

SQL 2014 LICENSING

Determine what licences you require and how to demonstrate that you are correctly licenced.

Executive Summary

One of the most expensive mistakes an organisation can make is to mismanage its Microsoft SQL Server licensing. SQL Server has become a necessity to many organisations and is a prerequisite to many third party tools. The problem is - how do you determine what licences you require and how do you demonstrate that that you are correctly licenced? This whitepaper provides you with everything you need know about licensing SQL Server 2014.

Highlights

- SQL Server 2014 is available in three main editions; Standard, Business Intelligence and Enterprise.
- Dependant on the edition, SQL Server 2014 can be licenced per core or per server.
- When licensing under the core model, you will need to multiply the number of cores by a core factor to identify how many core licences are actually required.
- When buying under the core license model, you don't need to purchase additional client access licences (CALs).
- Be aware, core licences are sold in packs of two, therefore, divide the number of licenses required by two to determine the actual number required.
- When buying under the Server and CAL model, each user or device must have a SQL Server CAL.

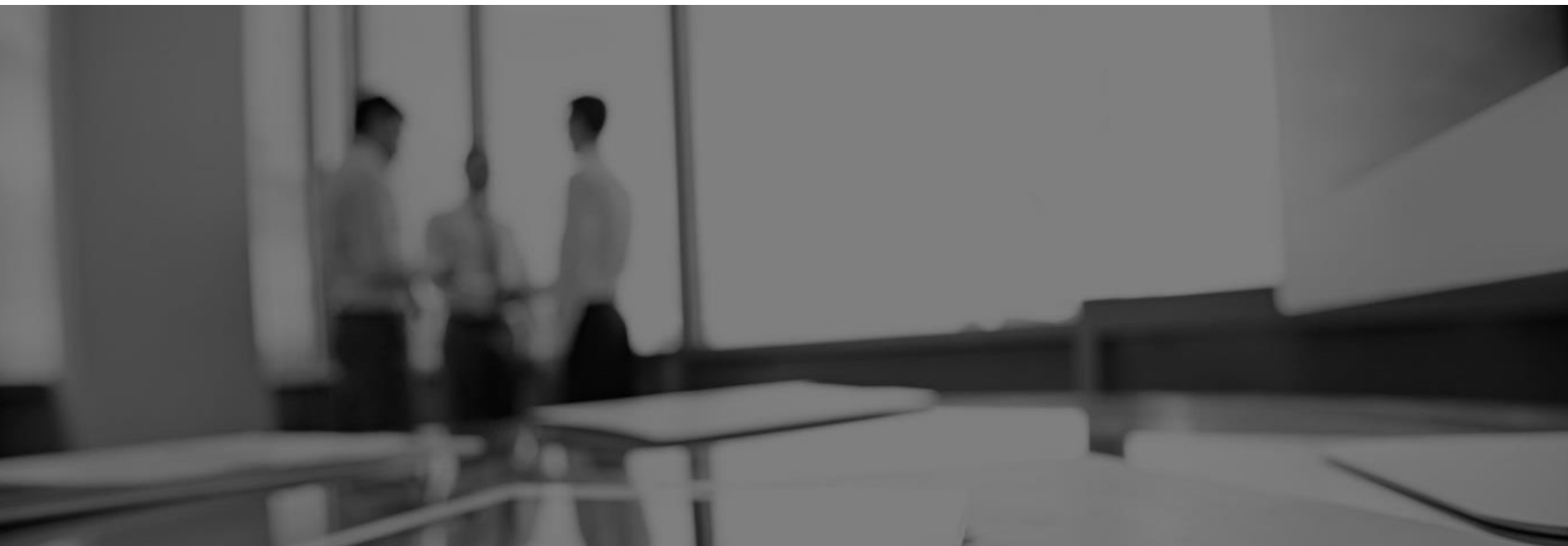


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Licensing Microsoft SQL Server

Microsoft SQL Server 2014 is available in three main editions; Standard, Business Intelligence and Enterprise. The Enterprise edition is licenced per core and requires no Client Access Licences (CALs), Business Intelligence is licenced per server and requires CALs and the Standard edition can be licenced using either method.

So, first let's look at the licence metrics.

Core Licensing

To identify how many core licences you require, you must count the number of cores in each physical processor in the physical server and then multiply the total number of physical cores by the appropriate core factor found in the table below:

Processor Type	Core Factor
All processors not listed below	1
AMD 31XX, 32XX, 33XX, 41XX, 42XX, 43XX, 61XX, 62XX, 63XX	0.75
Single Core Processors	4
Dual Core Processors	2

When licensing under the Core licence model, you don't need to purchase additional CALs, therefore, unlimited number of users or devices are licenced to access from either inside or outside an organisation's firewall.

Just one word of warning, when purchasing the appropriate number of core licences, be aware that core licences are sold in a pack of two, therefore, divide the number of licences required by two to determine the actual number required. For example, if you have a dual-core, dual processor server, the following calculation applies:

$(2 \text{ Dual-Core} \times 2 \text{ Processor}) \times \text{Core factor of } 2 = 8 \text{ core licences required} / 2 = 4$
 SQLSvrEntCore SA MVL 2Lic CoreLic

Top tip: The total licensing costs are lower than those incurred using the Server and CAL licensing model.

Server & CAL

For Server and CAL, you should licence the server, determine the number of unique users and/or devices accessing the SQL Server and purchase the appropriate number and type of CALs. There are two types of CALs, these are as follows:

- Device CAL – A Device CAL is assigned to a device and allows multiple users to use that device.
- User CAL – A User CAL is assigned to the user and allows that user to use multiple devices.

To access a licenced SQL Server, each user or device must have a SQL Server CAL that is the same version or newer than the SQL Server software version being accessed. For example, to access a server running SQL Server 2014 software, a user needs a SQL Server 2014 CAL.

Warning: SQL Server software includes a range of licenced server components, including the SQL Server Database Engine, Master Data Services, Analysis Services, Integration Services, Reporting Services and Data Quality Services. If these components are running on a server other than the main database server, then an additional licence is required for each additional device on which they are installed.

All easy so far? Okay, lets now add an additional layer of complexity; SQL Server in a virtual environment.

Microsoft SQL Server is increasingly being deployed in virtualised environments, which enable running instances of SQL Server concurrently in separate virtual machines. SQL Server 2014 offers virtualisation rights, options and benefits when deploying in a virtual environment. There are two primary virtualisation licensing options available, these are as follows:

Licence Individual Virtual Machines

For SQL Server Standard and Business Intelligence editions you can licence individual VMs using the Server/CAL model. Simply purchase one server licence for each VM running SQL Server software, regardless of the number of virtual processors allocated to the VM. Then purchase the appropriate number of CALs. For example, a customer who wants to deploy the Business Intelligence edition running in six VMs, each allocated with four virtual cores, would need to assign six SQL Server 2014 Business Intelligence server licences to that server, plus the CALs to allow access.

For SQL Server Standard and Enterprise editions you can licence individual VMs using the per-core model. You must purchase a core licence for each virtual core allocated to the VM, remembering that the four core minimum still applies, and this is now for each VM.

Licence all the Physical Cores on a Server

With SQL Server 2014 Enterprise edition, if you licence all the physical cores on the server, you can then run a VM per core licenced. For example, a four processor server with four cores per processor provides sixteen physical cores. If you licence all sixteen cores, you can run SQL Server on up to sixteen VMs (or 1 Physical and 15 VMs), regardless of the number of virtual cores allocated to each VM. If you want to increase the number of VMs beyond sixteen, then you can assign additional core licences to the server; this is known as licence stacking.

If, however, you licence all the physical cores with SQL Server 2014 Enterprise Edition with Software Assurance, your licence rights are increased to allow any number of instances of the software to run in any number of physical or virtual machines (i.e. unlimited virtualisation). In addition, SA enables you to reassign SQL Server licence to different servers within a server farm as often as you need, this includes third party shared servers. This benefit is called Licence Mobility and is available under both the per core and

Server/CAL model. Licence Mobility is an essential requirement for those organisations who want to dynamically move VM workloads across multiple physical servers with a server farm, or even within a cloud environment.

Top tip: With highly virtualised environments where VMs dynamically migrate across servers to reallocate resources as needed, it is highly recommended to purchase your SQL Server core licences with SA.

So now you understand the basic requirements for SQL Server, you should be able to licence your instances correctly. There are, however, a few other considerations that you should be aware of, these are licensing rules associated to failover and deploying SQL Server software in non-production environments.

Failover

SQL Server can be configured so that if one server fails, a second can take over. The rights to install and run a passive SQL Server is now covered by Software Assurance. The passive failover instance can run on a separate server and can be configured to synchronise with the primary server, but is not allowed to serve data to users or run any active SQL Server workloads. This secondary server does not need to be separately licenced for SQL Server as long as it is truly passive and that SQL Server is covered with active SA.

When you licence SQL Server under the core model, the number of core licences must be based on the server that requires the highest number of licences, this ensures, when the failover takes over, the passive server will be licenced correctly.

Warning: The Failover benefit ends when SA coverage expires, therefore, make sure you monitor and renew your SA as and when required.

Non-Production Environment

Within many organisations, SQL Server instances are deployed for development and testing purposes, therefore, as you would expect, there is a cost effective approach to licensing SQL Server in a non-production environment. SQL Server can be licenced under a Development Tools model, which is a per user licence option. A single user licence is required for each person that accesses or uses the software and allows the user to install and run SQL Server software on any number of devices without having to acquire full licence.

You can also choose to licence SQL Server software for non-production use via certain MSDN subscriptions, these include Visual Studio Professional, Premium and Ultimate with MSDN subscriptions. MSDN subscriptions are also per user models, but include access to many other Microsoft Products, including Visual Studio, Windows, Windows Server, SQL Server, and SharePoint - plus additional services like Visual Studio Online and Microsoft Azure.

Okay, now you have understood some of the advanced licensing scenarios, it's time to have a look at how the licences are sold.

Buying the licences under the right agreement

SQL Server licences are sold through a number of different channels such as FPP, OEM or via a number of Volume Licensing programs. In this whitepaper we will be looking at the varying Volume Licensing programs that provide significant benefits in addition to just licensing the software.

Open Value

Open Value is recommended for organisations with less than 250 devices and offers the advantages of Software Assurance, simplified licence management and an annual payment structure. Open Value offers Organisation-wide and Non-Organisation-wide options. The Organization-Wide is usually acquired when the company wants to standardise its desktop PC environment on one or more Microsoft enterprise products and is looking to increase savings via increased discounts, whereas the Non-Organisation-wide option, is a transactional agreement that does not require commitment to cover all devices.

With reference to SQL Server, an organisation who already has an Open Value agreement, it is possible to acquire the required licences by simply adding the required SQL products to the agreement (these licences do not have to be company-wide) and your organisation pays for the licence and a full year's SA plus a full year's SA for each remaining year of the agreement. In addition, these payments can be split equally, annually for the term of the agreement.

Both agreement options lead to perpetual rights, therefore, at the end of the agreement, you are licenced to use the latest version of the software, however, if you wish to keep your SA active, then you will need to renew or extend the agreement.

Open Value Subscription

Open Value Subscription is for customers who want to subscribe to, rather than acquire, Microsoft product licences. Microsoft Open Value Subscription provides the lowest up-front costs of the Open options with the flexibility for customers to reduce their total licensing costs in years when their desktop PC count declines. Like the Organisation-wide agreement, Open Value Subscription is a company-wide agreement where you must licence one Desktop Platform Product (Windows Enterprise, Office Professional Plus, Core Cal Suite, Enterprise CAL Suite) for every qualified device, however, when the agreement expires, to gain perpetual rights, you have to buy-out of the licences.

As with the other Open Value agreements, you can add the SQL products to this agreement, gaining access to the same flexible payment options available, however, the rights are not perpetual and, therefore, at the end of the agreement, you would need to consider the buy-out options if you wished to continue using the software.

Select Plus

Select Plus is a transactional purchasing agreement that is designed for organisations that have more than 250 devices. With reference to SQL Server, you can acquire perpetual licences with or without SA and the pricing is based on point levels achieved (i.e. the more licences you acquire, the more points you will earn and, therefore, the more discount you will achieve). Payment for licences without SA is due in full at the time of order, however, there are a number of options available when paying for licences with SA.

Enterprise Agreements

Enterprise Agreement offers the best value to large organisations (250+ devices) who want to licence all qualified devices or users with at least one enterprise product. Compared to Select Plus, an Enterprise Agreement is company-wide, includes SA, allows annual payments and attracts increased discounts.

Like the Open Value, the Enterprise Agreement offers a subscription option, which lowers initial licensing costs because you subscribe to the rights to use Microsoft products and services instead of owning them. The subscription option lets you increase or decrease subscription counts annually. With the subscription option you can access Microsoft software for as long as you maintain your subscription.

Additional Products can be added at any time to both types of agreement, therefore, you could add SQL to this agreement and gain additional benefits such as improved pricing, price protection and flexible payment terms for SA.

If, however, you are looking to licence all your SQL Server instances (must be enterprise wide) you could consider acquiring your licences under the Server and Cloud Enrolment (SCE). This enrolment offers four components that can be individually acquired, these include Core Infrastructure (Windows Server + System Center), Application Platform (SQL Server), Developer Platform (Visual Studio Ultimate and Premium) and Windows Azure (All Windows Azure Cloud Services). The key benefits of SCE is platform standardisation, cloud enablement, unlimited support and increased discounts. The SCE provides Microsoft's best pricing and benefits for Server and Cloud products, including discounts on new licensing, software assurance and Azure. The enrolment is a 3 year commitment made under an Enterprise Agreement and there are minimum requirements (for example, the Application Platform requires a minimum of 50 Cores or 5 Server Licences and 250 CALS).

Tip: If you have under 250 devices, then Open Value should be considered, however, you should decide whether you want to commit to a company-wide agreement or pay upfront and order on a transactional basis. For organisations over 250 devices, the same applies, purchase under a Select Plus and you will avoid commitment to a company-wide agreement, or purchase under an Enterprise Agreement and extend your discount and payment options.

Next Steps

Before you do buy your licences, we do recommend that you first baseline your existing SQL estate. Usually, most organisations have organically acquired servers over a period of time and, therefore, have already made some significant investments into their server environment. By conducting a comprehensive licence reconciliation, you can get a better understanding of your current licensing position and determine exactly what is required.

For further information on how to baseline your SQL Server environment read our next white paper which will be published at the beginning of September 2015.

If, however, you want to find out how our services can help you take control of software Licencing and deliver significant cost savings to your organisation, please:

Contact Us

Speak to one of our licencing experts today:

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 <http://www.lmoconsultancy.com/contact-us/>