

SQL SERVER 2017 LICENSING DATASHEET

Product overview

SQL Server 2017 brings the performance and security of SQL Server to Linux and Docker containers. SQL Server 2017 delivers mission critical OLTP database capabilities and enterprise data warehousing with in-memory technology across workloads. Customers will gain transformative insights from in-database machine learning with Python and R, plus rich interactive reporting on any device for faster decision making. Developers can choose their language and platform while container support seamlessly facilitates DevOps scenarios.

SQL Server 2017 on Linux: SQL Server 2017 now supports deployment on RedHat Enterprise Linux (RHEL), Ubuntu, and SUSE Linux Enterprise Server (SLES). The SQL Server 2017 SKUs are platform agnostic, so customers can run the software on either Windows or Linux.

Editions overview

The SQL Server 2017 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 2017 is also available in free Developer and Express editions. Web Edition is offered in the Services Provider License Agreement (SPLA) program only.

SQL Server 2017 licensing models

SQL Server 2017 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:

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 2012 Standard Edition server, a user would need a SQL Server 2012 or 2017 CAL.
- Each SQL Server CAL allows access to multiple licensed SQL Servers, including Standard Edition and legacy Business Intelligence and Enterprise Edition Servers.

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.
- To license a physical server—when running SQL Server in a **physical OSE**—all physical cores on the server must be licensed.
- A minimum of four core licenses are required for each physical processor on the server.

SQL Server 2017 Editions availability by licensing model:

| SQL Server 2017 Edition | Licensing Options | |
|-------------------------|-------------------|----------|
| | Server + CAL | Per Core |
| Enterprise | | • |
| Standard | • | • |
| Developer | Free edition | |
| Express | Free edition | |

Special note for Enterprise Edition users: With the introduction of SQL Server 2012, Enterprise Edition was removed from the Server + CAL model and new server licenses are no longer available. However, customers who have maintained Software Assurance (SA) coverage can continue to renew SA on Enterprise Edition servers and upgrade to SQL Server 2017 software. Note: when upgrading to SQL Server 2017, a 20-core limit applies to the software.

Benefits of SQL Server 2017 with SA

Software Assurance coverage helps customers take full advantage of their SQL Server license investment. With SA, SQL Server customers unlock valuable benefits including:

| Software Assurance Benefit | SQL Server 2017 Editions | |
|--|--------------------------|------------|
| | Standard | Enterprise |
| Next version rights | • | • |
| License Mobility to shared third party servers | • | • |
| Fail-Over servers for high availability | • | • |
| Unlimited virtualization | | • |
| Machine Learning Server for Hadoop | | • |
| Power BI Report Server | | • |

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By combining mission critical performance, scale and availability of SQL Server Enterprise Edition with the benefits provided through SA, 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
- Extend their data estate through advanced analytics on Hadoop
- Generate data visualizations on premises with Power BI Report Server

Licensing for virtualization and containers

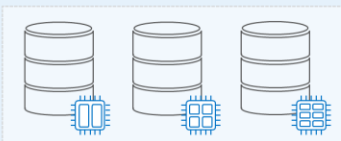
SQL Server 2017 offers use rights for virtual machines and containers, to provide flexibility for customers' deployments. There are two primary licensing options for virtual machines and containers in SQL Server 2017 – the ability to license individual virtual machines and containers and the ability 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.

How to license VMs with core licenses

- License the virtual cores in each virtual machine
- There is a minimum of 4 core licenses required for each virtual machine

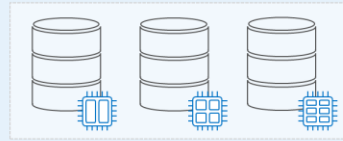


| | | | | |
|---------------|---|---|---|----|
| Virtual cores | 2 | 4 | 6 | |
| Core licenses | 4 | 4 | 6 | 14 |

Total core licenses
Purchase seven 2-pack SKUs of core licenses

How to license containers with core licenses

- License only the cores configured for access
- There is a minimum of 4 core licenses required for each container

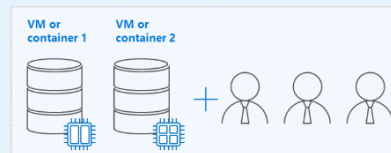


| | | | | |
|----------------|---|---|---|----|
| Cores accessed | 2 | 4 | 6 | |
| Core licenses | 4 | 4 | 6 | 14 |

Total core licenses
Purchase seven 2-pack SKUs of core licenses

How to license VMs and containers with server licenses + CALs

- License each VM or container with a server license
- License each user or device with a CAL



| | | | | | | |
|------------------------|---|---|---|---|---|---|
| Server licenses | 1 | 1 | | | 2 | |
| Client access licenses | | | 1 | 1 | 1 | 3 |

Total server licenses
Total CAL licenses

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 license 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 core 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 licensed VM or container covered 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.

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.

Licensing SQL Server for High Density Environments

- License all the physical cores on the server with Enterprise Edition core licenses and cover with SA
- Deploy an unlimited number of VMs or containers

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

- 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 licenses and SA coverage based on the total number of physical cores on the servers.
- SA enables the ability to run an unlimited number of virtual machines or containers to handle dynamic workloads and fully utilize the hardware's computing power.

Licensing for high availability

SQL Server software can be configured so that if one server fails, its processing will be picked up, recovered and continued by another server. Each active server licensed with SA coverage allows the installation of a single passive server used for fail-over support.

| | | | | |
|---------------|----|---|----|--|
| Core licenses | 12 | 0 | 12 | Total core licenses Purchase six 2-pack SKUs of core licenses |
|---------------|----|---|----|--|

- The secondary replica used for failover support does not need to be separately licensed for SQL Server as long as it is set to 'not readable'. If it is readable or serving data, such as reports to clients running active SQL Server workloads, or performing any "work" such as additional backups from secondary servers, then it must be separately licensed for SQL Server.
- The server running the active replica must be licensed for SQL Server and covered with SA.
- Each covered server running the primary replica allows for one secondary replica only, with up to the same amount of compute as the primary replica.

Licensing for non-production use

SQL Server 2017 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 2017 Developer Edition is a free product, available for download at the SQL Server Application Development site: <https://www.microsoft.com/en-us/sql-server/application-development>

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: <https://www.visualstudio.com/en-us/products/visual-studio-dev-essentials-vs.aspx>