

What is Windows Server 2008 R2?

Compare features, editions and basic hardware requirements of Server 2008 Release 2

Microsoft Windows Server 2008 R2 (or 'Release 2') is Microsoft's latest release of the Windows Server operating system. It boasts several new features as compared to the original release of Windows Server 2008, namely that it supports only 64-bit architecture. This is due to the industry trend towards 64-bit processors in scalable servers and workstations. What does this mean for you? Primarily that if you are currently running Windows Server products on 32-bit platforms you will have to invest in new 64-bit server hardware before upgrading to the R2 version of the product. The boost in performance, scalability and features makes the upgrade well worth the hardware expenditure though. The entire computing industry is moving towards a 64-bit world, and support for 32-bit systems will eventually fall off in the hardware industry altogether.



Windows Server 2008 R2 brings several other updates to existing technologies. Included are enhancements to the Web Application Platform, Virtualization, Scalability and Reliability, Server Management and co-existence with Windows 7. There are many other enhancements as well, which you can learn about on [Microsoft's website](#). There is a wealth of information on the server product, 64-bit architecture and the recently published Service Pack 1 Release Candidate.

Comparing Windows Server 2008 vs. Server 2008 R2, there are new features in R2 involving Virtualization and Scalability/Reliability. These were two of the main design goals for the R2 version. Other design goals included changes to the Web Platform by including (IIS 7.5) Internet Information Server v7.5 and leveraging it to provide better reliability for intranets as well as better performance and protection of applications that run on the web server. A basic hardware requirements list between 2008 and 2008 R2 is shown below.

Basic Hardware Requirements Comparison: Server 2008 vs 2008 R2

Component	Windows Server 2008	Windows Server 2008 R2
Processor	<p>Minimum: 1 GHz (x86 processor) or 1.4 GHz (x64 processor)</p> <p>Note: An Intel Itanium 2 processor is required for Windows Server 2008 for Itanium-Based Systems</p>	<p>Minimum: Single processor with 1.4 GHz (x64 processor) or 1.3GHz (Dual Core)</p> <p>Note: An Intel Itanium 2 processor is required for Windows Server 2008 R2 for Itanium-Based Systems</p>
Memory	<p>Minimum: 512 MB RAM</p> <p>Maximum (32-bit systems): 4 GB (Standard) or 64 GB (Enterprise and Datacenter)</p> <p>Maximum (64-bit systems): 32 GB (for Windows Server 2008 Standard) or 1 TB (for Windows Server 2008 Enterprise, Windows Server 2008 Datacenter), or 2 TB (for Windows Server 2008 for Itanium-Based Systems)</p>	<p>Minimum: 512 MB RAM</p> <p>Maximum: 8 GB (Foundation) or 32 GB (Standard) or 2 TB (Enterprise, Datacenter, and Itanium-</p>

		Based Systems)
Disk Space	<p>Minimum (32-bit systems): 20 GB or greater</p> <p>Minimum (64-bit systems): 32 GB or greater</p> <p>Foundation: 10 GB or greater</p> <p>Note: Computers with more than 16 GB of RAM will require more disk space for paging, hibernation, and dump files</p>	<p>Minimum: 32 GB or greater</p> <p>Note: Computers with more than 16 GB of RAM will require more disk space for paging, hibernation, and dump files</p>
Display	Super VGA (800 x 600) or higher resolution monitor	Super VGA (800 x 600) or higher resolution monitor
Other	Keyboard and Microsoft Mouse or compatible pointing device	DVD Drive, Keyboard and Microsoft Mouse (or compatible pointing device), Internet access (fees may apply)

R2 Editions

There are now 7 separate editions of Windows Server 2008 within the R2 version. They are listed below with a brief description of their primary function.

Foundation | Targeted at the small business, this version is inexpensive, easy to install and runs the most prevalent business applications. It allows for sharing of information & resources, has standard built-in Web services and Virtualization as well as cost-cutting and streamlining technology.

Standard | Standard Edition is designed to increase reliability and flexibility of your server infrastructure, while helping save time and reduce costs. A robust OS with built-in virtualization capabilities and enhanced security, Standard Edition provides a solid, dependable foundation for your business.

Enterprise | An upgrade from Standard, Enterprise Edition usually coincides with an increase in available memory mapping. In this release, in addition to that and enhancements to DFS, Remote Connectivity and Remote Desktop services, a feature included in this edition not found in Standard is [Active Directory Federation Services](#) (ADFS).

Datacenter | Datacenter's claim to fame has always been scalability to up to 64 processors. This edition of 2008 also provides for large-scale virtualization for both small and large servers.

Web | Web Server Edition was created mainly as an internet-facing server, typically used in a perimeter network. This edition of 2008 includes the Web Server (IIS 7.5) and DNS roles.

HPC | HPC is short for High Performance Computing, which is a technology that Microsoft developed to allow for several thousands of processor cores running simultaneously. Applications for this edition are typically highly complex problems, such as decoding genomes, animating movies, analyzing financial risks and global climate modeling

Itanium | Server 2008 for Itanium-Based Systems has always been centered around supporting business-critical applications and high-availability. Support for Itanium applications is waning however, and the Itanium edition of this product will begin to be phased out.

The Windows Server 2008 R2 Release Date was July 22, 2009, and overall. The upgrade does require a commitment to a new server platform for organizations that are still running Windows on 32-bit hardware. But upgrading the hardware will soon become a must for any organization that wants to stay on top of technology and get the full performance benefits and feature set out of the current products that are offered by Microsoft. Add to that the fact that Service Pack 1 has come out now in Release Candidate form, soon to be Release To Manufacturing, and that is usually the mark of stability on any Windows product to anyone who has administered a Windows Server in the past. If you have been waiting to install any of these editions of Windows Server 2008 R2, now is probably a good time to order your new hardware.