

# Licensing Microsoft Windows Server 2008 R2

## Product Licensing

### Windows Server® 2008 R2

- Improvements in virtualization** including live migration of running virtual machines
- Power management**; for example core parking
- Remote Desktop Services** incorporates Terminal Services as part of a flexible virtualization platform for remote desktop and application deployments
- DirectAccess™** requires Windows 7 Enterprise and Windows Server 2008 R2 and allows users to work remotely, and for PCs to be managed remotely without needing a VPN connection
- BranchCache™** requires Windows 7 Enterprise and Windows Server 2008 R2 and allows branch office users to quickly connect to data, and reduce loads on wide area networks

#### 2. Processor License and CALs

Purchase a Processor license for each processor, and then purchase CALs for either users or devices.

This model applies to the Windows Server **Datacenter** and Windows Server for **Itanium Based Systems** editions.



#### 3. Server License only

Purchase a Server license for each server, no CALs required. This model applies to Windows **Web** Server 2008 R2 and Windows Server 2008 R2 **Foundation**. Windows Server Foundation allows 15 users to connect to the server with no CALs.

#### LICENSING WINDOWS SERVER 2008 R2

Windows Server® 2008 R2 is licensed with 3 different models, depending on the edition.



##### 1. Server License and CALs

Purchase a Server license for each server, and then purchase Client Access Licenses (CALs) for either users or devices:

**A Device CAL** is assigned to the device and allows multiple users to use that device



**A User CAL** is assigned to the user and allows that user to use multiple devices

As an alternative to using Windows Server in "per device or per user" mode as described above, an organization can choose "per server" mode. This is unique to Windows Server and allows concurrent use licensing. The organization must have enough Windows Server CALs dedicated to that server to accommodate the maximum number of clients that will connect to that server at any point in time.

The Server License and CALs model applies to the **Standard** and **Enterprise** editions of Windows Server 2008 R2.

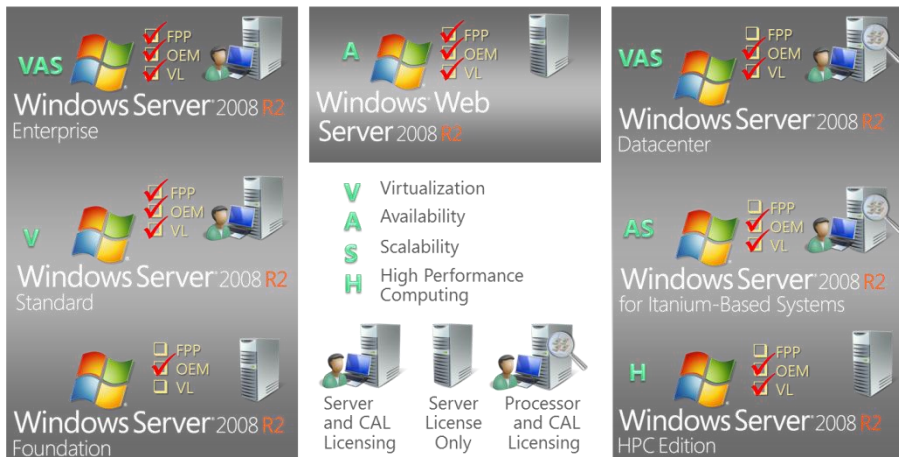
External Users can be licensed through either an External Connector license, or through individual CALs.

Notes for organizations with Windows Server 2008:

- Windows Server 2008 customers without SA require new licenses to run Windows Server 2008 R2, but Windows Server 2008 CALs do NOT need to be replaced
- Windows Server 2008 Terminal Services CALs do NOT need to be replaced in order to use Remote Desktop Services

#### WINDOWS SERVER 2008 R2 EDITIONS

There are many editions of Windows Server 2008 R2 and this diagram aims to highlight the differences between them in terms of functionality, availability and licensing.



Note that Windows Server Standard does support virtualization but the licensing rights are more advantageous with Enterprise and Datacenter editions. "Availability" means that clustering is supported.

#### VIRTUALIZATION RIGHTS

Microsoft® Hyper-V™ is Microsoft's hypervisor technology allowing server virtualization and is an integral feature of many editions of Windows Server 2008 R2. Licensing requirements vary by edition:

**Standard Edition** may run 1 Physical Operating Server Environment (OSE) plus 1 Virtual OSE.

**Enterprise Edition** may run 1 Physical OSE plus up to 4 Virtual OSEs.

**Datacenter Edition** may run 1 Physical OSE plus unlimited Virtual OSEs.



## WINDOWS SERVER SERVICES



Remote Desktop Services (RDS) makes it possible to run an application or an entire desktop in one location, but have it be controlled in another. In addition to the traditional session virtualization scenario (formerly known as "Terminal Services"), RDS provides an extensible platform for a Virtual Desktop Infrastructure (VDI).

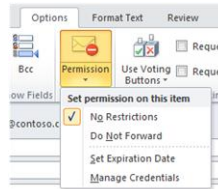
RDS must be activated on the Windows Server which needs to be licensed in per User/Device mode. Users need licenses for all software they are using, plus an RDS CAL as well as a Windows Server CAL.

An RDS External Connector is available as an option for non-employees.



Windows® Rights Management Services is a security technology that works with RMS-enabled applications (such as Microsoft® Office 2007 and Microsoft® Office 2010) to help safeguard digital information from unauthorized use.

Within the organization, users must have RMS CALs, and an RMS External Connector is available as an option for non-employees.



## WINDOWS SERVER CAL REQUIREMENTS

A Windows CAL is required:

- ▶ for authenticated access (an exchange of user or application credentials between the server software and a user or device)
- ▶ to access server services (such as file services, printing services, remote access services)

A Windows CAL is NOT required:

- ▶ for external users who are licensed with an External Connector license
- ▶ when access is to Windows Web Server 2008
- ▶ when access is through the Internet and is unauthenticated (for example, when browsing a public Web site)



## CAL EXCEPTIONS

- ▶ CALs used must match the highest version of Windows Server being used, but Windows Server 2008 CALs can be used with Windows Server 2008 R2
- ▶ A Windows Server 2008 External Connector can be used to license external users accessing a server running Windows Server 2003
- ▶ If Windows Server 2008 R2 is being used solely to manage virtual machines running Windows Server 2003, users accessing those virtual machines only need Windows Server 2003 CALs

Note that Windows Server 2008 R2 Datacenter must run on a server with two or more processors.



## VOLUME ACTIVATION

Activation is required for all editions of Windows Server 2008 R2.



Activation for Windows Server 2008 R2 works in a similar way as it does for Windows Vista™ and Windows 7, with multiple options available for organizations purchasing through volume licensing.

**Multiple Activation Key (MAK)** is a one time activation against Microsoft and should be used for up to 5 installations of Windows Server 2008 R2. Each server can connect and activate individually, or through one central activation request on behalf of multiple servers (proxy activation).

**Key Management Service (KMS)** should be used for more than 5 servers and activation is done against a service hosted within an organization, and not with Microsoft.

If Windows Server 2008 R2 is not activated, the user is reminded each time they log in and at common intervals until the end of the activation grace period of 30 days. If Windows Server 2008 R2 is not activated during this grace period, the system then will be unlicensed. Persistent notifications will alert the user of the need to activate. While in the notification condition, the user will be able to log on and off, the system will function normally, and services will continue to run. However, the desktop background will change to black, and Windows Update installs only critical updates. The notifications will continue until the operating system is activated.

## DOWNGRADING VERSIONS

Organizations with Windows Server 2008 R2 may exercise volume licensing downgrade rights as follows:

- ▶ Standard edition may be downgraded to Windows Server 2003 Standard or Windows 2000 Server
- ▶ Enterprise edition may be downgraded to Windows Server 2003 Enterprise or Windows 2000 Advanced Server

Use existing media, or download back to Windows Server 2003 R2 from VLSC.



## DOWN EDITION RIGHTS

Organizations with Windows Server 2008 R2 may exercise volume licensing down edition rights as follows:

- ▶ Organizations licensed for Windows Server 2008 R2 Datacenter may run Windows Server 2008 R2 Enterprise or Standard in its place
- ▶ Organizations licensed for Windows Server 2008 R2 Enterprise may run Windows Standard 2008 R2 in its place



Further Microsoft Licensing handouts and exams: [GetLicensingReady.com](http://GetLicensingReady.com)