








Windows Server® 2008

RESOURCES FOR IT PROFESSIONALS

	DOWNLOAD WINDOWS SERVER 2008 SOFTWARE WWW.MICROSOFT.COM/WINDOWSSERVER2008/AUDEL.MSPX
	OVERALL WINDOWS 2008 LICENSING GUIDE
	COMPARE EDITIONS OF WINDOWS SERVER 2008 BY VIRTUALIZATION LICENSING RIGHTS WINDOWS SERVER 2008 STANDARD EDITION PROVIDES THE ONLY LICENSING CHANGE FROM W2K3. RUNNING INSTANCES NOW ALLOW 1+1 (WAS 1 IN PHYSICAL OS OR 1 IN VIRTUAL OS).
	EACH WINDOWS SERVER 2008 ENTERPRISE LICENSE ASSIGNED TO A PHYSICAL HOST SERVER ALLOWS A BUSINESS TO RUN UP TO FOUR (4) ADDITIONAL INSTANCES OF WINDOWS SERVER IN GUEST VIRTUAL MACHINES ON THAT SERVER.
	EACH WINDOWS SERVER 2008 DATACENTER AND WINDOWS SERVER 2008 FOR ITANIUM-BASED SYSTEMS* LICENSE ASSIGNED TO THE PROCESSORS OF A HOST SERVER ALLOWS A BUSINESS TO RUN UNLIMITED ADDITIONAL INSTANCES OF WINDOWS SERVER 2008 IN GUEST VIRTUAL MACHINES ON THAT SERVER
	MAIN PORTAL FOR WINDOWS SERVER 2008 WWW.MICROSOFT.COM/WINDOWSSERVER & WWW.MICROSOFT.COM/HEROSHAPPENHERE
	VIRTUAL LABS LINK, TEST DRIVES, AND MORE...LINK
	CHANGES IN FUNCTIONALITY FROM WINDOWS SERVER 2003 WITH SP1 TO WINDOWS SERVER 2008: TECHNICAL LISTING OF THE FEATURES DIFFERENCES BETWEEN W2K3 SP1 AND W2K8 SERVER - LINK
	THE WINDOWS SERVER 2008 TECHNICAL LIBRARY ON MICROSOFT.COM TECHNET IS THE COMPREHENSIVE RESOURCE FOR WINDOWS SERVER 2008 TECHNICAL DOCUMENTATION LINK
	WINDOWS SERVER 2008 REVIEWERS GUIDE THE WINDOWS SERVER 2008 REVIEWERS GUIDE PROVIDES A COMPREHENSIVE OVERVIEW OF THE INNOVATIVE FEATURES AND FUNCTIONS OF WINDOWS SERVER 2008. LINK
	WINDOWS SERVER 2008 SECURITY GUIDE WINDOWS SERVER 2008 SECURITY GUIDE
	COMMAND LINE REFERENCES – TECHNET LINK & POWERSHELL LINK
	YOU CAN USE THE WINDOWS COMMAND REFERENCE TO FAMILIARIZE YOURSELF WITH NEW AND ENHANCED COMMAND-LINE TOOLS, TO LEARN ABOUT THE COMMAND SHELL, AND TO AUTOMATE COMMAND-LINE TASKS BY USING BATCH FILES OR SCRIPTING TOOLS.
	<ul style="list-style-type: none"> • A-Z LIST CONTAINS AN ALPHABETICAL LIST OF ALL OF THE COMMANDS - LINK • COMMAND-LINE SYNTAX KEY EXPLAINS THE FORMATTING USED IN THIS REFERENCE - LINK • TECHNOLOGY LISTS CONTAINS LISTS OF COMMANDS BY THEIR ASSOCIATED TECHNOLOGY - LINK
	64-BIT MAIN MICROSOFT 64-BIT PORTAL LINK & INTEL 64-BIT SOLUTIONS LINK & 64-BIT FAQs LINK IDC WHITEPAPER "ONE OF THE BIGGEST MISSED OPPORTUNITIES AMONG TODAY'S CUSTOMER BASE MAY BE THE LACK OF USE OF 64-BIT X86 WINDOWS SERVER SOLUTIONS TO BOOST PERFORMANCE, SCALE, AND UTILIZATION RATES." HYPER-V RUNS ON 64-BIT ONLY ---VIRTUAL SERVER RUNS ON 32 BIT OSES.
	DOWNLOADS SPECIFIC TO WINDOWS SERVER link

Prepared by Mark Foust
12 May 2008



[11 REASONS TO UPGRADE](#)

WINDOWS SERVER 2008 IS BETTER TOGETHER:
WITH [VISTA](#)
WITH [SQL](#)
WITH [SHAREPOINT](#)
WITH [EXCHANGE](#)

[WINDOWS SERVER 2008 VIRTUAL LAUNCH EXPERIENCE](#) – ACCESS KEYNOTE, BREAKOUT SESSIONS AND PARTNERS

HYPER-V VIRTUALIZATION

[HYPER-V TECHNICAL OVERVIEW](#)

[HYPER-V DATASHEET](#)

[QUICK MIGRATION WITH HYPER-V](#)


















[TOP 10 REASONS FOR HYPER-V](#)

[ADVANCED VIRTUALIZATION BENEFITS](#)

[WINDOWS SERVER 2008 VIRTUALIZATION PRODUCT OVERVIEW](#)



Prepared by Mark Foust

	<p>ENHANCED NETWORK PERFORMANCE WITH MICROSOFT WINDOWS VISTA AND WINDOWS SERVER 2008</p> <p>WINDOWS VISTA AND WINDOWS SERVER 2008 INCLUDE NEW NETWORKING FEATURES IN THE TCP/IP STACK THAT ENHANCE NETWORK PERFORMANCE. - LINK & PERFORMANCE AND RELIABILITY IN W2K8 LINK</p>
	<p>PROJECT PLANS FOR IMPLEMENTING MICROSOFT SOFTWARE</p> <p>SERVER, ACTIVE DIRECTORY, CORE INFRASTRUCTURE, VISTA, SHAREPOINT + MORE - LINK</p>
	<p>PODCASTS - WINDOWS SERVER 2008 EVENTS AND WEBCASTS</p> <p>WATCH WINDOWS SERVER 2008 WEBCASTS AND PODCASTS. STREAM OR DOWNLOAD AUDIO PODCASTS ONTO YOUR FAVORITE PODCAST SOFTWARE OR MOBILE DEVICE. WINDOWS SERVER 2008 PODCASTS IN WMA OR MP3 FORMAT - LINK & STREAMING LINK</p>
	<p>WINDOWS SERVER 2008 LEARNING PORTAL</p> <p>www.microsoft.com/learning/windowsserver2008/default.msp & SERVER PORTAL LEARNING</p>
	<p>ACTIVATION 2.0 TECHNICAL GUIDANCE</p> <p>TECHNICAL DOCUMENTATION FOR PLANNING, DEPLOYMENT, AND OPERATIONS OF VOLUME ACTIVATION 2.0 FOR WINDOWS VISTA AND WINDOWS SERVER 2008. INCLUDES THE VOLUME ACTIVATION 2.0 OVERVIEW, PLANNING GUIDE, DEPLOYMENT GUIDE, OPERATIONS GUIDE, RESOURCES, AND FAQ, AND STANDARD USER PRODUCT ACTIVATION ZIP FILE. LINK</p>
	<p>HARDWARE COMPATIBILITY FOR WINDOWS SERVER 2008</p> <p>WINDOWS SERVER CATALOG SINGLE ONLINE SOURCE FOR FINDING HARDWARE AND SOFTWARE COMPATIBLE WITH W2K8 LINK</p>
	<p>SYSTEM REQUIREMENTS</p> <p>FIND OUT THE MINIMUM REQUIREMENTS FOR PROCESSORS, MEMORY, DISK SPACE, AND OTHER HARDWARE NEEDED TO RUN WINDOWS SERVER 2008. LINK</p>
	<p>APPLICATION COMPATIBILITY FORUM FOR WINDOWS SERVER 2008 LINK</p> <p>"CERTIFIED FOR" SOFTWARE "WORKS WITH" SOFTWARE PLEGGED APPLICATIONS</p>
	<p>WINDOWS SERVER 2008 HEALTH MODELS</p> <p>HTTP://GO.MICROSOFT.COM/FWLINK/?LINKID=90857</p> <p>EVENTS AND ERRORS TROUBLESHOOTING INFORMATION FOR WINDOWS SERVER® 2008. THE TROUBLESHOOTING INFORMATION IS ORGANIZED BY SERVER ROLES AND SERVER FUNDAMENTALS. THIS DOCUMENTATION ALSO CONTAINS TROUBLESHOOTING INFORMATION FOR WINDOWS VISTA® OPERATING SYSTEM EVENTS THAT PERTAIN TO THE DOCUMENTED SERVER AREAS. FOR MORE INFORMATION ABOUT HOW THIS CONTENT IS ORGANIZED AND THE TERMINOLOGY USED TO DEFINE THE ROLE STRUCTURE, SEE EVENTS AND ERRORS. LINK</p>
	<p>BLOGS</p> <p>MICROSOFT PRODUCT GROUP SPONSORED BLOGS ONLINE LISTED AT THE END OF THIS DOCUMENT</p> <p>WINDOWS SERVER BLOGS BY MICROSOFT EMPLOYEES  RECENT SERVER BLOG POSTS </p>
	<p>MICROSOFT TECHNICAL CHATS</p> <p>HTTP://WWW.MICROSOFT.COM/COMMUNITIES/CHATS/DEFAULT.MSPX</p> <p>RSS FEED FOR IT PRO CHATS </p>
	<p>MICROSOFT COMMUNITY CENTERS FOR TECHNOLOGIES</p> <p>WINDOWS SERVER TECHNICAL COMMUNITY LINK</p>
	<p>WINDOWS SERVER 2008 ROADMAP</p> <p>TABLE SUMMARY OF INSIGHT INTO THE NEXT VERSIONS OF WINDOWS SERVER INCLUDING SERVICE PACKS, FEATURE PACKS, UPDATE RELEASES, AND THE NEXT MAJOR RELEASE: LINK</p>
	<p>DOCUMENT THAT CITRIX & MICROSOFT HAVE COLLABORATED ON THAT ARTICULATES THE VALUE THAT XENAPP (CITRIX'S PRESENTATION SERVER) PROVIDES OVER AND ABOVE TERMINAL SERVICES. THIS IS A VALUE / FEATURE LEVEL DOCUMENT – IT HAS NO PERFORMANCE DATA IN IT. LINK</p>
	<p>REMOTE SERVER ADMINISTRATION TOOLS (RSAT)</p> <p>SUPPORTS W2K8 AND W2K3 SERVERS REPLACES ADMINPAK.MSI RUNS ON VISTA SP1 & W2K8</p> <p>X86 X64 FAQs</p>

Microsoft TechNet
Resources for IT Pros
Windows Server 2008

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msdn
Resources for Developers
Windows Server 2008

[Developer Center](#)
[Library](#)
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[Community](#)



Windows Server® 2008

Compare Editions of Windows Server 2008

	ENTERPRISE	<u>DATACENTER</u>	STANDARD	WEB	ITANIUM	KEY: = NOT AVAILABLE = AVAILABLE
NEW/UPDATED FEATURES						LICENSE REQUIREMENTS
INTERNET INFORMATION SERVICES 7.0						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.
HYPER-V						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.
NETWORK ACCESS PROTECTION						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.
AD RIGHTS MANAGEMENT SERVICES (RMS)						COVERED BY SERVER LICENSE, BUT INCREMENTAL RMS CALS REQUIRED, SIMILAR TO TERMINAL SERVICES.
TERMINAL SERVICES GATEWAY AND REMOTEAPP						COVERED BY SERVER LICENSE, BUT INCREMENTAL TS CALS REQUIRED, SIMILAR TO AD RIGHTS MANAGEMENT SERVICES.
SERVER MANAGER						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.
WINDOWS DEPLOYMENT SERVICES						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.
SERVER CORE						COVERED BY SERVER LICENSE. NO INCREMENTAL LICENSING REQUIREMENTS.

Windows Server 2008 Resources Listed by Technology

Learn about using Windows Server 2008 with these resources and documentation.

Browse Server Fundamentals

- [Availability and Scalability](#)
- [Backup and Recovery](#)
- [Networking](#)

- [Performance and Reliability](#)
- [Security and Protection](#)
- [Troubleshooting](#)

Browse Server Roles

- [Active Directory Certificate Services \(AD CS\)](#)
- [Active Directory Domain Services \(AD DS\)](#)
- [Active Directory Federation Services \(AD FS\)](#)
- [Active Directory Lightweight Directory Services \(AD LDS\)](#)
- [Active Directory Rights Management Services \(AD RMS\)](#)
- [Application Server](#)
- [DHCP Server](#)
- [DNS Server](#)
- [Fax Server](#)

- [File Services](#)
- [Network Policy and Access Services](#)
- [Print Services](#)
- [Streaming Media Services](#)
- [Terminal Services](#)
- [UDDI Services](#)
- [Web Server](#)
- [Windows Deployment Services](#)
- [Windows Server Virtualization](#)





WINDOWS SERVER 2008 STEP-BY-STEP GUIDES

THESE STEP-BY-STEP GUIDES HELP IT PROFESSIONALS LEARN ABOUT AND EVALUATE WINDOWS SERVER 2008 WITH STEP-BY-STEP INSTRUCTIONS.

Files in This Download

THE LINKS IN THIS SECTION CORRESPOND TO SEPARATE FILES AVAILABLE IN THIS DOWNLOAD. DOWNLOAD THE FILES MOST APPROPRIATE FOR YOU. [LINK](#)

File Name:	File Size
Creating_and_Deploying_Active_Directory_Rights_Management_Services_Templates_Step-by-Step_Guide.doc	158 KB
Deploying Active Directory Rights Management Services in a Multiple Forest Environment Step-by-Step Guide.doc	314 KB
Deploying Active Directory Rights Management Services in an Extranet Step-by-Step Guide.doc	209 KB
Deploying Active Directory Rights Management Services with Microsoft Office SharePoint Server 2007 Step-By-Step Guide.doc	278 KB
Deploying an Active Directory Rights Management Services Licensing-only Cluster Step-by-Step Guide.doc	196 KB
Deploying SSTP Remote Access Step by Step Guide.doc	639 KB
Implementing and Administering Certificate Templates in Windows Server 2008.doc	1.3 MB
Removing Active Directory Rights Management Services Step-by-Step Guide.doc	156 KB
Server Manager Scenarios Step-by-Step Guide.doc	225 KB
Server_Core_Installation_Option_of_Windows_Server_2008_Step-By-Step_Guide.doc	421 KB
Step_by_Step_Guide_to_Customizing_TS_Web_Access_by_Using_Windows_SharePoint_Services.doc	157 KB
Step-by-Step Guide for Configuring a Two-Node File Server Failover Cluster in Windows Server 2008.doc	341 KB
Step-by-Step Guide for Configuring a Two-Node Print Server Failover Cluster in Windows Server 2008.doc	335 KB
Step-by-Step Guide for File Server Resource Manager in Windows Server 2008.doc	386 KB
Step-by-Step Guide for Storage Manager for SANs in Windows Server 2008.doc	217 KB
Step-by-Step Guide to Deploying Policies for Windows Firewall with Advanced Security.doc	1012 KB
Step-by-Step Guide for Configuring Network Load Balancing with Terminal Services in Windows Server 2008.doc	159 KB
Step-by-Step Guide for Windows Deployment Services in Windows Server 2008.doc	309 KB





Windows Server® 2008

Using Identity Federation with Active Directory Rights Management Services Step-by-Step Guide.doc	370 KB
Windows Firewall with Advanced Security Design Guide.doc	983 KB
Windows Server 2008 Active Directory Certificate Services Step-By-Step Guide.doc	247 KB
Windows Server 2008 Foundation Network Companion Guide Deploying Computer and User Certificates.doc	236 KB
Windows Server 2008 Foundation Network Guide.doc	490 KB
Windows Server 2008 Network Policy Server (NPS) Operations Guide.doc	469 KB
Windows Server 2008 Step-by-Step Guide for DNS in Small Networks.doc	537 KB
Windows Server 2008 TS Gateway Server Step-By-Step Setup Guide.doc	601 KB
Windows Server 2008 TS Licensing Step-By-Step Guide.doc	323 KB
Windows_Server_Active_Directory_Rights_Management_Services_Step-by-Step_Guide.doc	272 KB
Windows_Server_2008_Terminal_Services_RemoteApp_Step-by-Step_Guide.doc	366 KB
Windows_Server_2008_TS_Session_Broker_Load_Balancing_Step-By-Step_Guide.doc	189 KB

OTHER GUIDES, NOTES AND OVERVIEWS

[Windows Server 2008: Release Notes and Installation Information](#)

Release documentation containing known issues for the Microsoft Windows Server 2008 operating system.

[How Microsoft IT is Providing an Improved Web and Applications Platform with Internet Information Services 7.0 in Windows Server 2008](#)

Learn about some of the new benefits and features in Internet Information Services 7.0 on Windows Server 2008 as experienced during the deployment of IIS 7.0 as the Web and application platform for Microsoft.com.

[Windows Server 2008 Technical Overviews](#)

These technical overviews provide IT Professionals with information about how a Windows Server 2008 technology works.

[Network and Sharing Center Operations Guide](#)

Network and Sharing Center is your main portal into the networking components of Windows. The features in Windows Vista and Windows Server 2008 provide services to view, configure, and troubleshoot network access.

[Windows Server 2008 Security Guide](#)

The Windows Server 2008 Security Guide helps organizations efficiently create, deploy, and maintain a secure environment for a variety of servers running Windows Server 2008, the next major release of Windows Server.



Server Core Installation Options




Modular, Minimal Installation—Server Core

Many network servers perform specific dedicated and mission-critical roles within the network. The new Server Core installation option provides a minimal environment for running specific server roles. This helps improve reliability and efficiency, giving the IT department the ability to better utilize existing hardware. It also simplifies ongoing administration and patch management requirements by reducing the need to update unneeded files and functionality. For network servers that perform specific network infrastructure roles, the new Server Core installation option offers a highly reliable and efficient platform. Because Server Core loads the fewest operating system components required to run core infrastructure roles, patch requirements are reduced. This provides higher reliability and security for core network infrastructure roles.

KEY: ○ = NOT AVAILABLE ● = PARTIAL/LIMITED ✓ = FULL

SERVER ROLE	ENTERPRISE	DATACENTER	STANDARD	WEB	ITANIUM
WEB SERVICES (IIS)*	●	●	●	●	○
PRINT SERVICES	✓	✓	✓	○	○
HYPER-V	✓	✓	✓	○	○
ACTIVE DIRECTORY DOMAIN SERVICES	✓	✓	✓	○	○
ACTIVE DIRECTORY LIGHTWEIGHT DIRECTORY SERVICES	✓	✓	✓	○	○
DHCP SERVER	✓	✓	✓	○	○
DNS SERVER	✓	✓	✓	○	○
FILE SERVICES	✓	✓	●	○	○

OTHER SERVER CORE REFERENCES

	<p>COMMAND LINE REFERENCES – TECHNET LINK & POWERSHELL LINK</p> <p>YOU CAN USE THE WINDOWS COMMAND REFERENCE TO FAMILIARIZE YOURSELF WITH NEW AND ENHANCED COMMAND-LINE TOOLS, TO LEARN ABOUT THE COMMAND SHELL, AND TO AUTOMATE COMMAND-LINE TASKS BY USING BATCH FILES OR SCRIPTING TOOLS.</p> <ul style="list-style-type: none"> • A-Z LIST CONTAINS AN ALPHABETICAL LIST OF ALL OF THE COMMANDS - LINK • COMMAND-LINE SYNTAX KEY EXPLAINS THE FORMATTING USED IN THIS REFERENCE - LINK • TECHNOLOGY LISTS CONTAINS LISTS OF COMMANDS BY THEIR ASSOCIATED TECHNOLOGY - LINK
	<p>MICROSOFT PRODUCT GROUP BLOGS ABOUT SERVER CORE</p> <p>WINDOWS SERVER COMMUNITY BLOG PORTAL - LINK</p> <p>WINDOWS PERFORMANCE TEAM SERVER CORE INSTALLATION LINK</p> <p>SERVER CORE BLOG – HTTP://BLOGS.TECHNET.COM/SERVER_CORE LINK</p>
	<p>SERVER CORE STEP-BY-STEP GUIDE</p> <p>THIS STEP-BY-STEP GUIDE PROVIDES INSTRUCTIONS FOR BUILDING A SERVER IN YOUR TEST LAB THAT IS BASED ON THE SERVER CORE INSTALLATION OPTION OF THE WINDOWS SERVER® 2008 OPERATING SYSTEM. IT INCLUDES INFORMATION ABOUT INSTALLATION, INITIAL CONFIGURATION, AND MANAGING A SERVER THAT IS RUNNING A SERVER CORE INSTALLATION. LINK</p>

Server Core Best Practice Ideas

- > Run the 64-bit OS
- > Enable Hyper-V
- > License Enterprise Edition for Hosts with more than 2 guest VMs
- > File & Print Servers and Domain Controllers make ideal Server Core candidates
- > Leverage Server Core at Branch Sites for the host and run separate guest VMs for DCs, File & Print, and applications
- > You can run any number of GUI servers on top of a Server Core Hyper-V base





Windows Server® 2008

Deploying Windows Server 2008

The new features and capabilities of Windows Server 2008 significantly improve security, stability, reliability and availability of the platform, requiring significant changes to the upgrade process. Microsoft recommends customers conduct a clean install of Windows Server 2008 whenever possible.

Microsoft does support upgrade paths in the upgrade process to Windows Server 2008; [specific Windows Server 2008 upgrade guidance](#) has been developed when following this approach. The additional information, tools and resources listed here are available to help customers plan their upgrade and deployment to Windows Server 2008.

- 1. Where can I find prescriptive guidance on upgrading to Microsoft Windows Server 2008 and Microsoft applications support for Windows Server 2008?**
 - [Upgrading Windows Server 2003 to Windows Server 2008](#)
 - [Timeline for Microsoft server application to support Windows Server 2008](#)
 - [Installing Windows Server 2008](#)
 - [Installing SQL Server 2005 on Windows Server 2008](#)
 - [Installing Exchange Server 2007 SP1 on Windows Server 2008](#)
 - [Installing Microsoft Office SharePoint Services SP1 on Windows Server 2008](#)
- 2. Where do I find which applications, hardware and devices drivers have been certified for Windows Server 2008 and, more importantly, do my application vendors support Windows Server 2008?**
 - The comprehensive list of applications, hardware systems and devices that have been certified on Windows Server 2008 can be found in the [Windows Server Catalog](#).
 - The Windows Server Catalog site also contains a list of [Ready applications](#); these represent the breadth of applications our ISVs have pledged their support for on Windows Server 2008. This list only provides customers details on the ISVs, their applications and current support status for Windows Server 2008.
- 3. What tools can I use to help me assess, plan and migrate my IT environment to Windows Server 2008?**
 - The [Microsoft Assessment and Planning \(MAP\) Solution Accelerator](#) is an integrated platform with tools and guidance that makes it easier for you to assess your current IT infrastructure and determine the right Microsoft technologies for your IT needs.
 - The [Microsoft Web Deployment Tool](#) provides deployment and migration support for IIS 6.0 and 7.0. It incorporates many features that enable Web server administrators to deploy, sync and migrate sites.
- 4. What tools can I use to determine if my applications or ISV applications will run on the new platform?**
 - ["Works with"](#) highly automated application will help determine baseline compatibility with Windows Server 2008 in 1 to 4 hours. Any aspects of the application that do not meet baseline compatibility are identified in a detailed summary.
 - ["Certified for"](#) wizard-style toolset is more rigorous, and includes additional 80 test cases covering security, availability, reliability, stability and Windows fundamentals. Excellent resource for testing mission-critical line of business applications, and the full test pass requires about 3 to 5 days completing. These tools are the same tools provided to ISVs, which customers can also leverage to test both commercial applications and their own custom developed applications.
- 5. Where can I get support and assistance on the tools, guides and resources specific to application compatibility and deployment?**
 - [Windows Server 2008 Application Compatibility and Certification Forum](#)—Developer community site focused on designing quality applications and how to best leverage the application readiness tools
 - [Windows Server 2008 Migration Forum](#)—IT Pro-centric forum to address concerns upgrading or migrating to the new platform.
 - [Windows Server 2008 Developer Center](#)—Extensive developer resources focused on how to take advantage of new features and build quality applications.



Solution Accelerators



Act faster. Go further.



DOWNLOAD FREE WINDOWS SERVER 2008 SOLUTION ACCELERATORS FROM MICROSOFT TO PROACTIVELY PLAN, INTEGRATE, AND OPERATE YOUR SYSTEMS.

Solution Accelerators from Microsoft are free, authoritative resources to proactively plan, integrate, and operate your systems. Designed in collaboration with industry experts and tested in real customer environments, Solution Accelerators give you prescriptive guidance and automation to achieve high-performance, cross-product IT infrastructure from both new and existing systems without reinventing the wheel. These resources focus on key concerns for companies of all sizes such as infrastructure and management, communication and collaboration, and security and compliance. Solution Accelerators serve the complex and evolving needs of your organization today and into the future.

The Windows Server 2008 Suite of Solution Accelerators includes:

[Microsoft Assessment and Planning](#)

The Microsoft Assessment and Planning (MAP) Solution Accelerator is an integrated platform with tools and guidance that make it easier for you to assess your current IT infrastructure and determine the right Microsoft technologies for your IT needs. It offers easy inventory, powerful assessment, and actionable recommendations for Windows Server 2008, Windows Server Hyper-V, Virtual Server 2005 R2, Terminal Services, SoftGrid, System Center Virtual Machine Manager, Windows Vista, and 2007 Microsoft Office.

[Infrastructure Planning and Design Guides](#)

The Infrastructure Planning & Design guides are the next version of Windows Server System Reference Architecture. This series aims to clarify and streamline design processes for Microsoft infrastructure technologies, each addressing a unique infrastructure technology or scenario. These guides compliment product documentation by exposing and focusing on infrastructure design options. The series includes: Series Overview, Selecting the Right Virtualization Technology, SoftGrid, Hyper-V, WDS, AD DS, and Terminal Services.

[Microsoft Deployment](#)

Microsoft Deployment decreases the time and cost of client and server deployments through unifying the tools and processes into a common console and collection of guidance. Microsoft Deployment supports Windows Vista, Windows XP, Windows Server 2003, and Windows Server 2008 operating systems, with specific guidance, tools, and templates for deploying the 2007 Microsoft Office system, and general guidance and tools for deploying other applications.

[Windows Server 2008 Security Guide](#)

The Windows Server 2008 Security Guide is designed to further enhance the security of the servers in your organization by taking full advantage of the new and improved security technologies and features in Windows Server 2008. Use the guidance to deploy your security baseline quickly and reliably, harden your server workloads, and evaluate security setting recommendations to meet the requirements of your environment.





Windows Server® 2008

BOOKS

[Free Windows Server 2008 e-book offer and Microsoft Press newsletter](#)

This e-book includes excerpts from two recent publications from Microsoft Press:

- ***Introducing Windows Server 2008* by Mitch Tulloch with the Microsoft Windows Server Team (ISBN: 9780735624214)**
This e-book covers Windows Server virtualization, managing Windows Server 2008, Active Directory, Terminal Services, and failover clustering.
- ***Microsoft Windows PowerShell Step by Step* by Ed Wilson (ISBN: 9780735623958)**
This e-book includes an overview of Windows PowerShell, using Windows PowerShell cmdlets, and leveraging PowerShell providers.

Additional chapters from *Introducing Windows Server 2008* will be added periodically, so be sure to come back and read more from expert Mitch Tulloch and the Windows Server team.

Register to get the free e-book offer, and sign up for the *Microsoft Press Book Connection* newsletter.

- [Register now](#)

Microsoft E-Learning

Microsoft Official E-Learning courses for Windows Server 2008 provide a simple and effective way to learn at your own pace and on your own schedule.

- [Learn more about the Microsoft Official E-Learning courses for Windows Server 2008](#)

- **[Collection 5934: Introducing Windows Server 2008—free for a limited time!](#)**

This online learning collection of clinics introduces the new features and functionality in Windows Server 2008. The clinics cover server virtualization, security and policy management, branch office management, centralized application access, and server management. You can take the entire collection of clinics, or just the clinics that interest you.

- [Clinic 5935](#): Introducing Server Virtualization in Windows Server 2008
- [Clinic 5936](#): Introducing Security and Policy Management in Windows Server 2008
- [Clinic 5937](#): Introducing Branch Office Management in Windows Server 2008
- [Clinic 5938](#): Introducing Centralized Application Access in Windows Server 2008
- [Clinic 5939](#): Introducing Server Management in Windows Server 2008

- **[Collection 6041: Upgrading Your Windows Server 2003 MCSE Technical Skills to Windows Server 2008](#)**

Get a head start on Windows Server 2008. Now is the time to upgrade your technical skills on Windows Server 2008 with Microsoft E-Learning Collection 6041, including access to virtual labs.

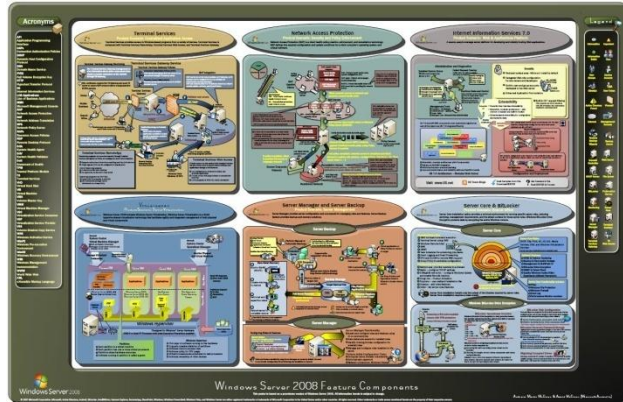
- [Course 6042](#): Installing and Managing Windows Server 2008 (Beta)
- [Course 6043](#): Implementing Active Directory Domain Services in Windows Server 2008 (Beta)
- [Course 6044](#): Implementing Active Directory Identities and Access in Windows Server 2008 (Beta)
- [Course 6045](#): Managing Internet Information Services 7.0 and Windows Media Server in Windows Server 2008 (Beta)
- [Course 6046](#): Implementing Network Infrastructure Services in Windows Server 2008 (Beta)
- [Course 6047](#): Implementing Network Access Protection in Windows Server 2008 (Beta)
- [Course 6048](#): Implementing Terminal Services in Windows Server 2008 (Beta)
- [Course 6049](#): Implementing a Storage Infrastructure in Windows Server 2008 (Beta)
- [Course 6050](#): Implementing Security in Windows Server 2008 (Beta)
- [Course 6051](#): Implementing High Availability and Virtualization in Windows Server 2008 (Beta)



Windows Server 2008 TechNet Component Posters – Visio Posters in PDF format

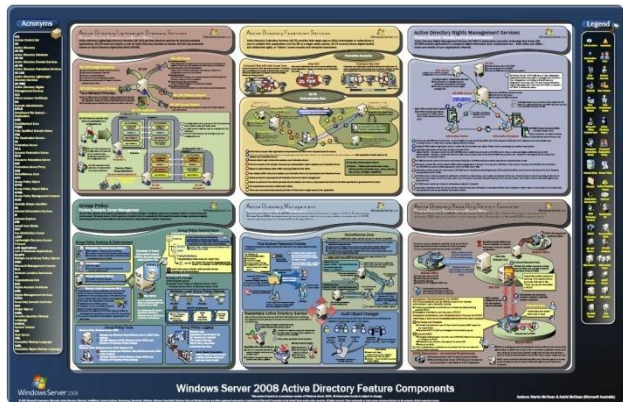
Windows Server 2008 Feature Components Poster

<http://download.microsoft.com/download/2/e/8/2e88c004-3b10-446f-9d5a-58af27deafc4/Windows%20Server%202008%20Feature%20Components.pdf>



Windows Server 2008 Active Directory Components

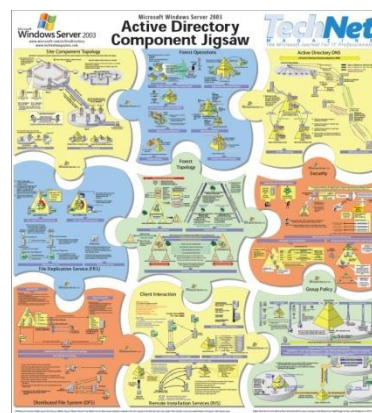
<http://download.microsoft.com/download/2/e/8/2e88c004-3b10-446f-9d5a-58af27deafc4/Windows%20Server%202008%20Active%20Directory%20Components.pdf>



Other Windows Server Component Posters

Active Directory 2003 Component Jigsaw

<http://www.microsoft.com/downloads/details.aspx?familyid=c236336d-ab43-44b1-ad6f-a2f668fb8c02&displaylang=en>



Security & Reliability Co-Partner Marketing Poster 2

<http://www.microsoft.com/downloads/details.aspx?familyid=E2D441B6-C0B6-4C96-BB0C-4F1C8F3FF807&displaylang=en>

Security & Reliability Co-Partner Marketing Material --- This contains marketing material which can be used by Microsoft Partners in the Microsoft Security and Reliability campaign. This download contains Poster 2





Windows Server® 2008

BLOGS – Microsoft Product Team Blogs




April 2008

Blogs are Web pages which are updated frequently, written from the point of view of an individual, written in an informal tone, and usually expose an RSS feed for syndication. Use the directory below to find blogs about Microsoft technologies written by Microsoft employees. These blogs will provide you insights and opinions about using Microsoft technologies and software. For more community and individual blogs check out: <http://www.microsoft.com/communities/blogs/>

You can access the blog websites when needed, or get notified instantly when information published changes or new information becomes available by subscribing to Really Simple Syndication (RSS) feeds. Click on the RSS feed icon to access the feed or hover to see the RSS address. RSS feeds enable you to get update notifications delivered directly to your desktop through the news software program of your choice, for example Internet Explorer 7 or Microsoft Outlook 2007.

Check out the Microsoft Press Pass Website: <http://www.microsoft.com/presspass>

Top Stories Press Releases: 

SECURITY

Microsoft Security Response Center (MSRC): <http://blogs.technet.com/msrc>

Forefront Client Security: <http://blogs.technet.com/clientsecurity>

Microsoft Update: <http://blogs.technet.com/mu>

Windows Server Update Services: <http://blogs.technet.com/wsus>

Anti-Malware Engineering: <http://blogs.technet.com/antimalware>

Windows Genuine Advantage: <http://blogs.msdn.com/wga>

BitLocker Drive Encryption: <http://blogs.technet.com/bitlocker>

Windows Vista Security: <http://blogs.msdn.com/windowsvistasecurity>

SYSTEMS MANAGEMENT PRODUCTS

Systems Centre: <http://blogs.technet.com/systemcenter>

Systems Centre Manageability: <http://blogs.technet.com/smsandmom>

Systems Centre Operations Manager: <http://blogs.technet.com/momteam>

Systems Centre Data Protection Manager: <http://blogs.technet.com/dpm>

SERVER / INFRASTRUCTURE PRODUCTS

Microsoft Assessment and Planning: <http://blogs.technet.com/mapblog>

Enterprise Networking / Network Access Protection: <http://blogs.technet.com/nap>

Platforms Performance: <http://blogs.technet.com/askperf>



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Windows Server Division: <http://blogs.technet.com/windowsserver>
Windows Core Networking: <http://blogs.msdn.com/wndp>
Microsoft Exchange: <http://msexchangeteam.com>
ISA Server: <http://blogs.technet.com/isablog>
Terminal Services: <http://blogs.msdn.com/ts>
Windows Virtualization: <http://blogs.technet.com/virtualization>
SoftGrid: <http://blogs.technet.com/softgrid>
Windows Powershell: <http://blogs.msdn.com/powershell>
Storage: <http://blogs.technet.com/filecab>
Small Business Server: <http://blogs.technet.com/sbs>
Windows Home Server: <http://blogs.technet.com/homeserver>
Clustering and High Availability: <http://blogs.msdn.com/clustering>

DESKTOP / MOBILE PRODUCTS

Windows Vista: <http://windowsvistablog.com/blogs/windowsvista>
Windows Embedded (Vista, XPe, NT4e): <http://blogs.msdn.com/embedded>
Windows Mobile: <http://blogs.msdn.com/windowsmobile>
Outlook Mobile: http://blogs.msdn.com/outlook_mobile
Tablet PC: <http://blogs.technet.com/tabletpc>





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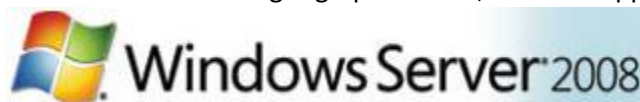
SUMMARY OF NEW FEATURES IN WINDOWS SERVER 2008

Hyper-V features:

- Provides powerful virtualization and network management technology that enables businesses to take advantage of virtualization's benefits without buying third-party software
- Reduces IT costs, centralizes network management, increases network security and reliability, and provides scalability to help control hardware budgets
- Provides unprecedented ability to leverage host hardware allowing virtualization of very demanding workloads:
 - Up to four processor cores per virtual machine (VM)
 - Up to 32 GB of RAM per VM
- Utilizes a 64-bit hypervisor-based architecture that supports hardware-assisted virtualization, utilizing both Intel VT and AMD "Pacifica" technology
- Supports 32-bit and 64-bit VMs running side-by-side
- Supports Windows Server 2008, Windows Server 2003 R2 SP2, Windows Vista SP1, Windows® XP SP3, and SUSE Linux Enterprise Server 10 as operating systems on VMs. Compatible with a wide variety of other guest operating systems.
- Takes advantage of a new hardware-sharing architecture VMBus for VM to host interaction of disk, networking, input/output, and video hardware
- Utilizes a microkernelized architecture, providing a more secure platform for virtualization
- Makes high-performance synthetic devices available to VMs running supported guest operating systems without limitations created by emulation
- New storage features, such as pass-through disk access which allow VMs more access to data, and external programs and services more access to data stored on VMs
- Flexible, role-based security allows delegation of VMs
- Enables High availability scenarios where Hyper-V hosts or VMs running on Hyper-V hosts can be clustered
- New management tools and performance counters make the virtualized environment easier to manage and monitor
- Allows for backup of VMs while they are running
- Addresses these key Virtualization scenarios:
 - Consolidation
 - Automation of test and development environments
 - Business continuity and disaster recovery
 - Dynamic Datacenter

Internet Information Services (IIS) 7.0 enhancements:

- Is a major upgrade from IIS 6.0
- Provides a modular design and installation, resulting in enhanced security and reduced attack surface
- Allows flexible extensibility model for powerful customization
- Improves administration with the new IIS Manager graphical tool, and new appcmd.exe command-line tool



- Provides comprehensive diagnostic and troubleshooting tools that allow easy visibility and tracking of requests running on the Web server
- Allows delegated administration of Web sites
- The same web.config files are used by IIS 7.0 and the ASP.NET application framework, providing one configuration store for all Web platform configuration settings
- Utilizes a distributed configuration, which allows administrators to specify IIS configuration settings in files that are stored with the code and content
- Enables XCopy deployment of Web sites
- Provides programmatic access to configuration stores through WMI provide or Microsoft.Web.Administration
- Enables application and health management for Windows Communication Foundation (WCF) services
- FastCGI support enables organizations to host PHP applications on IIS 7.0

Server Core features:

- Allows administrators to install a minimal installation of Windows Server with specific functionality and without any unneeded features; available roles are:
 - Hyper-V
 - IIS 7.0
 - Dynamic Host Configuration Protocol (DHCP) server
 - Domain Name System (DNS) server
 - File server
 - Active Directory® Domain Service (AD DS)
 - Active Directory Lightweight Directory Services (AD LDS)
 - Windows Media® Services
 - Print Server
- Reduces software maintenance
- Decreases the attack surface of the server
- Reduces management
- Requires less disk space

Server Manager, the expanded Microsoft Management Console, enhancements:

- Built on the Service Modeling Language (SML) platform, which is used to model complex IT services and systems in software, including structure, constraints, configuration, and best practices
- Simplifies and centralizes server management through a single MMC console, allowing administrators to view and manage all of the tools that affect server productivity
- Enables easy addition or removal of server roles, such as Active Directory Domain Services or File Server, and features, such as Windows BitLocker drive encryption
- Allows multiple roles and features to be added in a single Server Manager sessions—role and role service dependencies are tracked, so required components are dynamically removed or added
- Provides Server Manager wizards to streamline common server management tasks
- Provides an Initial Configuration Tasks window that opens automatically after the operating system installation process is complete; this moves interactive elements of setup to post installation, eliminating the need for the administrator to interact with the installation of the operating system
- Provides robust remote administration over firewall-friendly ports





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Read Only Domain Controller (RODC) features:

- Hosts a read-only replica of the database in Active Directory Domain Services (AD DS) for a given domain
- Designed to be installed in locations where physical security for the domain controller cannot be guaranteed, such as branch offices
- Allows local authentication for users in remote and branch office locations
- Provides local and Active Directory Integrated DNS and Global Catalog (GC) services
- Utilizes unidirectional replication saves bandwidth (hub sites don't have to pull changes from the RODC)
- Prevents domain user account data from being compromised if the RODC physical security is compromised
- Provides configurable credential caching on the RODC
- Allows administrative permissions to be delegated to local users to manage the RODC without granting that user any additional permissions on the domain

Network Access Protection (NAP) features:

- Provides a set of client and server side components and services that prevents non-compliant computers from accessing and compromising an organization's network
- Allows administrators to create health policies for clients, such as firewall-enabled virus software being installed and updated
- Validates clients meet compliance policies upon connection to the network and continuously while clients remain connected
- Enforces policies through DHCP, VPN, IPSec, 802.1x (clients evaluated on connection or use of services)
- Restricts or denies client network access for non-compliant computers
- Performs automatic remediation for noncompliant client computers
- Helps ensure the network and systems aren't compromised by unpatched or infected noncompliant computers

Cryptography Next Generation (CNG) features:

- Allows customers to use their own cryptographic algorithms or implementations of standard cryptographic algorithms
- Performs basic cryptographic operations, such as creating hashes and encrypting and decrypting data, as well as creation, storage and retrieval of cryptographic keys
- Supports the current set of CryptoAPI 1.0 algorithms
- Provides support for elliptic curve cryptography (ECC) algorithms
- Allows the use of custom cryptography algorithms in cryptography-related applications

Windows Deployment Services (WDS) features:

- Replaces Remote Installation Services (RIS) from previous versions
- Provides a simplified, secure means of rapidly deploying Windows operating systems to computers by using network-based installation, without the need for an administrator to work directly on each computer, or to install Windows components from CD or DVD media.



- Uses a new image format (WIM) and deployment service (WDS) that simplifies image management, resulting in a faster, more reliable deployment for both clients and servers.

Group Policy Preferences features:

- Allows organizations to deploy managed settings that users may change, allowing organizations create configurations that are more compatible with their IT environment and that are specifically tailored to the organization and how its people use their computers
- Improves IT productivity by providing more than 20 new extensions
- Reduces the need for logon scripts
- Limits configuration errors through precision targeting and easy-to-use interfaces
- Minimizing image maintenance by deploying generic images and using Group Policy Preferences to update them
- Reducing overall image count by deploying generic images and using targeted Group Policy Preference settings for groups of users and computers

Enhancements to Existing Features

Active Directory Domain Services (AD DS) enhancements:

- Provides an AD DS Installation Wizard that streamlines and simplifies AD DS installation and configuration
- Includes a new Find command in Active Directory Sites and Services snap-in that makes locating domain controllers across the enterprise easier
- Makes available new auditing options that allow administrators to track Directory Service changes, including modification, creation, restoration, and movement of objects, as well as previous and new attribute values
- Incorporates Restartable Active Directory, allowing administrators to stop and restart Active Directory domain services without restarting the domain controller, to perform offline AD DS operations more quickly
- Allows Group Policy settings to be viewed with the command-line tool Auditpol.exe

Active Directory Lightweight Directory Services (AD LDS) enhancements:

- Replaces functionality that was provided by Active Directory Application Mode (ADAM)
- Provides a robust, scalable directory service for directory enabled applications, for which integration with Active Directory is either not desirable or not necessary
- Use the same code base as Active Directory Domain Services
- Provides the following directory service features
 - Multimaster replication
 - Support for the Active Directory Service Interfaces (ADSI) application programming interface (API)
 - Application directory partitions
 - LDAP over Secure Sockets Layer (SSL)

Active Directory Rights Management Services (AD RMS) enhancements:

- Provides services to enable creating information-protection solutions that work with any AD RMS-enabled application to provide persistent usage policies for sensitive information





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- Allows administration through a Microsoft Management Console (MMC)
- Integrates with Active Directory Federation Services (AD FS)
- Supports self-enrollment of AD RMS servers
- Provides delegation of responsibility by means of new AD RMS administrative roles
- Allows creation of rights-protected files and templates, and licensing of rights-protected information to trusted entities

Active Directory Federation Services enhancements:

- AD FS allows organizations to setup trust relationships between federation partners.
- The AD FS role only needs to be configured on one of the partners
- Allows administrators to designate trusted accounts that can then gain access to resources on partner networks to which they've been granted permissions
- Supports single sign on by allowing partners to log on once, using their local domain account
- Eliminates the need to have separate accounts for users in each domain, making access more secure and reducing the workload of IT staff
- Integrates with AD RMS - RMS permissions can be accessed and enforced over federated trusts

DNS Server enhancements:

- Provides name resolution for both IPV4 and IPV6 TCP/IP-based networks
- Enables background zone loading of zone data from AD DS during DNS service restarts, which allows the DNS server to respond to requests for other zone data more quickly
- Supports Read-only Domain Controllers (RODCs)
- DNS Server is available as a Server Core role
- Allows GlobalNames zones for static, global records with single-label names, a service which was traditionally be supplied by WINS; DNS will eventually phase out WINS
- Provides DNS clients with changes that facilitate the location of close domain controllers

Failover Clustering enhancements:

- New setup wizards eliminates potential setup and configuration errors
- Uses IPv6, which is fully integrated into failover clusters for node or heartbeat communication
- Uses Domain Name System (DNS) without legacy NetBIOS dependencies, eliminating the need for WINS and NetBIOS name-resolution broadcasts
- Allows associations between a network name resource and multiple associated IP addresses, so that the network name will be available if any of the IP addresses are available.
- Utilizes the more reliable Transmission Control Protocol (TCP) rather than the less reliable User Datagram Protocol (UDP) for cluster "heartbeats"
- Enhances security in failover clusters include:
 - A new security model—Cluster Service now runs in the context of the LocalSystem built-in account.



- Auditing—Administrators can use auditing to capture information about who accessed a cluster and when it was accessed.
- Encryption—Windows Server 2008 allows administrators set inter-node communication to be encrypted.
- Allows multi-site clusters, meaning that cluster nodes no longer need to be on the same IP subnet or configured with complicated VLANs

Network Load Balancing enhancements:

- Supports IPv6, in addition to other protocols, for all communication
- Supports for NDIS 6.0 while retaining backwards compatibility with earlier NDIS versions
- Provides WMI enhancements for IPv6 and multiple dedicated IP address support
- Improves denial of service attack and timer starvation protection; NLB can detect and notify applications when an attack is underway, or when a node is under excessive load
- Supports for multiple dedicated IP addresses per node, allowing multiple applications to be hosted on the same NLB cluster in scenarios where separate applications require their own dedicated IP address

Windows Server Backup enhancements:

- Incorporates a new, faster backup technology
- Simplifies restoration
- Simplifies operating system recovery
- Improves scheduling
- Supports DVD media

Windows Reliability and Performance Monitor enhancements:

- Combines the functionality of several previous stand-alone tools, including Performance Logs and Alerts, Server Performance Advisor, and the System Monitor into the Windows Reliability and Performance Monitor MMC snap-in
- Allows the use of Data Collector Sets to group data collectors into reusable elements for use with different performance monitoring scenarios
- Provides wizards and templates to save time performing common performance monitoring tasks
- Provides the Resource View, which presents real-time graphical overview of CPU, disk, network, and memory usage
- Calculates a System Stability Index that reflects whether unexpected problems reduced the reliability of the system, and provides details to help troubleshoot the root cause of the problem in the Reliability Monitor
- Provides unified property configuration for all data collection, including scheduling, and the ability to save collector sets as templates
- Improves reporting by allowing administrators to easily duplicate reports and assess how changes to a server have affected performance or review the report's recommendations

TCP/IP Stack enhancements:

- Window Auto-Tuning and Compound TCP makes better use of available network bandwidth
- Provides better connectivity in high-loss environments, making connections more consistent and reliable





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- Neighbor Unreachability Detection for IPv4, which provides better detection and recovery when network nodes become unavailable
- Changes in Dead Gateway Detection, which allow computers to determine if a previously dead gateway has come back online which can result in faster throughput
- Changes to PMTU Black Hole Router Detection, which can help prevent connections from termination
- Network Diagnostics Framework support provides an extensible architecture that helps users recover from and troubleshoot problems with network connections
- Windows Filtering Platform is a new architecture that provides APIs, so the Independent Software Vendors (ISVs) can filter at several layers in the TCP/IP protocol stack and throughout the operating system, allowing them to create firewalls, antivirus software, diagnostic software, and other types of applications and services
- Explicit Congestion Notification that can address issues on congested routers, and provide better, more overall throughput

Windows Firewall with Advanced Security enhancements:

- Supports filtering for both incoming and outgoing traffic, which helps to prevent an infected computer from compromising the network
- Integrates firewall and IPSec management in a single new MMC Console, preventing overlapping policies, and allowing for local and remote firewall configuration (remote configuration is not possible in the current Windows Firewall without a remote desktop connection)
- Provides many new ways to configure firewall exceptions, however, exceptions can be configured for:
 - IP protocol number
 - Source and destination
 - All or multiple ports
 - Specific types of interfaces
 - ICMP and ICMPv6 (ping) traffic by Type and Code
 - Restricting firewall rules to either users, groups, or computers
 - Services

Presentation Virtualization with TS RemoteApp features:

- Provides access to the remote application that launches and runs in its own resizable window on the client computer's desktop
- Reduces administrative effort by only having one central application on the server to maintain, instead of having to maintain individual installations on multiple desktops throughout the organization
- Improves the user experience, providing smoother integration of the remote application with the client computer desktop
- Allows any program that can run in a Terminal Services session or in a Remote Desktop session can run as a Remote Program

Terminal Services enhancements:



- Provides Remote Desktop Connection 6.0 or later
- Provides Remote Desktop Connection display improvements, including:
 - Custom display resolutions, and 16:9 displays
 - Monitor spanning
 - Desktop experience
 - Desktop composition
 - Font smoothing
 - Display data prioritization for input devices
- Redirection for Windows Portable Devices, specifically media players based on the Media Transfer Protocol (MTP), and digital cameras based on the Picture Transfer Protocol (PTP)
- Redirection of Windows Embedded for Point of Service devices, such as full function point-of-sale workstations, network bootable “thin client” point-of-sale terminals, customer-facing information kiosks, and self-checkout systems
- Provides Single Sign-On (SSO) for Terminal Services sessions
- Distributes sessions in a TS Farm with the TS Session Broker
- Enables TS Easy Print to reliably print from a TS RemoteApp or full desktop session to a local or network printer installed on the client computer
- Incorporates Licensing Improvements
 - Terminal Services Per-Device client access license permits one device (used by any user) to conduct Windows sessions on any of an organization’s servers
 - Terminal Services Per-User client access license permits one user (using any device) to conduct Windows sessions on any of an organization’s servers

Terminal Services Gateway (TS Gateway) enhancements:

- Enables remote users to connect securely to terminal servers and remote workstations across firewalls and network address translators (NATs)
- Provides a more secure model, allowing users to access only selected servers and workstations instead of the entire corporate network through a VPN
- Leverages the security and availability of the HTTPS protocol to deliver Terminal Services with no client configuration
- Provides a comprehensive security configuration model that enables administrators to control access to specific resources on the network
- Transmits all RDP traffic that typically would have been sent over port 3389 to port 443, using HTTPS

Terminal Services Web Access enhancements:

- Enables administrators to make Terminal Services RemoteApp programs available to users from a Web browser, without requiring the user to install any software
- Enables users to access Remote Programs or entire desktops from a Web site over the Internet or from an intranet
- Includes a customizable Web Part, which can be incorporated into a customized Web page or a Microsoft Windows SharePoint® Services site
- Provides customization for the list of available programs through Group Policy integration

Terminal Services Licensing enhancements:





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- Provides centralized administration for TS CALs and the corresponding tokens
- Enables license accountability, tracking, and reporting for both Per-Device and Per-User licensing mode
- Simplifies support for various communication channels and purchase programs
- Minimizes the impact on network and servers

Terminal Services and Windows System Resource Manager provides the following enhancements:

- Allows control of how CPU and memory resources are allocated to applications, services, and processes on the computer
- Improves system performance
- Reduces the chance that applications, services, or processes will take CPU or memory resources away from one another
- Creates a more consistent and predictable experience for users of applications and services

Public Key Infrastructure (PKI) enhancements:

- Provides PKIView tool for managing and monitoring the validity or accessibility of authority information access (AIA) locations, and certificate revocation list (CRL) distribution points (CDP) in the enterprise
- Enhances Certificate Web enrollment
- Provides Network Device Enrollment Service (NDES) through Microsoft Simple Certificate Protocol (MSCEP), which allows network devices such as switches and routers to authenticate
- Provides for distribution through Group Policy of all of the following types of certificates:
 - Trusted root CA certificates
 - Enterprise trust certificates
 - Intermediate CA certificates
 - Trusted publisher certificates
 - Untrusted certificates
 - Trusted people (peer trust certificates)
- Provides Online Certificate Status Protocol (OCSP) support as an option for certificate validation and revocation
- Allows Certificate management using Group Policy

Windows Media Services enhancements:

- The built-in WMS Cache/Proxy plug-in can be used to configure a Windows Media server either as a cache/proxy server or as a reverse proxy server to other WMS servers
- Advanced Fast Start allows Windows Media Player to begin playing content as soon as its buffer receives a minimum amount of data - reducing wait times for streams
- Play While Archiving allows archiving of broadcast content so it can be rebroadcast or used for on-demand requests.
- Improved fast-forward and rewind functionality for video content helps stabilize network bandwidth availability.
- Broadcast publishing points can be configured to start content streams after a power failure so that viewers experience less disruption when viewing streaming content.
- Absolute Playlist Time wallclock automates broadcast schedules by assigning real-world clock values in Coordinated Universal Time (UTC) to attributes in server-side playlists.
- Offers support for pulling content from alternate encoders or other content sources if the primary encoder fails or is stopped.

