



IBM Passport Advantage Software

Sub-capacity (Virtualization) License Counting Rules

Factory Deconfiguration, Processor Deconfiguration and TurboCore on IBM Power Systems servers to Limit Processor Cores Available

NOTE: Please use these rules in conjunction with the Passport Advantage Agreement

<http://www-01.ibm.com/software/lotus/passportadvantage/agreementsandforms.html>

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Summary of Virtualization Capacity Licensing Requirements

- Customers must:
 - ▶ Agree to the terms of the Sub-capacity Attachment, and follow Virtualization Capacity License Counting rules for their Eligible Virtualization Environment(s)
 - ▶ Use Eligible Sub-capacity Products
 - ▶ Use Eligible Virtualization Technologies
 - ▶ Use Eligible Processor Technologies
 - ▶ Use the IBM License Metric Tool (ILMT) and maintain report documentation
 - Tivoli Asset Discovery for Distributed V7.2 (TADd) may be used in lieu of IBM License Metric Tool
 - Certain ILMT / TADd use exceptions may apply

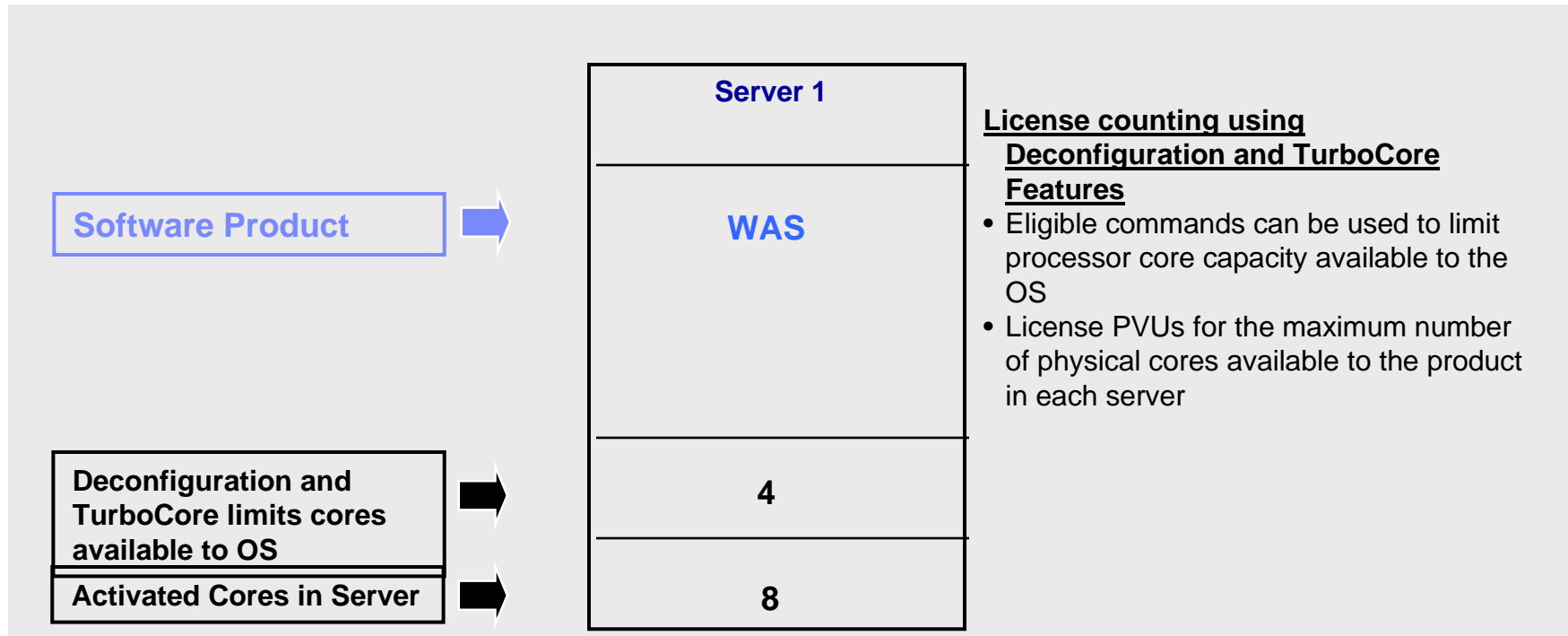
PLEASE NOTE:

- *The above is only a summary. For details about sub-capacity licensing requirements, see the Sub-capacity Attachment and other information referred to above, at [Passport Advantage Virtualization Capacity website](http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html)*
<http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html>
- *Customers are responsible for the installation of the IBM License Metric Tool and for the server it runs on.*

Deconfiguration and TurboCore for Power Systems Servers - Definitions

- **Factory and Processor Deconfiguration** – Feature allowing to take some of the processor cores offline.
- **TurboCore** - In standard or MaxCore mode, the Power system uses all processor cores and has access to the entire L3 cache. In TurboCore mode, only a fraction of the cores are available but at a higher frequency and these cores have access to the entire L3 cache. Thus, in Turbo-core mode there are fewer cores running at a higher frequency with a higher core-to-L3-cache ratio. TurboCore is limited to selected Power7 servers.

License counting for a Power Systems Server using Factory Deconfiguration, Processor Deconfiguration or TurboCore to limit processor core capacity available



► For above example, the PVU Virtualization Capacity licensing requirement is based on the maximum number of physical cores available to a product in each server

Cores to License	Server 1	Virtualization Capacity	Full Capacity
WAS	4	4	8

Factory Deconfiguration, Processor Deconfiguration or TurboCore for Power Systems Servers - Licensing Rules

The PVU Virtualization Capacity licensing requirement is based on the maximum number of physical cores available to a product in each server

- The licensing rules in the preceding pages reflect how ILMT will operate to calculate PVUs
- If ILMT does not yet support a Eligible Virtualization Environment, or you qualify for an exception to use ILMT, you will need to follow the Manual Calculation of Virtualization Capacity.
- The Manual Calculation of Virtualization Capacity rules can be found in the following pages
- To find out if a Eligible Virtualization Technology is supported by ILMT visit [Passport Advantage Sub-capacity licensing information](http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html)
<http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html>

Manual Calculation of Virtualization Capacity

- Eligibility Criteria: Customers must use the IBM License Metric Tool, with the following exceptions
 - ▶ ILMT does not support the Eligible Virtualization Environment
 - ▶ Customer has fewer than 1000 employees and contractors - [Tool recommended](#)
 - ▶ Customer server Full Capacity licensing for a PVU product is less than 1000 PVUs (on servers with an Eligible Virtualization Environment) - [Tool recommended](#)
- Requirements: For the above exceptions, customers must manually manage, track and prepare Audit Reports
 - ▶ An Audit Report must be prepared at least once per quarter and identify the following detail: Each Eligible Sub-Capacity Product deployed in each Eligible Virtualization Environment
 - ▶ An Eligible Virtualization Environment can be a Single Server or a Group of Servers (Server Cluster)
 - ▶ In addition to the above detail, the report should provide a summary total of the required number of PVUs by and for each Eligible Sub-Capacity Product
 - ▶ Audit Reports must be prepared as frequently as is required to maintain a history of increases to Virtualization Capacity and Full Capacity
 - ▶ Each Audit Report must be **signed and date stamped**, at least once per quarter

The above is only a summary. For detailed terms please see the [Passport Advantage Sub-capacity licensing information](http://www-01.ibm.com/software/lotus/passportadvantage/agreementsandforms.html) (<http://www-01.ibm.com/software/lotus/passportadvantage/agreementsandforms.html>)

Manual Calculation of Virtualization Capacity – Rules

The PVU Virtualization Capacity licensing requirement is based on the maximum number of physical cores available to a product in each server

Manual Calculation of Virtualization Capacity - Worksheet Example

**Worksheet has 3 tabs;
use the following tabs**

- Instructions & Information
- Single Server
- Group of Servers “Cluster”

Web Link:

http://public.dhe.ibm.com/software/passportadvantage/SubCapacity/Manual_Calculation_of_Virtualization_Capacity_Apr_2012.xls

VIRTUALIZATION ENVIRONMENT - SINGLE SERVER		
- This worksheet is for one standalone server for one Software Product		
- Per the instructions on the first tab, you may choose to leverage this approach or develop / leverage your own processes and reporting format so long as you capture all of the information below		
- Enter data in input fields below (shaded area)		* Mandatory
Date of this Audit Report *	March 31, 2009	
Product Name *	IBM WEBSPPHERE APPLICATION SERVER NETWORK DEPLOYMENT	
Program Identification Number (57xx-xxx)	5724-H88	
P/N Description	IBM WEBSPPHERE APPLICATION SERVER NETWORK DEPLOYMENT PROCESSOR VALUE UNIT (PVU)	
Part Number	D55WJLL	
Server ID / Location	Server ID # F6015; Bldg 1, Room 1, Somers, NY	
Server Vendor / Brand	IBM System x	
Server Model	xxxxx	
Virtualization Technology used *	VMware ESX 3.5	
Processor Technology (Vendor, Brand, Type, Model#) * (A)	Intel Xeon Quad Core Model 35XX	
PVUs per core * (A)	70	
Total Activated Cores on Server * (C)	8	
Full Capacity PVUs for Server * (C)	560	
DO NOT DELETE ROW		
VM, Partition ID * (whatever identifier used for any subdivision of a server such as LPAR #, IP address, hostname, etc.)	Cores (B) per Partition or VM *	User Comments
A	4	
B	4	
C	2	
D	2	
Sum of Virtual Cores *	12	
PVUs per core *	70	
Virtualization Capacity PVUs by Product for Server *	840	
PVU Licenses required by Product for Server * (C)	560	
* Mandatory Field		
(A) PVU's required for each physical processor core are listed on the PVU table (see link below, including vendor/brand designations) http://www-01.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html		
(B) For purposes of 'Manual Calculation' of Virtual Capacity, 1 virtual core (or CPU) is equivalent to 1 physical core. Enter values in whole cores.		
(C) Lower of Full Capacity or Virtualization Capacity		
▶ ▶ Instructions + Information Single Server Group of Servers "Cluster"		

Key Web Links

■ PVU

■ [PVU table and other information](http://www-01.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html)

http://www-01.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

■ Sub-capacity

■ [Passport Advantage Sub-capacity licensing information](http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html)

<http://www-01.ibm.com/software/lotus/passportadvantage/subcaplicensing.html>

■ [Virtualization Capacity License Counting Rules](http://www-01.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html)

http://www-01.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html

■ [Passport Advantage Agreement Terms](http://www-01.ibm.com/software/lotus/passportadvantage/agreementsandforms.html)

<http://www-01.ibm.com/software/lotus/passportadvantage/agreementsandforms.html>