Editions overview

The SQL Server 2022 editions align with how customers are deploying applications and solutions:

- **Enterprise Edition** is ideal for applications requiring mission critical in-memory performance, security, and high availability

- **Standard Edition** delivers fully featured database capabilities for mid-tier applications and data marts

SQL Server 2022 is also available in free Developer and Express editions. Web Edition is offered in the Services Provider License Agreement (SPLA) program only.

SQL Server 2022 licensing models

SQL Server 2022 offers customers a variety of licensing options aligned with how customers typically purchase specific workloads. There are two main licensing models that apply to SQL Server:

PER CORE: Gives customers a more precise measure of computing power and a more consistent licensing metric, regardless of whether solutions are deployed on physical servers on-premises, or in virtual or cloud environments.

- Core based licensing is appropriate when customers are unable to count users/devices, have Internet/Extranet workloads or systems that integrate with external facing workloads.

- Under the Per Core model, customers license either by physical server (based on the full physical core count) or by virtual machine (based on virtual cores allocated), as further explained below.

SERVER + CAL: Provides the option to license users and/or devices, with low-cost access to incremental SQL Server deployments.

- Each server running SQL Server software requires a server license.

- Each user and/or device accessing a licensed SQL Server requires a SQL Server CAL that is the same version or newer – for example, to access a SQL Server 2019 Standard Edition server, a user would need a SQL Server 2019 or 2022 CAL.

- Each SQL Server CAL allows access to multiple licensed SQL Servers, including Standard Edition and legacy Business Intelligence and Enterprise Edition Servers.

SQL Server 2022 Editions availability by licensing model:

SQL Server 2022 Edition	Licensing Options	
	Server + CAL	Per Core
Enterprise		•
Standard	•	•
Developer	Free edition	
Express	Free edition	

Benefits of SQL Server 2022 with SA or Subscription Licenses

Software Assurance coverage and subscription licenses help customers take full advantage of their SQL Server license investment. With SA or subscription licenses, SQL Server customers unlock valuable benefits including:

Software Assurance Benefit	SQL Server 2022 Editions	
	Standard	Enterprise
Azure Hybrid Benefit	•	•
Fail-Over servers for disaster recovery	•	•
Fail-Over servers for disaster recovery in Azure	•	•
Fail-Over servers for high availability	•	•
Unlimited virtualization (VMs)		•
Unlimited containers	Yes	Yes
Option to license by virtual machine	•	•
Power BI Report Server		•

By combining mission critical performance, scale and availability of SQL Server Enterprise Edition with the benefits provided through SA or subscription licenses, customers unlock the full power of SQL Server:

- Stay current with all SQL Server features

- Access an unlimited number of virtual machines

- Modernize to the cloud with existing licenses
- Take advantage of high availability scenarios at no additional licensing cost
- Generate data visualizations on premises with Power BI Report Server
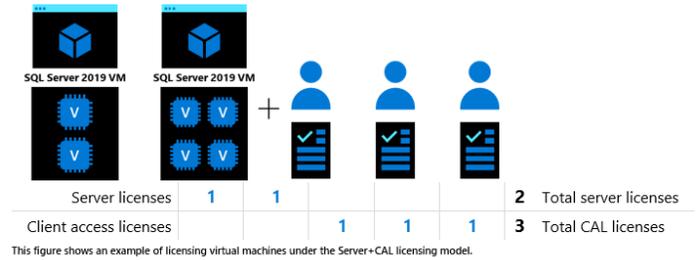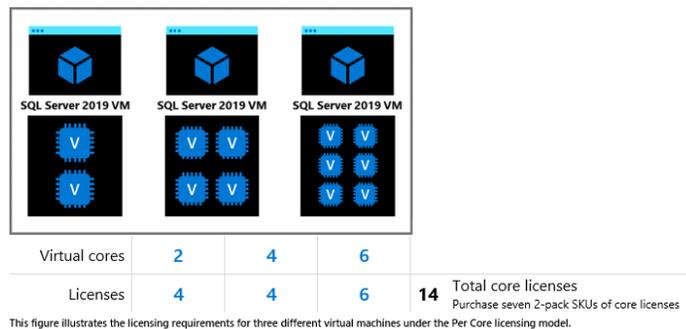
Licensing for virtualization and containers

SQL Server 2022 offers use rights for virtual machines and containers, to provide flexibility for customers' deployments. There are two primary licensing options for virtual machines and containers in SQL Server 2022 – the ability to license individual virtual machines and containers and the ability to license for maximum densities in highly virtualized or high-density container environments.

INDIVIDUAL VIRTUAL MACHINES OR CONTAINERS

As hardware capabilities grow, it continues to be more common for each database to use a fraction of its server's computing power. When deploying databases on Virtual Machines (VMs) or containers that use just a fraction of a physical server, savings can be achieved by licensing individual VMs or containers. Licensing SQL Server 2022 by VM or container is an option under core subscription licenses or licenses with SA only.

Note: For licensing, Containers follow the same rules as licensing SQL Server for virtual machines.

				Total core licenses
Virtual cores	2	4	6	
Licenses	4	4	6	**14** Purchase seven 2-pack SKUs of core licenses

This figure illustrates the licensing requirements for three different virtual machines under the Per Core licensing model.

			Total
Server licenses	1	1	**2** Total server licenses
Client access licenses		1 1 1	**3** Total CAL licenses

This figure shows an example of licensing virtual machines under the Server+CAL licensing model.

Note: When licensing VMs or containers under the Server + CAL model, the number of virtual or physical cores does not affect the number of server licenses required.
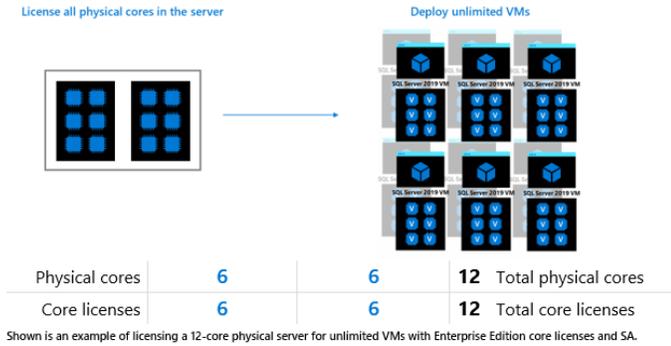
- To license a VM or container with core licenses, purchase a core subscription license or license with SA for each virtual core (virtual thread) allocated to the VM or the number of cores configured for access by the container (with a minimum of 4 licenses per VM or container).
- To license a single VM or container with a server license (for Standard Edition only), purchase a server license for each VM or container, and a CAL for each user or device.
- Each VM or container covered with subscription licenses or licenses with SA can be moved frequently within a server farm, or to a third-party hoster or cloud services provider*, without the need to purchase additional SQL Server licenses.

Customers can use Authorized Mobility Partners under licenses with SA (via License Mobility through SA) or Authorized Outsourcers under subscription licenses or licenses with SA (via the Flexible Virtualization Benefit). See https://www.microsoft.com/licensing/terms/productoffering for details.
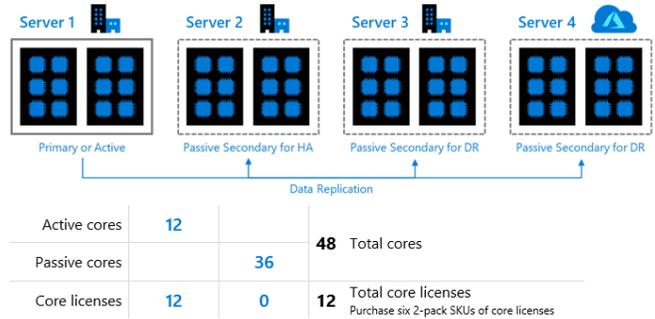
HIGH-DENSITY VIRTUALIZATION OR CONTAINER DEPLOYMENT

Further savings can be achieved by licensing SQL Server high density VM or container deployments. This is a great option for customers who want to take advantage of the full computing power of their physical servers and have very dynamic provisioning and de-provisioning of virtual resources or container images.

| Physical cores | 6 | 6 | 12 | Total physical cores |
| Core licenses | 6 | 6 | 12 | Total core licenses |

Shown is an example of licensing a 12-core physical server for unlimited VMs with Enterprise Edition core licenses and SA.

- One passive fail-over replica for Disaster Recovery in a single VM on Azure

	Server 1	Server 2	Server 3	Server 4
	Primary or Active	Passive Secondary for HA	Passive Secondary for DR	Passive Secondary for DR
		Data Replication		
Active cores	12		48	Total cores
Passive cores		36		
Core licenses	12	0	12	Total core licenses Purchase six 2-pack SKUs of core licenses

Physical core licensing – Enterprise Edition

- Customers can deploy an unlimited number of VMs or containers on the server and utilize the full capacity of the licensed hardware, by fully licensing the server (or server farm) with Enterprise Edition core subscription licenses or licenses with SA coverage based on the total number of physical cores on the servers.

- Subscription licenses or SA provide(s) the option to run an unlimited number of virtual machines or containers to handle dynamic workloads and fully utilize the hardware's computing power.

Virtual core licensing – Standard/Enterprise Edition

- When licensing by virtual core on a virtual OSE with subscription licenses or SA coverage on all virtual cores (including hyperthreaded cores) on the virtual OSE, customers may run any number of containers in that virtual OSE. This benefit applies both to Standard and Enterprise Edition.

Licensing for high availability and Disaster Recovery

SQL Server software can be configured so that if one server or VM fails, its processing will be picked up, recovered and continued by another server or VM. Under SQL Server 2022 subscription licenses or licenses with active SA, customers can use the following passive replicas in conjunction with their primary workloads in anticipation of a failover event:

- One passive fail-over replica for High Availability in a separate server or VM

- One passive fail-over replica for Disaster Recovery in a separate server or VM

These passive fail-over rights apply to workloads running on a customer's own servers and workloads a customer deploys on an Authorized Outsourcer's servers. Customers deployed in Azure or with Authorized License Mobility partners have different passive fail-over rights. See the Product Terms for details.

Licensing for non-production use

SQL Server 2022 Developer Edition provides a fully featured version of SQL Server software—including all the features and capabilities of Enterprise Edition—licensed for development, test and demonstration purposes only.

Customers may install and run the SQL Server Developer Edition software on any number of devices. This is significant because it allows customers to run the software on multiple devices (for testing purposes, for example) without having to license each non-production server system for SQL Server.

A production environment is defined as an environment that is accessed by end-users of an application (such as an Internet website) and that is used for more than gathering feedback or acceptance testing of that application.

SQL Server 2022 Developer Edition is a free product, available for download at the SQL Server Application Development site: aka.ms/SQLServerAppDev

Developers can also gain access to SQL Server Developer through the Visual Studio Dev Essentials program, which also provides access to many other valuable developer resources. For more information visit: aka.ms/ Visual_Studio_Dev