

Microsoft Windows Server 2008: The Complete Reference

Introduction

- Introduction to Windows Server 2008
- Use a Parallel Network
- Windows Server 2008 Editions
 - 32 and 64 bit Versions
- The Perfect Client: Windows Vista
- Build the Dynamic Center
- Run Physical or Virtual Machines
 - Pushing the Virtualization Envelope
- Manage as a Project
- The Companion Web Site
- Move On

Part 1 — Tour Windows Server 2008

This section serves to prepare system administrators for Windows Server 2008. You will learn what to expect from this new version of Windows Server. It also addresses the core structure of the book: a division according to the size of organization you are in and a division according to the process of deploying new network service offerings based on Windows Server 2008. This section helps you to identify which features best meet the needs of your organization. This section is appropriate for all audiences.

Chapter 1 — The Windows Server 2008 Delta

- Resource Pools versus Virtual Service Offerings
- New Feature Listings
- Build the Windows Server 2008 Network
 - Organization Size Definitions
 - Common Networking Functions
- New Features in Windows Server 2008
 - Improvements to Operating System Fundamentals
 - Usability
 - Network Infrastructure
 - Deployment Infrastructure
 - Application Infrastructure
 - Security Infrastructure
 - Disk and File Subsystem
- The Next Step

Chapter 2 — Interact with Windows Server 2008

- The User Interface
 - The Desktop
 - The Windows Explorer
 - User Account Control

- Internet Explorer 7
- The Control Panel
- Initial Configuration Tasks
- Server Manager
 - Manage Roles and Features
 - The Super MMC
- Other Ways to Do Things
 - The Remote Desktop
 - The Command Prompt
 - Microsoft PowerShell
 - Help & Support in WS08
- New Ways to Do Things

Part 2 — Plan and Prepare

Preparing for a migration to Windows Server 2008 requires planning and forethought. In Part One, you discovered what makes WS08 tick. Now, you need to prepare the services you want to deliver based on this new operating system. This section walks you through some key concepts, and then shows you how to build the labs you need to prepare your deployment. It will cover how WS08 installations are performed and then look at how you should proceed to perform the migration.

Chapter 3 — Plan for Windows Server 2008

- Build the Foundation of the Network
 - The Server Lifecycle
 - The Service Lifecycle
 - Benefit from a Server Construction and Management Model
 - The Benefits of the PASS Model
 - Design the Server Kernel—Resource Pools versus Virtual Service Offerings
 - Configure Server Roles
- Design the Network Architecture
 - A Structured Approach: Use Standard Operating Procedures
 - SOP Best Practices
 - The Logical Architectural Design Process
 - Sample SOP: Design a Network Architecture
 - Perform a Situation Review and Needs Analysis
 - Change in Role of Servers
 - Consolidate Servers with Windows Server 2008 through Resource Pools
 - Migration Considerations
 - Network with Windows Server 2008
 - Prepare Network Communications
 - The New TCP/IP Stack
- Use the Technological Lab as a Testing Ground
 - Use a Structured Testing Strategy
 - Build your Resource Pool in Support of Virtual Laboratory Testing

Chapter 4 — Explore Windows Server 2008 Installation Modes

- The Installation Process

- Hardware Requirements
- Server Sizing for Resource Pools and Virtual Service Offerings
- Sizing Recommendations for Resource Pools
- Dual-Boot Considerations
- Rely on Installation Documentation
- Rely on Installation Documentation
 - The Installation Preparation Checklist
 - Document Server Installations
 - The Post-Installation Checklist for Resource Pools and Virtual Service Offerings
- Run through the Installation
 - SOP 4-1: Preparing for Installation Automation
 - The Initial Installation
 - Post-setup Configuration Tasks for Full Installations
 - Post-setup Configuration Tasks for Server Core (Resource Pools)
- Automate Installation
 - Preparation and Prerequisites
 - Use Unattended Installations
 - Create Automated Response Files
 - Use Unattended Setup Files for Upgrades
 - Unattended Installations of Server Core (Resource Pools)
 - Use Custom System Images
 - Prepare and Unattend XML File
 - Work with Sysprep and the Windows Image Format
 - Create a WinPE CD
 - Capture the Image
 - Test Image Deployment
 - Windows Deployment Services
- Put the Server in Place

Part 3 — Design Server Roles

This section begins the network design process. It outlines how you go about creating networks running Windows Server 2008. As such, it covers the design and implementation of Active Directory Domain Services, basic network connectivity for as well as Windows deployment services. Note that it covers these aspects for both the hardware resource pool and the virtualized service offerings.

Chapter 5 — Identity Management

- Introduce Active Directory Domain Services
 - New Features for Active Directory
 - The Nature of Active Directory
 - Active Directory Federated Services
- Design the Solution — Use the Active Directory Blueprint
 - ADDS Partitioning
 - ADDS Service Positioning
 - Implementation Plan
- Put the Blueprint into Action

- Forest/Tree/Domain Strategy
 - Forest Design
 - Forest Design Example
 - Production Forest Design
 - Domain Strategy Design
 - Other Forest Domain Designs
 - Forest Design Best Practices
- Design the Naming Strategy
 - Naming Best Practices
- Design the Production Domain OU Structure
 - The OU Design Process
 - The PCs Object OU Structure
 - The Virtual Service Offerings Object OU Structure
 - The People Object OU Structure
 - Replicate the OU Structure to Other Domains
 - Production OU Design Best Practices
- ADDS & Other Directories
 - Microsoft Identity Lifecycle Manager
 - Integrated Applications for NOS Directories
 - ADDS Integration Best Practices
- Service Positioning
 - Flexible Single Masters of Operations Positioning
 - Global Catalog Server Positioning
 - Domain Controller Positioning
 - DNS Server Positioning
 - Server Positioning Best Practices
 - Server Positioning Scenario
- Site Topology
 - Site Topology Design
 - Create Site Link Bridges
 - Best Practices for Site Topology Design
 - T&T Corporation's Site Topology Scenario
- Schema Modification Strategy
 - Use Active Directory Lightweight Directory Services
 - Schema Modification Strategy Best Practices
- ADDS Implementation Plan
 - New and Revised ADDS IT Roles
- The Ongoing ADDS Design Process

Chapter 6 — Deploy the Windows Server 2008 Network and Build Network Infrastructure Servers

- Build your Resource Pool Infrastructure
 - Create the Utility Forest
 - Configure the Volume Shadow Copy Service
- Build your Virtual Service Offerings
- Choose the Migration Approach

- Choose What to Migrate First
 - Identity Servers First
 - Member Servers First
 - Prepare Detailed Inventories
 - Security Considerations
 - Licensing Considerations
- Choose the Processor Architecture
- Assign Resources to VSOs
- Implement the Parallel Network
 - Prepare the Parallel Network
 - Create the Production Active Directory
- Forest Staging Activities
 - Install the First Server in a Forest
 - Server Installation and Configuration
 - Perform DC Promotion
 - DNS Configuration Finalization
 - Time Service Configuration
 - Alert Management Configuration
 - Set up the Key Management Server
 - Default Group Policy & Security Customization
 - Creation of the Second DC in the Forest Root Domain
 - Server Installation and Configuration
 - DC Promotion
 - Operation Master Role Transfer
 - Creation of the First DC in the Global Child Production Domain
 - Perform DC Promotion
 - DNS Configuration Finalization
 - Creation the Second DC in the Global Child Production Domain
 - Perform DC Promotion
 - Other DC Creation Considerations
- Connect the Enterprise Network
 - Network Infrastructure Staging Activities
 - Configure the First Network Infrastructure Server
 - Service Installation and Configuration
 - Configure DHCP Values
 - Define User Classes
 - Configure GlobalName Zones in DNS
 - Install WINS (Optional)
 - Configure the Second Network Infrastructure Server
 - WINS Connectivity (Optional)
 - Move Servers and Configure Domain Replication
- Work with Windows Deployment Services
 - Install WDS
 - Work with WDS
- Upgrade an Existing Active Directory to WS08

- The Upgrade Process
 - Prepare for the Upgrade
 - Upgrade to WS08
 - Post Upgrade Tasks
 - Ongoing Forest Management

Part 4 — Manage Objects with Windows Server 2008

This section begins to look at how you manage end-user facing or virtual service offerings infrastructures with WS08. As such, it deals with PC management, user management and server management. It covers the design of the infrastructure for management purposes as well as the actual management operations to perform. This section is essential for anyone who needs to manage service delivery to end users.

Chapter 7 — Object Management

- Manage Objects with Active Directory Domain Services
 - Group Policy Concepts
 - Group Policy Processing
 - GPO Inheritance (and blocking)
 - Policy Loopback
 - Policy Filtering
 - Security Policy Filtering
 - WMI Filtering
 - Fast Logon Optimization
 - FLO and Software Installation
 - FLO and Folder Redirection
 - FLO and Roaming User Profiles
 - Deactivate FLO
 - Policy Design
 - Design a GPO Strategy
 - GPO Application and Processing Speed
- Create an OU Design for PC Management Purposes
 - Centralized PC Administration
 - The Desktop OU
 - The Portable OU
 - The External OU
 - Computer Policy Contents
 - Administrative Templates in Vista
 - Decentralized PC Administration
- Design for Delegation
 - Delegation in ADDS
 - Delegation through Group Membership
 - Create Custom Microsoft Management Consoles
 - Design a Delegation Strategy
- PC Management
 - Software Installations with Windows Server 2008
 - Software Assets
 - Software Delivery in the Network

- Software Deployment Concepts
 - Software Assignment
 - Legality and Regional PC Assignments
 - Enterprise Software Assets
 - Software Delivery in the Enterprise
- Complete the OU Strategy
 - Put the PC OU Infrastructure in place
- Manage User Objects with Active Directory Domain Services
 - User versus InetOrgPerson
 - The Contact-class Object
 - User Object Property Sheets
 - Create User Objects
 - User Principal Names
 - Default WS08 Accounts
 - Use Template Accounts
 - Massive User Management
- Manage and Administer Groups
 - WS08 Groups Types and Group Scopes
 - Default Groups
 - Best Practices for Group Management/Creation
 - Best Practice: The AGLP Rule
 - Standard Group Managing
 - Group Ownership Management
 - Best Practice: Manage Global Groups
 - Other Group Types
- Create an OU Design for User Management Purposes
 - The People OU Structure
 - A Group-related OU Structure
 - Delegation within the People OU
 - User-Related GPO Concepts
 - Manage User Data
 - Replace Home Directory
 - Replace the Roaming Profile
 - Other Profile Types
 - Logon and Logoff Scripts
- Complete the People OU Structure
 - Put the People OU Infrastructure in place

Chapter 8 — Build Virtual Service Offerings Infrastructure: File & Print Servers

- Prepare File and Print Servers
 - Share Files and Folders
 - About Disk and Volumes
 - Structure Disk Volumes for Resource Pools
 - Structure Disk Volumes for Virtual Service Offerings

- NTFS Permissions
 - Disk Quotas
 - Shadow Copies
 - Shadow Copies for Resource Pools
 - Rely on the Search Service
 - Offline File Caching
 - Simple SAN
- Create the File Server
 - Install the File Server Role
 - Create the Folder Structure
 - Enable File Server Services
 - Share Folders
 - Publish Shares in Active Directory Domain Services
 - Find a Share in ADDS
- Manage Folder Availability
 - Work with the Distributed File System
 - Install a Domain DFS Namespace
 - Add DFS Folders
 - DFS Clients
 - Use DFS Replication for Resource Pools
 - Folder Redirection and Offline File Settings
 - Enable Folder Redirection
- Share Print Services
 - WS08 Printer Drivers
 - Integration with Active Directory Domain Services
 - Manage Printer Permissions
 - Establish a Shared Printer Policy
 - Create the Print Server
- Share Files and Printers for Non-Windows Clients
- Server Requirements by Role
- Design the Virtual Service Offerings OU Structure

Chapter 9 — Build the Virtual Service Offerings Infrastructure: Application-oriented Servers

- Build Application Servers
 - Share Commercial and Corporate Applications
 - Application Development Support
 - Legacy Application and Software Testing
 - Application Server Types
 - Explore Application Virtualization
- Prepare Web Servers (Dedicated or Application)
 - The IIS Feature Set
 - Install the Application or Dedicated Web Server Roles
 - Work with Application Support Services

- Work with Active Directory Lightweight Directory Services
 - Work with Universal Description, Discover, and Integration
- Prepare Terminal Servers
 - Share Applications with Terminal Services
 - Install and Configure Terminal Services
 - Prepare Terminal Server Licensing
 - Determine the Application Model and Install Applications
 - Prepare GPOs for Terminal Services
 - Deploy Terminal Services Applications
 - Add RemoteApps
 - Deploy with RDP Files
 - Deploy through TS Web Access
 - Deploy Windows Installer Packages
 - Create Highly Available Terminal Services
 - The Remote Desktop Console: The Administrator's Best Friend
- Collaboration Servers
 - Deploy Windows SharePoint Services
 - Control Access to WSS Central Administration
 - Finalize WSS Configuration
 - Change WSS Administration Port Number
 - Prepare Windows Streaming Media Servers
- Server Requirements by Role
- Design the Virtual Service Offerings OU Structure

Part 5 — Secure Windows Server 2008

This section deals with the implementation of secure practices to protect networks at all levels. It also includes methods for implementing disaster recovery and providing business continuity both at the resource pool and at the virtual service offerings levels.

Chapter 10 — Security

- Security Basics
- Design a Security Policy
 - The Castle Defense System
 - The Security Plan
 - The Microsoft WS08 Security Guide
 - Windows Server 2008 Security
 - Secure Resource Pools
 - Secure Virtual Service Offerings
- Apply the Castle Defense System
 - Level 1: Critical Information
 - Level 2: Physical Protection
 - Level 3: Operating System Hardening

- System Security Configuration
- Post-Installation Security Checklist
- Rely on Security Templates
- Create Baseline Templates for Local Application
- Configure Security Template
- Use Local Security Templates
- Security Templates Best Practices
- Move Beyond Security Templates with the Windows Server Security Configuration Wizard
- Secure Resources through Device Control
- Harden Systems with BitLocker Drive Encryption
- Install Anti-malware Tools
- Use Software Restriction Policies
- General Active Directory Domain Services Security
- Security with the Directory
- Fine-Grained Password Policies
- ADDS Auditing
- RODCs
- File System Security
- The Encrypting File System
- Print System Security
- .NET Framework Security
- Internet Information Server 7.0
- The Evaluation Process for Managed Code
- Final Operating System Hardening Activities
- Level 4: Information Access
 - Smart Card Authentication
 - Secure User Identification
 - User Authentication in Active Directory Domain Services
 - Secure Layer 4 through Group Policy Objects
 - Configure the Default Domain Policies
 - Local Domain Controller Policies
 - The Member Server Baseline Policy
 - Manage Trusts
 - Web Server Access Control
 - .NET Framework Authentication
 - Access Audition and Monitoring
 - Information Rights Management
- Level 5: External Access
 - Secure Servers with the Windows Server Firewall with Advanced Security
 - Use Windows Server Secure Sockets Tunneling Protocol
 - Rely on a Public Key Infrastructure
 - Active Directory Federation Services
 - Rely on Network Access Protection
- Manage the Security Policy

Chapter 11 — Business Continuity

- Plan for System Redundancy
 - Protect the Resource Pool
 - Protect the Virtual Service Offerings
- Prepare for Potential Disasters
 - Use WS08 Clustering Services
 - Cluster Services for Resources Pools
 - Cluster Services for Virtual Service Offerings
- Network Load Balancing
 - Multicast versus Unicast Modes
 - Single Affinity versus No Affinity
 - Install and Configure NLB Clusters
- Windows Server Failover Clustering
 - Cluster Compatibility List
 - Server Cluster Concepts
 - Cluster Configurations
 - Geographically Dispersed Clusters
 - Resource Pool Failover Cluster Considerations
 - The WS08 Failover Cluster Build Process
 - Build a WS08 Failover Cluster for Resource Pools
 - Build a WS08 Failover Cluster for Virtual Service Offerings
- Further Server Consolidation
- Recovery Planning for your Network
 - Recovery Strategies for Windows Server 2008
 - System Recovery Strategies
 - Troubleshooting Techniques
 - Categorize Issues for Resource Pools and VSOs
 - Data Protection Strategies for Resource Pools
 - System State Restores
 - Data Protection Strategies for Virtual Service Offerings
 - Select a Third-party Backup Tool
 - Authoritative Active Directory Domain Services Restores
- Finalize your Resiliency Strategy

Part 6 — Migrate to Windows Server 2008

This section deals with moving to the new Windows Server 2008 infrastructure you prepared in the parallel network for virtual service offerings. All systems are go and now you need to move all of the content from the legacy network into the new parallel network. This means performing the actual migration as well as preparing your support and operational staff to work in the new environment.

Chapter 12 — Put the VSO Network in Production

- Considerations for the Migration to the Parallel VSO Network
 - The Server Rotation Process (Resource Pools)
 - The Migration Order (Virtual Service Offerings)
- Begin the Migration to the Parallel VSO Network

- Migrate Security Principals
 - Create Two-way Trusts
 - Nest Global Groups
 - Use the Active Directory Migration Tool
 - Enable the Password Export Server
 - Create Domain Data Reports
 - Special ADMT Considerations
 - Use a Commercial Migration Tool
 - Transfer Networked User Data
- Migrate Network Infrastructure Servers
- Migrate Web Sites
- Build Terminal Services Servers
- Migrate File Servers
 - Change the Nature of your File Servers
- Migrate Print Servers
- Migrate SharePoint Sites
 - Migrate from SharePoint to SharePoint
 - Migrate File Content to SharePoint Services
- Decommission the Legacy Network
 - Deactivate SID History
- Prepare your new Support Structure
 - New and Revised ADDS IT Roles (VSO Network)
 - New Resource Pool Roles
 - Design the Services Administration Plan
 - Rely on the WS08 Remote Administrative Tools
 - Administration Tools for Resource Pools
 - Administration Tools for Virtual Service Offerings
 - Build a New Approach to Administration
 - The Administrative Task List
 - The System Administrator
 - Organize Your Task Schedule

Part 7 — Administer of Windows Server 2008

This section deals with general administration tasks with Windows Server 2008. It covers both resource pool and virtual service offerings administration.

Chapter 13 — Common Administration Tasks

- General Server Administration
 - General Server Administration Activities
 - Hardware Administration
 - Backup and Restore
 - Remote Administration
- File and Print Server Administration
 - File Service Administration
 - Print Service Administration

- Cluster Services Management
- Network Infrastructure Server Administration
 - DHCP/WINS Server Administration
 - Deployment Servers
 - NLB Clusters
 - Network Policy and Access Services
- Identity Server Administration
 - Domain Controller Administration
 - Namespace Server Management (DNS)
- Application & Collaboration Server Administration
 - Administration of Dedicated Web Servers
 - Administration of Application Servers
 - Administration of Terminal Services
 - Windows SharePoint Services Administration
 - Performance and Monitoring Administration
- Final Notes