Microsoft®

SQL Server® 2008 R2

Licensing Quick Reference Guide

Overview

This Quick Reference Guide is for people who need to understand the basics of how Microsoft® SQL Server® 2008 R2 is licensed and sold. This guide does not supersede or replace any of the legal documentation covering SQL Server use rights. Specific product license terms are defined in the product's Software License Terms (in the case of Microsoft Volume Licensing, the Microsoft Volume Licensing agreement under which it was acquired, and/or the Microsoft Volume Licensing Product Use Rights [PUR]). It is not a legal use rights document. Program specifications and business rules are subject to change.

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What is Sold and Who Sells It

The table below provides a summary of the editions of SQL Server 2008 R2 and the sales channels through which they are available.

Edition	Channel							
	Enterprise Agreement (EA)	Enrollment for Application Platform (EAP)	Select License/ Select Plus	Open Programs	Retail Full Packaged Product (FPP)	OEM	Services Provider License Agreement (SPLA)	ISV Royalty (ISVR)
SQL Server 2008 R2 Datacenter (New premium edition)	●	●	●	●	●		●	●
SQL Server 2008 R2 Enterprise	●	●	●	●	●		●	●
SQL Server 2008 R2 Standard	●	●	●	●	●	●	●	●
SQL Server 2008 R2 Workgroup	●		●	●	●	●	●	●
SQL Server 2008 R2 Web	●		●	●			●	
SQL Server 2008 R2 Developer			●	●	●			

How it is Sold: Licensing Models for SQL Server 2008 R2

SQL Server 2008 R2 editions are licensed through Microsoft Volume Licensing using either the Per Processor software licensing model or the Server/Client Access License (CAL) software licensing model. With the exception of SQL Server 2008 R2 Datacenter and SQL Server 2008 R2 Web (which are only licensed using the Per Processor model), you may choose which model to use based on which one best fits your specific scenario. SQL Server 2008 R2 Developer is restricted to development and test use and is licensed on a Per User basis.

Per Processor Licensing

Microsoft offers a Per Processor licensing model to help alleviate complexity. When licensing SQL Server software under the Per Processor model, you do not need to purchase additional CALs; it includes access for an unlimited number of users or devices to connect from either inside or outside the firewall. Per Processor Licenses for SQL Server 2008 R2 are available for Datacenter, Enterprise, Standard, Workgroup, and Web editions.
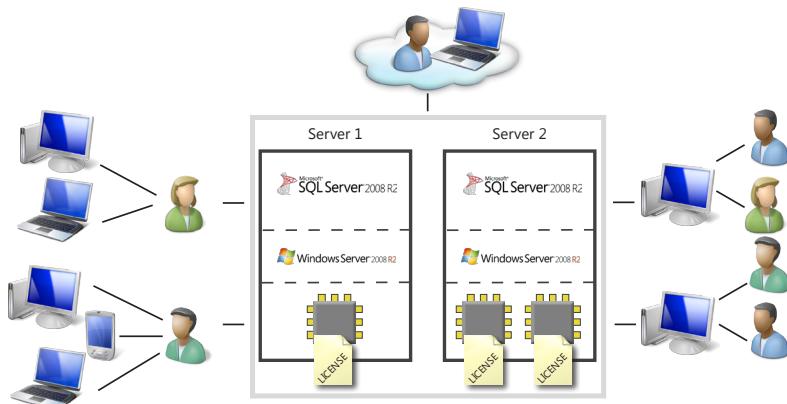
Notes:
- A Per Processor License is required for each processor installed on each operating system environment (OSE) running SQL Server or any of its components (for example, Analysis Services).
- For SQL Server running in physical operating system environments (POSEs), you must license all physical processors.
- Per Processor License costs are the same regardless of number of cores in the processor.

The Per Processor model is appropriate when:
- You cannot or do not want to count users/devices
- The number of users/devices is high enough that the Per Processor model is more cost-effective than the Server/CAL model
- SQL Server is being used for external-facing Web sites or applications

Server/CAL Licensing

When licensing SQL Server software under the Server/CAL model, you purchase a Server License for the server and a Client Access License (CAL) for each device (Device CAL) and/or user (User CAL) accessing or using the services or functionality of SQL Server or any of its components (e.g. Reporting Services). A CAL is not software; it is a legal document granting access.

Server License
Licenses the server on which SQL Server software or any of its components is running

Device CAL
Licenses a device accessing or using the services or functionality of SQL Server or any of its components

User CAL
Licenses a person accessing or using the services or functionality of SQL Server or any of its components
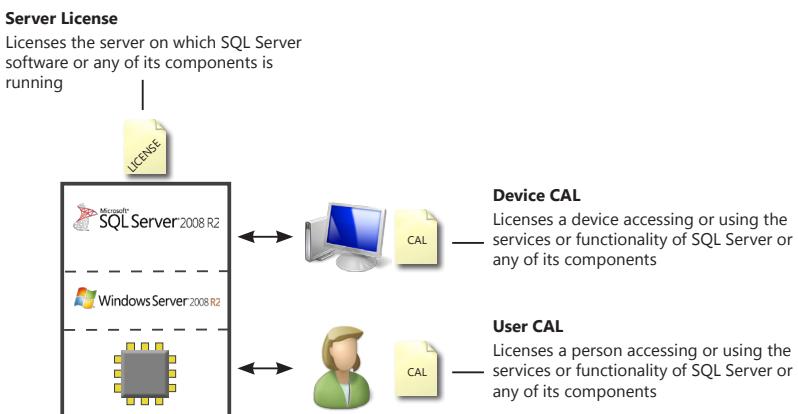
Notes:
- SQL Server 2008 R2 CALs (or SQL Server 2008 CALs with SA) are required.
- A given user or device only needs one SQL Server CAL to access any number of SQL Server instances in the organization.
- SQL Server CALs can also be used against any SQL Server regardless of the platform (32 bit, 64 bit, and IA64) or edition (Workgroups, Standard, and Enterprise).
- Use of hardware and/or software that reduces the number of devices or users that directly access or use the software (multiplexing/pooling) does not reduce the number of CALs required.
- Separate partitions or blades are considered to be separate servers for licensing purposes.

The Server/CAL model is appropriate when:
- You can count your users/devices
- The number of users/devices is low enough that the cost is lower than using the Per Processor model
- You plan to scale out your use of SQL Server by adding new servers over time. (Once you have purchased the necessary CALs, you only need additional Server Licenses for new servers.)
- Users are accessing many SQL Server databases

Licensing SQL Server 2008 R2 for Virtualization Scenarios

Licensing for Virtualization Under the Per Processor Model

The number of operating system environments (OSEs) in which you may run instances of SQL Server 2008 R2 under the Per Processor model depends upon the edition you license and whether or not you license all of the physical processors with a Per Processor License.

Licensing All Physical Processors
If you license all of the physical processors on the server (one license per physical processor), you may run unlimited instances of the SQL Server software in the following number of OSEs (either physical or virtual):

Edition	# of OSEs in Which You May Run SQL Server
SQL Server 2008 R2 Datacenter	Unlimited
SQL Server 2008 R2 Enterprise	Up to 4 per license

In the case of SQL Server 2008 R2 Standard, SQL Server 2008 R2 Workgroup, and SQL Server 2008 R2 Web, if you license all of the physical processors you may run the software in the physical OSE only. In order to run the software in virtual OSEs, you will need to license each virtual processor individually as described below.

Licensing a Portion of the Physical Processors
If you choose not to license all of the physical processors, you will need to know the number of virtual processors supporting each virtual OSE (data point A) and the number of cores per physical processor/socket (data point B). Typically, each virtual processor is the equivalent of one core:
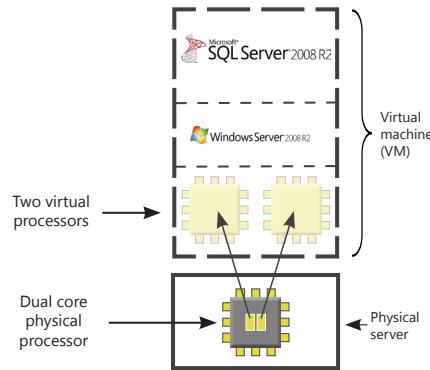
With those numbers, you can refer to the table or formula below to determine how many Per Processors Licenses you need for each virtual OSE.

# of Virtual Processors supporting the virtual OSE	# of Cores per Physical Processor/Socket				
	1	2	4	6	8
4	4	2	1	1	1
3	3	2	1	1	1
2	2	1	1	1	1
1	1	1	1	1	1
# of Per Processor Licenses Required for the virtual OSE					

Note: Use this table only as a reference for basic virtualization scenarios.

Note: For any virtual OSE, you can calculate the number of Per Processor Licenses required for the SQL Server edition that you are licensing by dividing data point A (number of virtual processors supporting the virtual OSE) by data point B (# of cores [if hyperthreading is turned off] or threads [if hyperthreading is turned on] per physical processor). If the result is not a whole number, round up to the next whole number.

Licensing Virtual Machines Under the Server/CAL Model

Standard and Workgroup Editions

Each Server License for SQL Server 2008 R2 Standard or Workgroup permits you to run the software in one (1) OSE (physical or virtual). Additional OSEs require one (1) Server License each.

Enterprise Edition

Each Server License for SQL Server 2008 R2 Enterprise permits you to run the software in up to four (4) OSEs (physical and/or virtual).

CAL Requirements

SQL Server 2008 R2 CALs are required for any user or device accessing the SQL Server functionality or data, regardless of whether SQL Server or any of its components are running in the physical or virtual OSE.

Multiplexing

A SQL Server CAL and Windows Server CAL are required for each distinct device or user that is connected to the multiplexing or pooling software or hardware front end:
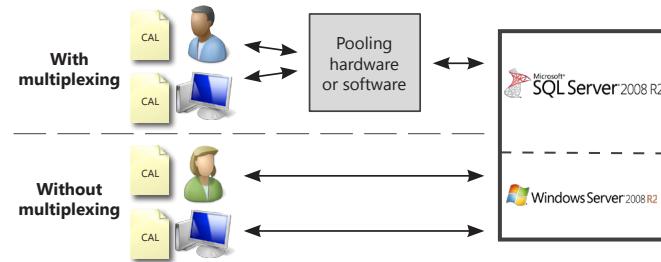
The number of tiers of hardware or software between the SQL Server and the user or devices that ultimately use its data, services, or functionality does not affect the number of CALs required:
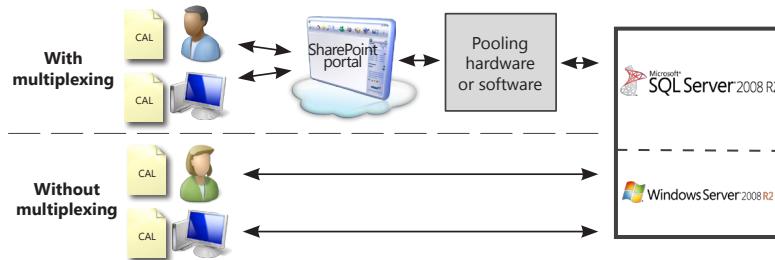
Manual transfer of data from employee to employee does not require a CAL for the receiving employee. For example, if an employee sends a Microsoft Office Excel® version of a report to another employee, the receiving employee does not require a CAL (as long as the report does not access a server running SQL Server in some way):
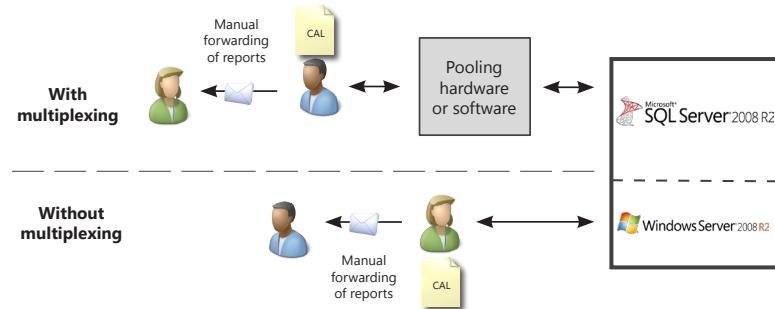
Reassigning Licenses and Moving Running Instances

You may move running instances of SQL Server 2008 R2 Enterprise or Datacenter as needed across servers within a server farm. (There is no 90 day minimum period before reassignment.)

Server Farm Definition

A server farm may consist of up to two data centers located:

- In time zones that are within four hours of one another, and/or
- Within the European Union (EU) and/or European Free Trade Association (EFTA)

Note: A given data center may only be part of one server farm.

Moving Running Instances of SQL Server 2008 R2 Enterprise Under Server/CAL Model

You may move licensed instances as needed across the server farm as long as the number of servers on which you are running instances of the software does not exceed the number of licenses assigned to the server farm.

Moving Running Instances Under Per Processor Model

- **SQL Server 2008 R2 Datacenter:** You may run unlimited instances of the software in an unlimited number of OSEs within the server farm, and move those instances as needed, as long as the number of physical processors supporting or used by the OSEs in which the software is running at any one time does not exceed the number of licenses assigned to the server farm.

- **SQL Server 2008 R2 Enterprise**: You may run unlimited instances of the software in up to four (4) OSEs per license within the server farm, and move those instances freely, as long as the number of physical processors supporting or used by the OSEs in which the software is running at any one time does not exceed the number of licenses assigned to the server farm.

Upgrades, Downgrades, and Step-ups

	What it Means	How to Get It
Version Upgrade	Move from previous version (e.g. SQL Server 2008) to current version (e.g. SQL Server 2008 R2)	If your existing SQL Server License is covered by Software Assurance (SA), you are automatically licensed to upgrade to the corresponding SQL Server 2008 R2 edition. If your existing SQL Server License is not covered by SA, you must purchase a new full license for the SQL Server 2008 R2 edition you want.
Version Downgrade*	Deploy SQL Server 2008, 2005, or 2000 in place of currently-licensed version (per terms of Retail Software License Terms/PUR)	Downgrade Rights granted for: All licenses acquired through Microsoft Volume Licensing OEM and FPP (retail) versions of SQL Server Enterprise, Standard, and Workgroup
Down Edition Rights* (New with SQL Server 2008 R2)	Deploy lower edition in place of currently-licensed edition (per terms of Retail Software License Terms/PUR)	If you are licensed for Datacenter edition, you may deploy Enterprise or Standard edition in its place. If you are licensed for Enterprise edition, you may deploy Standard edition in its place.
Edition Step-Up	Move from lower edition (e.g. Standard) to higher edition (e.g. Enterprise)	Lower edition must be covered by Software Assurance (SA) You acquire the SA Step-Up SKU offered through certain Volume Licensing programs Step-ups available from Workgroup to Standard, Standard to Enterprise, and Enterprise to Datacenter

*When utilizing version downgrade or down edition rights, the product use rights for the originally licensed version and edition still apply.
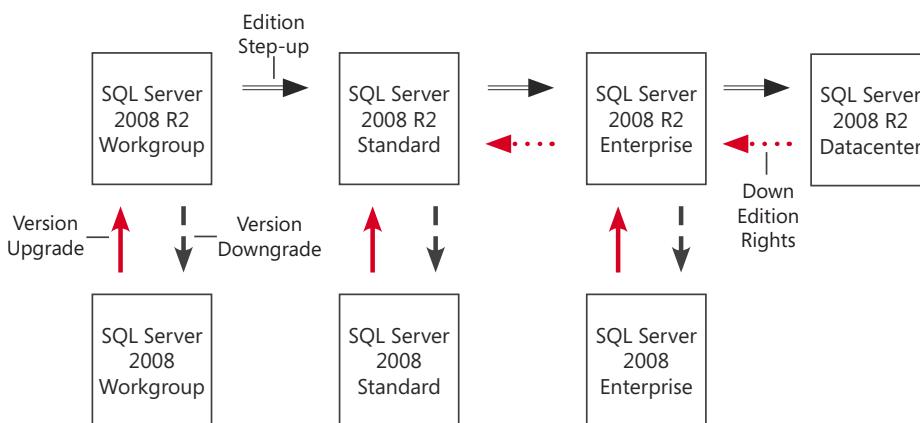
Licensing SQL Server Components

Any server running a component of SQL Server (such as DLTP, Analysis Services, Reporting Services, or Integration Services) must be licensed for SQL Server.

Processor, Virtualization, and Memory Support Changes

With the introduction of SQL Server 2008 R2 Datacenter edition, the processor, virtualization, and memory support limits have been recalibrated for SQL Server 2008 R2 Enterprise and Standard editions compared to SQL Server 2008 Enterprise and Standard editions. The table below provides an overview of those key changes.

		Version	
Edition	**Limits**	**SQL Server 2008**	**SQL Server 2008 R2**
Datacenter	Processors	N/A	Up to 256 logical processors
	OSEs	N/A	Unlimited
	Memory	N/A	OS maximum
Enterprise	Processors	Unlimited	Up to 8 processors*
	OSEs	Unlimited	Up to 4 per Server License or Per Processor License when all processors are licensed
	Memory	OS maximum	2TB*
Standard	Memory	OS maximum	64GB*

*Technical limitation

License Grant for Customers with SQL Server Enterprise Licenses with Software Assurance

If you have active Software Assurance coverage for SQL Server Enterprise, Microsoft is granting you the following additional use rights until the release of the SQL Server version that follows SQL Server 2008 R2:

If licensed under <u>Server/CAL model</u> for SQL Server Enterprise with Software Assurance	If licensed for all physical processors under <u>Per Processor model</u> for SQL Server Enterprise with Software Assurance
You may run any number of instances of the SQL Server 2008 R2 Enterprise software in one physical OSE and any number of virtual OSEs on the licensed server	You may run any number of instances of the SQL Server 2008 R2 Enterprise software in one physical OSE and any number of virtual OSEs on the licensed server

Note: Details on product use rights and migration paths for the release of the SQL Server version that follows SQL Server 2008 R2 will be made available closer to the release date of that version.

Frequently Asked Questions

If I have licensed SQL Server under the Server/CAL model, will I be able to use the SQL Server 2008 CAL with the SQL Server 2008 R2 Server?
Since SQL Server 2008 R2 is a major release, SQL Server 2008 CAL cannot access SQL Server 2008 R2 servers (unless the CAL is covered by Software Assurance).

Why is SQL Server 2008 R2 Datacenter only licensed using the Per Processor model?
SQL Server 2008 R2 Datacenter is a new premium edition providing the highest level of scalable solutions for Tier 1 deployments. Tier 1 deployments are hardware-intensive workloads and generally run on large servers in the data center. The predominant licensing model in the industry for these deployments is Per Processor.

If I have SQL Server 2008 with Software Assurance, at what point do my product use rights change to align with SQL Server 2008 R2?
Under current terms, use of SQL Server 2008 remains subject to the Microsoft Volume Licensing Product Use Rights (PUR) that were in effect at the time SQL Server 2008 licenses were obtained. Resetting of use rights commitments will vary by program and/or agreement version so please refer to the PUR and your current program agreements for specific details.

What is the scenario for grandfathering unlimited virtualization rights for SQL Server 2008 Enterprise?
SQL Server 2008 Enterprise licenses with Software Assurance acquired prior to the release of SQL Server 2008 R2 will be granted the right to run in unlimited VMs. This right is remains in effect as long as Software Assurance coverage remains active and until the SQL Server version that follows SQL Server 2008 R2 is generally available. If you acquire new licenses (on a new or existing contract), you will also be granted similar rights to run unlimited VMs if you acquire Software Assurance.

I acquired SQL Server 2008 R2 Enterprise License with Software Assurance and want to create unlimited VMs using SQL Server 2008 R2 Standard. Can I do this?
Yes. The new down edition rights announced with SQL Server 2008 R2 allow you to deploy the Standard edition in place of Enterprise edition, and as long you remain active on your Enterprise Software Assurance, the right to run in unlimited VMs will continue until the next version of SQL Server after SQL Server 2008 R2 is generally available.

I acquired two Datacenter licenses and installed those on a server with four processors. Can I create unlimited VMs?
You need to license all physical processors in order to run instances of SQL Server 2008 R2 Datacenter in an unlimited number of virtual OSEs. In this case, you will need four Datacenter licenses.