Licensing Windows Server by virtual machine

Hosting and outsourcing changes overview

On October 1, 2022, Microsoft implemented some changes to enable new scenarios for customers who would like to run workloads with infrastructure outsourcers. The changes are shown below, and this handout focuses on the option to license Windows Server by virtual machine, with other handouts in this series focusing on the other two changes.

A new licensing benefit	A new licensing option	A new program
Flexible Virtualization Benefit	Licensing Windows Server by virtual machine	CSP-Hoster program

Availability of Windows Server 2022 licenses

There are two editions of Windows Server 2022 – **Standard** and **Datacenter** – and both editions are licensed with the **Per Core and CAL** model.

Customers may acquire Core licenses and CALs **with Software Assurance** through any of the Volume Licensing programs. The license type depends on the program that the license is purchased through: **subscription** licenses may be used for the term of the agreement, while **perpetual** licenses are owned by the customer and may be used forever.

Customers may also buy the Core licenses and CALs **without Software Assurance** through the Select Plus or MPSA programs, or through the Cloud Solution Provider program. In these cases, the licenses are **perpetual**.

Core licenses and CALs are also available as **Software Subscriptions** purchased through the Cloud Solution Provider program. These Software Subscriptions are available as 1- or 3-year terms with payment options differing according to the length of the subscription: upfront in-full or monthly for 1-year terms, and upfront in-full or annually for 3-year terms.

Licensing by physical server

Licensing by physical server is an option for customers who have licenses with or without Software Assurance or who have subscription licenses. All physical cores must be licensed, with a **minimum of 8** Core licenses assigned to a processor, and a **minimum of 16** Core licenses assigned to the server. This server has 32 Core licenses assigned to it since there are four 4-core processors. CALs are required for users or devices.

If **Windows Server Datacenter** Core licenses are assigned to the server, then Windows Server Datacenter may run in the physical Operating System Environment (POSE) and in an unlimited number of virtual machines.

If **Windows Server Standard** Core licenses are assigned to the server, then Windows Server Standard may run in two virtual machines and in the POSE for the purpose of managing those VMs. To license the 8 virtual machines for Windows Server Standard edition you need to license the server 3 more times to run 3 x 2 = 6 more virtual machines. Thus, a total of 4 x 32 = 128 Windows Server Standard Core licenses would need to be assigned to this server.

Licensing by virtual machine

Licensing by virtual machine is an option for customers who have licenses with **Software Assurance** or who have **subscription** licenses. All virtual cores in a virtual machine must be licensed, with a minimum of 8 Core licenses assigned to a virtual machine. The server above has 16 Core licenses assigned to it since there are two virtual machines, each requiring 8 Core licenses. CALs are required for users or devices.
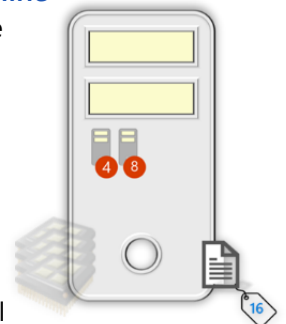
Notes:

- *CALs must also have active SA or be subscription licenses. Note that this includes licenses such as Microsoft 365 E3 which is a subscription license including CAL Equivalent rights for Windows Server*

- *Customers choosing this licensing model do not have rights to run Windows Server in the physical Operating System Environment*

Licensing a server farm

Windows Server NOT running in the POSE

In the diagram below, eight 2-core virtual machines will run Windows Server Standard and move dynamically across 2 physical servers with four 4-core processors. Windows Server Standard will not run in the physical Operating System Environments:
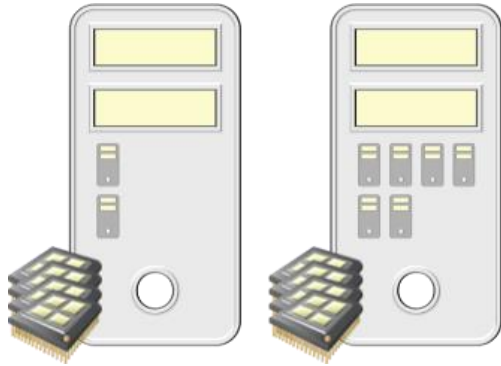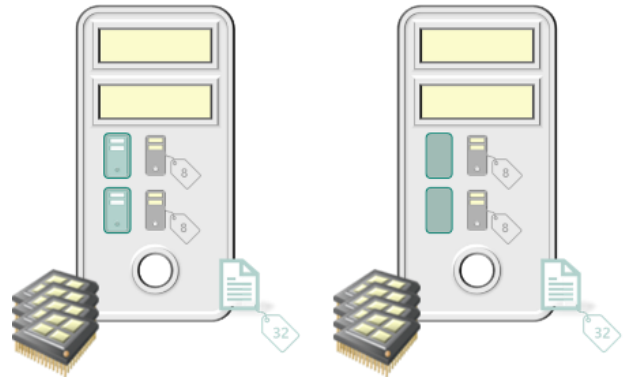

In this scenario, each virtual machine requires 8 Windows Server Standard Core licenses (with SA or subscription licenses) for a total of 64 Core licenses across the 2 servers.

Relaxed reassignment rules apply so that licenses may dynamically be reassigned to a different physical server as the virtual machines move.

Windows Server running in the POSE

In the diagram below, six 2-core virtual machines will run Windows Server Standard and move dynamically across 2 physical servers with four 4-core processors. Windows Server Standard will also run in the physical Operating System Environments:

In this scenario, each physical server needs to be licensed with 32 Core licenses which will allow Windows Server Standard to be run in the POSE and in two virtual machines across the two physical servers (allocation shown in green). 8 Windows Server Standard Core licenses (with SA or subscription licenses) are then assigned to each of the remaining 4 virtual machines. All 6 virtual machines may then move freely across the physical servers.

Licensing Windows Server with CSP-Hoster solutions

Introduced in April 2023, new licensing rules benefit customers using solutions where server software is acquired from, fulfilled by, and hosted by a Cloud Solution Provider-Hoster partner.

Eligible licenses:

- Windows Server Standard or Datacenter Core licenses sold as Software Subscriptions through the CSP-Hoster

Licensing rules:

- License all the virtual cores with a minimum of 8 Core licenses per virtual machine
- Assign further licenses for additional cores in a VM
- **No CALs** or **External Connector** licenses are required
- Possible to use Standard licenses with Datacenter edition virtual machines

Licensing Windows Server with the Azure Hybrid Benefit

The Azure Hybrid Benefit allows a customer to use their licenses to license the software part of virtual machines in Azure.

Eligible licenses:

- Windows Server Standard or Datacenter Core licenses acquired as Software Subscriptions or as licenses with active Software Assurance

Licensing rules:

- License all the virtual cores with a minimum of 8 Core licenses per virtual machine
- Assign further licenses for additional cores in a VM
- **No CALs** or **External Connector** licenses are required
- Possible to use Standard licenses with Datacenter edition virtual machines