Comparison and contrast table for Microsoft windows server

Versions of Microsoft windows	Date released	End of support dates	Security	Administrative tools	Software	Networking features	Internet information services
Windows NT Advanced server 3.1	7/27/1993	12/31/2000	The main security measures implemented on this server were file system security through NTFS and user authentication.	Mainframes allowed administrators a system, in which they could grant users rights to their specified accounts. Which prevented issues from occurring, of users not being able to gain rights to there confidential information.	This server included a 32bit architecture and was programmed in the C++ language.	This server supported many networking protocols such as IPX/SPX and NetBEUI, and tcp/Ip protocol to allow access to the internet. This allowed for files and printers to be shared, and the access rights and the configurations of theses sources can be edited over a network.	There were no services, for this server of windows
Windows NT server 3.5	9/21/1994	12/31/2000	The security that was implemented on this server, was just like the windows NT 3.1 server, but it had a couple more add-ons. Such as better network security, in which it implemented basic level firewalls and improved filtering features. Furthermore, there was more extensive security, when it came to observing auditing.	The administrative tools did not change with this server	This server implemented many different software components, such as data backup and recovery software, to help maintain data loss and recovering data during a natural disaster. This server also implemented Norton antivirus software to help protect	This server developed, the ftp protocol for file sharing, and the daemon protocol for printer sharing.	There were no services, for this server of windows

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					against any types of malware attacks that would occur.		
Windows NT 3.51 server	5/30/1995	12/31/2001	Automatic reboot system that is added for when a issue occurs in the system. This reboot helps to alert administrators, of the event, and logs the event as well. Furthermore the server dumps the sensitive data, into a file that can be used for debugging. This server also included a customizable WinLogon.	The administrative tools did not change with this server	3D graphics with high performance are now possible. For many applications needing high performance desktops, this high-end capability is essential.	This server allows for a limitless amount of outgoing connects to network servers. Furthermore, it supports up to 10 peer-to-peer inbound network server connections when utilized in a peer networking context.	There were no services, for this server of windows
Windows NT 4.0 server	7/29/1996	6/30/2004	This server didn't have too many security changes from, the previous server. However, it did have the NTLM (authentication)protocol, improved to NTLMv2, which allowed for stronger encryption techniques, to safeguard sensitive information of the clients, and better defense against certain attacks.	Microsoft transaction server was created, for different network applications	This server brought upon many different software's such as crypto API, this is a programmed interface, that allows developers to support window-based applications using cryptography. Furthermore, software technology, such as DCOM was created, which allows for interactions between software components, on computers connected on the same network.	Winsock2 was created, which allowed programmers to create advanced network-capable programs for the World Wide Web, and other network applications, which allowed for data to be transmitted over the wire, regardless of the network protocol.	This server introduced the first ever IIS 2.0 (internet information services) by Microsoft. This made it easier, to be able to direct and install, different web services.
Windows	2/17/2000	7/13/2010	This server brought upon improvements of	The active directory was	This server brought upon	This server included VPN	This server introduced the

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server 2000			security such as, internet protocol security and dial in user for remote authentication services.	relatively still new and it helped administrators carry out many of their task, such as allowing them to have a single interface for managing both, the operating system and Web components. Furthermore, it Advanced the startup features in Windows 2000, to enable admins to find hardware issues that could be preventing the system from correctly starting up by starting it in Safe mode or another mode.	unique software features, such as XML support, and the Microsoft management console, which allows for both user and administrators the options of configuring and overseeing their system. Furthermore, this server introduced high contrast themes, SoundSentry, StickyKeys, FilterKeys, ToggleKeys, and MouseKeys, for additional accessibility .	software, that provides mobile users accessibility to their company's network in a secure and safe manner.	5.0 IIS, which included a 32 bit TCP/IP kernel. This included many DLL hosts in a medium-to-heavy application. This server also provided cluster support, and Windows 9x Personal Web Manager.
Windows Server 2003	4/24/2003	7/14/15	This server included many different features of defense, such as the triple-DES (3DES) method of encryption. This new feature offers 168-bit encryption, for data which is relatively resilient to the majority of recent attacks, during that time period .	This server included many admin features, such as security configuration wizard, which is a tool for creating server roles, and limiting the attacks that surface the network. This server also included improvements on managing group policies, for admins, which was provided on a single interface, rather then many as it was in the past	This server included server update services. Which allowed users to have more authority, for the management of there system.	Conditional DNS forwarding was used, which enables multidomain-based DNS systems related to Active Directory.	This server introduced the IIS 6.0 version, which included the monitoring of the process the user runs, and recycles them if they are not in good health

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Windows server 2003 R2	12/6/2005	7/14/15	There was increased improvement in security, such as DEP, which is a unique feature, that mitigates attacks on a network, related to buffer overflow exploits.	Active Directory Federation Services (ADFS), which enables the secure exchange of authentication data between corporations.	This server included, more compatibility, with different operating systems.	Microsoft net framework 2.0 was released, which allows users to run different programmable languages, applications.	This server had the same IIS, as the previous server did.
Windows server 2008	2/4/2008	1/14/2020	This server included security improvements such as, BitLocker drive encryption, that encrypts all data from unauthorized access.	FSRM(file service resource manager) was introduced in this server to help administrators control the type of files, that there users can save on there. Also Command Line Tools for Terminal Services	The first ever Hyper – V virtualization software was created, which allowed numerous virtiual machines, to run on one server	Improved firewall rules were created, which allowed for inbound and outbound traffic for network security.	This server introduced the IIS 7.0 version, which presented new command-line options for administration, a new Windows Forms-based administrative application, a hierarchical configuration system that made site installations easier, and more support for the Microsoft.NET Framework.
Windows server 2008 R2	10/22/2009	1/14/2020	Security stayed relatively the same as the previous server.	There weren't many additions to admin features, other then a new console with cmdlets, aimed at people that are more graphically oriented.	This server introduced many unique software features, such as support for a 64 bit processor, which was the first Microsoft has ever created.	This server included, networking discovery features, in which users where able to see who was on their network. Wireless networking was also included, in service manager.	This server introduced the IIS 7.5 version, which included, not too many different features from the previous server model. The features included were, security advancements and protocol supports.

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Windows server 2012	9/04/2012	10/10/2023	From a security perspective, the windows server 2012, included major adjustments in areas of security, such as advancements in data protection, authorization and isolation, and authentication and identification. Example of one of the major adjustments, is security boots, this is a driver that is executed when the system starts, which prevents device takeovers from occurring.	The admins tools that the server 2012 included, are resilient file systems, which was introduced with this server, this maximizes data availability for administrators and scalability.	The most unique software component of this server is the freedom to choose the interface, for any user. This allows the user the customization ability, to select the graphical user interface that fits there compatibility.	This server included high end networking features, such as receive-side scaling (RSS), internet direct memory access (NetDMA), virtual machine queueing, TCP chimney transfer, and virtual machine chimney.	This server introduced the IIS 8.0, which included features such as Restrictions on Dynamic Addresses of IP,Scaling Multicores on NUMA Hardware, and CPU throttling.
Windows server2012 R2	10/18/2013	10/10/2023	Dynamic access control was added to this server security. This feature applies security permission on different files, especially the ones with sensitive data .	The admin tools were relatively the same across the previous server. However, the PowerShell, was upgraded to a 4.0, and included DSC.	The hyper- V was improved, and it allowed interactions with different virtual machines. The virtualization machines had more accessibility than ever before, such as, 1TB per vm, 64TB hard disk, and 4 TB for hyper- V host.	Authenticated wired access was improved, in which it extended the use of passwords for enterprise.	This server introduced the IIS 8.5, which included compatibility across users, when it came enhanced logging, which allowed them to be able to ask custom response headers. The IIS 8.5, also allowed for website activation, during system rebooting.
Windows server 2016	10/12/2016	1/11/2027	This server had major updates of security, such as control flow guards, that helped to safeguard data against memory corruption attacks and unknown exploits. Furthermore, there was security for protecting VMs , it used a centralized certificate database and VHD encryption to only	DNS polices were improved, so that administrators, can determine how DNS can respond to the clients questions. Windows admin center was improved, so that	This server included Datacenter firewalls, which is designed to help enhance datacenter activities' adaptability, control, and security.	The networking features, this server produced, where programmable Hyper-V switch, which created networking solutions, and stronger	This server introduced the IIS 10.0, which allowed for simpler PowerShell modules, for controlling the IIS management that provides greater pipeline

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			activate an operating system (VM) when its image matches an approved database.	administrators can manage 2012 and 2016 window servers, and nano servers.		Ethernet standard compliance.	support and scales.
Windows server 2019	10/2/2018	1/9/2029	This server included, kernel control flow guard, and system guard runtime monitor, and virtual network encryption. This all helped to improve the security of the server.	This server has many administrative tools such as RSAT, that helps admins to remotely control and maintain servers. furthermore, A new version of the failover cluster creation and management tool offers additional capabilities.	The software features that are included in this server are cloud- ready operating systems, that offer new security and innovative levels for the infrastructure and apps.	The networking features, this server included is, container networking, which is when al- low containers communicate with other containers or hosts to share data.	Same IIS as previous server