

HP OpenVMS Industry Standard 64 (OpenVMS I64) Business Practices for HP Integrity Servers¹



Table of contents

- Introduction**4
 - Evolving Business Practices4
- Operating Environment Bundles**4
 - Foundation Operating Environment4
 - Enterprise Operating Environment4
 - Mission Critical Operating Environment5
 - A la Carte Ordering5
- License Types**5
 - Per-Processor License5
- Ordering Simplicity for OpenVMS I64**5
 - Exact Quantity Product Authorization Keys7

Table of contents (continued)

License Management	7
Soft Compliance	7
License Trade-In Policy	8
Product Equivalency	9
Trade-in Credit	9
Software Support Offers	10
Base Services	10
Mission Critical Services	11
Summary	11

¹ These new business practices apply only to OpenVMS on the HP Integrity line of servers. They do not apply to business practices for OpenVMS on the AlphaServer systems.



Introduction

For over 25 years, the OpenVMS operating system has been a mainstay in environments that require bulletproof computing. Its performance, scalability, availability, ease of management, proven disaster tolerance, and virtually impenetrable security are highly valued in industries such as Financial Services, Telecommunications, Manufacturing, Healthcare, and Government.

HP has maintained its commitment to continuously improve and evolve OpenVMS. One such evolution was the transition, 10 years ago, from 32-bit VAX to 64-bit Alpha. The newest evolution is the porting of OpenVMS to the cost-effective, industry-standard HP Integrity server family based on the Intel® Itanium® 2 architecture. With the port completed, OpenVMS customers have a choice of staying with the AlphaServer system platform for many more years or moving to the industry-standard Itanium® platform.

Evolving Business Practices

Along with technological evolution, HP is evolving OpenVMS business practices as well. Simplification, flexibility, and more cost-effective solutions to business problems are the guiding principles underpinning new HP OpenVMS business practices. Customers have been loud and clear in the demand that vendors need to simplify their business practices. They are insisting on increased flexibility in procuring and deploying resources. HP has listened and is doing something about it with the development, design, and deployment of OpenVMS Industry Standard 64 (OpenVMS I64) business practices.

This white paper provides an overview of the elements of the OpenVMS I64 business practices including:

- Operating Environment Bundles
- License Types
- License Management
- License Trade-in Policies
- Software Support Offers

Operating Environment Bundles

New with OpenVMS I64 is the introduction of Operating Environment bundles.

OpenVMS I64 simplifies software procurement, installation, and management with integrated, pre-tested Operating Environments (OEs). The Foundation Operating Environment, Enterprise Operating Environment, and Mission Critical Operating Environment provide the most popular software products in bundles that are simple to order, use, and maintain.

Foundation Operating Environment

The OpenVMS I64 Foundation Operating Environment (FOE) is a fully featured operating environment that is heavily focused on Internet computing. It is a lower-cost OpenVMS solution that delivers manageability and interoperability features for the price-sensitive organization. FOE components include:

- OpenVMS Operating System
- OpenVMS Unlimited User Licensing
- TCP/IP Services for OpenVMS
- DECnet-Plus for OpenVMS End System
- DECwindows Motif for OpenVMS
- DECnet IV
- Performance Data Collector
- Web Agents
- WEBM/CIM Integration Technologies
- BridgeWorks
- Secure Web Server (SWS)
- Secure Web Browser (SWB)
- SDK for the Java™ Platform
- XML Technology
- NetBeans
- Simple Object Access Protocol (SOAP) Toolkit
- Kerberos
- Enterprise Directory
- CDSA
- SSL
- OpenSource Tools

Enterprise Operating Environment

The OpenVMS I64 Enterprise Operating Environment (EOE) includes all the components of the FOE, as listed above, plus tools to enhance the user experience in the areas of manageability, single-system availability, and performance. EOE components include:

- RMS journaling*
- Volume Shadowing*
- DECram*
- OpenVMS Management Station*
- Availability Manager (AM)*

* Products are also available via a la carte ordering, see the next page.

Mission Critical Operating Environment

The premium Mission Critical Operating Environment bundle delivers the ultimate user experience in terms of multi-system availability and workload management. This package includes everything in the FOE and EOE plus

- OpenVMS Clusters*
- Reliable Transaction Router (RTR) Backend*

** Products are also available via a la carte ordering, see below.*

In terms of developing both High Availability Clusters and Disaster Tolerant solutions, OpenVMS Clusters and RTR deliver the best availability in the industry and the lowest cost of ownership for mission-critical applications.

A la Carte Ordering

EOE and MCOE components (products) not included in the FOE can also be purchased a la carte.

For example, if an organization does not require all the technology offered with the MCOE bundle but does want Volume Shadowing and OpenVMS Clusters, it could buy the OpenVMS I64 FOE license, plus the Volume Shadowing and OpenVMS Clusters licenses.

In summary, with OpenVMS I64 Operating Environment bundles:

- Ordering is easier
- License management is easier because only a single key is required
- Installation is easier from a single DVD
- Support contracts are simpler; a single contract entry is provided for all the components in the Operating Environment selected

License Types

OpenVMS I64 products will be offered with either Per-Processor licenses or Concurrent Use licenses.

- Most OpenVMS I64 products will be offered with Per-Processor Licenses.
- Compiler products will be offered with Concurrent Use licenses, consistent with the concurrent licenses offered today for Alpha.

Let's take a closer look at Per-Processor Licensing.

Per-Processor License

Per-Processor licensing prices software according to the number of processors on which it is running.

One of the main benefits of the Per-Processor License (PPL) is its simplicity. To use a basic example: if a new rx4640 is quoted with four installed active processors and the

EOE operating environment level, then four EOE Per-Processor licenses would be quoted. If an eight-CPU configuration is quoted, then eight EOE licenses would be quoted, one per active CPU.

Another benefit is granularity. Customers need only purchase software and processors as necessary for their compute tasks. They can purchase new systems lightly loaded with processors and find inexpensive pricing for both hardware and software. Additional processors and corresponding Per-Processor Licenses can easily be added later.

PPL provides excellent flexibility because it accommodates system partitioning. This allows the movement of licenses within a system complex. In addition, PPL allows the movement of licenses between systems according to customer needs. In this case, though, care must be taken to ensure that all systems have proper, updated support contracts associated with these Per-Processor system changes.

Ordering Simplicity for OpenVMS I64

Operating Environment bundles and PPL licensing offer many benefits. The most important for an organization's bottom line is the ability to purchase only the software licenses that are required — only the active CPUs on a system or hard partition need to be licensed. In addition, on a system that supports partitions, an organization only needs to purchase the OE or operating system licenses needed for each partition. For example, one partition may be licensed for a OpenVMS I64 FOE, while another partition is licensed for OpenVMS I64 MCOE, and yet a third partition is licensed for HP-UX FOE or Windows Server. Note, however, that all active CPU's within a system node or hard partition must be licensed at a single level of OE.

A dramatic example of the simplicity of PPL is the contrast between a typical order for a four-CPU system for OpenVMS on AlphaServer systems versus OpenVMS on Integrity servers. The point is to compare the number of licenses and media kits required to configure, order, and install OpenVMS on the comparable systems. Table 1 shows an example of a typical order for OpenVMS operating system and core layered products on a four-CPU AlphaServer ES80 server.

Table 1 lists each license and media order number required for OpenVMS Alpha, to make it comparable to the MCOE. The organization will need to configure and install each of the twenty-three LMF PAKs listed using two media kits. The organization will then need to make sure that it configures the system appropriately with the correct license tiers for the AlphaServer ES80 server.

Table 1. OpenVMS Mission-Critical Software for 4-CPU AlphaServer ES80 system

Example of ordering software products (licenses and media) for a four-CPU AlphaServer ES80, making it comparable to the functionality offered in the Mission Critical Operating Environment for OpenVMS Integrity.

OpenVMS Licenses Packaged with AlphaServer ES80 system

SKU	Description	QTY	#PAKS
QL-MT1AG-6Q	OpenVMS Alpha Base License ES80	1	1
QL-0LXAG-AA	TCP/IP Services for OpenVMS	1	1
QL-5LQAG-AA	Archive Backup System for OpenVMS Management Tools	1	1
QL-5LSA9-3B	Archive Backup Agent for Windows NT	1	1
QL-MTFAG-AA	DECnet-Plus for OpenVMS Alpha End System	1	1
QL-MV4AG-AA	DECwindows Motif for OpenVMS Alpha	1	1
QM-5LKAA-AB	Pathworks 32, V7.3	3	3
QM-5SUAA-AK	Pathworks V6.1 for OpenVMS Advanced Server V7.3A	2	2
QM-5TB9A-AA	Office Server for OpenVMS	1	1
QM-5TD9A-AQ	Office Server Client Access License	2	2
QL-MT1A9-6S	OpenVMS Alpha2 SMP ES80	2	4

A la Carte Mission-Critical Licenses

SKU	Description	QTY	#PAKS
QL-MT2AG-AA	HP OpenVMS Alpha Unlimited G tier License	1	1
QL-MUZAG-AA	HP VMScluster OpenVMS Alpha G tier License	1	1
QL-0VHAG-AA	RMS Journaling V/A Traditional License	1	1
QL-2A1AG-AA	HP Volume Shadowing OpenVMS Alpha G tier License	1	1
QL-MV3AG-AA	HP DECram for OpenVMS Alpha G tier License	1	1

Operating System and Layered Product Media

SKU	Description	QTY	#PAKS
QA-MT1AA-H8	HP OpenVMS Alpha Media Kit CD-ROM	1	
QA-03XAA-H8	HP OpenVMS Software Library Media Package	1	
Total PAKS			23

Table 2 is an example of a software order for a four-CPU Integrity rx4640, with the OpenVMS Mission Critical Operating Environment. The MCOE components are comparable to the software ordered in Table 1.

The customer will only need to configure and install one LMF PAK using one media kit. This clearly illustrates how OpenVMS on Integrity servers is easier to order, configure, and install.

Table 2. OpenVMS Mission-Critical Software for 4-CPU Integrity rx4640 Server

Example of ordering MCOE software for a 4-CPU Integrity rx4640 Server.

Mission-Critical Operating Environment Licenses

SKU	Description	QTY	#PAKS
BA399AC	HP I64 MCOE PPL LTU max4 sockt w/sys	4	1

MCOE Product Media

SKU	Description	QTY	#PAKS
BA324AA	HP OpenVMS I64 MCOE Media	1	
Total PAKS			1

So, to order licenses and software for an Integrity server, the customer orders:

- The OE level of choice, FOE, EOE, or MCOE. One PPL license per active CPU.
- Additional layered product licenses, as preferred by the customer.
- Software support: choose from the support offers described in the Software Support section.
- OE Media DVD Set. Order the OE DVD set that matches the OE license. For example, if the customer orders FOE licenses, he must order the FOE Media DVD set. Note that the OE Media DVD set includes the OE binaries, the LP binaries (called the LP Library), and Online Documentation for OEs and LPs.

Exact Quantity Product Authorization Keys

For OpenVMS I64, Product Authorization Keys (PAKs) are delivered as “Exact Quantity PAKs” (EQPs). This means that customers receive one PAK for every license product-number line item ordered, regardless of the quantity ordered. Customers who know in advance how they want the PAKs split can build an order with multiple line items each with the quantity they want. For example, if customers order one line item of FOE with a quantity of six they receive one PAK representing the six licenses. If they order six line items of FOE with quantity one per line item, then they receive six PAKs representing those six licenses. In either case, once they get the PAKs loaded on their systems, they can use the LMF interface to assign them to different nodes within a cluster, or issue them to other nodes elsewhere.

License Management

OpenVMS on Integrity servers will continue to use LMF, the license management tool used for AlphaServer systems. HP made this decision after learning that customers overwhelmingly preferred to have LMF as their license management tool. HP has, therefore, invested in making improvements to LMF that will support the license compliance management attributes of the product.

Soft Compliance

The most significant enhancement to LMF for OpenVMS I64 is the introduction of soft compliance for Per-Processor licenses. Soft compliance is a method of license management that ensures service continuation even if insufficient licenses are available.

HP views LMF as a license compliance management tool, allowing customers to manage to HP’s license Terms and Conditions. The soft compliance enhancement ensures service continuation while alerting customers to potential non-compliant licensing situations.

License Trade-In Policy

A new License Trade-in and Transfer policy has been introduced to transition customers to HP Integrity servers and HP 9000 servers. The specific cross-platform paths included in this policy are shown in Table 3.

Table 3. License trade-in policy cross-platform paths.

Moving From	To
HP-UX HP 9000 servers	HP-UX Integrity servers or OpenVMS Integrity servers
Tru64 UNIX AlphaServer systems	HP-UX HP 9000 servers, HP-UX Integrity servers, or OpenVMS Integrity servers
OpenVMS VAX or AlphaServer systems	OpenVMS Integrity servers, HP-UX HP 9000 servers, or HP-UX Integrity servers
MPE e3000 servers	HP-UX HP 9000 servers, HP-UX Integrity servers, or OpenVMS Integrity servers

The cross-platform trade-in policy is defined by support — or service — customers, and non-support customers. The definition of support is that the license being traded in is under a support contract that includes rights to new versions for the software product licensed.

Licenses under support can be traded in for equivalent product license(s) on the new platform at no charge. The customer must commit to continue support for the new licenses that are being purchased.

For the non-support customer, licenses can be traded in for an equivalent license purchase at 40% of the new

license price. The customer must commit to support on the new licenses for one year and the support must be pre-paid.

All license trade-ins apply to equivalent products or equivalent operating environment licenses. HP defines what product licenses are equivalent.

Table 4 demonstrates the equivalency mapping from the OpenVMS operating system and core layered products to the new Operating Environments. This example maps OpenVMS on an AlphaServer system to OpenVMS OEs on an Integrity server.

Table 4. Equivalency mapping from the OpenVMS operating system and core layered products to the new Operating Environments.

Trade-in Original Licenses	Credit for Equivalent OE License
OpenVMS Alpha Product License	OpenVMS I64 Operating Environment License
OpenVMS Base	Foundation Operating Environment
OpenVMS SMP	
OpenVMS Users	
Enterprise Integration Package	
Volume Shadowing	Enterprise Operating Environment
RMS Journaling	
DECram	
VMS clusters	Mission-Critical Operating Environment

The first four products listed under the OpenVMS Alpha column on the left, the OpenVMS Base, SMP Extensions, Users, and Enterprise Integration licenses, are traded in together as a unit and the customer receives credit for the Foundation Operating Environment, which includes similar functionality package together in a single license.

Likewise, for the second category, including Volume Shadowing, RMS Journaling and DECram, if the customer is licensed for two or all three of these products, she may

trade in the OpenVMS Base, SMP Extensions, Users, and Enterprise Integration licenses in addition to at least two of the three layered products listed, and receive credit towards the next level operating environment, the Enterprise Operating Environment.

To qualify for the Mission Critical Environment license and in order to receive full MCOE trade-in credit, the customer must trade in licenses for all applicable products for FOE and EOE plus VMS Clusters.

All license trade-ins require proof of license for the licenses being traded in to receive the credit.

When a system is being traded in and the customer is setting up a new environment, HP allows a parallel usage period of the hardware. Parallel usage of software licenses is allowed for the same period of time, while the customer migrates their environment.

Product Equivalency

Table 5 is an example of layered product equivalency that shows HP-defined equivalent products. On the left side it details the “from” platforms that licenses can be traded “from” and on the right side it defines the “to” platforms that licenses can be traded “to.”

Table 5. Layered Product Equivalency Map

Layered product equivalency example showing HP defined equivalent products.

FROM Platforms:					TO Platforms:	
OpenVMS VAX	OpenVMS AlphaServer system	Tru64 UNIX AlphaServer system	MPE/iX e3000 server	HP-UX HP 9000 server	OpenVMS I64	HP-UX
VAXcluster	VMScluster	TruCluster Server	HA Cluster/iX	MC/Service Guard	VMS cluster I64	MC/Service Guard or TruCluster SVR UX
Fortran VV	Fortran VA	Fortran UA	Fortran iX	HP Fortran 90	Fortran VV	Fortran VV
C++ VV	C++ VA	C++ UA	C++ iX	HP aC++	HP C++ I64	HP aC++

Let's take an example from the top left corner. The cluster product for OpenVMS VAX is called VAXcluster. If a customer is migrating to OpenVMS I64 under the “to” platform category, the VAXcluster license can be traded in for the equivalent OpenVMS Cluster I64 license(s).

In another example, a customer is migrating to the HP-UX platform. The TruCluster Server Alpha license can be traded in and credit received for TruCluster server or

MC/Service Guard license(s) on HP-UX. Trade-ins to HP-UX apply to either HP 9000 servers or Integrity servers.

Trade-in Credit

Table 6 describes the methodology for applying a trade-in credit. When a customer trades in a license, the new license is added to the order along with the applicable trade-in credit option.

Table 6. License Trade-in Credit

Methodology for applying a trade-in credit.

Support Customer	Product Description	Product Number	License of Credit Price
Purchase	4-socket Enterprise OE for Integrity server	BA397AC	\$6,160
Add 100% Credit	In-support cross-platform PPL trade-in from OpenVMS VAX or AlphaServer	BA397ACN#109	(\$6,160)
			Net \$0
Non-Support Customer	Product Description	Product Number	License of Credit Price
Purchase	4-socket Enterprise OE for Integrity server	BA397AC	\$6,160
Add 60% Credit	Out-of-support cross-platform PPL trade-in from OpenVMS VAX or AlphaServer	BA397ACN#113	(\$ 3,696)
			Net \$ 2,464

In the example shown in table 6, the customer is trading in OpenVMS operating system licenses plus Volume Shadowing, and RMS Journaling licenses from a four-CPU server toward Enterprise Operating Environment PPL licenses for an Integrity server.

The customer purchases EOE licenses for the Integrity server for the number of CPUs on the new server, and adds the line item and quantity to the order. If a support customer, and the licenses are under rights to new version support, the customer receives 100% credit for the trade-in, for the number of CPUs licensed on the traded in server (in this case, four) by adding the credit option line item to the order. These net out the line item at \$0, up to a quantity of four EOE's. Because the original server was licensed for four CPUs, the customer is allowed credit up to a quantity of four EOE's on the new server.

An out-of-support — or non-support — customer may also trade in. The credit option line item is different and it will credit 60% when placed on the order. This will net out to the line item for the license at 40% or \$2,552.

Software Support Offers

Software services are offered and recommended for OpenVMS I64 Operating Environments and layered products.

The licensing and support model for Integrity servers differs from the model for AlphaServer systems. For Integrity servers, no a la carte Update Licenses will be offered for updating license rights for new versions of the software. Under the Integrity model, rights to future versions may only be obtained through a software services contract, or by purchasing a new, full-price license.

Integrity servers will be able to run several operating systems including OpenVMS, HP-UX, Windows, and Linux. The same customer may require support on more than one of these operating system environments. The HP services portfolio has been designed to offer a full spectrum of services that are consistent across these various operating system environments.

The fact that HP has implemented an integrated order process for Integrity servers so it will be easy to order HP-UX, OpenVMS, Windows, and Linux all for the same server on the partitioned Integrity product lines makes a consistent service portfolio an absolute necessity.

Packages are HP's primary method for bringing services to market. They define service capabilities in pre-specified service levels that address mainstream service requirements

The following service packages are available to respond to the software services needs of at least 80% of Integrity customers.

Base Services

Software Product Updates: As HP releases updates to software and reference manuals, these updates are made available to the customer. This service also includes a license to use and copy the software updates for each system covered by the original software license. For OpenVMS I64, the customer has the option to sign up through HP's IT Resource Center to become a Software Update Manager (SUM) user to be notified when a new software revision is available. Once customers sign up for SUM access, they no longer automatically receive software updates on media. They must contact HP through SUM to request the software updates. One advantage is the customer may request physical media or download the software update where this option is available. SUM also allows the customer to view order status and history to proactively manage and plan for software updates.

Software Support: HP Software Support is composed of comprehensive software services that enable customers to increase the availability of their IT infrastructure. HP support engineers work with the customer to resolve software problems. HP has established formal escalation procedures to facilitate complex problem resolution. Local HP management coordinates problem escalation, enlisting the skills of appropriate HP resources and/or selected third parties to assist with the problem solving.

As HP releases updates to software and reference manuals, these updates are made available to the customer. This service also includes a license to use and copy the software updates for each system covered by the original software license. For OpenVMS I64, the customer has the option to sign up through HP's IT Resource Center to become a Software Update Manager (SUM) user to be notified when a new software revision is available. Once a customer signs up for SUM access the customer no longer automatically receives software updates on media. The customer must contact HP through SUM to request the software updates. One advantage is the customer may request physical media or download the software update where this option is available. SUM also allows the customer to view order status and history to proactively manage and plan for software updates.

In addition, this service provides electronic access to related product and support information, enabling any member of your IT staff to locate this commercially available essential information.

Support Plus: HP Support Plus Service is composed of comprehensive hardware and software services that enable customers to increase the availability of their IT infrastructure. HP engineers work with the customer's IT team to help resolve hardware and software problems. HP has established formal escalation procedures to facilitate complex problem resolution. Local HP management coordinates problem escalation, enlisting the skills of appropriate HP resources and/or selected third parties to assist with the problem solving.

As HP releases updates to software and reference manuals, these updates, are made available to the customer. This service also includes a license to use and copy the software updates for each system covered by the original HP software license. For OpenVMS I64, the customer has the option to sign up through HP's IT Resource Center to become a Software Update Manager (SUM) user to be notified when a new software revision is available. Once a customer signs up for SUM access the customer no longer automatically receives software updates on media. The customer must contact HP through SUM to request the software updates. One advantage is the customer may request physical media or download the software update where this option is available. SUM also allows the customer to view order status and history to proactively manage and plan for software updates.

In addition, this service provides electronic access to related product and support information, enabling any member of your IT staff to locate this commercially available essential information.

Mission Critical Services

- Proactive Essentials is the HP entry-level mission-critical service.
- Proactive 24 service offers great value in helping IT departments enhance their effectiveness.
- The Critical Service offering collaboratively increases IT availability and minimizes outages for IT departments whose role has evolved to that of service provider.
- The Mission Critical Partnership is designed for environments where IT is inseparable from the business and support must be focused around the business application. This offering provides a support solution tailored to the unique customer business requirements. A tailored scope of works puts focus and emphasis on the support elements that are truly crucial to "always on " computing

For detailed information on services please visit www.hp.com/hps/portfolio/index.html

Summary

HP customers have been loud and clear in their demand for increased simplicity and flexibility in procuring and deploying resources. As this white paper illustrates, HP has listened and is evolving OpenVMS business practices to support simplification, flexibility, and more cost-effective solutions to business problems.

To learn more about OpenVMS I64 business practices please visit www.hp.com/go/openvms

To learn more about HP's offering, visit www.hp.com.

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