

# Windows Licensing Demystified

Gary Olsen

Suffice it to say, there are a lot of Microsoft Windows product licensing options.

Let's look at some of these options and review the licensing changes for virtual servers, Windows Server 2008 R2 and Windows 7. Organizations with as few as five licenses can take advantage of volume licensing, and pricing and financing options will benefit both large and small organizations. There are a couple of good resources that cover volume licensing questions as well as quotes.

The Microsoft License Advisor (Figure 1) is an interactive resource where you can build a licensing quote, find advanced options if you've used it before and ask questions about the licensing products to find the one you need.

The screenshot shows the Microsoft Volume Licensing tool interface. At the top, there is a navigation bar with "Click Here to Install Silverlight", "United States Change", and "All Microsoft Sites". The main header features the Microsoft logo, "Volume Licensing", and a search bar. Below the header, there is a "Product Configuration" section with a "Select Product" button and a "Filter Products" dropdown set to "Top Picks". A "Configure Product" button with "Cancel" and "Add to Selection" options is also present. The "Select your language" dropdown is set to "Single Language", and the "License Type" dropdown is set to "License with Software Assurance". A section titled "Please enter all information so that we can provide you an accurate report:" contains the following information:  
Windows Server 2008 Standard  
 Check if you want this Windows Server 2008 Edition without Hyper-V functionality  
0 No. of Standard OS environments configured to run directly on a physical hardware system  
0 No. of servers accessed by users who are not either (i) your or your affiliates' employees, or (ii) your or your affiliates' onsite contractors or agents.  
0 No. of Devices  
At the bottom, there are buttons for "MLA Home", "Previous", and "Next".

The Microsoft Volume Licensing reference guide explains all of the volume licensing options in a fairly easy to understand format. There is an excellent comparison table on page 29 that gives an overview of how each volume licensing product can be used effectively.

## Select Agreements And Software Assurance

Smaller organizations should look at the Microsoft Open Programs. There is a wide variety of options to fit specific needs, such as payments, and for varying product needs in an organization, such as pricing. My recommendation is to study the options first, then use the Microsoft License Advisor to generate some quotes.

I won't go into each licensing scenario here, but there are a couple of notable options for enterprises: the Microsoft Select License Agreement and the Software Assurance Program.

The Microsoft Select License program is intended for companies with 250 PCs or more that require different products. The program lets organizations have control from one license product. Think of it

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as a catalog of Microsoft products that uses a point system, and each product order counts for a select number of points and you pay for the points. The reference guide has more information.

The Software Assurance Program is a good way to make sure you have the most recent software updates. When a new version of a product comes out, you will be on the priority list to get the new software. This program is really an add-on to licensing programs and its benefits include:

- Product support with various options for Microsoft product support.
- Training vouchers for training courses from Microsoft training partners.
- E-learning access to online training from Microsoft.
- A Home Use Program that gives your employees significant discounts on Microsoft products.
- TechNet Benefits with resources for newsgroups, online chat and other tools to help with training and resolving problems.

## Licensing Virtual Servers

There have been a number of changes in licensing virtual servers since Windows Server 2003. When you run it as the base OS on a virtual server host machine, Windows Server 2008 still requires a server license. Windows Server 2008 Standard, Enterprise, and Datacenter editions each permit virtual machines as part of the license; however, the number of virtual machines allowed to run under the same license depends on the edition.

Windows Server 2008 Standard edition allows installation of one instance on the physical host machine and one instance in a virtual machine. This is different and better for you than Windows 2003. Windows Server 2008 Enterprise, like Windows 2003 R2 Enterprise, allows one instance to run on the physical host and four instances to run in virtual machines on that host.

Windows 2008 Datacenter, like Windows 2003 R2 Datacenter, allows Windows to run on the physical host and unlimited instances to run in virtual machines on that host. The licensing cost is per processor, and Itanium versions of Windows use Datacenter licensing schemes.

Prior to September 2008, Microsoft tied the server application licenses to the physical machine, and thus prevented moving virtual machines from one server to another within a 90-day period. In other words, they could move, but an IT administrator had to wait 90-days to move them again, making technologies such as VMware's VMotion and Microsoft's new Live Migration legally impossible without acquiring extra licenses.

In September 2008, Microsoft removed the 90-day restriction for volume licensing customers only. I don't believe that hurts small and medium-sized businesses; they can purchase volume licensing contracts for as few as five licenses. If they have fewer than five licenses, they probably won't be virtualizing many – if any – servers.

Although Windows Server still does not allow license movement inside of 90 days, it will not affect the use of Windows Server 2008 R2's Live Migration or VMware's VMotion because every server will need to have a Windows Server license -- just make sure they match. Thus, if you had two servers, each with a Windows Standard license, that would give you one Virtual Machine license, which would support moving one VM between machines, and the same would be true for Windows Enterprise.

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Very large customers will probably prefer to just use Windows Server Datacenter Edition with unlimited VM licenses and not worry about it. In a situation where you want to replace a server with new hardware and decommission the old, it is permissible to move the license to the new machine. Windows Server licenses are issued on the "honor system" and there is no programmatic enforcement, such as a Client Access License for applications. From a legal standpoint, however, you must honor the license requirements.

## Client Access Licenses

Windows Server 2008 Client Access Licenses (CALs) are required for server applications running on Windows Server 2008 servers, and they are pretty much the same as the licenses for previous Windows Server versions. Windows 2003 CALs can't be used for Windows Server 2008 machines, so Windows Server 2003 versions of External Connectors, Terminal Services, Rights Management Services and Windows Server 2003 itself, must be upgraded to 2008 editions. But if you have Windows Server 2008 CALs, you will not need to upgrade them for Windows Server 2008 R2.

## Windows 7 and Windows Server 2008 Licensing

The changes in 2008 R2 and Windows 7 are minimal, but I'd like to point out a few of them here:

- Expanded use rights in Windows 7 make it easier to implement.
- Four virtual machines can run on Windows 7 Enterprise.
- Windows 7 has "XP Mode," which essentially lets a version of XP run in a virtual environment for legacy applications. Windows 7 includes in its license the right to run XP in this manner.
- Volume licensing allows downgrades to any previous level. For instance, Windows 7 Professional allows you to downgrade to Windows XP Professional. In addition, OEM versions of Windows 7 include the right to downgrade to Windows XP Professional for PCs purchased within the first 18 months of availability, or the Windows 7 Service Pack, whichever is earlier.
- Like Vista, a Windows 7 license allows you to run Windows 7 on the host machine and four virtual machine instances on the same machine – but only one user can use them at a time.
- Running only Hyper-V on Windows 2008 does not consume a CAL, but virtual machines on either Windows 2008 or 2003 will require one (noted previously in this article).