

Windows Server 2022 Licensing Guide

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Introduction

This guide can help Microsoft Commercial Licensing customers understand how Windows Server 2022 is licensed through Microsoft Commercial Licensing programs. This guide is for informational purposes and does not supersede or replace any documentation covering Windows Server 2022 licensing.

Specific license terms for Windows Server 2022 are defined in the Microsoft Commercial Licensing Product Terms, the Microsoft Commercial Licensing agreement under which it was acquired, and/or its original equipment manufacturer (OEM) or Retail Software License Terms. This licensing guide is not a legal use rights document. Program specifications and business rules are subject to change.

For complete details and information on licensing, refer to the [Product Terms](#) for Commercial Licensing use rights, or the [Microsoft License Terms](http://www.microsoft.com/en-us/legal/intellectualproperty/UseTerms/default.aspx) for OEM and retail. Additional information about Windows Server 2022, including the latest version of this guide, is available on the [Microsoft Licensing Resources and Documents site, Windows Server page](#).

Product overview

Windows Server 2022 is the cloud-ready operating system customers can use to securely run their workloads, enable new hybrid cloud scenarios, and modernize their applications to meet evolving business requirements. It brings customers advanced multi-layer security, unique capabilities with Azure, and a flexible application platform.

Advanced multi-layered security Customers can take advantage of multi-layer security with [Secured-core server](#) and secured connectivity. [Secured-core server](#) means our hardware partners have provided hardware, firmware, and drivers to help customers harden the security of their critical systems. It allows IT and SecOps teams to apply comprehensive security broadly in their environment with Secured-core server's advanced protection and preventive defense across hardware, firmware, and virtualization layers.

Hybrid capabilities with Azure Customers choosing a hybrid and multicloud approach to digitally transform their businesses can now take advantage of cloud services with on-premises Windows Server 2022 by connecting with [Azure Arc](#). Additionally, in Windows Server 2022 customers can take advantage of the File Server enhancements such as [SMB Compression](#). SMB Compression improves application file transfer by compressing data while in transit over a network. Finally, [Windows Admin Center](#), a tool loved by admins, brings modern server management experience such as with a new event viewer and gateway proxy support for Azure connected scenarios.

Flexible application platform Customers who upgrade to Windows Server 2022 can take advantage of scalability improvements such as support for 48TB of memory and 2,048 logical cores running on 64 physical sockets for those demanding Tier1 applications. In this release, customers can also take advantage of advancements to Windows containers. For example, Windows Server 2022 improves application compatibility of Windows containers, includes HostProcess containers for node configuration, supports IPv6 and dual-stack, and enables consistent network policy implementation with Calico.

Edition overview and comparison

The Windows Server 2022 product is streamlined and simple, making it easy for customers to choose the edition that is right for their needs. Choose from three primary editions of Windows Server, based on organization size as well as virtualization and datacenter requirements:

Datacenter edition is ideal for highly virtualized and software-defined datacenter environments.

Standard edition is ideal for customers with low density or non-virtualized environments.

Essentials edition is a cloud-connected first server, ideal for small businesses with up to 25 users and 50 devices.. Windows Server 2022 Essentials edition is available to purchase from OEMs only.

A Windows Server 2022 Standard and Datacenter edition comparison can be viewed [here: Windows Server 2022 Licensing & Pricing | Microsoft](#)

Server licensing and feature overview

Windows Server 2022 Datacenter and Windows Server 2022 Standard are licensed under a core-based license model. For both Datacenter and Standard , the number of core licenses required depends on whether a customer is licensing based on the physical cores on the server or by virtual machine. The option to license Windows Server by virtual machine was added in October 2022, and is available to customers with subscription licenses or licenses with active Software Assurance only.

- When licensing based on the physical cores on the server, the number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server.
- When licensing by virtual machine, the number of core licenses required equals the number of virtual cores in the virtual operating system environment (i.e., virtual machine), subject to a minimum of 8 core licenses per virtual machine and 16 core licenses per customer.

Core licenses are sold in 2-packs and 16-packs. For complete details and information on licensing, refer to the [Product Terms](#). To learn more about core licensing see the [Introduction to Microsoft Core Licensing licensing brief](#).

Attribute	Datacenter	Standard	Essentials
Licensing model	Per Core/CAL ¹	Per Core/CAL ¹	OEM only ²
License type	Core license	Core license	Server license
OSEs/Hyper-V containers	Unlimited/One ³	Two ⁴ /One ³	One ⁵
Windows Server containers	Unlimited	Unlimited	

¹When licensing based on physical cores on the server, all physical cores on the server must be licensed, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. When licensing by virtual machine, the number of core licenses required equals the number of virtual cores in the virtual operating system environment, subject to a minimum of 8 core licenses per virtual machine and 16 core licenses per customer. Licensing by virtual machine requires subscription licenses or licenses with active Software Assurance.

²Windows Server Essentials edition server is for small businesses with up to 25 users and 50 devices. A server license covers up to 10 cores and 1 VM on single-socket servers. Windows Server Essentials is available through our OEM Server Hardware partners only.

³When licensed by virtual machine, both Windows Server Standard and Windows Server Datacenter use of Windows Server in one virtual OSE on the licensed server. Licensing by virtual machine requires subscription licenses or licenses with active Software Assurance.

⁴When licensed based on the physical cores on the server, Windows Server Standard permits use of the server software in the physical OSE on the licensed server (in addition to two virtual OSEs), if the physical OSE is used solely to host and manage the virtual OSEs.⁵Windows Server Essentials edition permits use of one running instance of the server software in the physical OSE on the licensed server (in addition to one virtual OSE), if the physical OSE is used solely to host and manage the virtual OSE.

Virtualization rights

Datacenter edition

Licensing based on physical cores

As shown in the table above, when licensed based on the physical cores on a server, Windows Server Datacenter provides rights to use any number of operating system environments (physical or virtual

OSEs) or Windows Server Containers with Hyper-V isolation as well as any number of Windows Server containers without Hyper-V isolation on that server.

Licensing by virtual machine

When licensed by virtual machine, Windows Server Datacenter provides rights to use the software in either one virtual OSE, one Windows Server container with Hyper-V isolation or any number of Windows Server containers without Hyper-V isolation in one virtual OSE.

Standard edition

Licensing based on physical cores

When licensed based on the physical cores on a server, Windows Server Standard provides rights to use two operating system environments (physical or virtual OSEs) or Windows Server Containers with Hyper-V isolation and unlimited Windows Server Containers without Hyper-V isolation on that server. When licensed based on physical cores, Standard edition also permits use of the server software in the physical OSE on the licensed server (in addition to two virtual OSEs), if the physical OSE is used solely to host and manage the virtual OSEs.

Licensing by virtual machine

As with Datacenter, when licensed by virtual machine, Windows Server Standard provides rights to use the software in either one virtual OSE, one Windows Server Container with Hyper-V isolation or any number of Windows Server Containers without Hyper-V isolation in one virtual OSE.

For example, a 2-processor server with 8 cores per processor requires 16 core licenses (for example, one 16-pack of core licenses or eight 2-packs of core licenses) and gives rights to two OSEs (physical or virtual) or two Windows Server Containers with Hyper-V isolation. In the case of this example, for each additional two OSEs or two Windows Server Containers with Hyper-V isolation the customer wishes to use, an additional 16 core licenses must be assigned to the server. Alternatively, the customer could license additional OSEs or containers by virtual machine.

Essentials edition

Each server license provides rights to use one running instance of the server software in either a physical OSE or virtual OSE on the licensed server.

Nano Server licensing

Nano Server is an elective deployment option that provides a more active servicing model, which is similar to the experience with Windows 10. These periodic releases are known as Current Branch for Business (CBB). This approach supports customers who are moving at a “cloud cadence” of rapid development lifecycles and wish to innovate more quickly. With the Current Branch for Business (CBB) servicing model, Nano Server continues to receive new features and functionality.

For this reason, Software Assurance is required to deploy and operate Nano Server. Customers with active Software Assurance on Windows Server Standard or Datacenter licenses may install and use the Nano Server deployment option. Active Software Assurance is also required on Windows Server Base CALs. If the customer is licensed to access to advanced server functionality, such as Remote Desktop Services, active Software Assurance is also required on those applicable Windows Server Additive CALs.

Learn more about [Nano Server](#).

Determining the required number of core licenses

Server software licensing for Windows Server 2022 Standard and Datacenter requires core licenses. Customers may choose between licensing based on physical cores or licensing by virtual machine. Licensing by virtual machine is available only under subscription licenses or licenses with active Software Assurance. For each server

licensed based on physical cores, the number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. For each server licensed by virtual machine, the number of core licenses required equals the number of virtual cores in a virtual operating system environment, subject to a minimum of 8 core licenses per virtual machine and a minimum of 16 core licenses per customer. Core licenses are sold in 2-packs and 16-packs. For complete details on server licensing, refer to the [Product Terms](#).

Minimum requirements for Standard and Datacenter editions (licensed based on physical cores)

The table below provides examples for various server configurations, and the minimum number of core licenses required.

Standard: When all cores on the server are licensed (subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server), Standard has rights to use two OSEs or two Windows Server containers with Hyper-V isolation and unlimited Windows Server containers without Hyper-V isolation.

Datacenter: When all cores on the server are licensed (subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server), Datacenter edition has rights to use unlimited OSEs, Windows Server containers with Hyper-V isolation and Windows Server containers without Hyper-V isolation.

Server licensing	1-processor server		2-processor server		4-processor server	
	Required # cores licenses ¹	Required # 2-pack SKUs ²	Required # cores licenses ¹	Required # 2-pack SKUs ²	Required # cores licenses ¹	Required # 2-pack SKUs ²
Windows Server Standard & Datacenter						
2 cores per processor	16	8	16	8	32	16
4 cores per processor	16	8	16	8	32	16
6 cores per processor	16	8	16	8	32	16
8 cores per processor	16	8	16	8	32	16
10 cores per processor	16	8	20	10	40	20

¹Core licenses are sold in 2-packs as well as optional 16-packs (for convenience).

²Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights.

Licensing requirements of additional OSEs for Standard edition

When licensed based on physical cores, Windows Server Standard has rights to use two operating system environments (OSEs) or two Windows Server containers with Hyper-V isolation and unlimited Windows Server containers without Hyper-V isolation (licenses equal to the physical cores on the server are assigned (subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server). Once a server is licensed, customers may wish to license the server for additional OSEs or Hyper-V containers. This practice is often referred to as “stacking” and is allowed with Standard edition.

The table below provides examples of “stacking” scenarios for various server configurations, the minimum number of licenses required, and the resulting number of OSEs or Hyper-V containers provided. As a rule, for each additional set of two OSEs or two Hyper-V containers the customer wishes to use, the server must be relicensed for the same number of core licenses. Note that Datacenter edition has rights to unlimited virtualization so “stacking” therefore is not required. Also, as an alternative to fully relicensing based on physical cores, customers with subscription licenses or licenses with active Software Assurance can license additional OSEs by virtual machine.

"Stacking" Standard OSEs or Hyper-V containers	1-proc server with 16 cores		2-proc server with 16 cores		4-proc server with 32 cores	
	Required # cores licenses ¹	Required # 2-pack SKUs ²	Required # cores licenses ¹	Required # 2-pack SKUs ²	Required # cores licenses ¹	Required # 2-pack SKUs ²
2 per server	16	8	16	8	32	16
4 per server	32	16	32	16	64	32
6 per server	48	24	48	24	96	48
8 per server	64	32	64	32	128	64
10 per server	80	40	80	40	160	80

¹Core licenses are sold in 2-packs as well as optional 16-packs (for convenience).

²Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Volume customers should assess which pack sizes work best for them.

Server access licensing overview

Whether Windows Server is licensed based on physical cores or by virtual machine, server software access requires access licenses. Access licenses include Client Access Licenses (CALs) and External Connectors. Both CALs and External Connectors have Base and Additive licenses. Generally, CALs, whether Base or Additive, can be User or Device. For complete details on server access licensing, refer to the [Product Terms](#).

Structure and application of access licenses

Product	Class	Category	Type
Windows Server	Client Access License	Base	Per user or device
Windows Server Remote Desktop Services	Client Access License	Additive	Per user or device
Windows Server Active Directory Rights Management Services	Client Access License	Additive	Per user or device
Microsoft Identity Manager User	Client Access License	Additive	Per user
Windows Server	External Connector	Base	Per server*
Windows Server Remote Desktop Services	External Connector	Additive	Per server*
Windows Server Active Directory Rights Management Services	External Connector	Additive	Per server*
Microsoft Identity Manager User	External Connector	Additive	Per server*

*Each physical server accessed requires an External Connector.

CALs are required for users that are either the customer's or its affiliates' employees, or its or its affiliates' onsite contractors or onsite agents. CALs or, alternatively, External Connectors are required for users that are *not* either the customer's or its affiliates' employees, or its or its affiliates' onsite contractors or onsite agents.

CALs: Each user or device that accesses licensed servers requires a Windows Server CAL (Base CAL). Each user or device that accesses advanced functionality on the licensed server requires the CAL associated with that functionality (Additive CAL). Additive CALs must be licensed in addition to the corresponding Base CALs for access to advanced functionality.

External Connectors: External access to licensed servers requires CALs (Base CALs) for each accessing user or device or, alternatively, a Windows Server External Connector license (Base EC) for each server that is accessed. External access to advanced functionality on licensed servers requires the CAL associated with that functionality (Additive CAL) for each accessing user or device or, alternatively, the External Connector

license associated with that functionality (Additive EC) for each server accessed. Additive External Connector Licenses must be assigned in addition to the corresponding Base access license(s) for access to advanced functionality on the licensed server.

Access provided: Windows Server 2022 CALs and External Connectors licenses permit access to Windows Server 2022 server software and prior versions of Windows Server server software. To learn more about server access licenses, see the [Microsoft server Base and Additive Client Access Licenses Overview Licensing brief](#).

Each user CAL permits one user, using any device, to access instances of the server software on their licensed servers. Each device CAL permits one device, used by any user, to access instances of the server software on their licensed servers. External Connector licenses permit external user access to instances of the server software on the licensed servers. Customers may use a combination of User and Device CALs, and External Connector licenses as required. To learn more about indirect-access licensing, see the [Multiplexing - Overview Licensing brief](#).

Requirements for internal users – Client Access License (CAL)

For users that are either the customer's or its affiliates' employees, or its or its affiliates' onsite contractors or onsite agents:

Access License	Category	Datacenter	Standard	Essentials
Windows Server	Base	CAL ¹	CAL ¹	n/a
Windows Server Remote Desktop Services	Additive	CAL ^{2,3}	CAL ^{2,3}	n/a ⁴
Windows Server Active Directory Rights Management Services	Additive	CAL ²	CAL ²	CAL ⁵
Microsoft Identity Manager	Additive	CAL ^{2,6}	CAL ^{2,6}	n/a

¹Required for every user or device accessing the licensed server.

²Required (in addition to Base CAL) for every user or device accessing the advanced functionality.

³Also required (in addition to Base CAL) for use of Windows Server to host a graphical user interface.

⁴Not required for Remote Web Access feature of the Essentials edition. Only the RD Gateway role service is installed and configured, other RDS role services including RD Session Host are not supported.

⁵Required for each User Account through which a user directly or indirectly accesses the advanced functionality.

⁶Also required (in addition to Base CAL) for any person for whom the software issues or manages identity information.

Requirements for external users – Client Access License (CAL) and/or External Connector license (EC)

For users that are *not* either customer's or its affiliates' employees, or its or its affiliates' onsite contractors or onsite agents:

Access License	Category	Datacenter	Standard	Essentials
Windows Server	Base	CAL ¹ / EC ⁷	CAL ¹ / EC ⁷	n/a
Windows Server Remote Desktop Services	Additive	CAL ^{2,3} / EC ^{8,3}	CAL ^{2,3} / EC ^{8,3}	n/a ⁴
Windows Server Active Directory Rights Management Services	Additive	CAL ² / EC ⁸	CAL ² / EC ⁸	CAL ⁵
Microsoft Identity Manager	Additive	CAL ^{2,6} / EC ^{8,9}	CAL ^{2,6} / EC ^{8,9}	n/a

¹Required for every user or device accessing the licensed server.

²Required for every user or device accessing the licensed server, if the advanced functionality is accessed.

³Also required for use of Windows Server to host a graphical user interface.

⁴Not required for Remote Web Access feature of the Essentials edition. Only the RD Gateway role service is installed and configured, other RDS role services including RD Session Host are not supported.

⁵Required for each user account through which a user directly or indirectly accesses the advanced functionality.

⁶Also required for any person for whom the software issues or manages identity information.

⁷Required for each physical server (any number of OSEs) that is accessed.

⁸Required for each physical server (any number of OSEs) that is accessed, if the advanced functionality is accessed.

⁹Also required for any external user for whom the software issues or manages identity information (in absence of CALs).

Use of Client Access Licenses (CALs) or External Connectors (ECs)

CALs and ECs permit access to instances of the server software on licensed servers. CALs and ECs permit access to the same version, or earlier versions, of the server software. All server software access requires CALs, ECs, or CAL Equivalent licenses. CAL equivalent licenses include User Subscription Licenses (SLs) corresponding to the base or advanced functionality. Examples include the Core CAL, the Microsoft 365 E3/E5 User SL, and individual service SLs, such as Azure Information Protection P1 User SL and Azure Active Directory Premium User SL. For more information about which CAL equivalent licenses correspond to Windows Server, see the [Product Terms](#).

	Windows Server 2022	Windows Server 2019	Windows Server 2016	Windows Server 2012 R2	Windows Server 2012
2022 CAL/EC	Yes	Yes	Yes	Yes	Yes
2019 CAL/EC	No	Yes	Yes	Yes	Yes
2016 CAL/EC	No	No	Yes	Yes	Yes

CALs and ECs are not required:

For access by another licensed server (for example, one licensed server accessing another licensed server).

To access server software running a web workload (such as content served within an Internet web solution on a publicly available website) or high-performance computing (HPC) workload (such as server software used to run a cluster node, in conjunction with other software on a cluster node, for the purposes of supporting the clustered HPC applications).

For access in a physical OSE used solely for hosting and managing virtual OSEs (for example, if 2022 is used in a physical OSE as the hypervisor, but all virtual OSEs are 2019, only 2019 CALs or ECs are required).

Software Assurance benefits

Microsoft Commercial Licensing customers with active Software Assurance get more out of their Microsoft software and services investments with access to a unique set of technologies, services, and license rights to help use Microsoft products efficiently. Here is a list of just a few of the benefits that customers can receive with Software Assurance for Windows Server:

New version rights: Upgrade each product license covered by active Software Assurance to the most recent version when available.

Step-up licenses: Customers with active Software Assurance can migrate from a lower- to higher-level edition of certain products (for example, from Windows Server 2022 Standard to Windows Server 2022 Datacenter). Note that the Step-up license option is not available through the Open License.

Back-up for disaster recovery: Provides additional instances for servers used as offline (“cold”) backups, to help customers recover in case of a catastrophic event. See below for additional details.

Azure Hybrid Benefit for Windows Server: Customer may upload and use their own Windows Server images on Microsoft Azure through Azure Virtual Machines (“Base Instances”) and pay only for the cost of service utilization of the Base Instances. To learn more see [here](#).

Nano Server: Customers with active Software Assurance on Windows Server Standard or Datacenter licenses may install and use the Nano Server deployment option. Active Software Assurance is also required on Base Access Licenses and Additive Access Licenses.

Flexible Virtualization Benefit: Expands your outsourcing options for software to include Authorized Outsourcers' shared servers. This benefit is available broadly for software products under your subscription licenses and licenses with Software Assurance. For more information, see the [Flexible Virtualization Benefit Licensing guide](#).

Disaster recovery rights

For each instance of eligible server software that a customer runs in a physical or virtual OSE on a licensed server, they may temporarily run a backup instance in a physical or virtual OSE on either (a) servers dedicated to disaster recovery and to the customer's use, or (b) for instances of eligible software other than Windows Server, on Microsoft Azure Services, provided that the backup instance is managed by Azure Site Recovery to Azure. The license terms for the software and the following limitations apply to the customer's use of the backup instance.

The backup instance can run only during the following exception periods:

- For brief periods of disaster recovery testing within one week every 90 days.

- During a disaster, while the production server being recovered is down.

- Around the time of a disaster, for a brief period, to assist in the transfer between the primary production server and the disaster recovery server.

To use the software under disaster recovery rights, the customer must comply with the following terms:

- The OSE on the disaster recovery server must not be running at any other times except as above.

- The OSE on the disaster recovery server may not be in the same cluster as the production server.

- Other than backup instances running on Microsoft Azure Services, a Windows Server license is not required for the disaster recovery server if the Hyper-V role within Windows Server is used to replicate virtual OSEs from the production server at a primary site to a disaster recovery server.

- The disaster recovery server may be used only to run hardware virtualization software (such as Hyper-V), provide hardware virtualization services, run software agents to manage the hardware virtualization software, serve as a destination for replication, receive replicated virtual OSEs, test failover, and/or await failover of the virtual OSEs.

- Run disaster recovery workloads as described above.

- The disaster recovery server may not be used as a production server.

- Use of the software backup instance should comply with the license terms for the software.

- Once the disaster recovery process is complete and the production server is recovered, the backup instance must not be running at any other times except those times allowed here.

- Maintain Software Assurance coverage for all CALs, External Connector licenses and Server Management Licenses under which their access the backup instance and manage the OSEs in which that software runs.

- The customer's right to run the backup instances ends when their Software Assurance coverage ends.

Specific Software Assurance benefit eligibility can vary by Commercial Licensing program (such as an Enterprise Agreement or Open Value Agreement) and product, as well as the number of qualifying licenses that are enrolled in Software Assurance. Visit [Software Assurance](#) for more information.

Original equipment manufacturer (OEM) licenses – enrollment into Software Assurance

Software Assurance is available for the latest version (determined by the most recent version available on the Commercial Licensing Service Center) of the software: Windows Server 2022. Customers must acquire Software Assurance within 90 days of purchase (see the [Product Terms, Software Assurance section](#) for details). If a customer acquires Software Assurance for an OEM license, their use of the software becomes subject to the Microsoft Product Terms for that product and the terms and conditions or their organization's Commercial Licensing agreement.

How to buy Windows Server licenses

Windows Server software licenses are sold through channels designed to meet the unique needs of customers. These sales channels include online retailers offering full packaged product (FPP) licenses of Windows Server software, original equipment manufacturers (OEMs) offering pre-installed licenses with their hardware systems, as well as Licensing Solutions Partners (LSPs) and Enterprise Software Advisors (ESAs) offering Windows Server software through Microsoft Commercial Licensing programs for end-customer organizations.

Commercial Licensing

For organizations with as few as five users, Microsoft offers licensing programs to help reduce administrative overhead and software management costs, while enabling product licensing on an ongoing basis at a considerable discount. The various licensing options enable customers to choose the program that works best for their management and operational needs.

Comprehensive programs that offer Software Assurance as a fixed benefit: Open Value (OV), Open Value Subscription (OVS), Enterprise Agreement, Enterprise Agreement subscription, Server and Cloud Enrollment (SCE).

Transactional programs: Microsoft Customer Agreement and the Microsoft Products and Services Agreement (MPSA). Windows Server is not available through the Microsoft Independent Software Vendor (ISV) Royalty Licensing Program.

Microsoft also offers programs that can meet the specific needs of organizations that partner with Microsoft to provide additional software and services, such as the Microsoft Services Provider License Agreement (SPLA).

Server and Cloud Enrollment (SCE)

The Server and Cloud Enrollment is an enrollment under the Microsoft Enterprise Agreement that enables highly committed customers to standardize broadly on one or more key server and cloud technologies from Microsoft. In exchange for making an installed base-wide commitment to one or more components of the Server and Cloud Enrollment, customers receive the best pricing and terms, plus other benefits, including cloud-optimized licensing options and simplified license management.

Channel availability

This table below shows the primary channel availability for Windows Server 2022 software licenses. Every edition may not be available in all channels or licensing programs in all regions.

For details about Microsoft Licensing Programs, visit the [Licensing Resources and Documents site, Programs page](#).

Windows Server 2022	Commercial Licensing programs			Third party		Retail	Other
	EA/EAS/SCE ¹	MPSA ²	MCA	SPLA ³	OV/OVS ⁴	FPP/ESD ⁵	OEM ⁶
Datcenter edition	•	•	•	•		•	•
Standard edition	•	•	•	•		•	•
Essentials edition							•

¹EA/EAS/SCE = Enterprise Agreement, Enterprise Subscription Agreement, and Server and Cloud Enrollment

²MPSA = Microsoft Products and Services Agreement

³SPLA = Services Provider License Agreement

⁴OV/OVS = Open Value/Open Value Subscription Licensing Program

⁵FPP/ESD = Full Package Product and Electronic Software Download

⁶OEM = original equipment manufacturer

MCA = Microsoft Customer Agreement

Availability through Commercial Licensing programs

Licenses for Windows Server editions are available in the following Microsoft Commercial Licensing programs.

	OL ¹	S/S+ ²	MPSA ³	OV/OVS ⁴	EA/EAS ⁵	OVS-ES ⁶	EES ⁷	MCA ⁸
Datcenter Edition	•	•	•	•	•	•	•	•
Standard Edition	•	•	•	•	•	•	•	•

¹OL = Open License (The Open License program was retired December 31, 2021. New licenses are no longer available as of January 1, 2022).

²S/S+ = Select and Select Plus

³MPSA = Microsoft Products and Services Agreement

⁴OV/OVS = Open Value and Open Value Subscription

⁵EA/EAS = Enterprise Agreement and Enterprise Subscription Agreement

⁶OVS-ES = Open Value Subscription – Education Solutions

⁷EES = Enrollment for Education Solutions

⁸MCA = Microsoft Customer Agreement

Volume Activation

Volume Activation is a set of technologies and tools designed to automate the product activation process for systems that are deployed under a Microsoft Commercial Licensing agreement. Windows Server 2022 includes technologies designed to simplify the task of configuring the distribution and management of an organization's volume software licenses. For more information, visit [Volume Activation Overview](#).

The Volume Activation Services server role: Volume Activation Services is a server role in Windows Server (2012 or later editions) that enables a customer to automate and simplify the issuance and management of Microsoft software volume licenses for a variety of scenarios and environments. With Volume Activation Services, customers can install and configure the Key Management Service (KMS) and enable Active Directory-based Activation.

Key Management Service (KMS): KMS is a role service that allows organizations to activate systems within their network from a server where a KMS host has been installed. With KMS, IT pros can complete

activations on their local network, eliminating the need for individual computers to connect to Microsoft for product activation. KMS does not require a dedicated system, and it can be cohosted on a system that provides other services. By default, volume editions of Windows client and server operating systems connect to a system that hosts the KMS service to request activation. No action is required from the user.

Active Directory-based activation: Active Directory-based activation is a role service that allows the customer to use Active Directory Domain Services (Active Directory DS) to store activation objects, which can further simplify the task of maintaining volume activation services for a network. With Active Directory-based activation, no additional host server is needed, and activation requests are processed during computer startup.

Any computers running Windows 8 (or later editions) and Windows Server 2012 (or later editions) with a [Generic Volume License Key \(GVLK\)](#) that are connected to the domain will activate automatically and transparently. They will stay activated as long as they remain members of the domain and maintain periodic contact with a domain controller. Activation takes place after the licensing service starts. When this service starts, the computer running Windows 8 (or later editions) and Windows Server 2012 (or later editions) contacts Active Directory DS automatically, receives the activation object, and activates without user intervention.

Downgrade rights

Windows Server is streamlined and simple, making it easy for customers to choose the edition that is right for their needs. Choose from three primary editions of Windows Server, based on organization size as well as virtualization and datacenter requirements. Customers can also choose to deploy earlier versions of the same edition or lower editions in place of what they are licensed for. These are referred to as “downgrade rights” and “down edition rights.” When invoking downgrade rights or down edition rights, the license terms of the version and edition acquired still govern use of the software.

Licensed edition	Deployment options ¹		
	Down editions	Versions ²	Use rights ³
Windows Server 2022 Datacenter	Windows Server Datacenter	2019 or earlier	2022
	Windows Server Standard	2019 or earlier	2022
	Windows Server Essentials	2019 or earlier	2022
	Windows Web Server	2008 R2 or earlier	2022
	Windows HPC Server	2008 R2 or earlier	2022
Windows Server 2022 Standard	Windows Server Standard	2019 or earlier	2022
	Windows Server Essentials	2019 or earlier	2022
	Windows Web Server	2008 R2 or earlier	2022
	Windows HPC Server	2008 R2 or earlier	2022

¹Shows software editions and versions that may be used in place of the appropriately licensed edition in a given OSE.

²Customers may downgrade to any other version as long as they have the appropriate media and keys.

³All use rights are still governed by the licensed edition.

Planning for Windows Server 2022

When planning to deploy Windows Server 2022, either through upgrades or new licenses, remember the following:

Select the edition of Windows Server 2022 based on virtualization needs and edition features:

Datacenter edition for highly virtualized and software-defined datacenter environments

Standard edition for low-density or non-virtualized environments

Renewing Software Assurance is the best way to protect investments and provide access to new versions, Deployment Planning Services, and technical assistance

Core CAL and Enterprise CAL Suites will continue to be the most cost-effective way to purchase Windows Server CALs to access workloads running on Windows Server 2022 Standard and Datacenter editions.

The Microsoft Core Infrastructure Suite (CIS) will continue to offer the best value for private cloud and datacenter management pricing.

Learn how flexible payments can help get the IT the customer needs and stay on budget. For program details, visit [Microsoft Financing](#), contact a Microsoft Solution Partner directly, or call (800) 936-3500 in the United States and Canada.

Prices and pricing levels vary. Microsoft does not determine pricing or payment terms for licenses acquired through resellers. Microsoft reaches customers at sales offices, support centers, and technology centers around the world. For specific pricing, [connect with a Microsoft reseller at a sales office](#).

Frequently asked licensing questions (FAQ)

For complete details and information on licensing, refer to the [Product Terms](#) for Commercial Licensing use rights, or the [Microsoft License Terms](#) for other channels.

Q1: *How are Windows Server Standard and Datacenter editions licensed?*

A: Windows Server Datacenter edition and Windows Server Standard edition are core-based license models. Customers may license based on physical cores or by virtual machine. The option to license by virtual machine is available for customers with subscription licenses or licenses with active Software Assurance only. For both Standard and Datacenter editions, when licensing based on physical cores, the minimum number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. Alternatively, when licensing either edition by virtual machine, the number of licenses required equals the number of virtual cores allocated to the virtual machine, subject to a minimum of eight licenses per virtual machine and 16 per customer. Core licenses are sold in 2-packs as well as optional 16-packs (for convenience). Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Volume customers should assess which pack sizes work best for them. Whether licensing Datacenter or Standard and whether licensing based on physical cores or by virtual machine, all user and device access to Windows Server software also requires access licenses.

Q2: *Do the minimum licensing requirements apply to all servers?*

A: Yes. When licensing based on physical cores, regardless of the number of physical processors or physical cores on a server, the number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. When licensing by virtual machine, the number of licenses required equals the number of virtual cores allocated to the virtual machine, subject to a minimum of eight licenses per virtual machine and 16 per customer. The option to license by virtual machine is available for customers with subscription licenses or licenses with active Software Assurance only.

Q3: *Do I have to license all cores on the server, even if they are disabled?*

A: Yes, when licensing based on physical cores. All physical cores on all physical processors on a server must be sufficiently licensed, even if they have been disabled.

Q4: *Can I split my Windows Server core license packs across multiple servers?*

A: Yes. Core licenses are sold in 2-packs, as well as optional 16-packs (for convenience), and each individual license may be assigned to a separate physical server.

Q5: *Can I assign a Windows Server license to a virtual machine?*

A: You have the option to license by virtual machine (under subscription licenses or licenses with active Software Assurance), but licenses are still assigned to the physical server. However, when you license by virtual machine, you also have the right to move licenses to another server in the same server farm at any time. This allows you to move the licenses with the virtual machine as you need to.

Q6: *Can I mix Windows Server Datacenter and Standard licenses on the same server?*

A: Not when licensing based on physical cores. All physical cores on a given server must be licensed with the same version and edition. The customer can run different editions or older versions of Windows Server software as guests within virtual OSEs, but they are not allowed to assign licenses of different versions or editions to the same physical server to license the physical cores on the server. If you are licensing by virtual machine, you would be permitted to have a mix of server versions or editions on the physical server, as long as each virtual machine was appropriately licensed based on the version and edition of software it is running. The option to license by virtual machine is available for customers with subscription licenses or licenses with active Software Assurance only.

Q7: *Are CALs required for access to Windows Server Standard and Datacenter editions?*

A: Yes, server software access for Windows Server Standard and Datacenter editions requires access licenses. Server software access for Windows Server Standard and Datacenter editions requires either Client Access Licenses (CALs) or External Connectors (ECs) whether licensing the server based on physical cores or by virtual machine. Each user or device that accesses the licensed servers requires a Windows Server CAL. External access to the licensed server requires a CAL for each user or device or, alternatively, a Windows Server EC. Customers may use a combination of user and device CALs and External Connector licenses as required.

Q8: *Which Access Licenses do I use to access Windows Server?*

A: Windows Server Client Access Licenses (CALs) and External Connectors permit access to the same version (or earlier versions) of Windows Server server software. Each user or device that accesses the licensed servers requires a Windows Server CAL. External access to the licensed server requires CALs for each accessing user or device or, alternatively, a Windows Server External Connector. Customers may use a combination of user and device CALs and External Connector licenses as required.

CALs: Each user or device that accesses licensed servers requires a Windows Server CAL (Base CAL). Each user or device that accesses advanced functionality on the licensed server requires the associated CAL (Additive CAL). Additive CALs must be licensed in addition to the corresponding Base CALs for access to advanced functionality.

External Connectors: External access to licensed servers requires CALs (Base CALs) for each accessing user or device or, alternatively, a Windows Server External Connector (Base EC) for each server that is accessed. External access to advanced functionality on licensed servers requires the associated CAL (Additive CAL) for each accessing user or device or, alternatively, the associated External Connector (Additive EC) for each server accessed. Additive External Connectors must be licensed in addition to the corresponding Base External Connectors for access to advanced functionality on the licensed server.

Q9: *Are there any exceptions to the CAL and External Connector requirements?*

A: Yes, CALs and External Connectors are not required for access by another licensed server, to access server software running a web workload or HPC Workload, or to access in a physical OSE used solely for hosting and managing virtual OSEs.

Q10: *What is the difference between Base and Additive access licenses?*

A: Base access licenses provide access for Windows Server Standard and Datacenter editions. Windows Server CAL and Windows Server External Connector licenses are Base access licenses. Additive access licenses provide access to advanced server functionality and are available as CALs and External Connector licenses. CALs and External Connector licenses for Windows Server Remote Desktop Services, Windows Server Active Directory Rights Management Services, and Microsoft Identity Manager are all Additive access licenses. Additive access licenses must be acquired in addition to the corresponding Base access licenses for access to advanced server functionality.

Q11: *Do I still need a separate CAL to access advanced server functionality for Windows Server?*

A: Yes. The licensing requirements for access to advanced server functionality have not changed with Windows Server. Advanced server functionality requires Additive access licenses, which are available as CALs and External Connector. Windows Server Remote Desktop Services, Windows Server Active Directory Rights Management Services, and Microsoft Identity Manager all require Additive access licenses. Additive access licenses must be licensed in addition to the corresponding Base access licenses. Base access licenses provide access for Windows Server Standard and Datacenter editions. Windows Server CAL and Windows Server External Connector licenses are Base access licenses. Additive CALs must be licensed in addition to the corresponding Base CALs for access to advanced functionality on the licensed server.

Q12: *What is the difference between Windows Server Standard and Datacenter editions?*

A: As with prior versions, Windows Server Standard and Datacenter editions include the core functionality of Windows Server and offer different virtualization rights when licensing based on physical cores. Both editions of Windows Server include Host Guardian Service and Nano Server. Windows Server Datacenter edition includes additional features such as Shielded Virtual Machines, software-defined networking, Storage Spaces Direct, and Storage Replica.

Q13: *What are some of the features available in Windows Server Datacenter and Standard editions?*

There are a variety of new features in Windows Server Datacenter and Standard editions. For a comparison, visit [here](#).

Q14: *How do I determine which Windows Server edition is right for me?*

A: Because Windows Server Standard and Datacenter editions provide different virtualization rights and offer differentiated features, the decision will be based on virtualization, datacenter, and infrastructure strategies.

Datacenter: If the customer's strategy includes highly virtualized and software-defined datacenter environments, Datacenter edition provides optimum flexibility. When all physical cores on the server are licensed, Datacenter edition provides rights to use unlimited Operating System Environments (OSEs) or Hyper-V containers and unlimited Windows Server containers on the licensed server. This edition allows elasticity to add and move virtual OSEs across Datacenter licensed servers without needing to track the virtual OSE count on that server.

Standard: If the customer's strategy includes low density or non-virtualized environments, Standard edition is the right product for their needs. When all physical cores on the server are licensed, Standard edition provides rights to use two OSEs or Hyper-V containers and unlimited Windows Server containers on the licensed server.

Q15: *What are the licensing requirements for use of Nano Server?*

A: Nano Server is an elective deployment option for Windows Server Standard and Datacenter editions. The customer needs to assign the required number of core licenses to the physical server. For both Standard and Datacenter editions, the minimum number of core licenses required equals the number of

physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server.

To use Nano Server, the customer needs active Software Assurance on their Windows Server Standard or Datacenter server licenses. Additionally, they need active Software Assurance on Windows Server Base CALs or External Connectors. If they are licensed to access advanced server functionality, such as Remote Desktop Services, active Software Assurance is required on those applicable Windows Server Additive CALs or External Connectors.

Q16: *What are the virtualization rights for Windows Server Standard and Datacenter editions?*

A: This depends on whether you license based on physical cores or by virtual machine. When you license based on physical cores, Standard edition has rights to use two OSEs or two Windows Server Containers with Hyper-V isolation and unlimited Windows Server Containers without Hyper-V isolation. This requires licenses for all physical cores on the server (subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server). Datacenter edition when licensed based on physical cores has rights to use unlimited OSEs and both types of Windows Server containers. As with Standard, this requires licenses for all physical cores on the server (subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server). If you license by virtual machine, each edition permits use in a single virtual machine. You may license by virtual machine under subscription licenses or licenses with active Software Assurance only, and each virtual machine must be allocated a number of core licenses equal to its virtual core count, subject to a minimum of eight licenses per virtual machine and 16 per customer.

Q17: *Are Windows Server Containers with Hyper-V isolation and Windows Server containers without Hyper-V isolation OSEs?*

A: Yes. Both container types meet the definition of OSE: all or part of an operating system instance, or all or part of a virtual (or otherwise emulated) operating system instance which enables separate machine identity (primary computer name or similar unique identifier) or separate administrative rights, and instances of applications, if any, configured to run on the operating system instance or parts identified above. A physical hardware system can have one physical OSE and/or one or more virtual OSEs.

Q18: *If I have a server licensed for Windows Server Standard, how can I increase my virtualization rights?*

A: With the Windows Server Standard edition licensing model, the customer can expand the virtualization capacity of their licensed server in three ways (note: for MPSA customers, "stepping up" is done with transition licenses):

1. Purchase Step-Up licenses for Datacenter edition. "Stepping up" from Standard edition licenses to Datacenter edition licenses gives rights to run unlimited Operating System Environments (OSEs) or Hyper-V containers on the licensed server. To use this benefit, the underlying Standard licenses must have Software Assurance.

For example, a 2-processor server with 10 cores per processor requires 20 core licenses with Software Assurance for Standard edition and has rights to two OSEs or Hyper-V containers. To "step up" to Datacenter, purchase 20 (in other words, ten 2-packs of core licenses or one 16-pack and two 2-packs of core licenses) Software Assurance Step-Up licenses for Datacenter and assign them to the server.

2. Purchase additional licenses to fully relicense the server based on physical cores for Standard edition. Assigning additional licenses to the same physical server gives rights to run additional OSEs or Hyper-V containers on the licensed server. The server must have the correct number of licenses assigned to it to ensure coverage of all OSEs or Windows Server containers with Hyper-V isolation running at any given time.

For example, a 2-processor server with 8 cores per processor requires 16 core licenses for Standard edition and has rights to two OSEs or two Hyper-V containers. For each additional two OSEs or two Hyper-V containers the customer wishes to use, an additional 16 core licenses (in other words, eight 2-packs of core licenses or one 16-pack of core licenses) must be assigned to the server.

Stacking" Standard	2-processor server with 8 cores per processor (16 cores total)	
OSEs or Hyper-V containers	Required # core licenses ¹	Required # 2-pack SKUs ²
2 per server	16	8
4 per server	32	16
6 per server	48	24
8 per server	64	32

¹Core licenses are sold in 2-packs as well as optional 16-packs (for convenience).

²Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Volume customers should assess which pack sizes work best for them.

- License additional virtual machine capacity by virtual machine. This option is available for customers with subscription licenses or licenses with Software Assurance only. It requires a number of licenses equal to the virtual cores allocated to the virtual machine, subject to a minimum of eight licenses per virtual machine and 16 per customer.

Q19: How do I determine whether Standard or Datacenter edition is more economical?

A: The number of core licenses required depends on the number of physical cores on the server, as well as the number of Operating System Environments (OSEs) or Windows Server Containers with Hyper-V isolation that you will be running.

For a server with 13 or more OSEs or Windows Server Containers with Hyper-V isolation, Datacenter edition is recommended:

- Datacenter core licenses:** For each server, the number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. Core licenses are sold in 2-packs as well as optional 16-packs (for convenience). Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Volume customers should assess which pack sizes work best for them.
- Datacenter OSEs:** When all physical cores on the server are licensed, Datacenter provides rights to use unlimited Operating System Environments (OSEs) or Windows Server Containers with Hyper-V isolation and unlimited Windows Server Containers without Hyper-V isolation on the licensed server.

For a server with fewer than 13 OSEs or Hyper-V containers, Standard edition is recommended:

- Standard core licenses:** For each server, the number of core licenses required equals the number of physical cores on the licensed server, subject to a minimum of 8 core licenses per physical processor and a minimum of 16 core licenses per server. Core licenses are sold in 2-packs as well as optional 16-packs (for convenience). Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Volume customers should assess which pack sizes work best for them.
- Standard OSEs:** When all physical cores on the server are licensed, Standard edition provides rights to use two Operating System Environments (OSEs) or Windows Server Containers with Hyper-V isolation and unlimited Windows Server Containers without Hyper-V isolation on the licensed server. For each additional two OSEs or two Windows Server Containers with Hyper-V isolation the customer wishes to use, an equivalent number of additional core licenses must be assigned to the server as specified in C, above.

The following table demonstrates the economic breakeven point between Windows Server Standard and Windows Server Datacenter, given the licensing requirements and virtualization rights for each edition.

Version choice (breakeven)	2-processor server with 8 cores per processor (16 cores total)								
OSEs or Hyper-V containers	2	4	6	8	10	12	13	14	16
Cores to license	16	16	16	16	16	16	16	16	16
2-pack core licenses ²	8	8	8	8	8	8	8	8	8
Datacenter core licenses¹	\$6,155	\$6,155	\$6,155	\$6,155	\$6,155	\$6,155	\$6,155	\$6,155	\$6,155
Cores to license	16	32	48	64	80	96	112	112	128
2-pack core licenses ²	8	16	24	32	40	48	56	56	64
Standard core licenses¹	\$1,069	\$2,138	\$3,207	\$4,276	\$5,345	\$6,414	\$7,483	\$8,552	\$9,621

¹Suggested Retail Price (MSRP). Pricing is shown in USD and may vary from country to country..

²Licenses are sold in 2-packs as well as optional 16-packs (for convenience). Eight 2-packs and one 16-pack are priced the same and provide equivalent use rights. However, point counts may vary, so MPSA and Open Value customers should assess which pack sizes work best for them.

Q20: *If I want to use the software from an earlier Windows Server version or edition, what are my options?*

A: If the customer has licenses for the latest version of Windows Server Datacenter edition, they have the right to downgrade software bits to any prior version or lower edition. If the customer has licenses for the latest version of Windows Server Standard edition, they have the right to downgrade the software to use any prior version of Enterprise, Standard, or Essentials editions.

The ability to downgrade does not change the licensing or support terms under which a customer can use the product; the rights for purchased product (in other words, terms for the licensed version of Windows Server) apply. This means that core-based licensing and use rights apply to the version the customer downgrades to and that the virtualization rights do not change. Below are a few examples.

Licensed edition	Downgraded version or edition	Licensing rights that apply
Datacenter 2022	Datacenter 2019	Datacenter 2022
Standard 2022	Enterprise 2012 R2	Standard 2022
Standard 2022	Standard 2019	Standard 2022

Q21: *Can Windows Server licenses be moved between my on-premises servers and Azure?*

A: Yes. Customers can deploy on-premises images in Azure using the Azure Hybrid Benefit. See question 23 for more information about the Azure Hybrid Benefit for Windows Server.

Q22: *Can Windows Server licensed under Core Infrastructure Server (CIS) Suite be used in Azure?*

A: Yes, customers can use Windows Server licensed within CIS on Microsoft Azure under the Azure Hybrid Benefit. Additionally, Server and Cloud Enrollment (SCE) customers can leverage their SCE Management Rights to use System Center to manage such virtual machines running on Azure under the Azure Hybrid Benefit.

Q23: *Can Windows Server images be used in Azure under the Azure Hybrid Benefit for Windows Server?*

A: Yes. Under the Microsoft Azure Hybrid Benefit for Windows Server, customers with Windows Server licenses covered with Software Assurance may upload and use their own Windows Server images on Microsoft Azure through Azure Virtual Machines (“Base Instances”). Customers pay only for the cost of service utilization of the Base Instances.

Each Windows Server processor license with Software Assurance, and each set of 16 Windows Server core licenses with Software Assurance, entitles customers to use Windows Server on Microsoft Azure on up to 16 virtual cores allocated across two or fewer Azure Base Instances. Each additional set of 8 core licenses with Software Assurance entitles use on up to 8 virtual cores and one Base Instance.

Azure Hybrid Benefit provides additive rights to deploy and use the software when exercised in connection with Datacenter licenses. Azure Hybrid Benefit provides alternative rights when exercised in connection with Standard Licenses. When Windows Server Standard licenses are used under Azure Hybrid Benefit, they are deemed "assigned to Azure" and are subject to license reassignment limitations.

Q24: *Can System Center license be used for managing Windows Server virtual machines running on Azure?*

A: Yes. Under the License Mobility through Software Assurance benefit, customers can assign their System Center licenses to manage a Windows Server instance running on Azure.

Q25: *Can System Center licensed under Core Infrastructure Server (CIS) Suite be used in Azure?*

A: No. System Center software licensed under CIS Suite may not be used in Azure. System Center does not offer License Mobility as a component product within the CIS Suite product. Server and Cloud Enrollment customers should refer to question 26.

Q26: *Can SCE customers use System Center licensed under Core Infrastructure Server (CIS) Suite in Azure?*

A: Yes. Server and Cloud Enrollment (SCE) customers are eligible to use System Center software licensed under CIS Suite to manage their qualifying virtual OSEs running within Microsoft Azure. Eligibility requires that the customer meet enrollment coverage requirements and be licensed for and using CIS Suite to manage OSEs in their own data centers. Each CIS Suite processor license covered by the customer's SCE, and each set of 16 CIS Suite core licenses covered by the customer's SCE, entitles the customer to manage up to 10 qualifying virtual OSEs running within Microsoft Azure. For additional details, refer to the [CIS product entry in the Product Terms](#) (*Server and Cloud Enrollment (SCE) - Right to manage OSEs on Microsoft Azure under CIS Suite Licenses*).

Q27: *Are CALs or External Connectors required for Windows Server instances running on Azure?*

A: Base access licenses (CALs and External Connectors) are not required for use of Windows Server on Microsoft Azure. Remote Desktop Services (RDS) CALs, however, are required when using corresponding functionality. RDS User CAL and User SL have Extended Rights to use its RDS User CALs and User SLs with Windows Server software running in OSEs dedicated to its internal use on either Microsoft Azure Platform Services or the shared servers of a License Mobility through Software Assurance Partner for which it has completed and submitted the License Mobility Validation form. Customers may also cover access by third parties, as permitted under the OST, or as permitted under Software Assurance Self-Hosting rights using Subscription Access Licenses (SALs) acquired under a Services Provider License Agreement.

Q28: *Are there any changes to the licensing model for Windows Server Essentials?*

A: No. Windows Server Essentials will continue to cover a single server with up to two physical processors. It does not require Windows Server CALs, but is limited to 25 user accounts. However, Windows Server 2022 Essentials is only available through OEM licensing.

Q29: *Am I permitted to move Windows Server licenses to other cloud providers' environments?*

A: Yes. Windows Server subscription licenses or licenses with active Software Assurance allocated by virtual machine based on license minimums may be moved to Authorized Outsourcers' clouds (on shared or dedicated servers). An Authorized Outsourcer is generally any cloud provider who is not a Listed Provider or using a Listed Provider for data center services. For more information about Authorized Outsourcers, refer to the Product Terms.

Licensing definitions

License means the right to download, access, install, and use a product.

Physical processor means a processor in a physical hardware system.

Physical core means a core in a physical processor.

Server means a physical hardware system capable of running server software.

Licensed server means a single server, dedicated to customer's use, to which a license is assigned. For purposes of this definition, a hardware partition or blade is considered to be a separate server.

Operating system environment (OSE) means all or part of an operating system instance, or all or part of a virtual (or otherwise emulated) operating system instance which enables separate machine identity (primary computer name or similar unique identifier) or separate administrative rights, and instances of applications, if any, configured to run on the operating system instance or parts identified above. A physical hardware system can have one physical OSE and/or one or more virtual OSEs.

Physical OSE means an OSE that is configured to run directly on a physical hardware system. The operating system instance used to run hardware virtualization software or to provide hardware virtualization services is considered part of the physical OSE.

Virtual OSE means an OSE that is configured to run on a virtual hardware system.

Hyper-V container is a feature of Windows Server that utilizes a virtual operating system environment. Each Hyper-V container is considered to be one virtual OSE.

Windows Server container is a feature of Windows Server software.

Client Access License (CAL) means client access license, which may be assigned by user or device, as appropriate. A user CAL allows access to corresponding version of the server software or earlier versions of the server software from any device by one user. A device CAL allows access to corresponding versions of the server software or earlier versions of the server software from one device by any user. CALs allow access to server software running on a customer's licensed servers only.

External Connector licenses means a license assigned to a server dedicated to customer's use that permits access to the corresponding version of the server software or earlier versions of the server software by external users.

External users means users that are not either a customer's or its affiliates' employees, or its affiliates' onsite contractors or onsite agents.

Web workload (also referred to as "Internet web solutions") are publicly available web pages, websites, web applications, web services, and/or POP3 mail serving. For clarity, access to content, information, and applications served by the software within an Internet web solution is not limited to a customer's or its affiliates' employees. Software in Internet web solutions is used to run:

Web server software (for example, Microsoft Internet Information Services), and management or security agents (for example, the System Center Operations Manager agent);

Database engine software (for example, Microsoft SQL Server) solely to support Internet web solutions; or

The Domain Name System (DNS) service to provide resolution of Internet names to IP addresses as long as that is not the sole function of that instance of the software.

High performance computing (HPC) workload means a workload where the server software is used to run a cluster node and is used in conjunction with other software as necessary to permit security, storage, performance enhancement and systems management on a cluster node for the purpose of supporting the clustered HPC applications.

Cluster node means a device that is dedicated to running clustered HPC applications or providing job scheduling services for clustered HPC applications.

Clustered HPC application means a high-performance computing application that solves, in parallel, complex computational problems, or a set of closely related computational problems. clustered HPC applications divide a computationally complex problem into a set of jobs and tasks which are coordinated by a job scheduler, such as provided by Microsoft HPC Pack, or similar HPC middleware, which distributes these in parallel across one or more computers operating within an HPC cluster.

Authorized Outsourcer means any third party service provider that is not a Listed Provider and is not using Listed Provider as a Data Center Provider as part of the outsourcing service.

Listed Providers include entities identified by Microsoft at <http://aka.ms/listedproviders> Microsoft may identify additional Listed Providers at <http://aka.ms/listedproviders> from time to time; however, if Customer is using an outsourcer at the time its Authorized Outsourcer status is terminated, then Customer may temporarily continue to use the same entity in its former Authorized Outsourcer capacity for one year from the date of that change in status.

For more information

Windows Server Licensing Resources: <https://www.microsoft.com/licensing/docs/view/Windows-Server>

Microsoft Licensing Resources and Documents: <https://www.microsoft.com/licensing/docs>

Microsoft Commercial Licensing: www.microsoft.com/licensing

Microsoft License Advisor: mla.microsoft.com/default.aspx

Commercial Licensing Service Center (VLSC): www.microsoft.com/licensing/servicecenter/

Volume Activation: www.microsoft.com/en-us/licensing/existing-customer/product-activation

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