

Q: How are Windows Server Standard and Datacenter editions licensed?

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. 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.

Q: Do the minimum licensing requirements apply to all servers?

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. The option to license by virtual machine is available for customers with subscription licenses or licenses with active Software Assurance only.

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

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.

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

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.

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

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.

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

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.

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

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.

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

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.

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

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.

Q: What is the difference between Base and Additive 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 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.

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

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.

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

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.

Q: 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 full comparison, see [Comparison of Windows Server editions](#).

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

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.

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

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.

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

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.
2. 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.
3. 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.
4. 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.
5. 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.
6. For Windows Server 2025 customers when you connect to Azure Arc you can also opt to scale up with additional VMs through the new Windows Server pay-as-you-go option. To learn more about activating pay-as-you-go access this documentation.
7. For Windows Server 2025 customers when you connect to Azure Arc you can also opt to scale up with additional VMs through the new Windows Server pay-as-you-go option. To learn more about activating pay-as-you-go, see [Configure Windows Server Pay-as-you-go with Azure Arc | Microsoft Learn](#).

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

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:

1. 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.
2. 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:

1. 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.
2. 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.

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

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.

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

Yes. Customers can deploy on-premises images in Azure using the Azure Hybrid Benefit.

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

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.

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

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.

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

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.

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

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.

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

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).

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

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.

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

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 2025 Essentials is only available through OEM licensing.

Q: Am I permitted to move Windows Server licenses to other cloud provider environments?

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.

Q: What is the new pay-as-you-go option for Windows Server 2025?

Pay as you go is a new option for Windows Server customers that do not have unlimited virtualization but need a way to scale up and add additional machines quickly and conveniently. It is available for Windows Server 2025 only and you must be Azure Arc-enabled to use the pay-as-you-go option. Example use cases are scale-up to meet temporary burst capacity requirements, and avoiding up-front licensing costs for shorter-term needs.

Q: What are the downgrade rights for the three main editions of Windows Server 2019?

The Windows Server 2019 product is streamlined and simple, making it easy for customers to choose the edition that is right for their needs. Although Windows Server 2012 R2 is a prior version of the Windows Server 2019 software, Windows Server processor-based licenses are not prior versions of the Windows Server 2019 core licenses. Windows Server 2012 R2 was the last version of the software to be licensed by processor. As an exception to the standard downgrade rights applicable to Commercial Licensing products, customers are permitted to downgrade to and use earlier versions and editions of the Windows Server software in place of licensed copies of Windows Server 2019. When invoking downgrade rights or down edition rights, the license terms of the version and edition acquired still govern use of the software.

Q: Does the transition from processor-based to core-based Windows Server licensing have any effect on downgrading to a processor-based licensed prior version of Windows Server?

The ability to downgrade does not change the licensing under which a customer can use the software; the rights for purchased software (i.e. Windows Server 2016) 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.

Q: What version of Client Access License (CAL) or External Connector (EC) do I need for each Windows Server version?

CALs and ECs permit access to the same version, or earlier versions, of the server software.

Q: I have installed Microsoft Office on a network server for access and use using Windows Server Remote Desktop Services. I want my employees to be able to access Microsoft Office from 3rd party devices. What licenses are needed to properly license Microsoft Office within this environment?

With active Software Assurance for Office in Commercial Licensing, you can exercise your roaming rights benefit to enable users to remotely access the Office software on a qualified third-party device, regardless of the technology used to access the software. Roaming rights don't permit the Office software be installed and run locally on the third-party device. Roaming rights also apply only to the primary user of a licensed device with Software Assurance coverage and are subject to the limitation on the number of users in the base license terms.
