

License Migration Options from VAX/Alpha to OpenVMS Integrity Servers

André de Wolf
Pre-Sales Support Consultant
OpenVMS Solution specialist
Alpha Software Licensing
EMEA Pre-Sales Support Centre





License Trade-in and Transfer Policy

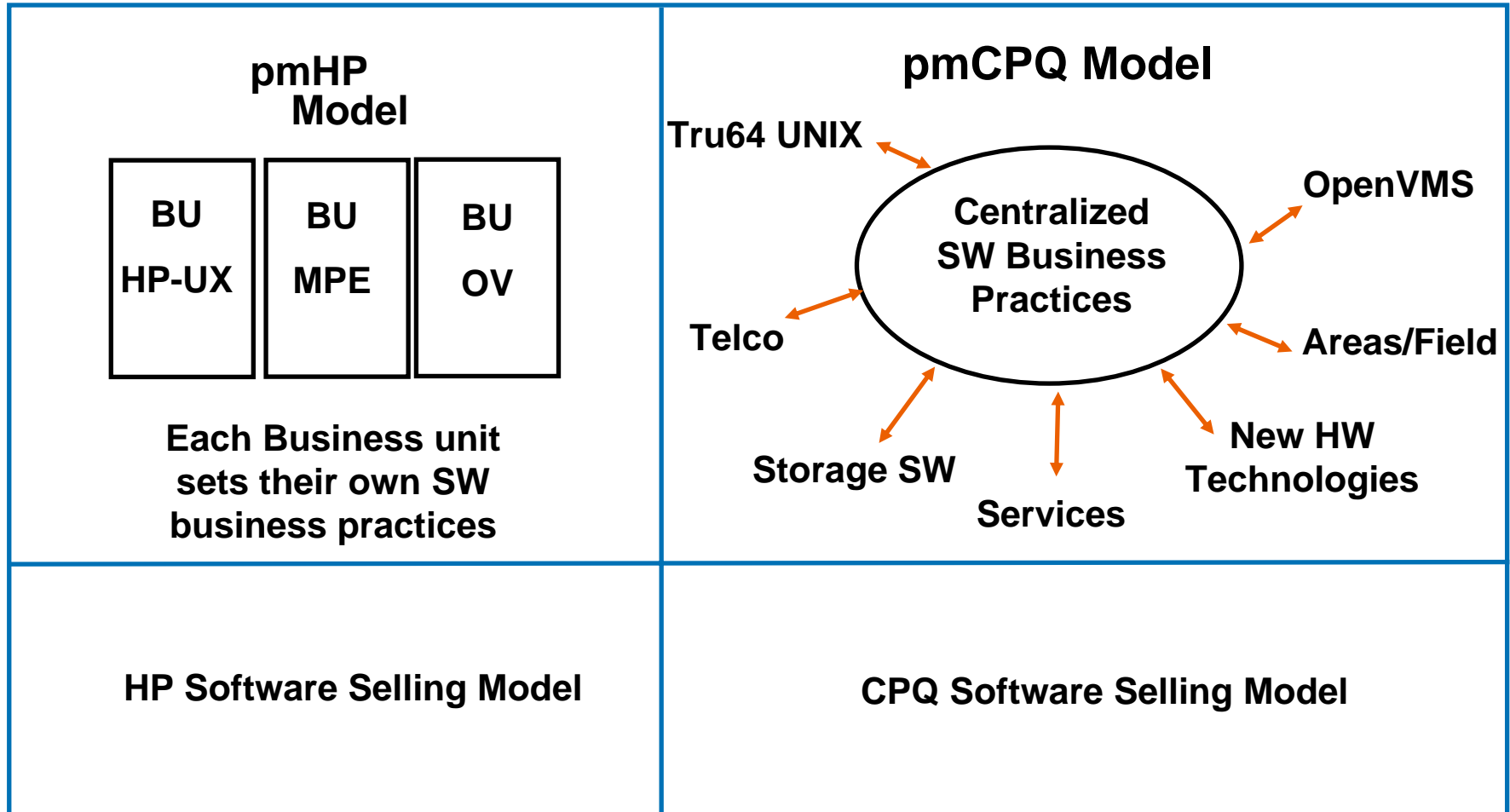
Overview of the HP License Trade-in and Transfer Policy to HP9000 and Integrity Servers

© 2004 Hewlett-Packard Development Company, L.P.
The information contained herein is subject to change without notice



Software Business Practice Model

Where we started from:



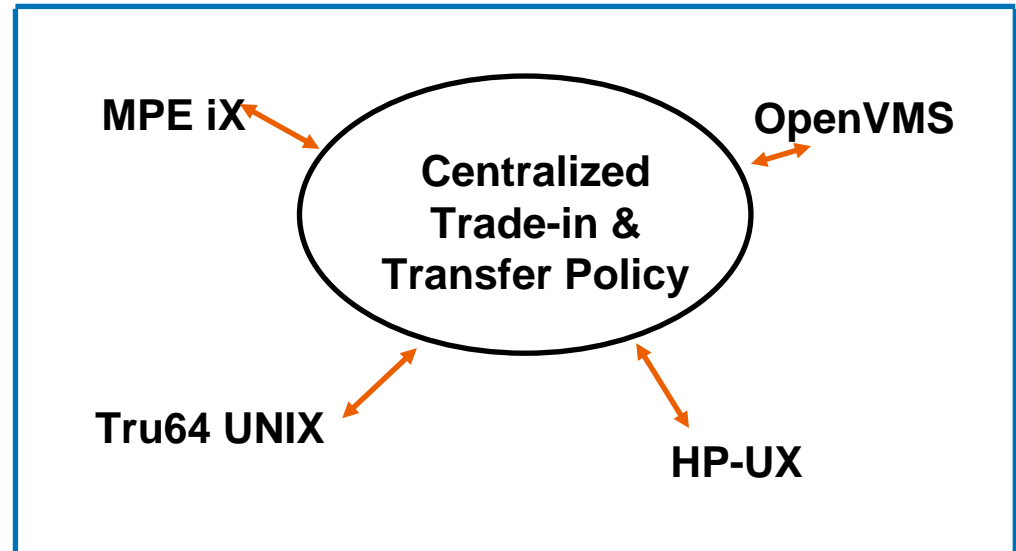
Software Business Practice Model

What the model looks likes now:



Combines a centralized trade-in practice with the HP SW Selling Model

- Process began with a review of HP practices to determine 'go forward' practices for Tru64 and OpenVMS
- "Go forward" proposal included a cross platform trade-in offer to migrate VAX and Alpha customer to Integrity servers and HP9000
- Because the Tru64 Unix transitions included to move to HP-UX, the HP-UX team was engaged in designing a joint policy



HP Software Selling Model

- The phase out and transition of MPE iX provided an opportunity to team up further with a single policy.
- Need for global implementation and go to market strategy very apparent.
- Discussions underway with OpenView and royalty assessed products.
- Next steps: IA-32 to Integrity servers

License Trade-in and Transfer Policy



Policy: A unified software license trade-in and transfer policy has been introduced to support transition to Integrity and HP 9000 servers.

- **License Trade- in and Transfer Policy**
- **Cross Platform Trade-in**
- **Trade-in Methodology**
- **Resource Information and Sites**

License Trade-in and Transfer Policy



Terms of the Policy:

- Existing software business practices are retained for license trade-in and transfers **WITHIN VAX and Alpha platforms (Alpha to Alpha, VAX to VAX, and VAX to Alpha)**
- Existing software business practices are retained for license trade-in and transfers **WITHIN HP 9000 and WITHIN Integrity servers (HP 9000 to HP 9000 and Integrity server to Integrity server)**
- A single cross platform license trade-in policy has been introduced for customers migrating to Integrity or HP 9000 servers. Cross platform trade-ins include:
 - **From: HP-UX HP 9000** **To: HP-UX on Integrity server OR OpenVMS I64**
 - **From: Tru64 UNIX Alpha** **To: HP-UX HP 9000 OR HP-UX on Integrity server OR OpenVMS I64**
 - **From: OpenVMS VAX or Alpha** **To: OpenVMS I64 OR HP-UX HP 9000 OR HP-UX on Integrity server**
 - **From: MPE/iX e3000** **To: HP-UX HP 9000 OR HP-UX on Integrity server OR OpenVMS I64**

Software Cross Platform Trade-in Policy



From: HP-UX HP 9000
From: Tru64 UNIX Alpha
From: OpenVMS VAX or Alpha
From: MPE/iX e3000

To: HP-UX Integrity or OpenVMS I64
To: HP-UX HP 9000, HP-UX Integrity or OpenVMS I64
To: OpenVMS I64, HP-UX HP 9000 or HP-UX Integrity
To: HP-UX HP 9000, HP-UX Integrity or OpenVMS I64

Support Customer

- Licenses on support* are traded-in for new licenses at **no charge**
- Commitment to continue support* on new licenses for one (1) year

Non-Support Customer

- Licenses not on support* are traded-in for new license purchase at **40% of new license price**
- Commitment to support* for new licenses for one (1) year, pre-paid

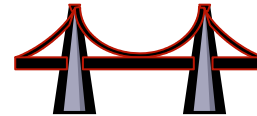
- Trade-in applies to 'equivalent product' or operating environment licenses
- Parallel usage of licenses on both platforms is allowed during transition, consistent with the parallel usage for the hardware

* Support = Service contract with LTU (License to Use) New Versions (RTNV)

Trade-in & Rights to New Versions Comparison



VAX & Alpha Model



HP 9000 & Integrity server Model

(Existing Policy)

Cross Platform Trade-in

(Existing Policy)

Support Customer

Trade-in @15% to 75% credit depending on path **
New Version Rights with RTNV Support Contract

Cross Platform Trade-in @100% credit **
New Version Rights with 'License to Use' Support Contract

Within Platform Trade-in @100% credit **
New Version Rights with 'License to Use' Support Contract

Non-Support Customer

Trade-in @15% to 75% credit depending on path**
New Version Rights with Update License @40%

Cross Platform Trade-in @ 60% credit **
1 Yr commitment to 'License to Use' Support Contract required

No Trade-in Rights
New Version Rights requires a license purchase at full price

(No change)

(New Policy)

(No change)

** For equivalent Product

% = percent of full license price paid

RTNV = Rights to New Versions

License Trade-in Methodology

Trade-in applies to 'equivalent product' or operating environment licenses

For each licensed CPU on the Original server, get credit for the equivalent product or operating environment license on the Target (new) server, up to number of CPUs purchased

New licenses are added to the order and a credit is applied against the license price

Because the license types and license packaging on the Original server and Target server may not be the same, Trade-in Logic and Equivalent Product Maps will define how licenses are transferred and valid trade-in paths

As an example of license type differences, the majority of products on Integrity servers are licensed with Per-Processor Licenses (PPL), or 1 license per CPU. In many cases the license being trade-in will be capacity (tier) based or user based.



hp OpenVMS 164 Operating Environments



OpenVMS I64 Packaging Goal

Implement long term packaging strategy

Similar product offering to HP-UX OE bundles

- Best way to engage Sales and Services

Similar “look and feel” as HP-UX packaging

Seamlessly tie Product (OSB) and Services (USB) businesses

- Within current structure of engineering and manufacturing resources

Intro to Operating Environments

- *“An integrated and tested software solution containing HP-UX o/s and selected applications that are marketed and supported via OE license and media”*
 - Simplified software deployment
 - Simple to purchase the license
 - Attractive pricing
 - Tested solutions
 - Simple to purchase software support
- Each platform’s OEs are designed to be supersets of one another
 - 3 for Commercial Servers
- Update Opportunities are on a quarterly basis

hp OpenVMS I64 Operating Environments



Operating Environment Packaging

- Introduce OpenVMS packaging consistent with HP-UX OEs
- Provides a 3 tier pricing paradigm (good, better, best)

OpenVMS I64 Operating Environments:

• Foundation OE (FOE) Base

- An **internet ready**, feature rich feature set for **price sensitive** customer

• Enterprise OE (EOE)

- A **higher cost** feature set that enhances the customer experience in areas of **manageability, single system availability and performance**

• Mission Critical OE (MCOE)

- Has the **highest cost**, but delivers the ultimate customer experience in terms of **multi-system availability and workload management**

HP OpenVMS Integrity Packaging



OpenVMS Integrity

Foundation Operating Environment

- 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
- COM for OpenVMS
- 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

HP OpenVMS Integrity Packaging

OpenVMS Integrity Enterprise Operating Environment

OpenVMS Integrity Foundation OE

- 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
 - COM for OpenVMS
 - 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

Add to Foundation:

- **RMS journaling**
- **Volume Shadowing**
- **DECram**
- **OpenVMS System Management Tools**

- OpenVMS Management Station
- Enterprise Capacity Planner - ECP
- Availability Manager

Yellow = Separately Licensable

HP OpenVMS Integrity Packaging

OpenVMS Integrity Mission Critical Operating Environment

OpenVMS Integrity Enterprise OE

OpenVMS Integrity Foundation OE

- 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
- COM for OpenVMS
- 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

Add to Foundation:

- **RMSjournaling**
- **VolumeShadowing**
- **DECram**
- **OpenVMS System Management Tools**
 - OVMS Management Station
 - Enterprise Capacity Planner - ECP
 - Availability Manager

Add to Enterprise:

- **OpenVMS Clusters**
- **OpenVMS RTR Backend**



Yellow = Separately Licensable

One DVD media for all 3 OE's

HP OpenVMS Integrity Packaging

New Operating Environment Options



- **HP OpenVMS Mission Critical OE**
- **HP OpenVMS Enterprise OE**
- **HP OpenVMS Foundation OE**

Why buy an OE?

Easier to order

Easier license management

Straight forward
installation of OE's from a
single DVD

Simpler support contracts

→ Higher customer
satisfaction

OpenVMS I64 Licensing/Packaging Approach

- All three OE bundles are on one DVD
- PPL licensing for each level (FOE, EOE, MCOE)
 - One LMF PAK for the OE bundle purchased.
 - No access control or “code words” for OE.
- EOE and MCOE components are also available a-la-carte
 - LMF PPL license for each
 - Delivered on the OE DVD and/or OE Delta Disk
- Service Update contracts map to OE license.
- Non-OE layered products
 - OSB must use LMF license.
 - USB access control a.k.a. “code word” can be used for PCSI install products.

Note: Access control not desired for OSB.

Code Words for Access Control

- Used by HP-UX as an “install time” license
 - Encryption Key used to install a layered product
 - Business needs dictate whether or not Code Words are applied
 - New revision with significant changes in feature/function
- OpenVMS plans to implement
 - Only for Layered Products on the Layered Product Library (LPL)
 - PCSI based implementation used during install
 - Business needs for protecting rights to update releases
 - Encryption applied during mfg mastering process
 - Will NOT be used on O/S or OEs
- **NO impact to product developers**
- Issue: New to customers on service contracts

Layered Product Types

- OpenVMS key layered products
 - OE Components are included as part of the operating system installation, but can be installed separately
 - TCP/IP, DECnet, DECwindows, etc.
 - Updates ship with the O/S or Independently
- System Integrated Products (SIPs)
 - Part of the O/S bits and NOT separately installable
 - OE Components are comprised of these
 - Clusters, Vol. Shadowing, DECnet Phase IV, RMS Journaling
 - Can be licensed separately
 - Updated ONLY as part of O/S revision
- OpenVMS Layered Products
 - OE components
 - Licensed and distributed as part of the OEs
 - Layered Product Library products
 - licensed separately

OpenVMS I64 OE Media

- All three Operating Environments are to be included in one media.
 - Foundation OE
 - Enterprise OE
 - Mission Critical OE
- Media: single DVD
 - Format is set DVD5
- Media is updated **ONLY** with the Operating System

OpenVMS I64 On-Line Doc Media



- All On-Line documents for OpenVMS I64
 - Base operating system
 - OE bundle components
- Media: CDs
 - Files 11 format for Native OpenVMS
 - ISO 9660 format for all other O/S viewers
- Media is updated **ONLY** with the Operating System

OpenVMS I64 Systems Tools Media



- All service tools for OpenVMS I64 on HP Integrity platforms.
- Media: CD
 - CD drop-in from S/W Manufacturing
- Media is updated with the Operating System or on an as-needed basis

OpenVMS I64 Freeware Media



- All Freeware applications for OpenVMS
 - Combined VAX, Alpha & I64 platform applications.
- Media: CD
 - CD drop-in from S/W Manufacturing
- Media is updated with the Operating System or on an as-needed basis

OpenSource Tools Media



- All OpenSource applications for OpenVMS
 - Includes the Sources.
- Media: CD
 - CD drop-in from S/W Manufacturing
- Media is updated with the Operating System

OpenVMS I64 OE Delta Disk Applications Media



- All Updated “OE Component” Layered Products
 - A consolidation all previous OE Delta Disk bundles
 - Quarterly updates will be cumulative
 - Only the latest OE component revision will be included on a given update of the OE bundle
- Media: DVD
- Media is updated on an as-needed basis
 - Not required when the Operating System updates

OpenVMS I64 Layered Prods Library Media



- Library Package of Software Layered Products not included in the OE distributions
 - Includes On-Line Doc updates
- **Media:** DVD
 - Regular Update (Quarterly) Releases: Product Engineering sends updated products to Ajilon Labs for Mastering.
 - ASM will have OSB volume built by vendors.
 - To WWSSS for Services Distribution (USB).
- Code Words can be used **for** PCSI products



New Way of Licensing on Integrity Servers



Software Licensing Overview

Per-processor licensing (PPL)

- Very **flexible** licensing design
- Purchase software based on the **# of CPUs** in a partition or system

Benefits of PPL

- **More granular** – customer pays for exactly what they need
- **More flexible** – licensing is not per box, but per-processor 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

Software Licensing Overview

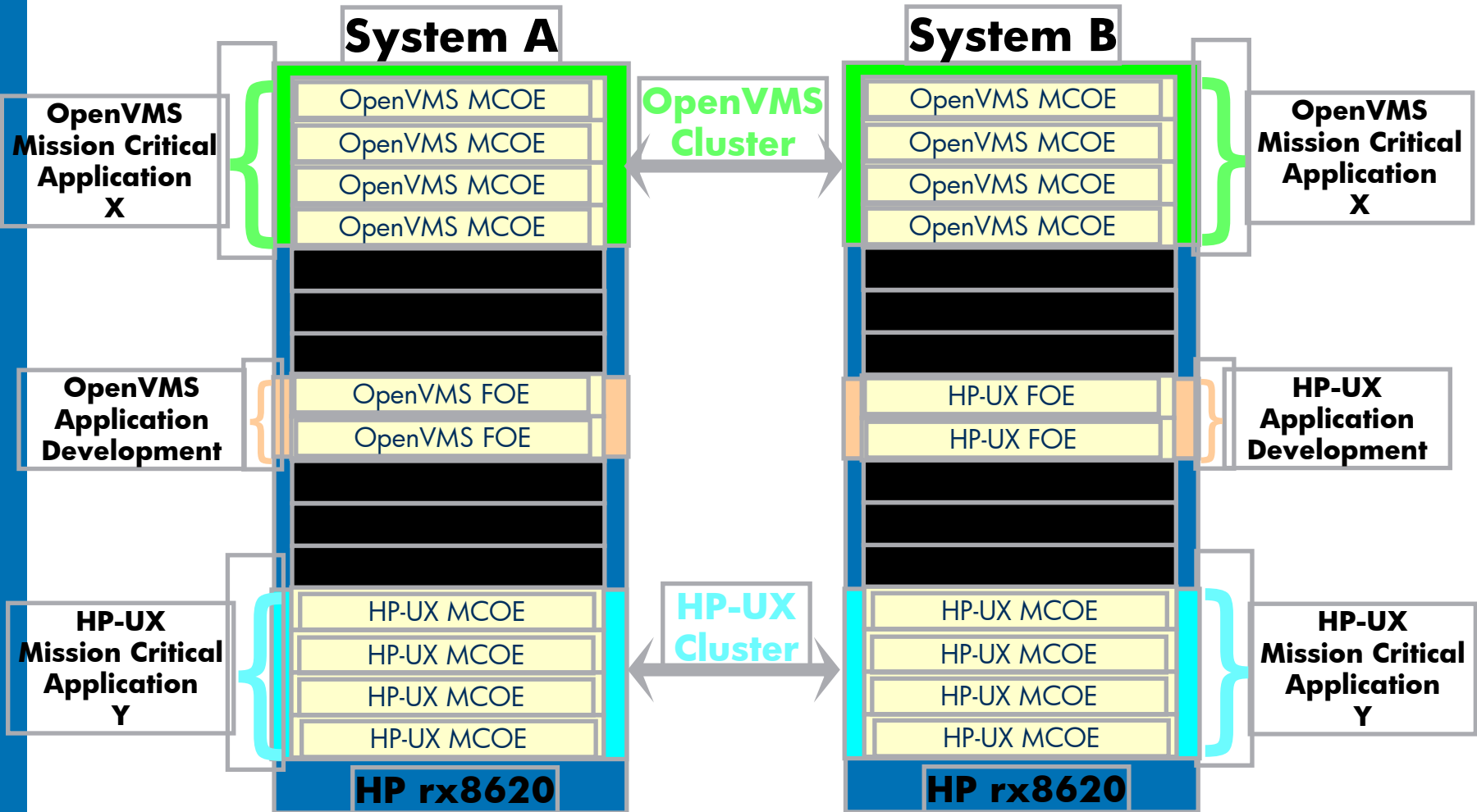
Concurrent Use licensing

- Very **flexible** licensing design
- Purchase software based on the **# of Users** in a partition, system or VMS Cluster

Benefits of Concurrent Use Licensing

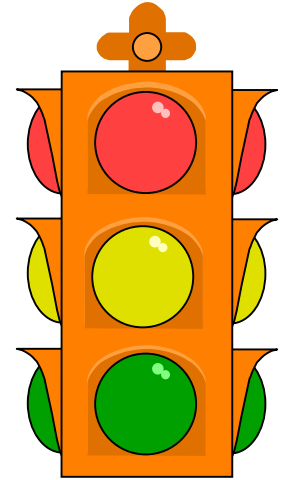
- Can be used across a system independent on the number of partitions
- Can be used across an OpenVMS Cluster
- customers can purchase additional users to meet needs over time

Operating Environment/PPL Business Practice Example



SOFT COMPLIANCE

- PPL is based on licensing CPUs
- 1 unit per running CPU on node
- 3 states
 - Red - PAK is not loaded
product cannot run (failure status returned)
 - Yellow - short 1 or more units as compared to # of CPUs
product can run (success status returned, PPL tool will flag)
 - Green - units equal or greater than # of CPUs
product can run (success status returned)



License Offers

- Introduce Per Processor License (PPL) for all OE packages, and most layered products
- For compilers and development tools, offer concurrent use licenses
- A single license offer per product

Software Services

Common Services for HP-UX and OpenVMS I64 for both products and Operating Environments:

- Software Support
 - Software Product Updates
- Simpler contracts

License Management

- Continue to utilize LMF
 - Soft compliance for PPL
- Key Fulfillment
 - Electronic and/or
 - Paper

Order Administration

- Integrated ordering processes Integrity, HP-UX, and OpenVMS

Trade-in Policy

- Service customer
- Non-service customer



Changes in LMF



How It Works - Pre-I64

```
$ LICENSE REGISTER RTR -  
/ISSUER=DEC -  
/AUTHORIZATION=QLMT1AQ6R -  
/PRODUCER=DEC -  
/UNITS=2800 -  
/ACTIVITY=H -  
/OPTIONS=(NO_SHARE) -  
/CHECKSUM= 4-QUES-TION-SASK-GUY!  
$ LICENSE LOAD RTR
```

RTR license
registered and loaded
for GS320

VMS PRE-I64 SYSTEM

SY\$LOOKUP_LICENSE("RTR")

SYSLICENSE EXECLET

Usage in
lock trees

PAKs in
System Logicals

How it works – Pre-164



```
CHOBE> show license/char
```

```
VMS/LMF Charge Information for node CHOBE
```

```
This is a AlphaServer GS160 6/731, hardware model type 1968
```

```
Type: A, Units Required: 3400      (VAX/VMS Capacity or OpenVMS  
Unlimi
```

```
Type: B, * Not Permitted *      (VAX/VMS F&A Server)
```

```
Type: C, * Not Permitted *      (VAX/VMS Concurrent User)
```

```
Type: D, * Not Permitted *      (VAX/VMS Workstation)
```

```
Type: E, * Not Permitted *      (VAX/VMS System Integrated  
Products)
```

```
Type: F, * Not Permitted *      (VAX Layered Products)
```

```
Type: G, * Not Permitted *      (Reserved)
```

```
Type: H, Units Required: 1150    (Alpha Layered Products)
```

```
Type: I, Units Required: 1150    (Layered Products)
```

- **Charge information**
 - Retrieved from the console (Using EXE\$DSRDB_LURT)
 - Provided by the Alpha group
- **Static group licenses**
 - Implemented in SYS\$LOADABLE_IMAGE:LMF\$GROUP_TABLE.EXE
 - NET-APP-SUP-xxx

LMF on I64 - requirements

- Business management requirements
 - Support Operating Environments (OEs)
 - Support PPL and Soft Compliance
 - Support changing the content of an OE without reboot
 - Support upgrading and downgrading an OE without reboot
 - Support changing the OE hierarchy (yes without a reboot 😊)
 - Change “our” license issuer/producer to HP
- Engineering requirements
 - Use existing infrastructures when possible
 - **No coding changes from LMF users**
 - Minimize the effect on ISVs

How It Works – PPL - Overview

```

$ LICENSE REGISTER MCOE -
/ISSUER=HP -
/AUTHORIZATION=QLMT1AQ6R -
/PRODUCER=HP -
/UNITS=4 -
/OPTIONS=(NO_SHARE, PPL, IA64) -
/CHECKSUM= 4-QUES-TION-SASK-GUY!
$ LICENSE LOAD MCOE
    
```

VMS MCOE PPL license
registered and loaded
for IA64 system for
up to 4 CPUs

VMS I64 SYSTEM

SYS\$LOOKUP_LICENSE("RTR")

Updated SYSLICENSE EXECLET

Authorized
Product
List (OEDB)

Usage in
lock trees

PAKs in
System Logicals

New PAK option keywords

- IA64 (required for every I64 PAK)
 - PPL
 - IA64_ALPHA
 - IA64_ALPHA_VAX
 - HARD_COMPLIANCE
- Will require a TIMA kit for any supported VAX version

Licensing Tiers

- On I64 LMF has the infrastructure to support tiering.
- LMF tiering support is implemented using the hardware-id field in the PAK.
 - CPU_SOCKETS=2 – the PAK may be loaded on RX2600 but will fail to load on RX4640
 - CPU_SOCKETS=UNLIMITED – the PAK may be loaded on any system

PAKGEN

- PAKGEN is the tool used for generating PAKs
 - Integrated in LMF
 - Activated by the /GENERATE qualifier
 - Requires PAKGEN license
- PAKGEN supports the new keywords
 - Support is integrated in V8.2
 - New PAKGEN license is required on I64

LICENSE LIST EXAMPLE



```
$ lic lis OPENVMS-I64-FOE/full
License Management Facility  V2.0
```

```
License Database File:      SYS$COMMON:[SYSEXE]LMF$LICENSE.LDB;1
Created on:                 11-DEC-2003
Created by user:           SYSTEM
Created by LMF Version:    V1.2
```

```
-----
Issuer:                    HP
Authorization:             TOPAZ-I64-FT-001
Product Name:             OPENVMS-I64-FOE
Producer:                 HP
Units:                    1
Modified Units:           4
Version:                  0.0
Release Date:             (none)
PAK Termination Date:     1-JUL-2004
Options:                  MOD_UNITS, IA64, PPL
Product Token:            *ENGINEERING_INTERNAL_USE_ONLY*
Hardware ID:
```

```
Revision Level:           2
Status:                   Active
Command:                  MODIFY
Modified by user:         SYSTEM
Modified on:              2-FEB-2004 14:09:38.42
```

PAKs supported on I64

- On I64 we only support PPL licenses and Activity licenses
 - No support for availability licenses (no charge table)
 - No support for group table licenses
 - Group table licenses required reboot for content updating
 - LMF\$GROUP_TABLE.EXE is built on Alpha & VAX only
- New PAK names
 - OPENVMS-I64-FOE (base O/S license is OPENVMS-I64)
 - OPENVMS-I64-EOE
 - OPENVMS-I64-MCOE
 - OPENVMS-I64-HOE

The operating environment database

- The in memory operating environment database contains
 - List of the various OEs
 - OE hierarchical relationships
 - Standalone OEs
 - Each OEs content
- Derived out of SYS\$MANAGER:LMF\$OE.DAT
- Lives in Non-Paged Pool
- Database size is Less than 5KB

Soft Compliance

- On VAX/Alpha a PAK will not be loaded if
Required units \neq Available PAK units
- On I64 a PAK will be loaded if there is at least one unit available
 - RX4640 with 4 CPUs may load a 2 units FOE PAK
 - SHOW LICENSE/USAGE displays compliance info
 - The compliance report tool will tell customers if they are in compliance or not (remember the 3 states, red, yellow and green)

Soft Compliance

- We provide ISVs with the ability to force compliance for their products using the HARD_COMPLIANCE keyword
- When a license is loaded in a non-compliance mode, a warning will be signaled and sent to the operator log

```
IPL31> lic load openvms-i64-foe
```

```
%LICENSE-W-NCLOAD, HP OPENVMS-I64-FOE was loaded in noncompliant mode with  
1 unit(s). 2 units required
```

```
%%%%%%%%%% OPCOM 19-MAY-2004 14:41:49.18 %%%%%%%%%%%
```

```
Message from user GUY on IPL31
```

```
%LICENSE-W-NCLOAD, HP OPENVMS-I64-FOE was loaded in noncompliant mode with  
1 unit(s). 2 units required
```

Soft compliance

- Compliance is checked at boot time by the job controller
 - If all PAKs are compliant, compliance will be checked again in 90 days.
 - If non compliance licenses detected, a message is sent to the operator log and a mail message with the compliance information is mailed to the system account
 - Compliance is checked again after 60 days
 - If still not in compliance, mail messages will be sent to the system account every 7 days
 - The report is based on the output of `$SHOW LICENSE/USAGE`

SYS\$LOOKUP_LICENSE – New PAK Producer



- On I64, “our” producer changed from “DEC” to “HP”

- Does not require any code change from callers of the system service.

- SYS\$LOOKUP_LICENSE automatically converts every failed lookup call with “DEC” as the producer to “HP”

- Note that this does not work the other way around

LOOKUP operation with “DEC” as the producer looks for PAKs issued by “DEC” or “HP”

LOOKUP operation with “HP” as the producer forces the system to have a PAK issued by “HP” (new PAK)

SHOW LICENSE

```
IPL31> sh lic
```

```
Active licenses on node IPL31:
```

Product	Product ID	Producer	Units	Rating PPL	Activ	Version	Release	Termination
C		HP	250	0	1	0.0	(none)	6-FEB-2005
OPENVMS-I64-FOE		HP	1	1	0	0.0	(none)	(none)
OPENVMS-I64-MCOE		HP	10	1	0	0.0	(none)	(none)

```
IPL31> show license/full openvms-i64-mcoe
```

```
Active licenses on node IPL31:
```

```
OPENVMS-I64-MCOE
```

```
  Producer: HP
```

```
  Units: 10
```

```
  Version: 0.0
```

```
  Release Date: (none)
```

```
  Termination Date: (none)
```

```
  Per Processor License
```

```
  Activity: 0
```

```
  MOD_UNITS
```

```
  IA64
```

```
  Product Token: *ENGINEERING_INTERNAL_USE_ONLY*
```

SHOW LICENSE/USAGE

```
IPL31> show license/usage
```

```
View of loaded licenses from node IPL31
```

```
19-MAY-2004 14:01:43.39
```

```
----- Product ID -----      ---- Unit usage information -----  
Product          Producer          Loaded  Allocated  Available  Compliance  
C                 HP                 250     0          250       Yes  
OPENVMS-I64-FOE   HP                 1        1          0         No  
                  *** 1 unit(s) loaded, 2 unit(s) required ***  
OPENVMS-I64-MCOE  HP                 10      2          8         Yes
```

```
IPL31> show license/usage/full openvms-i64-mcoe
```

```
View of loaded licenses from node IPL31
```

```
19-MAY-2004 14:02:39.94
```

```
PPL license HP OPENVMS-I64-MCOE usage information:
```

```
Per Processor License
```

```
Activity: 0
```

```
Version: 0.0
```

```
Release Date: (none)
```

```
Termination Date: (none)
```

```
Product Token: *ENGINEERING_INTERNAL_USE_ONLY*
```

```
Units  Node  
2     IPL31
```

```
Units loaded: 10    Units allocated: 2    Units available: 8
```

SHOW LICENSE/CHARGE/CLUSTER



```
IPL31> sh lic/char/clus
```

```
VMS/LMF Cluster License Unit Requirements Information 27-JAN-2004 10:09:04.60
```

Node	A	B	C	D	E	F	G	H	I	PPL
MIKAXP	12	-	-	-	-	-	-	1050	1050	-
BLUSKY	12	-	-	-	-	-	-	1050	1050	-
IPL31	-	-	-	-	-	-	-	-	-	2

Total Cluster Unit Requirements

Type: A, Units Required: 24 (VAX/VMS Capacity or OpenVMS Unlimited or Base)

Type: B, * Not Permitted * (VAX/VMS F&A Server)

Type: C, * Not Permitted * (VAX/VMS Concurrent User)

Type: D, * Not Permitted * (VAX/VMS Workstation)

Type: E, * Not Permitted * (VAX/VMS System Integrated Products)

Type: F, * Not Permitted * (VAX Layered Products)

Type: G, * Not Permitted * (Reserved)

Type: H, Units Required: 2100 (Alpha Layered Products)

Type: I, Units Required: 2100 (Layered Products)

Type: PPL, Units Required: 2 (I64 Per Processor)

- The following command were modified to support PPL
 - LICENSE LIST
 - LICENSE REGISTER
 - LICENSE MOVE
 - LICENSE DELETE

SHOW LICENSE/OE



IPL31> show lice/oe/full

Current Operating Environment on node IPL31 at 19-MAY-2004
14:05:07.40:

```
----- Operating Environment ----- Units -----  
Name      Description                Type Level   Loaded   Total  
MCOE      Mission Critical              H      2       2       2
```

RTR-SVR

VMSCLUSTER

VMSCLUSTER-CLIENT

DECRAM

RMSJNL

VOLSHAD

SYSMGT

OPENVMS-I64

OPENVMS-USER

DVNETEND

DW-MOTIF

UCX

TDC

DCOM-MIDL

X500-ADMIN-FACILITY

X500-DIRECTORY-SERVER

IPL31>
11/2/2004

SHOW LICENSE/HIER

```
IPL31> show lice/hier
```

```
Operating Environment Hierarchy
```

```
-----
```

```
----- Operating Environment ----- Units -----  
Name      Description                Type Level   Loaded   Total  
MCOE      Mission Critical             H     2       2       2  
EOE       Enterprise                   H     1       -       2  
FOE       Foundation                   H     0       1       3
```

```
IPL31>
```

SHOW LICENSE/HIER/FULL



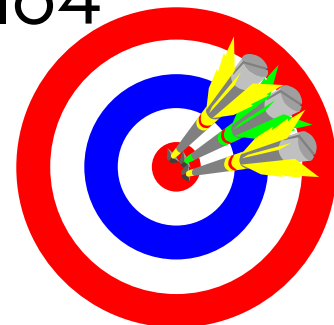
IPL31> show lice/hier/full

Operating Environment Hierarchy

----- Operating Environment -----				----- Units -----	
Name	Description	Type	Level	Loaded	Total
MCOE	Mission Critical	H	2	2	2
RTR-SVR					
VMSCLUSTER					
VMSCLUSTER-CLIENT					
EOE	Enterprise	H	1	-	2
DEGRAM					
RMSJNL					
VOLSHAD					
SYSMT					
FOE	Foundation	H	0	1	3
OPENVMS-I64					
OPENVMS-USER					
DVNETEND					
DW-MOTIF					
UCX					
TDC					
DCOM-MIDL					
X500-ADMIN-FACILITY					
X500-DIRECTORY-SERVER					

Mixed Arch Cluster

- Shared license database (LDB) for I64, ALPHA, and VAX cluster members
- Common code
 - ALPHA nodes have the ability to modify I64 PAKs
- VMS732_LMF-V0100 is required for Alpha V7.3-2
- The new PPL code is conditionalized to run on I64 only
 - Alpha&VAX nodes can not load PPL licenses





Examples



Example: OpenVMS/Alpha to OpenVMS I64 Operating Environment Equivalency Map



Trade-in Original Licenses → Credit for Equivalent OE License

OpenVMS Alpha Product License	OpenVMS I64 Operating Environment License
OpenVMS Base OpenVMS SMP OpenVMS Users Enterprise Integration Package	Foundation Operating Environment (FOE)
Volume Shadowing RMS Journaling DECram	Enterprise Operating Environment (EOE)
VMSClusters	Mission Critical Environment (MCOE)

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

Example: Trade-in all of the above plus 2 of the 3 EOE products and receive credit for 4 EOE PPL licenses

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

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

Product to Operating Environment License Map



Example is for trade-ins from OpenVMS Alpha to OpenVMS I64

Section	Trade-in OpenVMS Alpha Licenses	License Part	Trade-in Rules	For: OVMS I64	Description	
A	OpenVMS Base	QL-MT1A*-6*	1. At minimum, Base and SMPs must be traded in to receive credit for FOE	FOE	BA325AC	HP OVMS I64 FOE PPL LTU max4 socket with system
	OpenVMS SMP Extension	QL-MT1A9-6*			BA326AC	HP OVMS I64 FOE PPL LTU unlimited socket w/ system
	OpenVMS Users	QL-MT3A*-**	2. CPU count from Base + SMPs determines PPL credit count		BA338AC	HP OVMS I64 FOE PPL LTU max4 socket w/o system
		QL-MT2A*-**			BA329AC	HP OVMS I64 FOE PPL LTU unlimited socket w/o system
	OpenVMS Unlimited Use	QL-MT2A*-**	3. Trade-in all User, Unlimited Use, and Enterprise Integration Package licenses associated with traded Base license(s) and server		Select matching credit option for In-Support or Out of Support	
	Enterprise Integration Package	QP-5LVAA*-AA			BA325ACN#109	LTU tradein from OpenVMS with support
	or	QB-63PA*-AA				
					BA325ACN#113	LTU tradein from OpenVMS without support
					BA326ACN#109	LTU tradein from OpenVMS with support
					BA326ACN#113	LTU tradein from OpenVMS without support
		BA338ACN#109		LTU tradein from OpenVMS with support		
		BA338ACN#113		LTU tradein from OpenVMS without support		
			BA329ACN#109	LTU tradein from OpenVMS with support		
			BA329ACN#113	LTU tradein from OpenVMS without support		
B	Volume Shadowing	QL-2A1A*-AA	1. To qualify for EOE you must be licensed for a minimum of 2 of the 3 products listed in B.	EOE	BA397AC	HP OVMS I64 EOE PPL LTU max4 socket with system
	RMS Journaling	QL-0VHA*-AA			BA327AC	HP OVMS I64 EOE PPL LTU unlimited socket with system
	DECram	QL-MV3A*-AA	2. Trade-in all applicable product licenses from Section A PLUS at least two from Section B to receive credit for EOE. If you are licensed for all 3 products in B, licenses for all three products must be traded in, along with all licenses for products in A.		BA398AC	HP OVMS I64 EOE PPL LTU max4 socket without system
					BA330AC	HP OVMS I64 EOE PPL LTU unlimited socket without sys
			Select matching credit option for In-Support or Out of Support			
			BA397ACN#109		LTU tradein from OpenVMS with support	
			BA397ACN#113		LTU tradein from OpenVMS without support	
			BA327ACN#109		LTU tradein from OpenVMS with support	
			BA327ACN#113		LTU tradein from OpenVMS without support	
			BA398ACN#109		LTU tradein from OpenVMS with support	
		BA398ACN#113	LTU tradein from OpenVMS without support			
		BA330ACN#109	LTU tradein from OpenVMS with support			
		BA330ACN#113	LTU tradein from OpenVMS without support			
C	VMSCluster	QL-MUZA*-AA	1. To qualify for MCOE you must be licensed for a minimum of 2 products in B, plus VMS Clusters.	MCOE	BA399AC	HP OVMS I64 MCOE PPL LTU max4 socket with system
					BA328AC	HP OVMS I64 MCOE PPL LTU unlimited socket with system
			2. Trade-in all applicable product licenses from Section A PLUS at least two from Section B, PLUS VMSClusters to receive credit for MCOE. Licenses for all licensed products in A, B and C must be traded in for MCOE.		BA400AC	HP OVMS I64 MCOE PPL LTU max4 socket w/o system
					BA331AC	HP OVMS I64 MCOE PPL LTU unlimited socket w/o system
			Select matching credit option for In-Support or Out of Support			
			BA399ACN#109		LTU tradein from OpenVMS with support	
			BA399ACN#113		LTU tradein from OpenVMS without support	
			BA328ACN#109		LTU tradein from OpenVMS with support	
			BA328ACN#113		LTU tradein from OpenVMS without support	
			BA331ACN#109		LTU tradein from OpenVMS with support	
		BA331ACN#113	LTU tradein from OpenVMS without support			
		BA331ACN#109	LTU tradein from OpenVMS with support			
		BA331ACN#113	LTU tradein from OpenVMS without support			

Example: Layered Product Equivalency Map



FROM Platforms:

OpenVMS VAX	OpenVMS Alpha	Tru64 UNIX Alpha	MPE/iX e3000	HP-UX HP 9000
VAXcluster	VMScluster	TruCluster SVR	HA Cluster/iX	MC/Service Guard
Fortran VV	Fortran VA	Fortran UA	Fortran iX	HP Fortran 90
C++ VV	C++ VA	C++ UA	C iX	HP aC++

TO Platforms:

OpenVMS I64	HP-UX
VMScluster I64	MC/Service Guard or TruCluster SVR UX
HP Fortran I64	HP Fortran 90
HP C++ I64	HP aC++

Example: Trade-in TruCluster SVR from Tru64 Alpha and receive credit for TruCluster SVR on HP-UX Integrity

Example: Trade-in Fortran from OpenVMS Alpha and receive credit for Fortran on OpenVMS I64

Example: Trade-in HA Cluster/iX from MPE/iX e3000 and receive credit for MC/Service Guard on HP-UX Integrity

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

Example: Layered Product Equivalency Map



Trade-in OpenVMS Alpha Layered Product Licenses	License Part	For equivalent OpenVMS Integrity Product	Lic. Type	Order Product Numbers	Description
ACMS Development	QL-2PZA*-AA	HP ACMS Development PPL LTU OVMS I64 TP Desktop Connector for ACMS now bundled with HP ACMS Development. TP Desktop Connector license may not be traded in separately for HP ACMS Development.	PPL	BA339AC	HP ACMS Devel PPL LTU OVMS I64
					Select credit option for either In-Support or Out of Support
				BA339ACN#115	HP ACMS Devel LTU tradein with support
				BA339ACN#116	HP ACMS Devel LTU tradein w/o support
ACMS Remote	QL-2Q0A*-AA QL-Y30AA-3*	HP ACMS Remote PPL LTU OVMS I64	PPL	BA340AC	HP ACMS Remote PPL LTU OVMS I64
					Select credit option for either In-Support or Out of Support
				BA340ACN#115	HP ACMS Remote LTU tradein with support
				BA340ACN#116	HP ACMS Remote LTU tradein w/o support
ACMS Run-Time	QL-2Q1A*-AA QL-076AA-3*	HP ACMS Run-Time PPL LTU OVMS I64	PPL	BA341AC	HP ACMS RunTime PPL LTU OVMS I64
					Select credit option for either In-Support or Out of Support
				BA341ACN#115	HP ACMS RT LTU tradein with support
				BA341ACN#116	HP ACMS RT LTU tradein w/o support
Advanced Server	QM-5SUA*-A*	HP Advanced Server CAL LTU OVMS I64	CA	tbd"n"	HP Advanced Server CAL LTU OVMS I64
					Select credit option for either In-Support or Out of Support
				tbd"n"#115	HP Advanced Server LTU tradein with support
				tbd"n"#116	HP Advanced Server LTU tradein w/o support
Archive Backup System Client	QL-5W1A*-AA	HP Archive Backup Client PPL LTU OVMS I64	PPL	BA343AC	HP Archive Bkup Cli PPL LTU OVMS I64
					Select credit option for either In-Support or Out of Support
				BA343ACN#115	HP Archive Bkup Cli tradein with support
				BA343ACN#116	HP Archive Bkup Cli tradein w/o support

License Trade-in Logic

A: License Type offered on the TARGET Server	B: What you need to know about the ORIGINAL Server and Licenses	C: Credit Application
Per-Processor License (PPL)	Number of active CPUs licensed on the Original server.	Receive credit for PPL licenses equal to the number of CPUs identified in column B.
User License	Total number of User licenses being traded-in or total number of users on the Original server.	Receive credit for User licenses, equal to the number of users identified in column B.

How Credit is Applied for License Trade-in



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

Example: Customer trades-in OpenVMS Alpha operating system, Volume Shadowing and RMS Journaling licenses for the Enterprise Operating Environment (EOE) for a single CPU 4 socket server

Support Customer	Product Description	Product Number	License or Credit Price
Purchase:	Enterprise OE for Integrity, 4 socket	BA397AC	\$6380.
Add 100% Credit	In-support cross-platform PPL trade-in from OpenVMS	BA397ACN#109	(\$6380.)
			Net \$ 0.

Non-Support Customer	Product Description	Product Number	License or Credit Price
Purchase:	Enterprise OE for Integrity, 4 socket	BA397AC	\$6380.
Add 60% Credit	Out of support cross-platform PPL trade-in from OpenVMS	BA397ACN#113	(\$3828.)
			Net \$ 2552.

Credit Option Numbers

Product #	Option #	Option Description for Operating Environment Credit
xxxxxxx	N#107	LTU Tradein from HP-UX with sppt
xxxxxxx	N#108	LTU Tradein from Tru64 UNIX with sppt
xxxxxxx	N#109	LTU Tradein from OpenVMS with sppt
xxxxxxx	N#110	LTU Tradein from MPE/iX with sppt
xxxxxxx	N#111	LTU Tradein from HP-UX without sppt
xxxxxxx	N#112	LTU Tradein from Tru64UNIX without sppt
xxxxxxx	N#113	LTU Tradein from OpenVMS without sppt
xxxxxxx	N#114	LTU Tradein from MPE/iX without sppt
Product #	Option #	Option Description for Layered Product Credit
xxxxxxx	N#115	LTU Tradein with sppt
xxxxxxx	N#116	LTU Tradein without sppt



i n v e n t

FAQ

- **Q: Can I share a license database between Alpha and I64**
A: Yes, sharing a license database between Alpha and I64 is fully supported. Management commands may be issued from any node in the cluster
- **Q: Can I load a PPL license on Alpha**
A: No, PPL licenses may only be loaded on I64
- **Q: What licenses maybe shared between Alpha and I64**
A: Activity licenses with the IA64_ALPHA keyword may be shared between Alpha and IA64

Contact Information

Pre-sales Support Centre EMEA

- E-mail: Presales.support.emea@hp.com

Where to send comments or requirements:

- E-mail: Andre.deWolf@hp.com

Recources

url: <http://licensing.hp.com/swl/view.slm?page=index>

url: <http://www.hp.com/go/openvms>

- **Policies**

- **Cross Platform Software License Trade-in and Transfer to Integrity or HP 9000 servers**
- **Within Hardware Platform Software License Trade-in and Transfer for Integrity or HP 9000 servers**
- **Proof of a Software License**

- **White Papers**

- **HP-UX HP 9000 to HP-UX Integrity server (cross platform trade-in)**
- **MPE/iX e3000 to HP-UX Integrity server and HP 9000 (cross platform trade-in)**
- **Tru64 UNIX Alpha to HP-UX Integrity server and HP 9000 (cross platform trade-in)**
- **OpenVMS VAX/Alpha to OpenVMS Integrity (cross Platform trade-in)**
- **HP-UX HP 9000 to HP-UX HP 9000 server (within platform trade-in)**

- **Product Trade-in Maps and Tools**

- **Product to Operating Environment Software License Map**
- **Software Layered Product Equivalency Map**
- **Implementation Guide**

- **Sales Guide and Software License Trade-in Checklist**

- **Must be completed and sent in with all orders or quotes that include license trade-ins**

Where to Find Resource Information

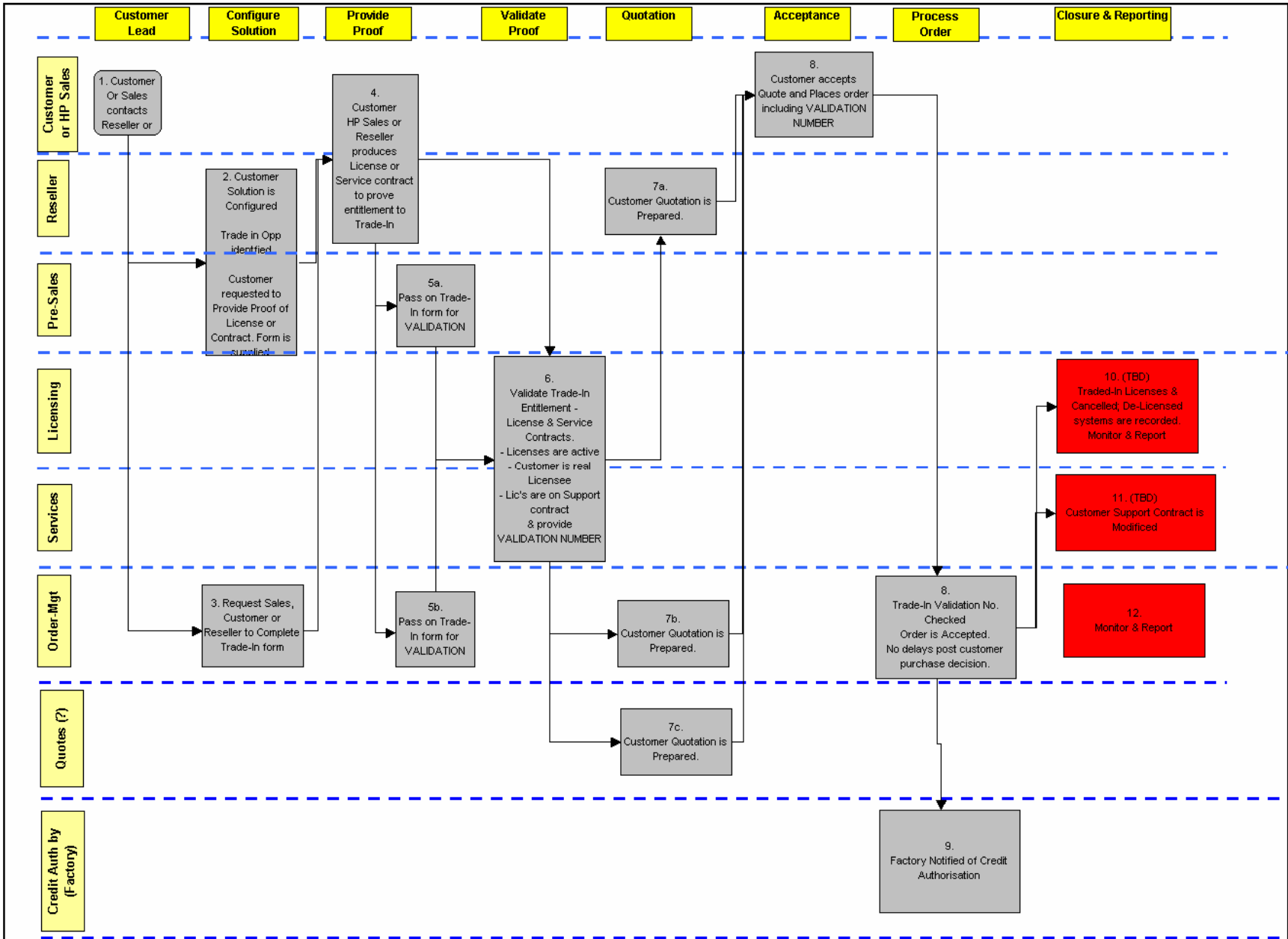


- **Software Licensing website (external)**
 - <http://licensing.hp.com/swl/view.slm?page=index>
- **HP Sales & Technical Source – Software License Trade-in Policy Portal (internal)**
 - <http://esp.sell.hp.com:2000/cgi-bin/nph-nav24/ext/swtrade/sr/index.htm>
- **Alpha Evolution website**
 - For customers: http://www.hp.com/products1/evolution/alpha_retaintrust/index.html
 - For HP Sales: <http://esp.sell.hp.com:2000/cgi-bin/nph-nav24/ext/cust1st/sr/alpha/index.htm>
 - For Partners: <http://esp.sell.hp.com:2000/cgi-bin/nph-nav24/ext/cust1st/cp/alpha/index.htm>

High-Level Process



n t



Microsoft Word Document



i n v e n t