

CRAYON

SQL Server 2014

SQL Server 2014 delivers mission critical performance across all workloads with in-memory built-in, faster insights from any data with familiar tools and a platform for hybrid cloud, enabling organisations to easily build, deploy and manage solutions that span on-premises and cloud.

Editions Overview

The SQL Server 2014 editions align with how customers are deploying applications and solutions:

- **Enterprise Edition** for mission critical applications and large scale data warehousing
- **Business Intelligence Edition** for premium corporate and self-service BI
- **Standard Edition** for basic database, reporting and analytics capabilities

These three main editions are offered in a consistent, tiered model which creates greater consistency across edition features and licensing. Enterprise Edition includes all product features available in SQL Server 2014 and the Business Intelligence (BI) Edition includes premium BI features in addition to Standard Edition database features.

Note: SQL Server 2014 is also available in Developer and Express editions. Web Edition is offered in the Services Provider License Agreement (SPLA) program only.

SQL Server 2014 Licensing Models

SQL Server 2014 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 2014 CAL.
- Each SQL Server CAL allows access to multiple licensed SQL Servers, including Business Intelligence Edition, Standard Edition and legacy 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.

- 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, customers must license all the cores in the server. Determining the number of licenses needed is done by multiplying the total number of physical cores by the appropriate core factor found in the core factor table. A minimum of 4 core licenses is required for each physical processor on the server.

SQL Server 2014 Editions availability by licensing model:

SQL Server 2014 Edition	Licensing Options	
	Server + CAL	Per Core
Enterprise		•
Business Intelligence	•	
Standard	•	•

Note: SQL Server 2014 Developer Edition is licensed under the Developer Tools model, which is 'Per User' based.

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 with active Software Assurance (SA) coverage can continue to renew SA on Enterprise Edition servers and upgrade to SQL Server 2014 software. Note: for customers who upgrade to SQL Server 2014, a 20 core limit applies to the software.

Licensing for Virtualisation

SQL Server 2014 offers virtualisation rights, options and benefits to provide flexibility for customers deploying in virtual environments. There are two primary virtualisation licensing options in SQL Server 2014: the ability to license individual virtual machines and the ability to license for maximum virtualisation in highly virtualised and private cloud environments.

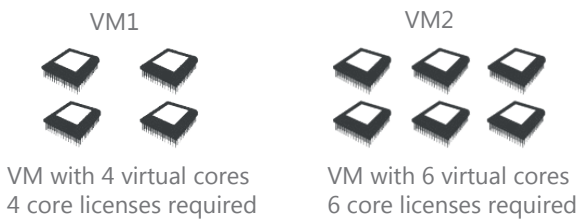
Individual Virtual Machines

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) that use just a fraction of a physical server, savings can be achieved by licensing individual VMs.

- To license a VM with core licenses, purchase a core license for each virtual core (virtual thread) allocated to the VM (with a minimum of 4 core licenses per VM).
- To license a single VM with a server license (for Business Intelligence or Standard Edition only), purchase a server license and matching SQL Server CALs for each user or device.
- Each licensed VM 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.

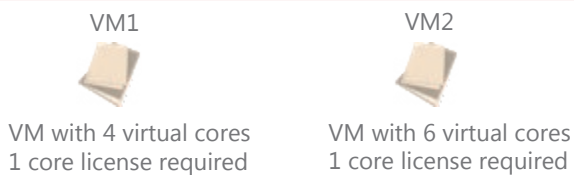
How to License VMs with Core Licenses

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



How to License VMs with Server Licenses + CALs

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



Note: When licensing VMs under the Server + CAL model, the number of virtual cores does not affect the number of server licenses required.

High Density Virtualisation

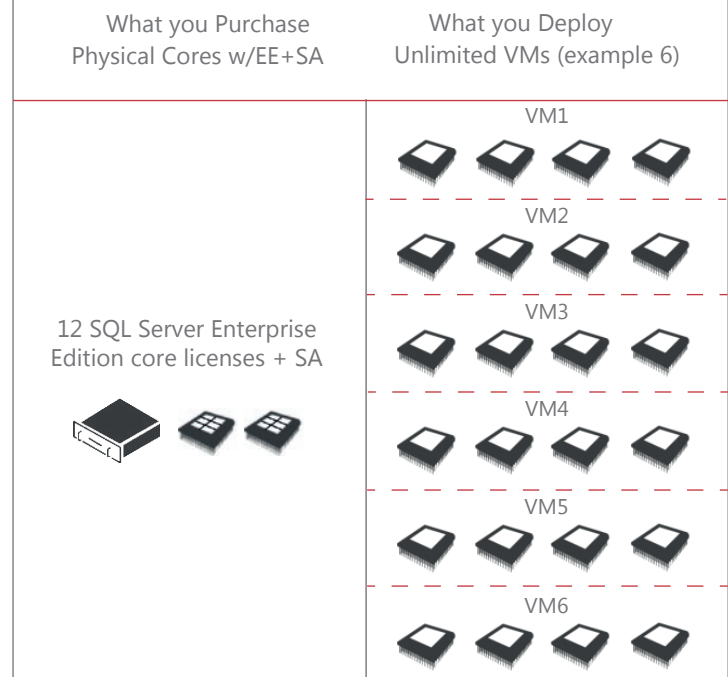
Further savings can be achieved by operating a SQL Server private cloud. This is a great option for customers who want to take advantage of the full computing power of their physical servers and have very dynamic provisioning and de-provisioning of virtual resources.

- Customers can deploy an unlimited number of VM's on the server and utilise 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 to handle dynamic workloads and fully utilise the hardware's computing power for each physical processor on the server.

Licensing SQL Server Private Clouds:

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

For example, to license a single server with 2 physical processors and 6 cores per processor (12 cores total):



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. Beginning with SQL Server 2014, each active server licensed with SA coverage allows the installation of a single passive server used for fail-over support.

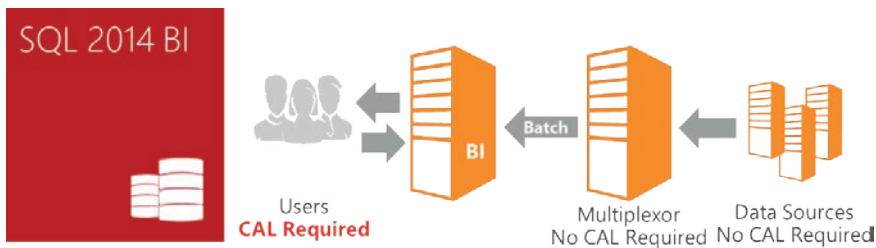
- The passive secondary server used for failover support does not need to be separately licensed for SQL Server as long as it is truly passive. If it is serving data, such as reports to clients running active SQL Server workloads, or performing any “work” such as additional backups from secondary servers, then it must be licensed for SQL Server.



- The active server license (s) must be covered with SA and allow for one passive secondary SQL Server, with up to the same amount of compute as the licensed active server, only.

Business Intelligence Server Access

Similar to other SQL Server products offered under the Server + CAL licensing model, Business Intelligence (BI) Edition generally requires a SQL Server CAL for each user or device accessing the server software. New with SQL Server 2014, use terms for BI Edition server software now allow batch processing of data without requiring CALs for those data sources supplying the data.



- ‘Batch Processing’ is defined as an activity that allows a group of tasks occurring at different times to be processed together at the same time.
- Non-batch processing access to BI Edition servers still requires CALs be assigned to those users and/or devices accessing the server software.
- The general multiplexing policy still applies to SQL Server Standard and Enterprise Edition software licensed under the Server + CAL model.

Mission Critical Performance

In-Memory Built-In

Up to 30x performance gains.

Get in-memory built-in, with average performance gains of 10x and up to 30x for new and existing SQL Server apps.

Enhanced Security & Scalability

Least vulnerable 5 years in a row

Trust the database ranked 'least vulnerable' 5 years in a row! Scalable across compute, networking and storage.

High Availability

The 9's you need

Get greater high availability with AlwaysOn, now with even better availability and simplified management.

Mission Critical Support

Highest-level coverage

Benefit from live support designed for mission critical solutions that includes solution validation, architectural reviews and more.

In-Memory Built-In

- **In-Memory OLTP:** Average 10x and up to 30x performance gains.
- **Enhanced In-Memory ColumnStore for DW:** Updatable, faster, better compression.
- **In-Memory BI with Power Pivot:** Fast insights.
- **Buffer Pool Extension to SSDs:** Faster paging.
- **Enhanced Query Processing:** Faster performance without any app changes.

Enhanced Security & Scalability

- **Redefined engineering security processes:** Least vulnerable DB
- **CC certification at High Assurance Level:** Improved compliance.
- **Enhanced separation of duty:** Improved compliance & security.
- **Transparent Data Encryption:** Better data protection.
- **Encryption Key Management:** Store keys on a separate server.
- **Support for Windows Server Core:** Reduced surface area for attack.
- **Resource Governor adds IO governance:** Predictable performance.
- **SysPrep at cluster level:** Faster deployment.
- **Windows Server 2012 R2:** Predictable performance with tiering of compute network & storage.

High Availability & Support

- **Premier:** 24 x7 support, access to tech training
 - **PMC:** Solution validation, on-site expertise, fastest response times.
- SQL Server 2014:**
- **Enhanced AlwaysOn, 8 secondaries, Replica Wizard:** Greater HA, easier to manage & deploy.
- Windows Server 2012 R2:**
- **Clustered Shared Volume support:** Enterprise HA with tiered storage.
 - **VHDX support:** Resize VM with no downtime.
- System Centre 2012 R2:**
- **Manage on-premises and cloud apps.**

Faster Insights from any Data

Easy Access to Data, Big & Small

Insights from any data

Search, access and shape internal and external data and combine with unstructured data to broaden insights.

Powerful Insights with Familiar Tools

Enhanced self-service BI

Speed up analysis and time to insight with the familiarity of Excel in Office and Power BI in Office 365, as well as access via mobile devices.

Complete BI Solution

From data management to BI & Analytics

Scale your BI models, enrich and help secure your data and ensure quality and accuracy with a complete BI solution.

Easy Access to Data, Big & Small

- **Power Query:** Easy access to internal and external data.
- **Windows Azure Marketplace:** Enhance with 3rd party data.
- **Windows Azure HDInsight Service & Microsoft HDInsight Server (preview):** Access big data with the simplicity of Windows.
- **Parallel Data Warehouse with Polybase:** Query big data with T-SQL.

Powerful Insights with Familiar Tools

- **Excel in Office and Power BI in Office 365 - Power Pivot and Power View:** Faster insights, on-premises and in the cloud.
- **Power Map Preview for Excel:** Richer insights with 3D virtualisation.
- **Data Mining Add-ins for Excel:** Predictive analytics.
- **Mobile BI Apps:** Access insights on iPad & Windows 8 devices.

Complete BI Solution

- **StreamInsight:** Access streaming data in near real-time.
- **Data Quality Services:** Cleanse data
- **Master Data Services:** One source for the truth.
- **Analysis Services:** Comprehensive, enterprise-scale analytic solutions.
- **BI Semantic Model:** Simplify BI model deployment.

Platform for Hybrid Cloud

Hybrid Cloud Scenarios

The best of on-premises and cloud

Enable new hybrid scenarios like cloud backup and cloud disaster recovery to reduce costs and improve on-premises business continuity.

Easy On-Ramp to Cloud

Fast time to benefit

Easily and quickly migrate and run SQL Server on Windows Azure to get to the benefits of cloud computing faster.

Complete & Consistent

Comprehensive data platform

Deploy a complete and consistent data platform that spans on-premises and cloud using a common set of tools across the entire application.

Hybrid Cloud Solutions

- **Simplified Cloud Back-Up:** Reduce CAPEX & OPEX.
- **Cloud Disaster Recovery:** Reduce CAPEX & OPEX and improve business continuity.
- **Extend on-premises apps to the cloud:** Gain cloud scale on demand.

Easy On-Ramp to Cloud

- **New Cloud Migration Wizard:** Easily move on-premises SQL Server to Windows Azure.
- **SQL Server in a Windows Azure Virtual Machine:** Reduce CAPEX & OPEX with full SQL Server functionality in the cloud.
- **Windows Azure SQL Database service:** Develop new variable demand cloud apps quickly with HA built-in.

Complete & Consistent from on prem to cloud

- Deploy with a comprehensive data platform across all database workloads with a consistent experience from on-premises to cloud.

SQL Server 2014

Speed up application performance on your existing hardware

