



# VMS Software – General Update

Ray Turner  
VMS Software Inc.  
December 2019

# Notice

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

# Agenda

- News about VSI Acquisition of all OpenVMS Support from HPE
- 2019 VSI Business Update
- Review VSI Roadmap
- Q & A

# VMS Software Acquires All HPE OpenVMS Support Renewals

- HPE Pointnext no longer able to renew any HPE or VSI OpenVMS support contracts currently with HPE.
- Change consistent with Hewlett Packard's (now HPE) 2013 OpenVMS announcement.
- Continuation of April 2019 HPE's announcement ending HPE accepting orders for VSI products and support
- Customer notifications sent by HPE directly to HPE OpenVMS support contract customers on October 24, 2019.
- This applies to ALL OpenVMS including both HPE OpenVMS (V8.4 and earlier) and VSI OpenVMS (V8.4-1h1 and later).

# Why did HPE agree to the VSI Acquisition?

- In concert with HPE 2013 announcement and on-going divestiture to VSI of the OpenVMS Operating System.
- HPE has confidence in VMS Software, Inc. (VSI) to meet customer needs.
  - VSI has been in business since 2014.
  - VSI is well financed by Teracloud Corporation.
  - In May 2018, HPE contracted all OpenVMS software support to VMS Software Inc. Inc.
  - VSI's Outstanding performance convinced HPE VSI is the best support option for OpenVMS customers.

# What if you have a VSI OpenVMS Support Contract?

- There is no change in your working with VSI.
- No reason to take any action.

# What if you have HPE V8.4?

- There are options.
- Option 1 - You can upgrade your OpenVMS licenses and support with new VSI products and support.
- Option 2 - You can renew your HPE V8.4 support through VSI.
  - You can keep the same level of support or change it.
  - There is no guarantee that the exact pricing will be in your VSI proposal.
  - VSI has access to HPE patches and fixes necessary to support V8.4.
  - Standard support on HPE V8.4 ends December 31, 2020.
  - No new software fixes after end date.

# What about HPE OpenVMS V8.3 and earlier?

- VSI is able to provide support programs for any VAX, Alpha or Itanium servers including V8.3 and earlier.
- In most cases this will be L1 / L2 support



# What if you have VSI products on Contract through HPE?

- Well before your HPE Support contract ends, contact VSI to start planning your transition to a VSI support contract.
- Contact [sales@vmssoftware.com](mailto:sales@vmssoftware.com)

# What if your current support contracts are with both VSI and HPE?

- Well before your HPE Support contract ends, contact VSI to start planning your transition to a VSI support contract.
- If you want to synch up your entire OpenVMS support, mention this to us and we can make this happen.

# Expediting your VSI Support Renewal Proposal

- Providing us with the output from the following system commands
  - \$ Sho system/noprocess
  - \$ Show License
  - \$ Show CPU
  - \$ Show License/Charge)...
  - \$ hthread ::= \$sys\$test:hthreads.exe
  - \$ hthread show
- Alternatively, if you can send to us a copy of your current HPE support contract, that will in some cases provide us the information we need to prepare your VSI quote.

+

- The Level of support desired (Platinum, Gold, Silver or Bronze) and the number of years (1y, 3y, 4y, 5y) for your contract will allow us to prepare a quote.

# Transition from HPE to VMS Software

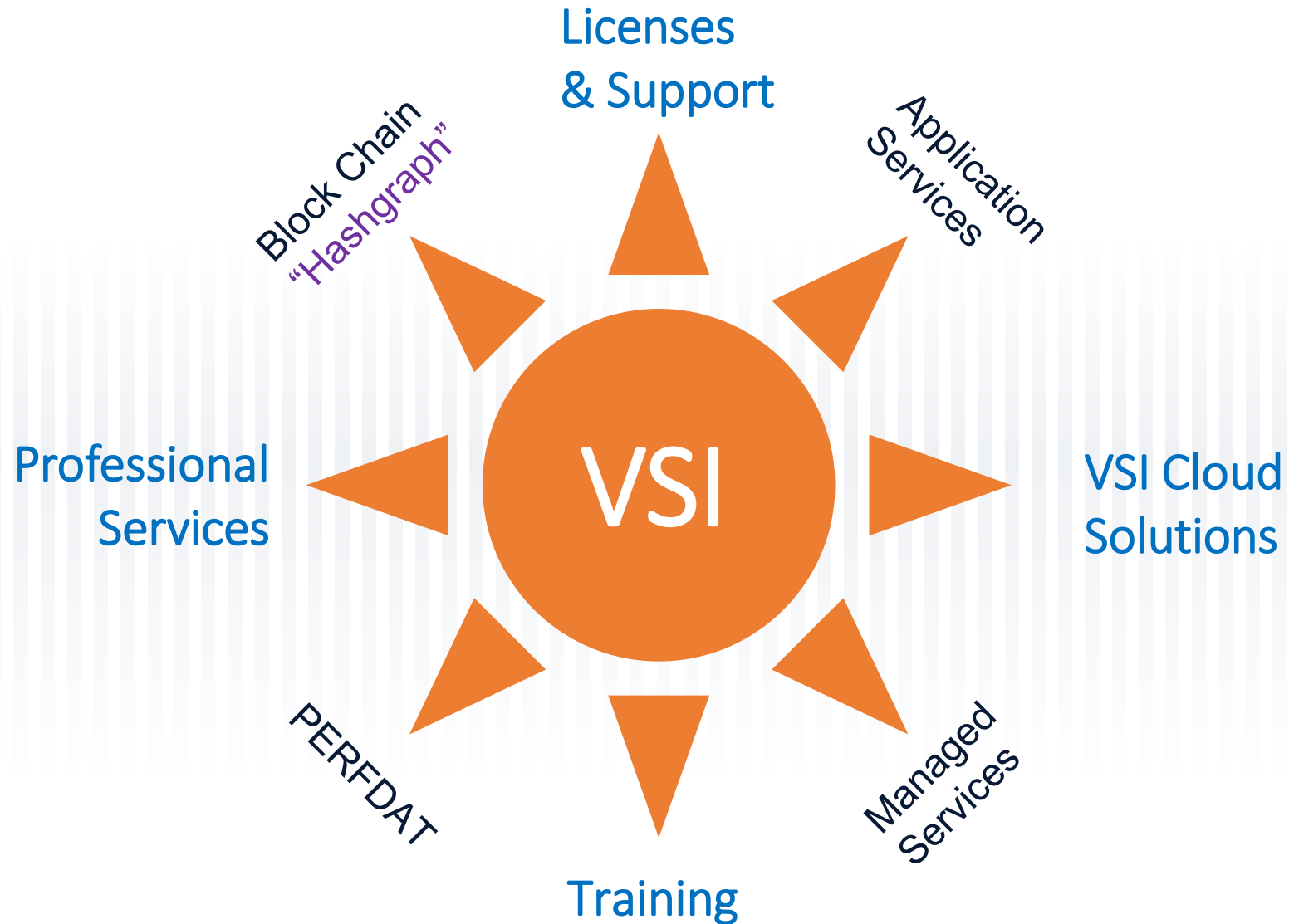
- 2013 – HP announces their EOL support for OpenVMS O/S.
- 2014 - VMS Software purchases rights to OpenVMS O/S.
- 2015 - HPE new Alpha License sales ends.
- 2015 – VSI introduces its first upgraded Integrity product and its 4 levels of “Best in Class” support.
- 2016 – VSI introduces 3 additional Integrity licenses with VSI support.
- 2017 – VSI introduces two new Alpha products.
  - Alpha V8.4-2L1
  - Alpha V8.4-2L2 Performance Build
- 2018 - HPE OpenVMS (V8.4 or earlier) obsoleted from HPE WW Price List.
- 2018 – HPE outsources OpenVMS support to VMS Software, Inc.
- 2019 – HPE to remove all VSI OpenVMS Licenses and Support part numbers from HPE Price List.... meaning HPE will not sell any new VSI products effective after June 30, 2019.
- 2019 – VSI purchases rights to all HPE OpenVMS contract renewals effective September 9, 2019.

# Who is VMS Software?

- VMS Software, Inc. was created as a result of its parent company Teracloud, Ltd (European corporation) purchasing from HP in 2014, all Rights to the OpenVMS O/S.
- VSI is headquartered in Bolton, Massachusetts USA.
- VSI has approx. 90 employees (+ contractors) with the majority in Bolton, MA but other locations as well.
  - Offices in Malmo, Sweden
  - Locations in The Netherlands, France, Germany, UK and elsewhere in North America
- The majority of VSI's employees are developers and engineers working on new product solutions with the majority of people working on x86 products available in late 2021.



# OpenVMS Clearinghouse



# How is VMS Software doing?

- Backed by Teracloud Corporation parent.
- In both 2017 and 2018 our Booked Orders increased at least 2X compared with the previous year. Solid growth realized in 2019 and forecasted for 2020.
- Positive EBITDA projected in 2020
- Focus is the OpenVMS CUSTOMER
- Adding VSI Resources
  - Engineering
  - Professional Services
  - Sales Team





# KPI's in last 5 Years

- VSI introduces its first upgraded Integrity product and its 4 levels of “Best in Class” support. (2015)
- VSI introduces 3 additional Integrity licenses with VSI support. (2016)
- VSI introduces two new Alpha products. (2017)
  - Alpha V8.4-2L1
  - Alpha V8.4-2L2 Performance Build
- VSI Revenue hits \$10M and growing (FY2018)
- VSI initiates Professional Services team in Europe (2018)
- VSI releases improved O/S components (2017 – 2019)
- VSI announces 1<sup>st</sup> Boot on x86 HW platform (May, 2019)
- VSI hires Manager for VSI North American Professional Services (September, 2019)
- VSI forecasts positive EBITDA (2020)
- VSI expects x86 V9.0 EAK Q1 2020
- VSI projected revenue \$18M - \$20M in 2020
- VSI projected to release new Alpha, Itanium and x86 V9.2 (full production in late 2021)



# Engineering Highlights

- Made over 800 bug fixes to the O/S
- Over 200 new features
- 2019 New components
  - New TCP/IP Stack
  - New SAMBA Release
  - New IDE Release
  - New Password Management



# Acquisition of PERFDAT

- VSI purchased this product from HPE in January, 2019
- Is an integrated performance monitoring, management and capacity planning solution for OpenVMS
- Available as a stand-alone product for your OpenVMS environment
- (Soon) Available as a VSI Professional Service offering
  - Capacity planning
  - Performance monitoring
  - Performance troubleshooting
  - System Alerting Added



# VSI SAN Storage Array Focus

(VSI HCL)

## VSI Supported



## In Progress

IBM

## Status

Figure 1. Magic Quadrant for General-Purpose Disk Arrays



# VSI ISV Partners Include

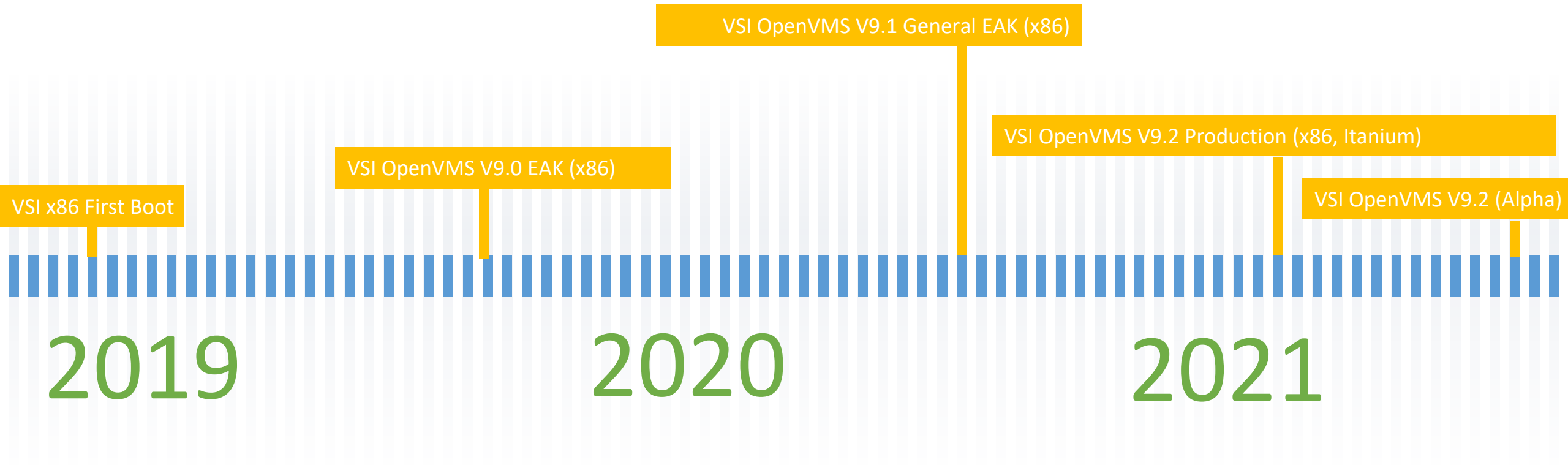
(At A Glance)



This slide contains information that is confidential and is provided solely for your convenience. While the information is based on our current activities, such information is subject to change without notice.

# VSI x86 Roadmap

# Product Roadmap for 2019 - 2021





# OpenVMS Rolling Roadmap

2019

## H1

- VSI OpenVMS x86-64 Cross-tools kit
- Enhanced Password Management
- SAMBA 4.6.5 for IA64
- OpenVMS V8.4-2L1 Integrity Update Kit
- OpenSSL 1.1.1b for OpenVMS
- CSWS 2.4-38A
- IDE based on Microsoft Visual Studio Code
- **CRTL/C99 updates for IA64, Alpha**

## H2

- **VSI OpenVMS V8.4-2L1 Update 100 Remastered CD**
- **VSI TCPIP V10.6 for I64 – SSH, NTP4, BIND updates**
- **SAMBA 4.6-5C for Alpha**
- **Availability Manager Data Collector V3.2**
- **CSWS 2.4-38C (Apache)**
- **SSL1 1.0-2T for Itanium, Alpha**
- **SSL111 1.1-1D for Itanium, Alpha**
- **Samba 4.6-5D for Itanium and Alpha**
- **P441 SAS RAID Controller (12Gb SAS) for Integrity**
- **Primera 3PAR support for Integrity**

2020

## H1

### OpenVMS V9.0 EAK for x86 (x86-64 Limited Early Adopters Kit)

- Available to select ISVs, Partners, Customers
- OpenVMS as a virtual machine guest --VBOX, KVM
- VSI TCPIP 10.6 integrated
- Cross compiler kit – compile/link on I64, run on x86
- C, FORTRAN, COBOL, BLISS, XMACRO, BASIC, Pascal
- ODS-5 system disk mandatory

### Samba 4.6.5 with Cluster support for Itanium, Alpha OpenLDAP Client & Server

## H2

### OpenVMS V9.1 EAK for x86 (x86-64 General Early Adopters Kit)

- Available to all ISVs, Partners & Customers
- OpenVMS on select HPE Proliant servers
- OpenVMS clustering
- Additional Layered Products
- Additional Open Source Applications
- Native build tools - compile/link/run on x86
- **Additional Compiler - C++**

### OpenJDK 8 on IA64

### VSI TCPIP 10.7 for I64/Alpha

- Checksum Offload (CKO)
- Precision Time Protocol (PTP) – Researching

### Clusters over IP

2021

### OpenVMS V9.2 (Production Release – x86-64)

- Full Production Release
- New Security Features
  - Signed OS executables
  - Stronger Password Encryption
  - OpenSSL 3.x.x, including
  - FIPS 140-2 compliance – Network stack
- Improved Network Performance
- **New File System GFS2 – optional component**
- **OpenJDK**
- Compilers – C, FORTRAN, Pascal, COBOL, BASIC, BLISS, MACRO-32, C++
- Compiler standards updates on V9.2 for x86:
  - C++
  - C (investigating)
  - FORTRAN (investigating)

### FIPS 140-2 compliance on V8.4-2L1/2L2

- Network stack

### OpenVMS V9.2 (Production Release – Itanium and Alpha)

Similar software features on Alpha and Itanium V9.2 as on x86 with exceptions:

- No OpenJDK on Alpha
- Existing IO options on Itanium and Alpha
- Alpha compilers will not be updated

\*Green – shipped since last roadmap update

\*Blue – planned by end of current period (H2 2019)

Based on current, best estimates. Subject to change without notice.

# Prior VSI OpenVMS Releases

May 2015

## OpenVMS V8.4-1H1

### Itanium® Processor 9500 series

- New CPU architecture
- Vastly improved performance

### HP Integrity System Support

- rx2800
- HP Integrity Server Blades
  - BL860c
  - BL870c
  - BL890c
- Blades FlexFabric LAN support
- 9300 series blades and rx2800

### Software

- Quality Enhancements
  - Operating System
  - Layered Products
- Product Rebranding

March 2016

## OpenVMS V8.4-2

### HPE Integrity System Support

- Full BL890c Support
  - 64 Cores (hyperthreads off)
  - 1.5 TB Memory
- AUTOGEN (large memory)
- UEFI 2.3
- Network Boot for i4 Blades
- WBEM for i4
- rx7640 / rx8640

### Performance

- More alignment faults eliminated
- Tunable BACKUP Compression

### Software Component Updates

- Enterprise Directory 5.7
- CSWS (based on Apache 2.4.12)
- LDDRIVER 9.7
- Latest Time Zone Definitions
- I18N (for localized language support)
- Digital Signing 2.0
- Rebranding 2.0

August 2016

## OpenVMS V8.4-2L1

### Limited Software Release

- Updated SSL to 1.0.2h
- Updated key exchanges
- 0.9.8/1.0.2 coexistence mechanism
- VSI and HPE libraries and shareable images are compatible
- 0.9.8 no longer supported

### SSL-Related Capabilities

- Updated for compatibility with 1.0.2: TCP/IP, ENCRYPT, NOTARY, LDAP, ACMELDAP, Enterprise Directory, WBEM services, WBEM providers, CSWS

### Patch Kits

- Includes contents of patch kits issued through June 15, 2016



# OpenVMS Integrity Open Source Products

Available		Investigating
<ul style="list-style-type: none"><li>• ActiveMQ V5.15.0A</li><li>• cURL &amp; libcurl V7.65-0A (updated to use OpenSSL 1.1.1)</li><li>• <b>Lua V5.3-5</b></li><li>• Mosquitto V1.4.14 (MQTT broker)</li><li>• Paho-C V1.2.0 (MQTT client)</li><li>• <b>PHP V5.6-10J</b></li><li>• Ruby V2.2.21</li><li>• SCALA V2.11.8</li><li>• Subversion V1.8-13</li><li>• SWIG V3.0.5</li><li>• <b>vgit2 V0.9-7</b></li><li>• ZeroMQ V4.1.2</li><li>• gSOAP V2.8.32</li><li>• GNUplot V5.0-2</li><li>• Maven V3.3-9</li></ul>	<ul style="list-style-type: none"><li>• Syslog</li><li>• Redis 4.0.0</li><li>• PDF Viewer</li><li>• Gearman 1.1.17</li><li>• HAProxy 1.7.9</li><li>• LibMariaDB 2.1.0A (MariaDB and MySQL client API)</li><li>• <b>MariaDB 5.5-63</b></li><li>• <b>SAMBA (CIFS) 4.6.5</b></li><li>• <b>New IDE based on Visual Studio Code</b></li><li>• <b>PostgreSQL client V11.0-0A</b></li></ul>	<ul style="list-style-type: none"><li>• Precision Time Protocol (PTP)</li><li>• Erlang</li><li>• Several Others Being Reviewed</li></ul>

# VSI OpenVMS Virtualization



# VSI Support & Roadmap

# VSI Support

- Seamless Transition from HPE to VSI OpenVMS Software Support. The VMS support engineers you worked with at HPE are VSI employees and remain handling your questions and cases.
- VSI has the world's OpenVMS Experts in support and R&D.
- VSI support works closely with the VSI engineering experts to solve VSI OpenVMS issues.
- Frequent and dependable patch kits distributed for VSI OpenVMS versions
- The VSI team supports a wider range of Open Source product offerings to help modernize your environment

# VSI Support Offerings

## Bronze 9X5 Support

- Standard support phone number provided
- Access to all software updates/patches provided between numbered releases
- Technical Support 9 hours a day, during 5 business days a week
- Provided periodic VSI updates
- 4 hour response from initial customer contact. This assumes that the customer uses the standard support phone line provided to the customer by VSI.

## Silver 24X7 Support

- Standard support phone number provided
- Access to all software updates/patches provided between numbered releases
- Technical Support 24 hours a day, 7 days a week
- Provided periodic VSI updates
- 2 hour response from initial customer contact. This assumes that the customer uses the standard support phone line provided to the customer by VSI.

## Gold 24X7 Support

- Standard support phone number provided
- Access to all software updates/patches provided between numbered releases
- Technical Support 24 hours a day, 7 days a week
- Assigned a remote Technical Account Manager (TAM)
- VSI software patch analysis
- VSI software system health checks
- Provided periodic VSI updates
- 1 hour response from initial customer contact. This assumes that the customer uses the standard support phone line provided to the customer by VSI.

## Platinum 24x7 Support

- Dedicated phone number provided on sign-up
- Access to all software updates/patches provided between numbered releases
- Technical Support 24 hours a day, 7 days a week
- Assigned a remote Technical Account Manager (TAM)
- Quarterly VSI software patch analysis
- Quarterly VSI software system health checks
- Provided periodic VSI updates
- Immediate response from initial customer contact. This assumes that the customer uses the dedicated phone line provided to the customer by VSI.

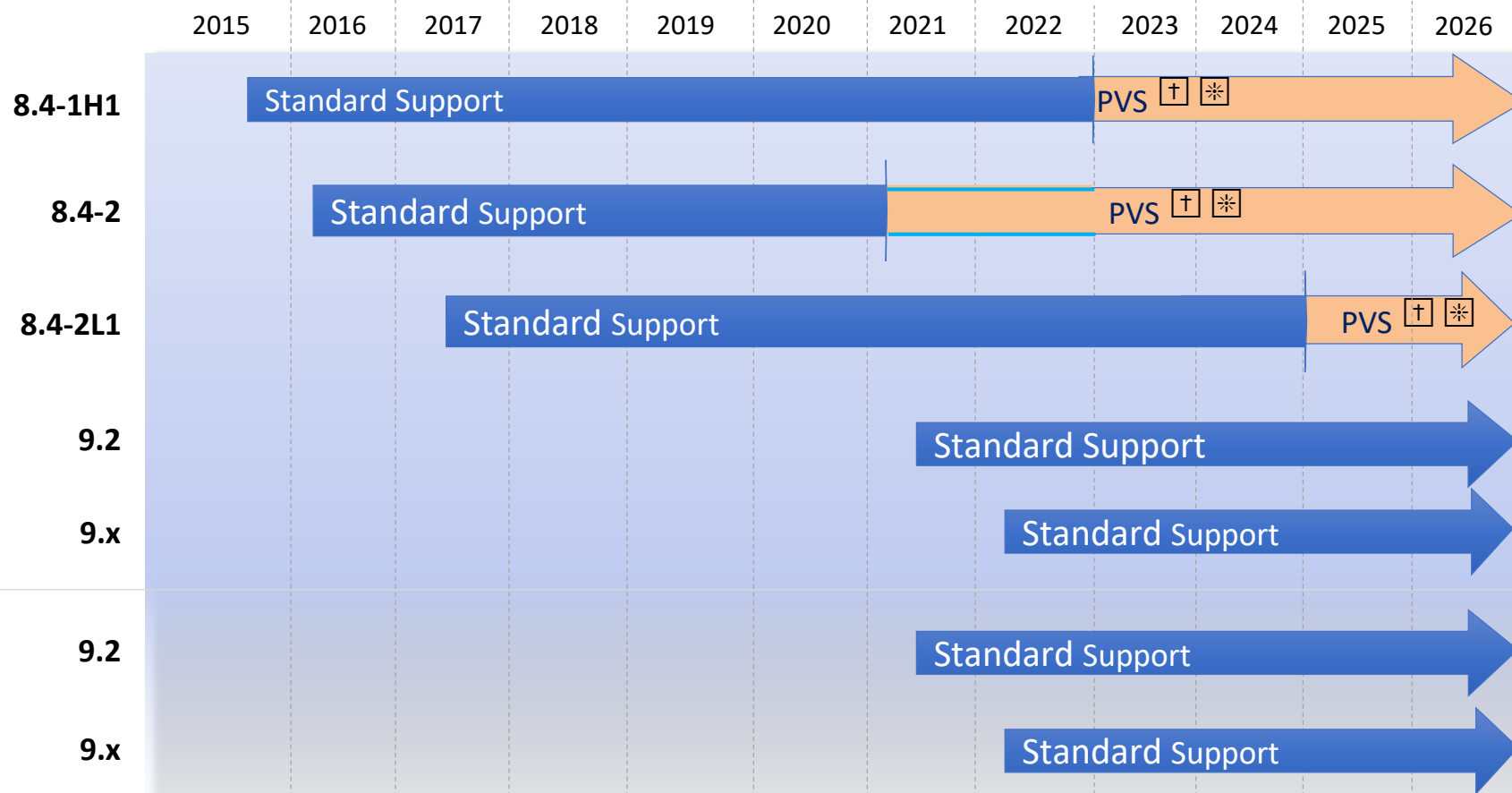


These roadmaps contain forward looking statements and are provided solely for your convenience. While the information in this roadmap is based on our current best estimates, such information is subject to change without notice.

# VSI OpenVMS Integrity & x86 Support Roadmap

Integrity

x86



5 Year Standard Support + 2 Year PVS minimum

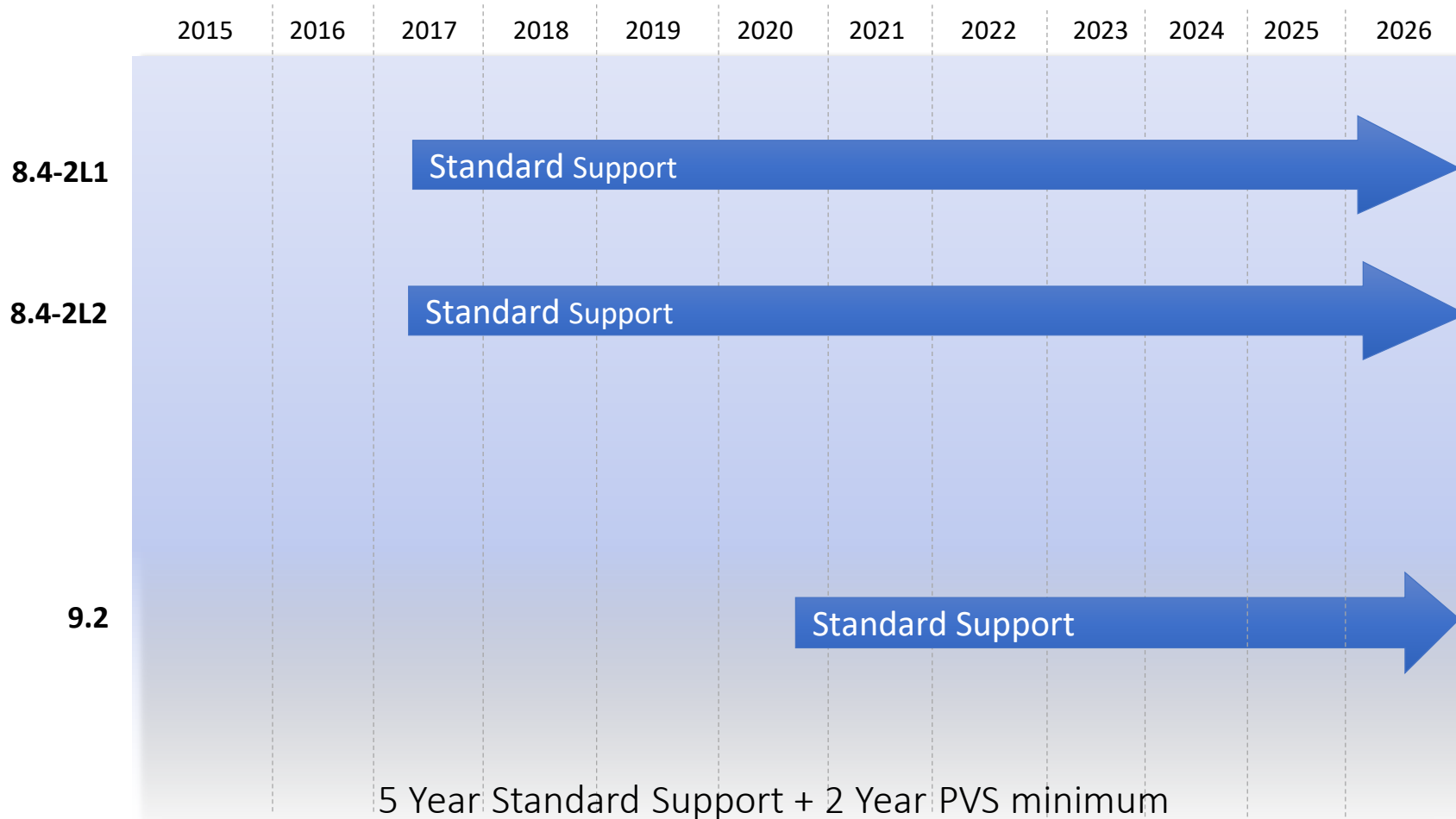
† PVS – Prior Version Support without Sustaining Engineering

24 Month notice will be provided before support is ended

\* Extended Engineering Support (EES) contract is available

# VSI OpenVMS Alpha Support Roadmap

Alpha



24 Month notice will be provided before support is ended  
PVS (Prior version support without sustaining) will be provided at that time

Based on current, best estimates. Subject to change without notice.

# Thank You

To learn more please contact us:

[sales@vmssoftware.com](mailto:sales@vmssoftware.com)

+1.978.451.0110

[www.vmssoftware.com](http://www.vmssoftware.com)