Licensing Updates

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OpenVMS Engineering

Agenda

- Licensing on IA64

- OpenVMS 8.4 and New Integrity Systems – Bundling and licensing changes
  - New Operating Environments
  - Per Socket licensing

- Virtualization Licensing

- Q & A

Licensing on Integrity Servers

- Operating Environment and Tiering

- Licensing Model
  - Licenses a product based on the number of active processor cores
  - Each active processor core requires one PCL
  - Offers flexibility as licenses units can be purchased as per the current needs

  Types : Per Core License, Activity License

OpenVMS Integrity Operating environments

OpenVMS I64 Mission Critical Operating Environment (MCOE)

OpenVMS I64 Enterprise Operating Environment (EOE)

OpenVMS I64 Foundation Operating Environment (FOE)

- OpenVMS Operating System
- Unlimited User Licensing
- CIFS (based on Samba)
- CDSA
- DCE RPC Runtime
- DECnet-Plus End System
- DECnet IV
- DECprint Supervisor
- DECwindows Motif
- Distributed NetBeans
- Enterprise Directory
- Java™ Platform, Standard Edition, Development Kit (JDK)
- Kerberos
- Performance Data Collector OpenVMS I18N

- PERL
- Secure Web Server, Tomcat, PHP and Perl
- Secure Web Browser
- Simple Object Access Protocol (SOAP) Toolkit
- Secure Socket Layer (SSL)
- TCP/IP
- UDDI Client Toolkit
- (Web) Management Agents (for operation with HP Systems Insight Manager)
- WBEMCIM & WBEM Providers
- Web Services Integration Toolkit (WSIT)
- XML

EOE and MCOE contents can be purchased separately

Additions to Foundation:
- *RMS Journaling*
- *Volume Shadowing*
- *DECram*
- *OpenVMS Management Station*
- *Availability Manager*
- *OpenView Performance Agent*

Additions to Enterprise:
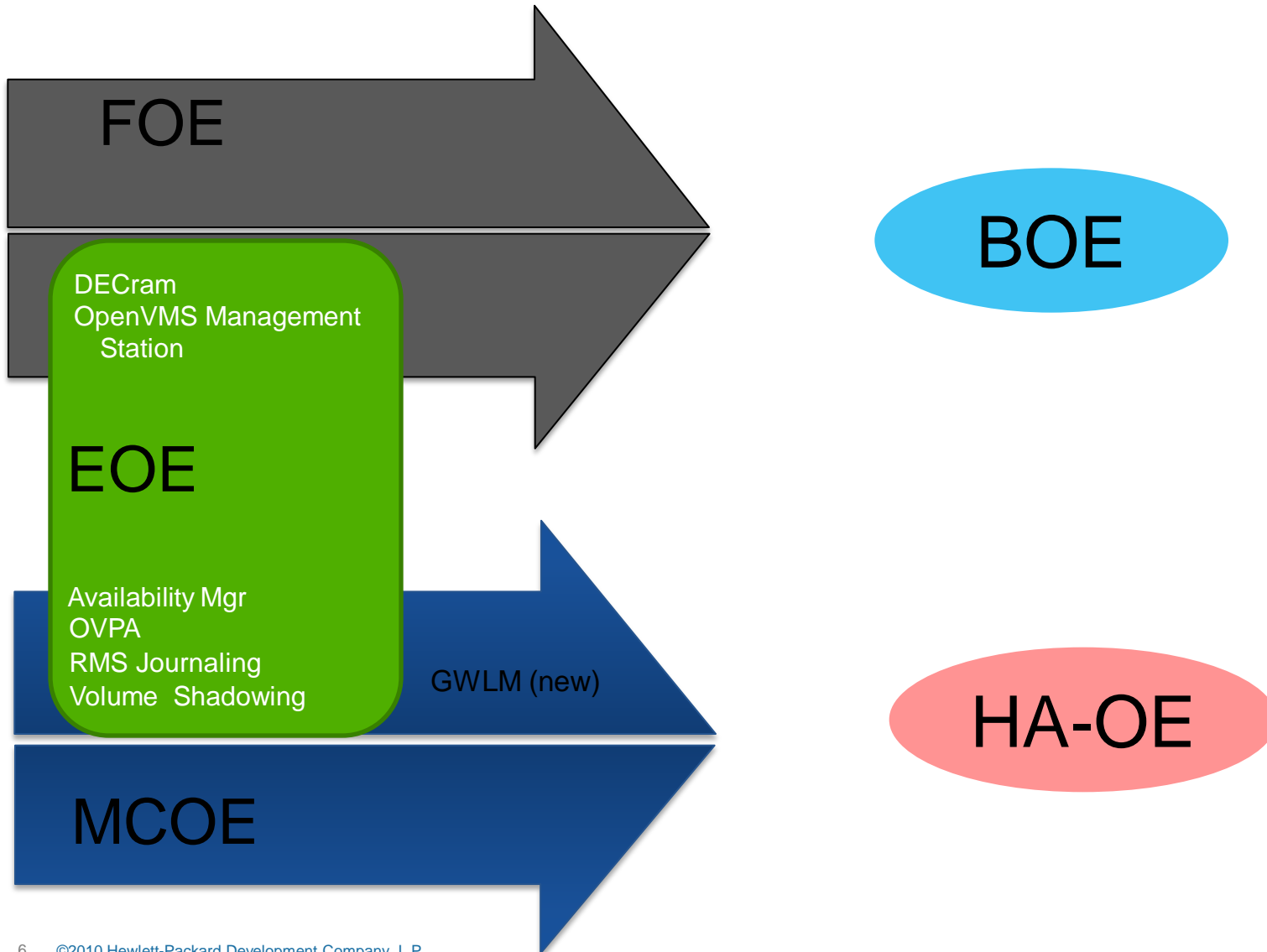- *OpenVMS Clusters*
- *OpenVMS RTR Backend*

One DVD media for all 3 OE's

NEW OPERATING ENVIRONMENTS

Moving to the new OE

FOE

DECram
OpenVMS Management
   Station

EOE

Availability Mgr
OVPA
RMS Journaling
Volume Shadowing

GWLM (new)

MCOE

BOE

HA-OE

OpenVMS V8.4 Integrity Operating environments

OpenVMS I64 High Availability Operating Environment (HA-OE)

OpenVMS I64 Base Operating Environment (BOE)

- OpenVMS Operating System
- Unlimited User Licensing
- CIFS (based on Samba)
- CDSA
- DCE RPC Runtime
- DECnet-Plus End System
- DECnet IV
- DECprint Supervisor
- DECwindows Motif
- Distributed NetBeans
- Enterprise Directory
- Java™ Platform, Standard Edition, Development Kit (JDK)
- Kerberos
- Performance Data Collector
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- PERL
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- (Web) Management Agents (for operation with HP Systems Insight Manager)
- WBEMCIM & WBEM Providers
- Web Services Integration Toolkit (WSIT)
- XML

New in BOE:
- *DECram*
- *OpenVMS Management Station*

HA-OE contents can be purchased separately

NEW in HA-OE

- **Availability Mgr**
- **OVPA**
- **RMS Journaling**
- **Volume Shadowing**
- *GWLM (new)*

MCOE to HA-OE

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

One DVD media for all OE's

OpenVMS OE upgrade path with v8.4

Software eligible for upgrade	Software product entitled to on v8.4
FOE (v8.3-1H1)	BOE (v8.4)
EOE (v8.3-1H1)	HA-OE (v8.4)
MCOE (v8.3-1H1)	HA-OE (v8.4)

- On upgrading to v8.4, the existing OE customers enjoy the benefit of being automatically upgraded to the new operating environment.
    - With the new operating environment, the customer gets equal LMF (License Management Facility) units as in the prior version and rights to use the additional components along with the old OE.

    Example: Upgrading to v8.4 for a customer with 4 LMF units of FOE , will provide 4 LMF units of BOE with the right to use DECram and OpenVMS Management Station

Operating Environment TIERS

```
$ show lic /hier /full


                    Operating Environment Hierarchy
                    -------------------------------


--------- Operating Environment ---------- ------ Units ------
Name        Description           Type Level   Loaded      Total
MCOE        Mission Critical       H    3                2        2
  RTR-SVR
  VMSCLUSTER
  VMSCLUSTER-CLIENT
EOE         Enterprise             H    2         -                2
  DECRAM
  RMSJNL
  VOLSHAD
  OMS
  AVAIL-MAN
FOE         Foundation             H    1         -                2
  OPENVMS-I64
  OPENVMS-USER
  DVNETEND
  DW-MOTIF
  UCX
  TDC
  X500-ADMIN-FACILITY
  X500-DIRECTORY-SERVER
  CIFS
$
```

Operating Environment TIERS

```
$ SHOW LICENSE/HIER/FULL


                        Operating Environment Hierarchy
                        -------------------------------

         --------- Operating Environment ---------- ------ Units ------
Name       Description               Type Level   Loaded      Total
HAOE       High Availability          H    5         2           2
  GWLM
MCOE       Mission Critical           H    4         -           2
  RTR-SVR
  VMSCLUSTER
  VMSCLUSTER-CLIENT
EOE        Enterprise                 H    3         -           2
  AVAIL-MAN
  RMSJNL
  VOLSHAD
BOE        Base                       H    2         -           2
  DECRAM
  OMS
FOE        Foundation                 H    1         -           2
  OPENVMS-I64
  OPENVMS-USER
  DVNETEND
  DW-MOTIF
  UCX
  TDC
  X500-ADMIN-FACILITY
  X500-DIRECTORY-SERVER
  CIFS
```

Per Socket License

Licensing Per Socket

– Licenses for the OEs and LPs will be sold Per Core on dual core systems, and Per Socket on new integrity (quad core) systems.

– The quantity of LMF units delivered with an OpenVMS per-socket license will be equal to the number of cores in the licensed sockets.

– Example:
The customer wants a new integrity system with 3 sockets licensed with OpenVMS. The customer orders a quantity of 3 per-socket licenses. A single LMF PAK is delivered which delivers a sufficient quantity of license units. In this example, 12 license units are delivered. (3 sockets x 4 cores = 12 license units)

Licensing Tiers

Licensing Tiers

Tier	OpenVMS v8.3-1H1 on Intel ® Itanium ® 9100- series based Servers (PCL)	OpenVMS v8.4 on Intel ® Itanium ® 9100- series based Servers (PCL)	OpenVMS v8.4 on Intel ® Itanium ® 9300- series based Servers (PSL)
Tier C	BL860c	NA	NA
Max 2 Tier (2 socket)	rx2660, rx3600	BL860c, rx2660, rx3600	BL860c i2, rx2800 i2
Max 4 Tier (4 socket)	BL870c, rx6600	BL870c, rx6600	BL870c i2
Max 8 (8 socket)	NA	NA	BL890c i2
Unlimited Socket Tier (16+ socket)	rx7640, rx8640, Superdome 1	Rx 7640, Rx8640, Superdome 1	NA

Virtualization Licensing

Components of virtualized environment
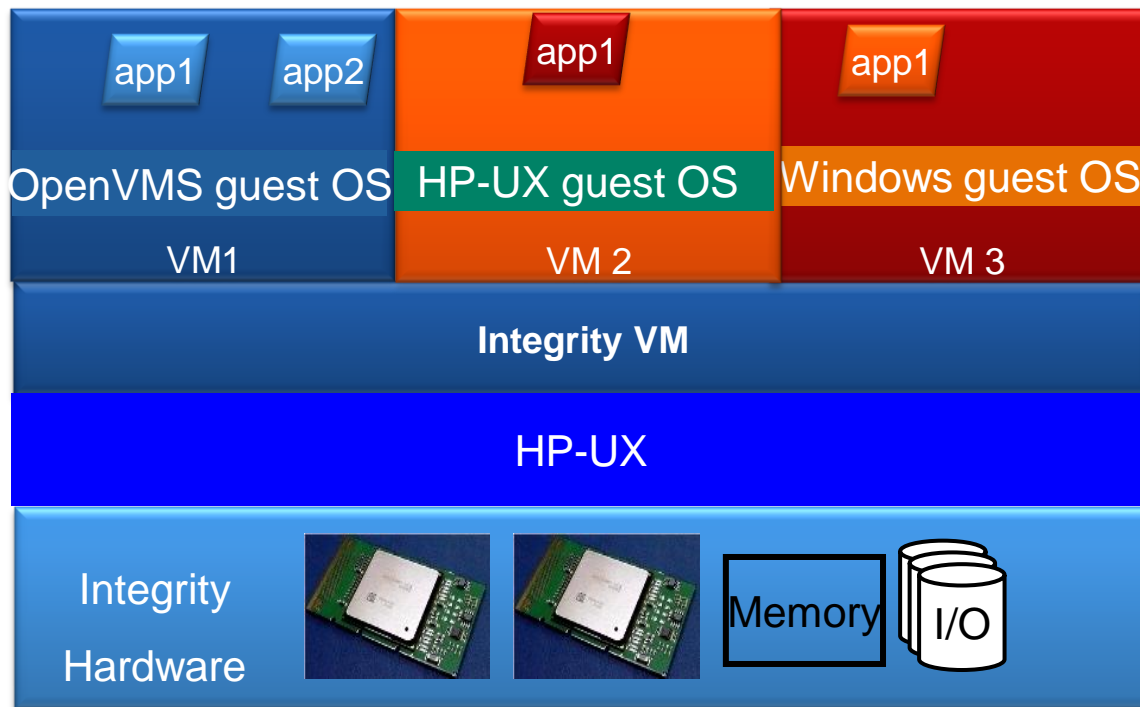
Integrity VM Licensing

- Integrity VM runs on HP-UX

- Customer gets HP-UX BOE with limited usage rights when Integrity VM is purchased

- Integrity VM needs to be licensed for all the cores on nPar/Server
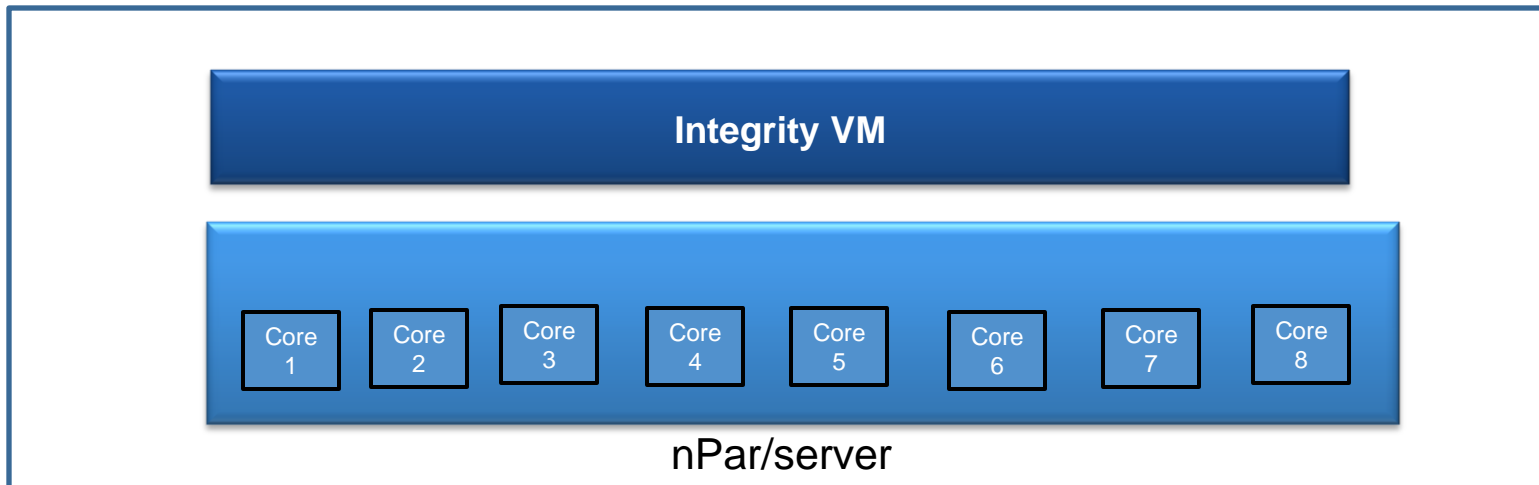
OS Licensing

- Guest OS run on one or more virtual CPUs (vCPUs)

- Guest OS needs to be licensed per core for on Intel® Itanium ® 9100- series based Servers and per socket for Intel® Itanium ® 9300- series based Servers (BL8x0c i2)

  - License not linked to number of instances of guests

- In a homogeneous environment, all the physical cores should be licensed with appropriate operating system license

- If customer has purchased OS license for all the physical cores/sockets in the server/nPar, he can run any number of guests

OpenVMS guest OS

Integrity VM

| Core 1 | Core 2 | Core 3 | Core 4 | Core 5 | Core 6 | Core 7 | Core 8 |

nPar/Server
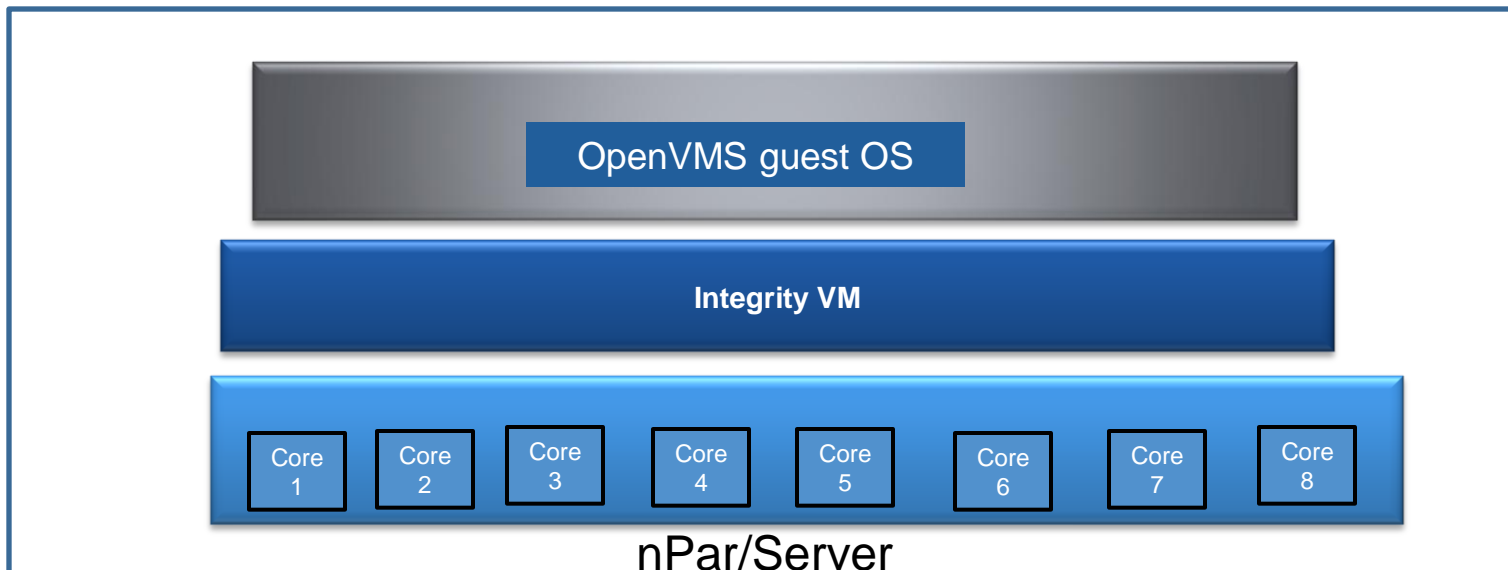
Application Licensing

- OpenVMS layered products/applications licensed per core for on Intel ® Itanium ® 9100- series based Servers and per socket for Intel ® Itanium ® 9300- series based Servers (BL8x0c i2)

- Customers can choose to purchase license for all the physical cores/socket or only for the OS instances that use the applications (based on vCPUs)

  - Number of licenses not to exceed number of physical cores/sockets

  - Once licensed for all physical cores/sockets, customers can run as many instances of applications as needed

PCL Licensing Examples – OE Licensing

Scenario 1: Homogeneous Setup, Total Active cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4			
Total vCPUs	2	2	2	3
OE required	B-OE	B-OE	HA-OE	HA-OE

How many Per Core licenses needed?

B-OE = 0

HA-OE = 4

Scenario 2: Heterogeneous Setup, Total Cores: 4

Partition No.	VMS 1	VMS 2	HPUX 1	HPUX 2
Physical Cores	4			
Total vCPUs	2	2	2	2
OE required	B-OE	HA-OE	B-OE	HA-OE

How many Per Core licenses needed?

OVMS B-OE =2 HPUX B-OE = 2

OVMS HAOE = 2 HPUX HAOE = 2

PCL Licensing Examples – Software Licensing

Scenario 1: Active Cores , Total Active cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4			
Total vCPUs	2	2	2	2
License required	B-OE/ HP RTR	B-OE/ HP RTR	B-OE/ HP RTR	B-OE

How many licenses needed?

B-OE = 4

HP RTR = 4

Scenario 2: vCPUs, Total Cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4			
Total vCPUs	2	2	2	2
OE required	B-OE/ HP RTR	B-OE	B-OE	B-OE

How many licenses needed?

B-OE = 4

HP RTR = 2

PSL Licensing Examples – OE Licensing

Scenario 1: Homogeneous Setup, Total Active cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4 (1 Socket)			
Total vCPUs	2	2	2	3
OE required	B-OE	B-OE	HA-OE	HA-OE

How many Per Socket licenses needed?

B-OE = 0

HA-OE = 1

Scenario 2: Heterogeneous Setup, Total Active Cores: 4

Partition No.	VMS 1	VMS 2	HPUX 1	HPUX 2
Physical Cores	4 (1 Socket)			
Total vCPUs	2	2	2	2
OE required	B-OE	HA-OE	B-OE	HA-OE

How many Per Socket licenses needed?

OVMS B-OE =0 HPUX B-OE = 0

OVMS HAOE =1 HPUX HAOE = 1

PSL Licensing Examples – Software Licensing

Scenario 1: Active Cores , Total Active cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4 (1 socket)			
Total vCPUs	2	2	2	2
License required	B-OE/ HP RTR	B-OE/ HP RTR	B-OE/ HP RTR	B-OE

How many PSL needed?

B-OE = 1

HP RTR = 1

Scenario 2: vCPUs, Total Cores: 4

Partition No.	VMS 1	VMS 2	VMS 3	VMS 4
Physical Cores	4 (1 Socket)			
Total vCPUs	2	2	2	2
OE required	B-OE/ HP RTR	B-OE	B-OE	B-OE

How many PSL needed?

B-OE = 1

HP RTR = 1

Q&A