

VSI OpenVMS V8.4-1H1 Overview



Foreword

VMS Software Inc. (VSI) has licensed OpenVMS and associated layered products from HP. VSI will be developing new releases going forward. Given this, OpenVMS V8.4-1H1 is a VSI product and requires a VSI license, with program discounts - please see later presentations for additional information. HP has signed a reseller agreement with VSI so HP will resell VSI versions of OpenVMS and layered products along with support services.

This presentation contains forward looking statements and are provided solely for your convenience. While the information is based on our current best estimates, such information is subject to change without notice.

Agenda:

- Features
- Performance
- Upgrade Path/Support Matrix
- Product List
- HW Attach Matrices
- Java Update
- Licensing/Trade-in & Pricing
- VSI Services

VSI OpenVMS V8.4-1H1 Features

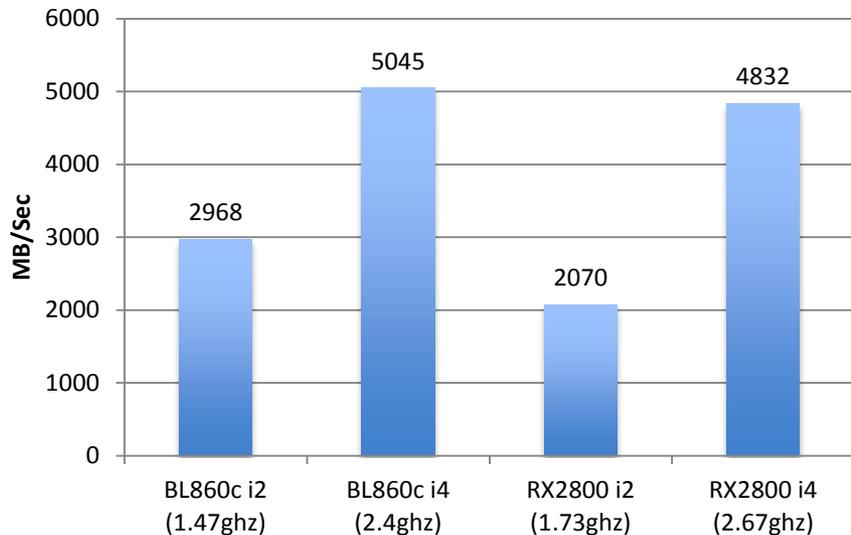
VSI V8.4-1H1 Features

- VSI OpenVMS V8.4-1H1 is a hardware release supporting HP i4 servers and previous HP Itanium servers.
 - Support LOM adapter on i4 blade servers
 - Support mezzanine card and stand-up card on BL8xxx i4 and rx2800 i4 (use Emulex BE3 CNA)
- Performance improvements on HP i4 servers
- Stability enhancements
 - 50%+ increase over CY 2014 active QTV tests
- Extended support timeframe on HP i4 servers

VSI OpenVMS V8.4-1H1 Performance

i2 vs i4 Memory Performance

i2 vs i4 Memory Bandwidth



Bandwidth

RX2800 i4 is 62% greater than BL860c i2
RX2800 i4 is 133% greater than Rx2800 i2

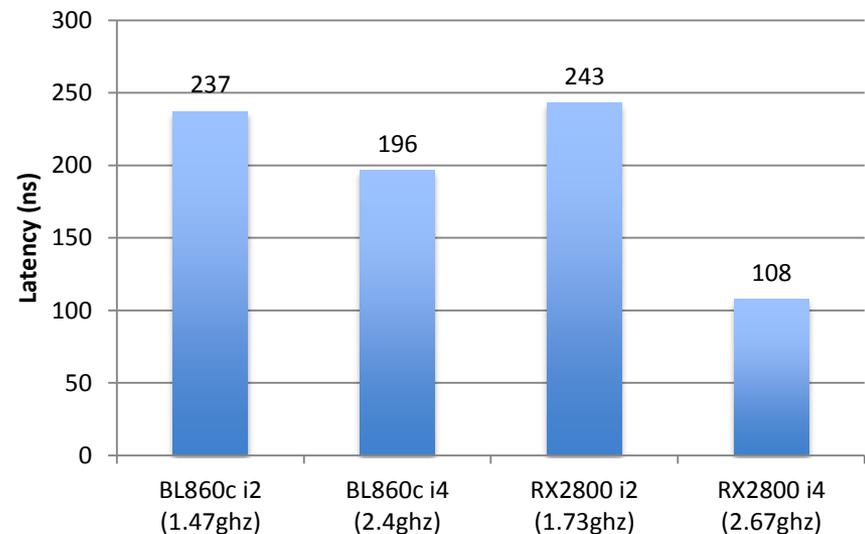
BL860c i4 is 69% greater than BL860c i2
BL860c i4 is 143% greater than Rx2800 i2

Latency

RX2800 i4 is 55% less than BL860c i2
RX2800 i4 is 56% less than Rx2800 i2

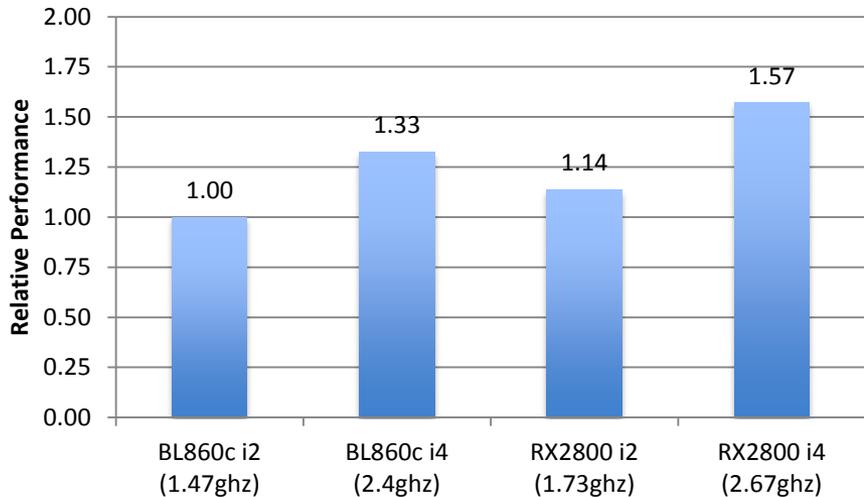
BL860c i4 is 18% less than BL860c i2
BL860c i4 is 20% less than Rx2800 i2

i2 vs i4 Memory Latency



i2 vs i4 Integer/Floating Point Performance

i2 vs i4 Floating Point Performance



Floating Point

RX2800 i4 is 57% greater than BL860c i2
RX2800 i4 is 37% greater than Rx2800 i2

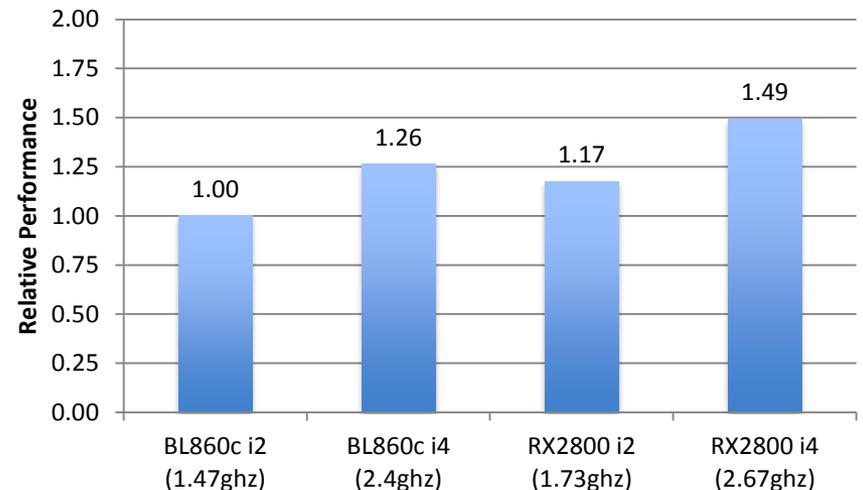
BL860c i4 is 33% greater than BL860c i2
BL860c i4 is 16% greater than Rx2800 i2

Integer

RX2800 i4 is 49% greater than BL860c i2
RX2800 i4 is 27% greater than Rx2800 i2

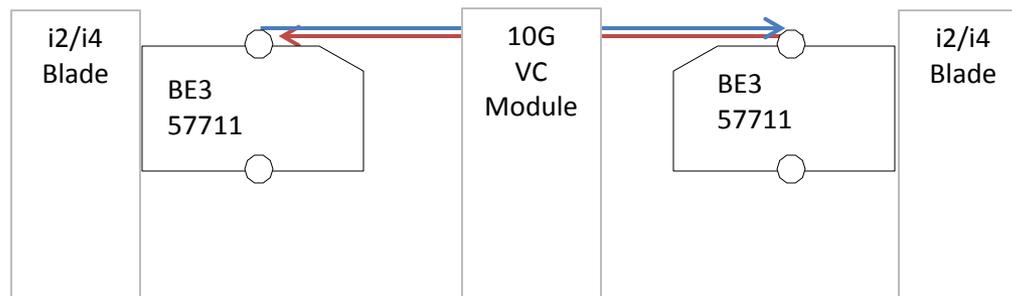
BL860c i4 is 26% greater than BL860c i2
BL860c i4 is 7% greater than Rx2800 i2

i2 vs i4 Integer Performance

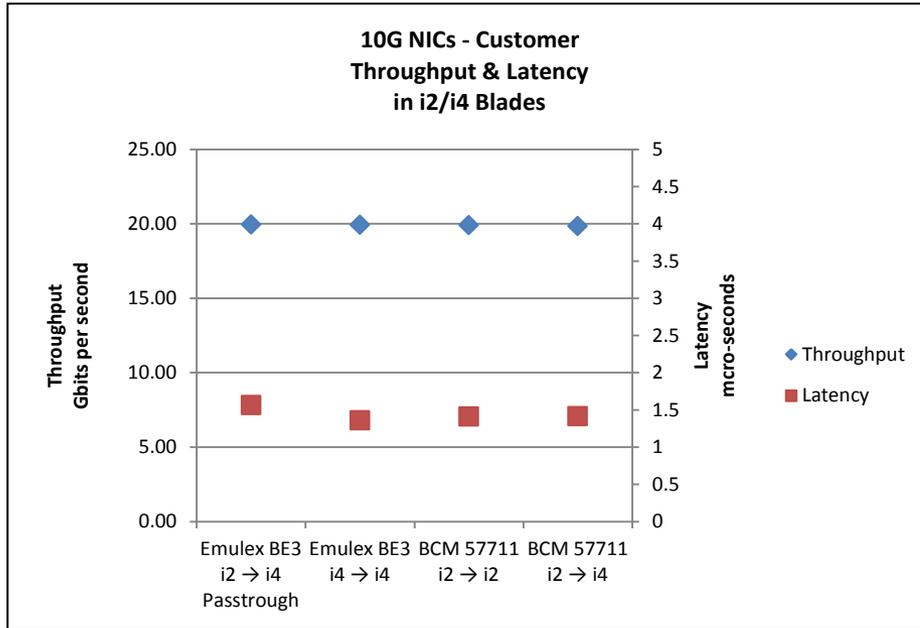


10G LAN Performance

- Used a combination of LOM in i2 and i4 Blades and Mezzanine Emulex-BE3 and Broadcom-57711
- Used the 10G Virtual Connect module
- Also measured using the 10G Pass-through
- XX LAN performance Tool. No Ping Pong data just yet.
- This represents the most a LAN application can aspire under VSI OpenVMS V8.4-1H1



Throughput & Latency



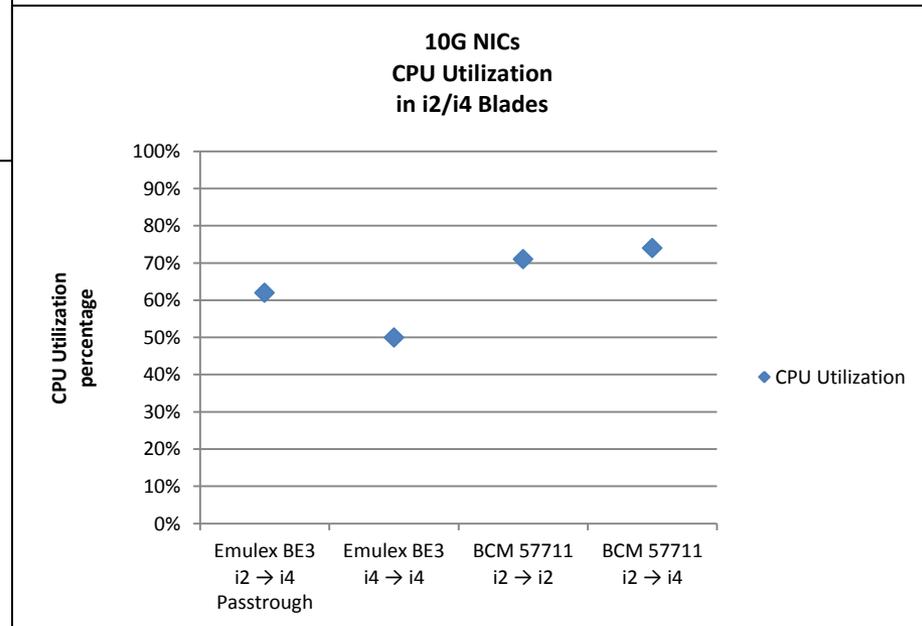
Throughput in blue.

We are very close to wire speed, all interfaces can achieve ~10Gbits both ways; a total of 20Gbits!

Latency in red

Overall very nice! In agreement with other OSs. Finally VMS gets an under 2 μ sec latency interface.

CPU utilization at 50% on i4.



VSI OpenVMS V8.4-1H1 Upgrade Path/Support Matrix

Upgrade path?

Direct Upgrade Paths

You can upgrade directly to VSI OpenVMS Integrity Version 8.4-1H1 from the following prior versions of HP OpenVMS Integrity:

- Version 8.4 U900 or U1000 – Initial release
- Version 8.3-1H1
- Version 8.3
- Version 8.2-1



Support targeted for Q3 CY 2015

OpenVMS Operating Environments

- VSI is continuing to offer OpenVMS in 2 bundles: BOE and HAOE, the same as HP OpenVMS V8.4.
 - Base OE (BOE)
 - An internet ready, feature rich product set for the price sensitive customer
 - High Availability OE (HAOE)
 - Includes all the benefits of BOE, delivering the ultimate customer experience in terms of multi-system availability and security

Mixed Architecture Cluster Support Matrix

		AlphaServer			
		V7.3-2	V8.2	V8.3	V8.4
Integrity Server	V8.2	Warranted	Warranted	Migration	Migration
	V8.2-1	Warranted	Warranted	Migration	Migration
	V8.3 & v8.3-1H1	Migration	Migration	Warranted	Migration
	V8.4	Migration	Migration	Migration	Warranted
	V8.4-1H1	Migration	Migration	Migration	Warranted

Single Architecture Cluster Support Matrix

		Integrity Server				
		V8.2	V8.2-1	V8.3 & V8.3-1H1	V8.4	V8.4-1H1
Integrity Server	V8.2	Warranted	Warranted	Migration	Migration	Migration
	V8.2-1	Warranted	Warranted	Migration	Migration	Migration
	V8.3 & v8.3-1H1	Migration	Migration	Warranted	Migration	Migration
	V8.4	Migration	Migration	Migration	Warranted	Warranted
	V8.4-1H1	Migration	Migration	Migration	Warranted	Warranted

VSI OpenVMS V8.4-1H1 Product List

Base OE (BOE) Components

Q2 2015

- V8.4-1H1 operating system
- ANT
- AXIS2
- CDSA
- CIFS
- CSWS_JAVA
- DCPS
- DECnet Phase IV, & Decnet Phase V
- DECdfs
- DECram
- DECwindows Motif
- DCE (runtime)
- Encryption
- Kerberos
- PERL
- Secure Web Server (CSWS)
- SSL
- TCP/IP
- UDDI
- VSI Binary Checker
- WBEM/CIM
- WBEM providers
- WSIT
- XML C

Q4 2015

- CSWS_PERL
- CSWS_PHP
- Enterprise Directory (LDAP)
- JAVA 1.8
- I18N
- Insight Management Agents
- OpenVMS Management Station
- Secure Web Browser (CSWB)
- The Data Collector
- XML Java



One DVD Media for all OEs

This information contains forward looking statements and are provided solely for your convenience. While this information is based on our current best estimates, such information is subject to change without notice.

High Availability OE (HAOE) Components

Q2 2015

- V8.4-1H1 operating system
 - ANT
 - AXIS2
 - CDSA
 - CIFS
 - CSWS_JAVA
 - DCPS
 - DECnet Phase IV, & Decnet Phase V
 - DECdfs
 - DECram
 - DECwindows Motif
 - DCE (runtime)
 - Encryption
 - Kerberos
 - PERL
 - Secure Web Server (CSWS)
 - SSL
 - TCP/IP
 - UDDI
 - VSI Binary Checker
 - WBEM/CIM
 - WBEM providers
 - WSIT
 - XML C++
- Availability Manager
 - RMS Journaling
 - Volume Shadowing
 - OpenVMS Cluster Client
 - OpenVMS Cluster Software



One DVD Media for all OEs

Q4 2015

- CSWS_PERL
- CSWS_PHP
- Enterprise Directory (LDAP)
- JAVA 1.8
- I18N
- Insight Management Agents
- OpenVMS Management Station
- Secure Web Browser (CSWB)
- The Data Collector
- XML Java
- RTR backend

NOTE: Items in BLUE are available as separately licensable products outside the OE package.

OpenVMS Layered Products

Q2 2015

Layered Products CD:

- ACMS dev, remote, runtime
- BASIC
- C
- COBOL
- DECforms dev, runtime
- DECset (CMS, DTM, MMS, SCA, LSE, PCA)
- DFO
- DFS
- Fortran
- PASCAL

Layered Products on Web Site only:

- GNV

Q4 2015

Layered Products CD Additions

- ABS Client
- ABS Server
- **C++**
- Datatrieve
- FMS Development
- FMS Runtime
- HSM
- MRU
- RTR frontend
- SSM
- TDMS Development
- TDMS Runtime
- X.25



LPs on one CD Media

C++ - Pending license from Intel

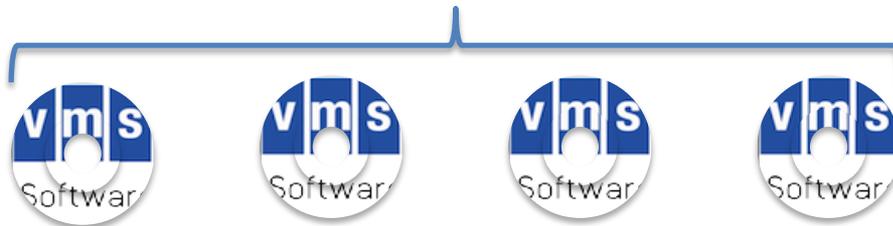
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OE and Layered Products Media

- OE DVD Media
 - The OpenVMS Operating System
 - All layered products that make up the Base and High Availability OE Components
 - OE DVD updates ONLY when the O/S revises (8.4-1H1, 8.4-1H2, 8.5)
- Layered Product Library Media
 - Library package of software layered products not included in the OE distributions
 - Includes on-line documentation

OpenVMS Media Kits

Operating Environment Media Kit



OpenVMS OE Media

- Base

- High Availability

Contents:
Both OE
bundles

Media: DVD

OpenVMS Doc Media

Contents:
OE bundle
Docs

Media: CD

Layered Products Media

Contents:
OpenVMS
Layered
Products

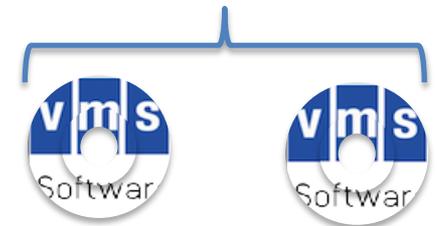
Media: CD

Freeware Media (Q4 2015)

Contents:
Products for
All Three
Architectures

Media: CD

Quarterly Update Kit



OE Delta Disk

Contents:
Updated OE
components

Media: DVD

Layered Product Library

Contents:
OpenVMS
Layered
Products

Media: DVD

Complete OpenVMS Media Kit

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VSI OpenVMS V8.4-1H1 HW Attach Matrices

HW Attach Matrix

VSI OpenVMS 8.4-1H1 supports most all previous hardware generations that prior HP versions of OpenVMS supported. On HP Integrity i2 and i4 servers the following hardware is supported on VSI v8.4-1H1 (at BOLTON release).

- Integrity Servers
- 1Gb LAN Cards
- 10 Gb LAN Cards
- FlexFabric/CNS
- Fiberchannel
- SAS/Smart Array
- Combo Cards
- Storage arrays
- Disk Shelves
- Tape Libraries
- Tape Drives
- Blade Expansion (Disk & Tape)
- Blade Interconnects

Additional VSI HW matrices are available upon request and will be on the VSI website

		Storage Arrays							
Part Number	Card Description	BL860c	BL870c	BL890c	BL860c	BL870	BL890c	rx2800	rx2800
		i2	i2	i2	i4	ci4	i4	i2	i4
	3PAR 10800 FC	x	x	x	x	x	x	x	x
	3PAR 10400 FC	x	x	x	x	x	x	x	x
	3PAR 7450 FC	x	x	x	x	x	x	x	x
	3PAR 7400 FC	x	x	x	x	x	x	x	x
7W49A	3PAR 7200 FC	x	x	x	x	x	x	x	x
	XP 9500 *	x	x	x	x	x	x	x	x
	XP 24000								
	XP 20000								
	XP 12000								
	XP 10000								
	EVA 8400	x	x	x	x	x	x	x	x
	EVA 8100	x	x	x	x	x	x	x	x
	EVA 8000	x	x	x	x	x	x	x	x
	P6550 FC	x	x	x	x	x	x	x	x
	P6500 FC	x	x	x	x	x	x	x	x
	EVA 6400	x	x	x	x	x	x	x	x
QK739B	P6350 FC	x	x	x	x	x	x	x	x
	P6300 FC	x	x	x	x	x	x	x	x
	EVA 6100	x	x	x	x	x	x	x	x
	EVA 6000	x	x	x	x	x	x	x	x
	EVA 4400	x	x	x	x	x	x	x	x
	EVA 4100	x	x	x	x	x	x	x	x
	EVA 4000	x	x	x	x	x	x	x	x
AP846B	P2000 G3 FC	x	x	x	x	x	x	x	x
	P2000 G3 FC/iSCSI (FC Connect)								
	MSA 2300 FC								
	MSA 1500 A/A *	x	x	x	x	x	x	x	x
	MSA 1000 A/A								
AW594B	MSA P2000 G3 SAS MSA Dual Cntrl Array	x	x	x	x	x	x	x	x

* - July 2015

VSI OpenVMS V8.4-1H1

Java

Java Update

- **Java version 1.6** – Please see HP presentation for support policy
- **Java version 1.8**
 - VSI is working with HP on porting Java 1.8 to OpenVMS. Anticipated release is Q4 CY 2015.

VSI OpenVMS V8.4-1H1

Licensing - Trade-in & Pricing

Software Licensing

- **Per-Socket (PSL)**
 - Very **flexible** licensing design
 - Purchase software based on the **# of SOCKETS** in a partition or system
- **Benefits of PSL**
 - **More granular** – customer pays for exactly what they need
 - **More flexible** – licensing is not per box, but per-socket so customer can move assets as needed
 - **Accommodates partitioning** – allows use of different types of OEs in different hardware partitions and different Operating Systems
 - **Expandable** – customers can purchase processors and software to meet needs over time

License Trade-in Policy

- A single cross platform license trade-in policy is introduced for customers migrating to VSI OpenVMS on Integrity servers. Cross platform trade-ins include:

From	To
HP OpenVMS VAX	VSI OpenVMS on Integrity
HP OpenVMS Alpha	VSI OpenVMS on Integrity
HP OpenVMS Integrity	VSI OpenVMS on Integrity

If upgrading server to newer model: One (1) SOCKET on older server equals one (1) SOCKET on newer server when trading in a HP OpenVMS license for a VSI OpenVMS license

Trade-in Policy

(Continued)

- **Example:** If a customer licensed 1 SOCKET in an AlphaServer DS20E and upgrade to an Itanium BL870c i4 and licensed 4 sockets, they will get a 50% trade-in credit on 1 SOCKET and pay list price for the 3 additional licensed SOCKETS.
- **Example:** If a customer licensed 1 SOCKET in an Itanium rx2600 and upgraded to an Itanium rx2800i4 and licensed 1 SOCKET, they will get a 50% trade-in credit on 1 SOCKET.

If upgrading server to newer model: One (1) SOCKET on older server equals one (1) SOCKET on newer server when trading in a HP OpenVMS license for a VSI OpenVMS license

Trade-in Policy

(Continued)

- HP OpenVMS Licenses are traded in for new VSI OpenVMS licenses at 50% discount (prior HP support not required)
 - Commitment to buy VSI OpenVMS support* on new licenses for one (1) year minimum
- Trade-in applies to 'equivalent product' or operating environment licenses
- Parallel usage of licenses on both platforms is allowed during transition

*Support = VSI Service contract with License to Use (LTU) Right to minor Versions (RTmV)

Trade-in Policy

(Continued)

HP OpenVMS Alpha	VSI OpenVMS Operating Environment License
OpenVMS Base	Base Operating Environment (BOE)
OpenVMS SMP	
OpenVMS User	
Enterprise Integration Package	
DECram	
RMS Journaling	High Availability Operating Environment (HAOE)
Volume Shadowing	
VMSClusters	

All license trade-ins require Proof of License for license being traded-in

Example: Trade-in Base, 3 SMPs, Users and EIP from a four CPU server and receive credit for 4 BOE PSL licenses on the Target server

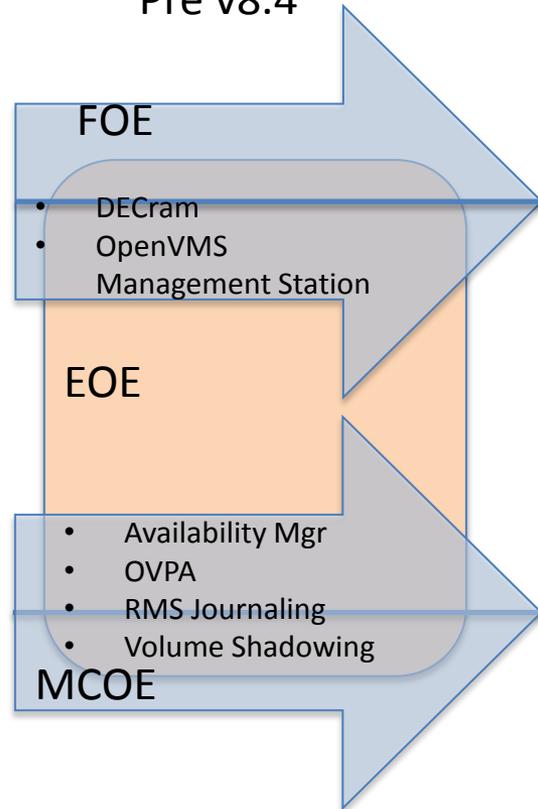
Example: Trade-in all of the above plus 2 of the 3 HAOE products and receive credit for 4 BOE PSL licenses

Example: Trade-in all of the above plus VMSClusters and receive credit for 4 HAOE PSL licenses

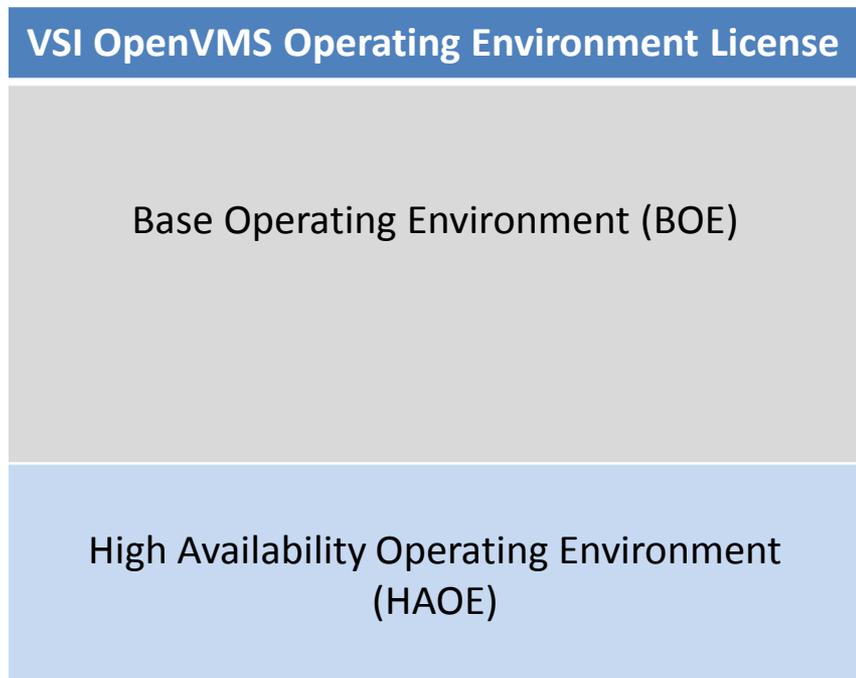
Trade-in Policy

(Continued)

HP OpenVMS Integrity
Pre v8.4



VSI OpenVMS Operating Environment License



How is Trade-in Credit Applied

Example: Customer trades-in a single SOCKET OpenVMS Alpha operating system, Volume Shadowing and RMS Journaling licenses for the High Availability Operating Environment (HAOE) with a single SOCKET licensed on a 4 SOCKET server

Product Description	Product Number	License or credit Price
MCOE for Integrity 4 socket	M1J88AC #848	\$ 24,981.00
PSL Trade-in Credit for 4 SOCKET server	M1J88ACN #848	(\$ 12,490.00)
		Net \$ 12,491.00

When a license is traded-in, the equivalent new license(s) is added to the order along with the applicable credit product number option

Layered Product Equivalency Map

License for License Trade-in

HP OpenVMS VAX	HP OpenVMS Alpha	VSI OpenVMS Integrity
VAXCluster	VMSCluster	VSI VMSCluster
Fortran VV	Fortran VA	VSI Fortran
C VV	C VA	VSI C

All license trade-ins require Proof of License for license being traded-in

Example: Trade-in VAXCluster from OpenVMS VAX and receive 50% credit for VSI VMSCluster on VSI OpenVMS

Example: Trade-in Fortran from OpenVMS Alpha and receive 50% credit for VSI Fortran on VSI OpenVMS

Example: Trade-in C from OpenVMS Alpha and receive 50% credit for VSI C on VSI OpenVMS

Pricing Policy

- Not to increase the price for OpenVMS or layered products over current HP pricing levels
 - VSI Pricing on i4 is equivalent to the HP price for equivalent software on I2 servers
 - VSI pricing on i2 is equivalent to i4 price
 - For previous (pre-i2) generations Itanium servers (1 and 2 core servers) a 15% discount is provided off of VSI OpenVMS and layered products i2/i4 list price (before trade-in credits, if any)
- VSI services do not have trade-in credits, full list price applies

Other VSI Pricing Programs

- VSI CSLG
 - To be eligible for the CSLG program, Integrity systems using OpenVMS are required to have a valid Base Operating Environment (BOE) at the appropriate number of processors.
 - Annual renewal
 - RTmV included
- VSI Education License Program (work in progress)
 - Free license for classroom teaching
 - Annual renewal
- VSI Hobbyist (work in progress)
 - Free license for non commercial, non business use
 - Annual renewal

Consult program License Terms and Conditions when available

VSI Partner Programs

- VSI ISV Partner Program (work in progress)
 - Annual renewal
- VSI Reseller Partner Program (work in progress)
 - Annual renewal
- VSI Business Partner Program (work in progress)
 - Annual renewal

Consult program License Terms and Conditions when available

VSI Quote Policy

- If an HP part number exists for a product, then VSI will quote the HP part number so customers and partners see a consistent part number scheme
- HP will not sell all VSI products in all variants. VSI will quote VSI part numbers only when there is not an HP equivalent. HP will not sell the following:
 - VSI OpenVMS and layered products on non-i4/i2 servers
 - VSI Open source services
 - VSI Professional services
 - VSI Campus wide Software License Grant (CSLG)

VSI OpenVMS V8.4-1H1

VSI Services

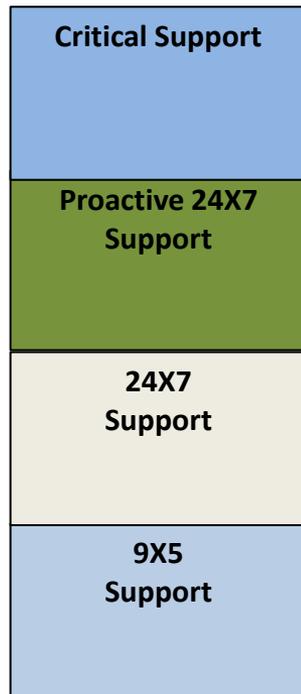
VSI Server Support Matrix

Server Name	Max Number of Sockets	VSI Support Date	HP Support Date
rx1600	2	July 2015	N/A
rx2600	2	July 2015	N/A
rx2620	2	July 2015	N/A
rx2660	2	July 2015	N/A
rx2800i2	2	June 2015	June 2015
rx2800i4	2	June 2015	June 2015
rx3600	2	July 2015	N/A
rx6600	4	July 2015	N/A
rx7640	8	July 2015	N/A
rx8640	16	July 2015	N/A
BL860c i2	2	June 2015	June 2015
BL870c i2	4	June 2015	June 2015
BL890c i2	8	June 2015	June 2015
BL860c i4	2	June 2015	June 2015
BL870c i4	4	June 2015	June 2015
BL890c i4	8	June 2015	June 2015

- VSI will support OpenVMS 8.4-1H1 on the servers listed in the chart.

VSI Services

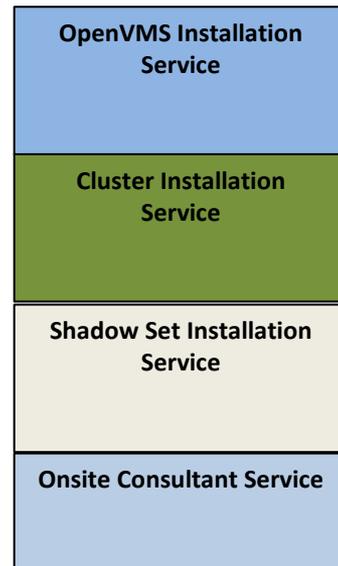
Support Services



Standard Part Numbers

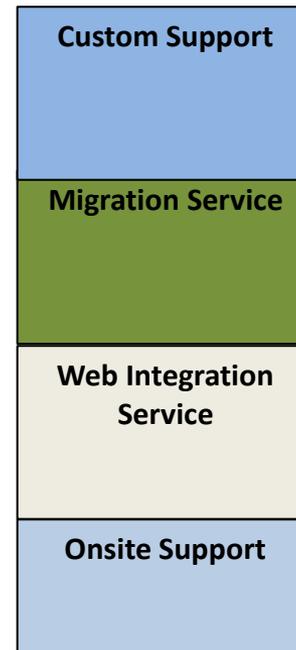
Also Sold thru HP

Installation Services



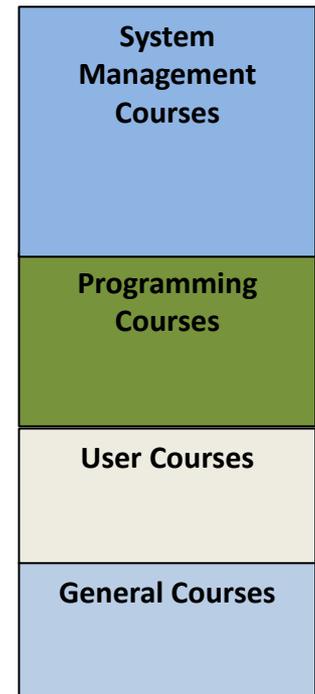
Standard Part Numbers

Professional Services



Customized
Statement of Work

Education Services



Standard Part Numbers

VSI Support Services Portfolio

9X5 Support

- Standard 1-800 number
- SW subscription RTmV*
- SW updates (patches)
- Technical Support 9 hours a day 5 days a week
- Quarterly Updates
- 4 hour response

24X7 Support

- Standard 1-800 number
- SW subscription RTmV*
- SW updates (patches)
- Technical Support 24 hours a day 7 days a week
- Quarterly Updates
- 2 hour response

Proactive 24X7 Support

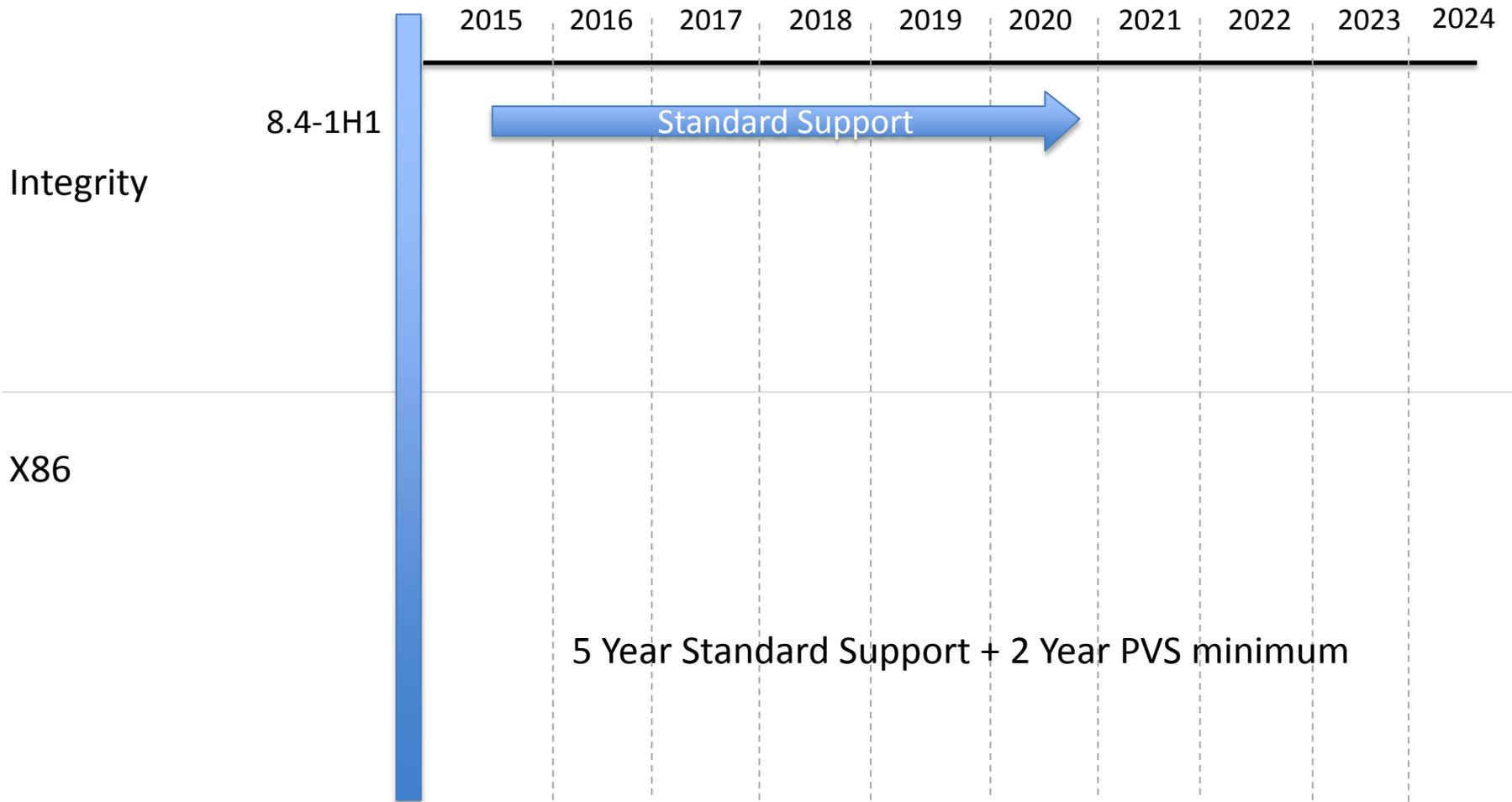
- Standard 1-800 number
- SW subscription RTmV*
- SW updates (patches)
- Technical Support 24 hours a day 7 days a week
- Remote Technical Account Manager (TAM)
- VSI software System Health Checks
- VSI software Patch Analysis
- Quarterly Updates
- 1 hour response

Critical Support

- Dedicated 1-800 number
- SW subscription RTmV*
- SW updates (patches)
- Technical Support 24 hours a day 7 days a week
- Remote Technical Account Manager (TAM)
- Quarterly VSI software Patch Analysis
- Quarterly VSI software System Health Checks
- Quarterly Updates
- Immediate response

A minor version is a dot (.) release of a VSI product e.g. v8.4-1H1 or v8.5 are all minor releases to the major version v8. Once OpenVMS v9.0 is released, a new licensing paradigm will be in place and licenses must be renewed at that time.

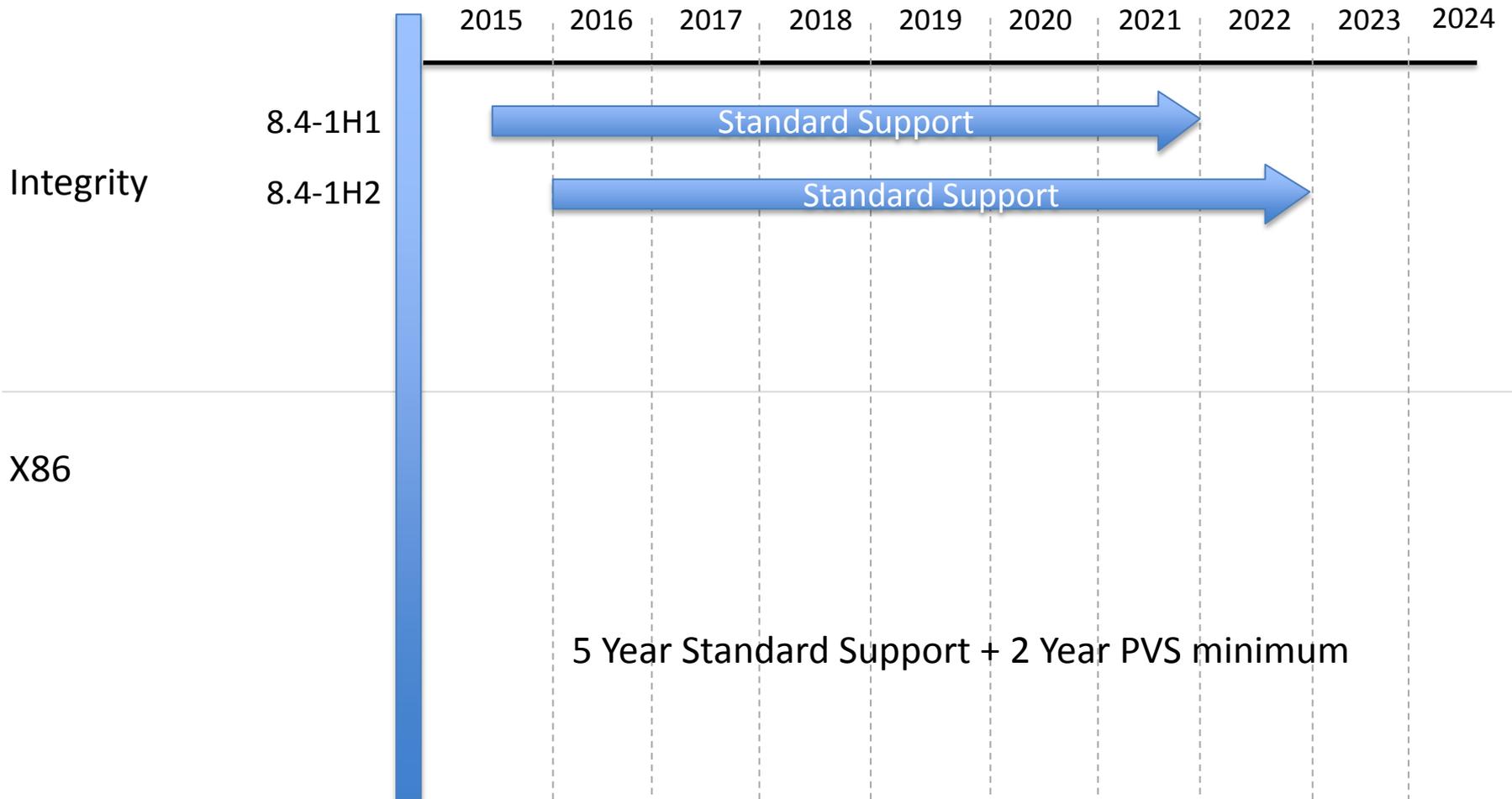
VSI OpenVMS Service Roadmap



PVS – Prior Version Support without Sustaining Engineering
* 24 Month notice will be provided before support is ended

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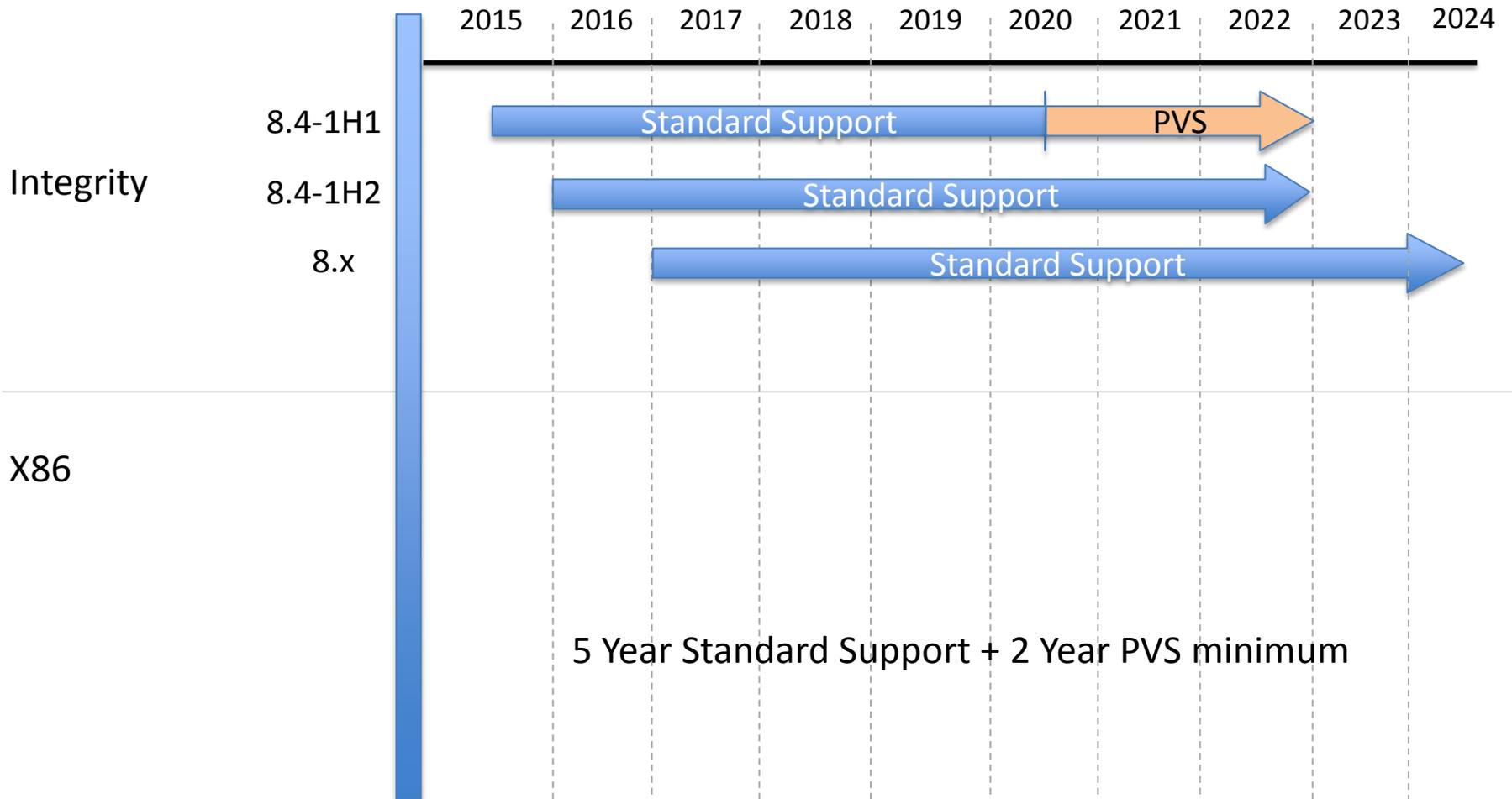
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VSI OpenVMS Service Roadmap

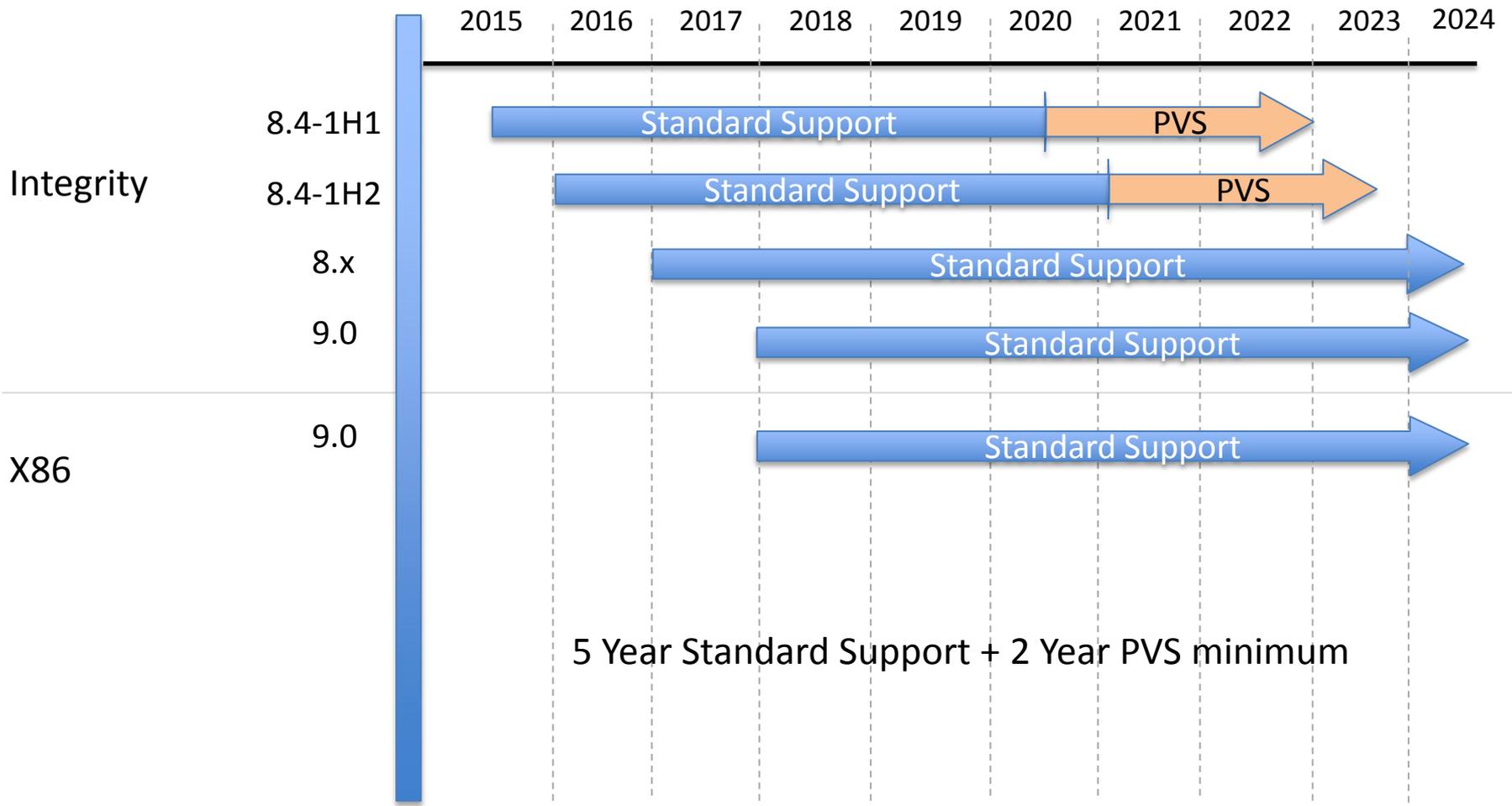


5 Year Standard Support + 2 Year PVS minimum

PVS – Prior Version Support without Sustaining Engineering
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VSI OpenVMS Service Roadmap



5 Year Standard Support + 2 Year PVS minimum

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