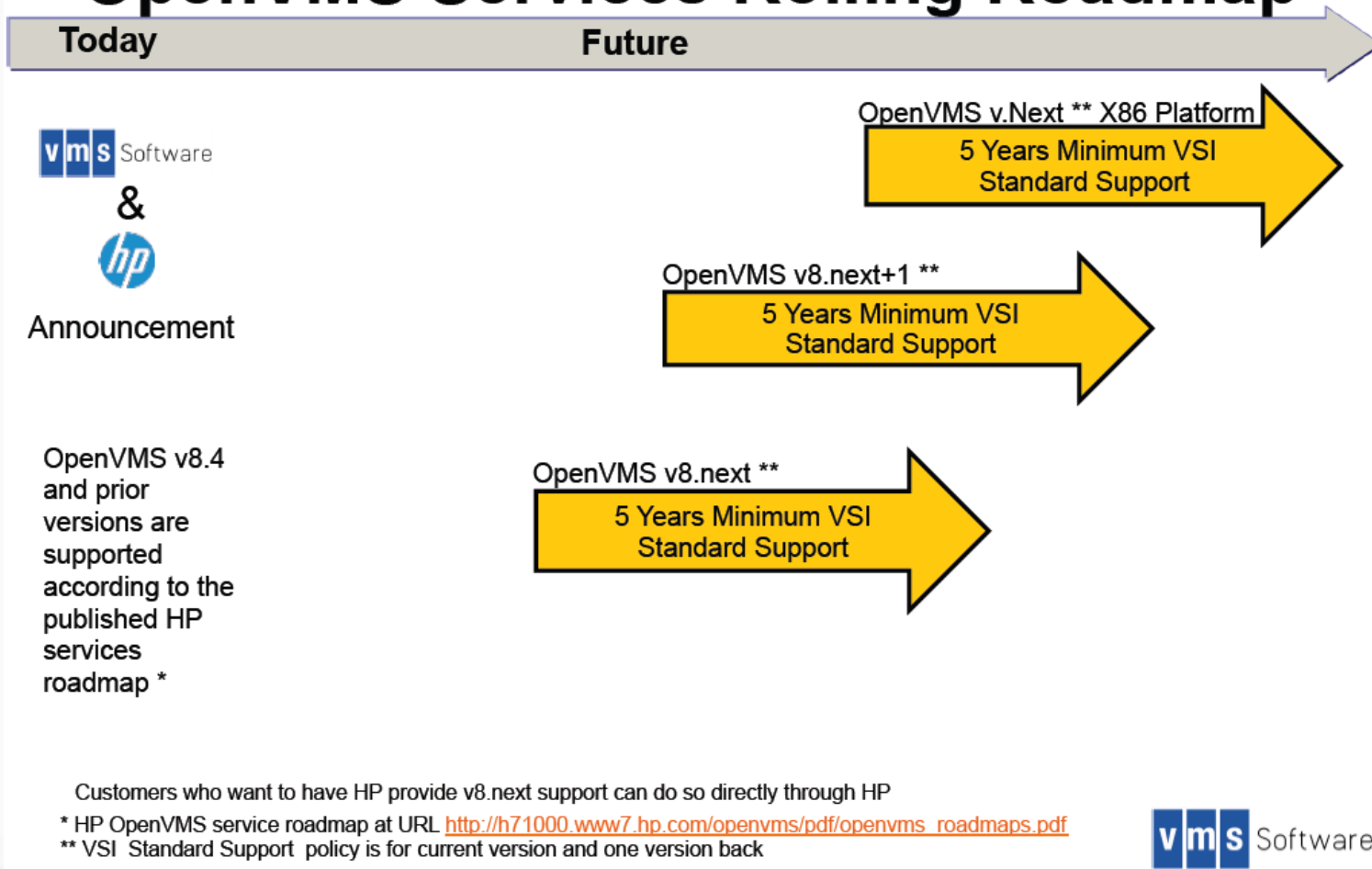
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http://h71000.www7.hp.com/openvms/pdf/openvms_roadmaps.pdf

VMS Software's roadmap

OpenVMS Services Rolling Roadmap



http://www.vmssoftware.com/news/announcement/RM/VMS_Software_Roadmap.pdf

Hardware updates

Have a plan for Hardware lifecycle management

Ideal lifecycle is 3 years for Windows and 5 years for Enterprise UNIX/OpenVMS servers and Enterprise Storage



Centricity Business Lifecycle Policy

Caché and Application Lifecycle policy































Caché new release every 1-2 years

- Plan to upgrade every 18-24 months

Application updates about every 9 months

- Plan to upgrade yearly to take advantage of the latest new features and products

Desktop, IIS & SQL Compatibility Matrix

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Ready to schedule a project?

Contact NPRT Scheduling Coordinator,
Patsy O'Neill:

Phone: 617 519 2506

NPRTUpgradeScheduler@ge.com

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Microsoft Lifecycle Policy

- Windows XP
- Windows 7
- IE 6, 7, 8, 9
- .Net
- SQL 2000, 2005, 2008, 2012

Appendix

VMS Roadmap

