Sub-capacity Licensing for Select IBM Distributed Middleware through Passport Advantage

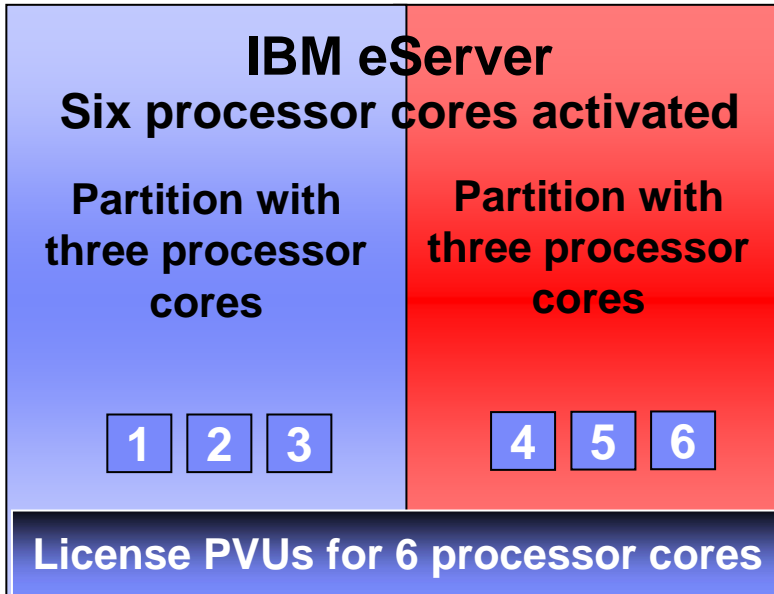## Further Improving Software Value as Technology Advances

Agenda

Overview

– What is sub-capacity licensing?

– Eligible products and partitioning technologies

– Sub-capacity licensing requirements

– Benefits of sub-capacity licensing

– Full capacity to sub-capacity license conversions

– Useful Links

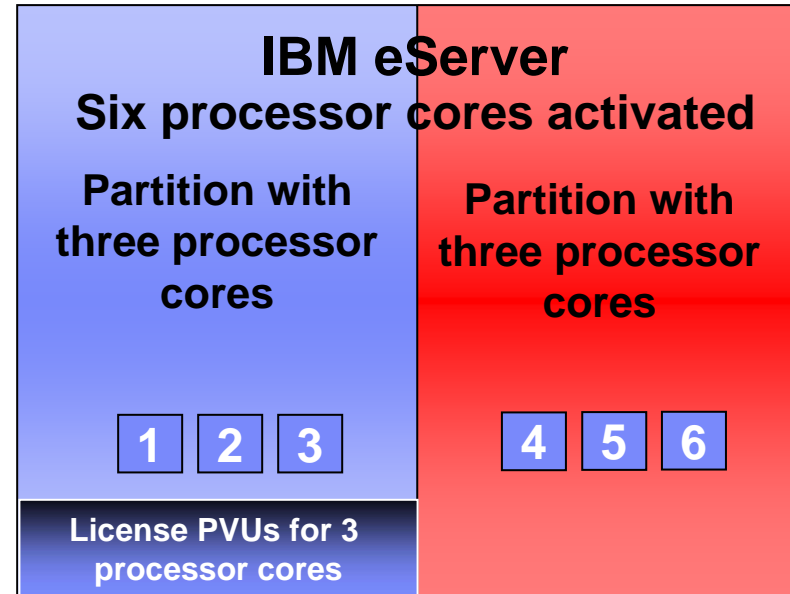## Sub-capacity license counting scenarios

– Insert modules as appropriate

What is Sub-capacity Licensing?

Full Capacity

IBM eServer
Six processor cores activated

Partition with three processor cores

Partition with three processor cores

`1` `2` `3`   `4` `5` `6`

License PVUs for 6 processor cores

Sub-capacity

IBM eServer
Six processor cores activated

Partition with three processor cores

Partition with three processor cores

`1` `2` `3`   `4` `5` `6`

License PVUs for 3 processor cores

- Full capacity requires PVU entitlements for all activated processor cores in a server

- Sub-capacity licensing limits the PVU entitlements to the number of processor cores in the partition(s) that are available to the software

- Applicable only to SW that use the Processor Value Unit metric

Sub-capacity Eligible Products and Partitioning Technologies

- **Sub-capacity eligible distributed middleware products:**

    - Selected WebSphere, DB2 and Lotus products

- **Sub-capacity eligible partitioning technologies:**

    - AIX*, i5/OS, OS/400, Linux (Power)

    - HP-UX (PA-RISC, Itanium)

    - Solaris (UltraSPARC)

    - Windows (x86 with VMware ESX Server 2.5 & 3.0, GSX 3.1, VMware Server and VMware Server Microsoft Virtual Server)

    - Linux x86 with VMware ESX Server 2.5 & 3.0, GSX 3.1 & VMware Server

    - Linux for System z

- **Sub-capacity eligible processor technologies**

- **List of participating products and supported partitioning technologies on Passport Advantage Sub-capacity Licensing page**

* Selected functions of AIX 6.1 and POWER6 processors are not currently supported

Sub-capacity Licensing Requirements Summary

▶ Customers must agree to the terms of the sub-capacity attachment

▶ Customers must use eligible IBM programs with sub-capacity part numbers

▶ Customers must use eligible virtualization technology

▶ Customers must use eligible processor technology

▶ Install IBM license metric tool when it becomes available (mid 2008)

- Identify processor type and number of processor cores
- Identify IBM software deployed on servers
- Calculate PVUs required based on high water mark processor capacity available
- The requirement to use IBM's tool is currently suspended until the new tool is available

Supported products/technologies lists found on XL Sub-capacity web site

Please note: _Customers_ are responsible for the installation of the upcoming IBM license metric tool and for the server it runs on. While required use of the current IBM license management tool is temporarily suspended, customers remain responsible for acquiring sufficient quantities of license authorizations to comply with the sub-capacity offering terms.

Sub-capacity Statements of Direction

Statements of Direction announced on Nov. 6, 2007

1. Support for the Multiple Virtual Shared Pools feature for AIX V5.3 and V6.1 of IBM Advanced POWER™ Virtualization technology when the new license metric tool becomes generally available

2. Support for the additional features of IBM Advanced POWER Virtualization (APV) of Dedicated and Shared Processor LPAR Groups and Live Partition Mobility for both AIX V5.3 and V6.1, by the end of fourth quarter 2008

3. Support for the new AIX technologies — Workload Partitions Manager (WPAR) and Live Application Mobility for AIX V6.1, by the end of fourth quarter 2008

Scenario #1 - Full capacity licensing required

Server with No Partitions

WAS

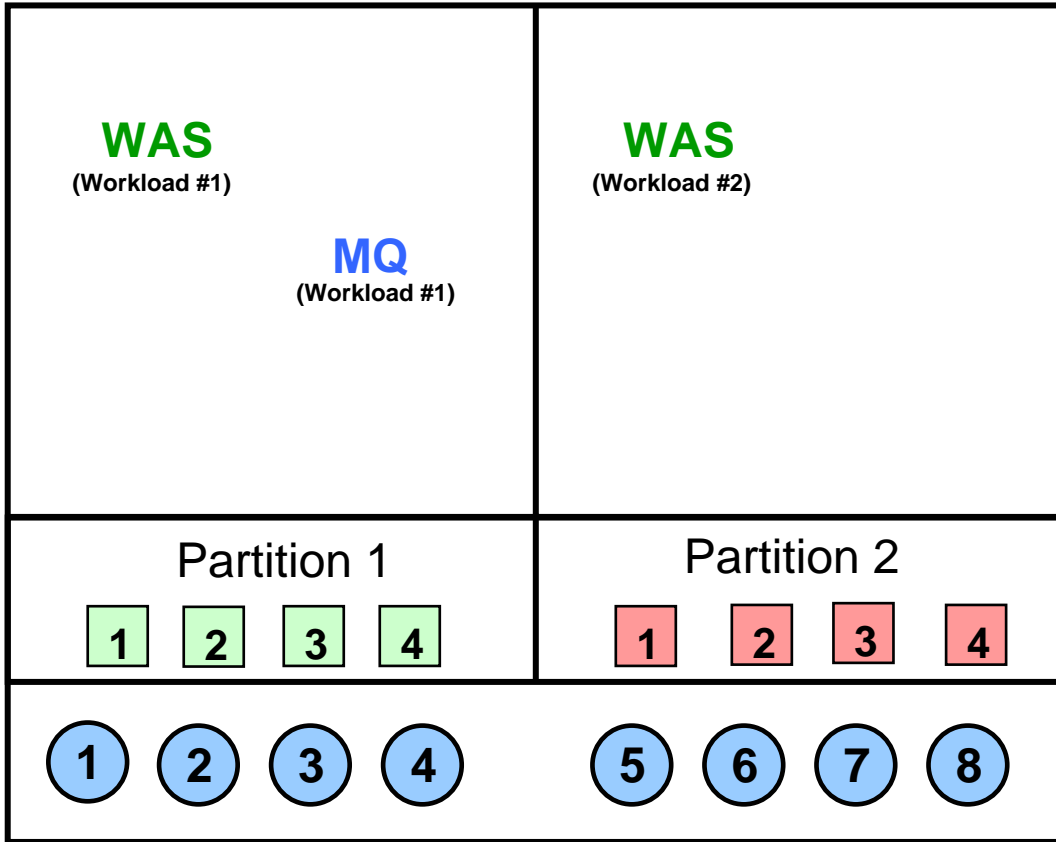**(Workload #1)**

MQ
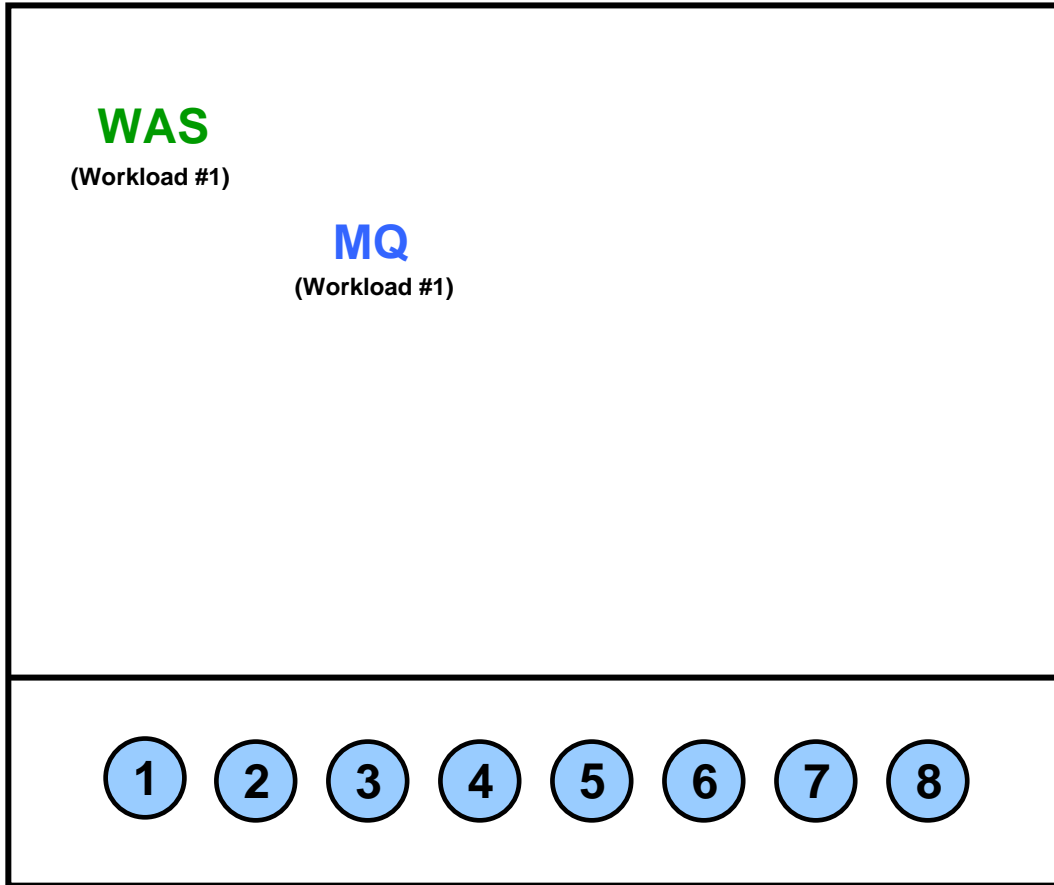
(Workload #1)

Cores to be licensed

WAS	MQ	
8	8	**Total Cores**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧   **8 Physical Cores in the Server**

Scenario #2 - Sub-capacity software licensing optional

Server with Simple Virtualization – Static Partitions

▶ Same server, more workload, fewer software licenses

▶ Static partitioning can increase processor capacity utilization

▶ TCO improves as workload increases and cores to be licensed decreases

WAS
(Workload #1)

MQ
(Workload #1)

WAS
(Workload #2)

Cores to be licensed

WAS	MQ	
4	4	Partition 1
4	—	Partition 2
8	4	**Total Cores**

Partition 1 — 1 2 3 4

Partition 2 — 1 2 3 4

4 Processor Cores Available to each Partition

1 2 3 4 5 6 7 8

8 Physical Cores in the Server

Scenario #3 - Sub-capacity software licensing optional

Server with Fully Virtualized Environment

Cores to be licensed

WAS	MQ	
4	4	Partition 1
4		Partition 2
+ 2	—	Partition 3
10	4	Sub-total
6	6	Capacity of Shared Pool
—	—	Partition 4
6	**4**	**Total Cores**

▶ Same server, more workload, fewer software licenses
  ▶ Virtualized partitioning can further increase processor capacity utilization
  ▶ TCO improves as cores to be licensed decreases

License rule: the lower of the sum of each partition for a product or the processor capacity of the shared pool

WAS (Workload #1) MQ (Workload #1)	WAS (Workload #2)	WAS (Workload #3)	Other (New Workload)
Partition 1: 1 2 3 4	Partition 2: 1 2 3 4	Partition 3: 1 2	

Shared Processor Pool: 1 2 3 4 5 6   Partition 4: 1 2

Physical cores: 1 2 3 4 5 6 7 8

10 Virtual Processor Cores

6 Processor Cores Available to Shared Pool

8 Physical Cores in the Server

Software Licensing Financial Summary

(USD prices current as of September 30, 2007)

▶ Customer's TCO improves with IBM Sub-capacity licensing

		Full cap licensing			Sub-cap licensing		
		WAS	MQ	Total	WAS	MQ	Total
Scenario 1: ▶ Server with No Partitions	Number of Cores to license	8	8	16			
	PVUs per Core	100	100				
	SRP* per PVU	$155	$66				
	Total SRP (Cores x PVUs x SRP)	$124,000	$52,800	$176,800	N/A	N/A	N/A
Scenario 2: ▶ Server with two static Partitions	Number of Cores to license	8	8	16	8	4	12
	PVUs per Core	100	100		100	100	
	SRP* per PVU	$155	$66		$155	$66	
	Total SRP (Cores x PVUs x SRP)	$124,000	$52,800	$176,800	$124,000	$26,400	$150,400
Scenario 3: ▶ Server with Virtualized Environment	Number of Cores to license	8	8	16	6	4	10
	PVUs per Core	100	100		100	100	
	SRP* per PVU	$155	$66		$155	$66	
	Total SRP (Cores x PVUs x SRP)	$124,000	$52,800	$176,800	$93,000	$26,400	$119,400

* Suggested retail price for New License and first 12 months maint. for WebSphere Application Server Network Deployment and WebSphere MQ products

Processor Capacity – Full Capacity vs. Sub-capacity

▶ Full capacity licensing

– Customers acquire Processor Value Unit (PVU) licenses based on processor capacity available on server (all *activated* processor cores multiplied by PVUs per core)

– PVU tiers based on performance of processor cores

▶ Sub-capacity licensing for virtualized systems

– Customers acquire PVUs for virtual processor capacity available

• Technology enables customers to restrict processor capacity available to middleware

– Virtual processor capacity enables over-assignment of processor resources

– Effectively increases processor capacity utilized and reduces customer TCO

Benefits of IBM's Processor Capacity Licensing

▶ **Licensing to the core**

– More granular measure of processor capacity available

▶ **PVU licensing**

– Flexible structure allows licensing to more closely track to the value a customer can receive from processor capacity available to software

▶ **Sub-capacity licensing**

– Allows customers to license less than the full capacity of the server

– Customers can leverage virtualization technologies to optimize their system design and improve their overall TCO

Useful Links

- ## Sub-capacity licensing

  – http://www-142.ibm.com/software/sw-lotus/services/cwepassport.nsf/wdocs/subcaplicensing

  – **Included on this page:**

    - Sub-capacity Eligible product list

    - Sub-capacity Eligible Virtualization Technologies

    - Sub-capacity Eligible Processor Technologies

- ## Processor Value Unit licensing

  – http://www-306.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

  – **Included on this page:**

    - PVU Table

    - PVU Resources for Customers

    - PVU Calculator

For more information please contact your IBM Marketing representative or your IBM Business Partner representative