

# Maintaining Win2K3 Network Infrastructure

page 1

**Meet the expert:** Rafiq Wayani has extensive experience including more than 20 years in IT as Systems Architect, Software Engineer, DBA, and Project Manager. Wayani has instructed in a variety of technical areas, has designed and implemented network and information systems, and is certified across a wide range of platforms and systems including Microsoft Solutions Developer, Systems Engineer, Application Developer, Database Administrator, Trainer; Novell Netware Administrator and Engineer; Master Certified Netware Engineer; and A Certified.

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**Course description:** Planning and Maintaining a Windows Server 2003 Network Infrastructure course will give you the knowledge and skills necessary to prepare to pass Microsoft exam 70-293. This course is intended for individuals pursuing the MCSE on Windows Server 2003 certification.

## Course outline:

### Introduction

- Introduction
- Network Design
- Process
- Views
- Goals - Availability
- Goals - Development/Deploy
- Goals - Reusability
- Goals - Integration
- Goals - Manageability
- Goals - Performance
- Assessing Risks
- Risks - Agree on Goals
- Risk Management
- Risks - Prioritization
- Risks - Changes to Design
- Effects on Scheduling/Planning
- Implementation
- Summary

### Physical Network Design

- Introduction
- Diagrams: Physical
- Diagrams: Logical
- Documentation Needed
- Physical Diagram
- DCs
- DHCP / DNS / WINS
- Printers / Print Servers
- Routers
- Application / File / DB / Web
- Locations of Hardware

- WAN Links / Bandwidth
- Other Documentation
- Summary

### Network Planning

- Introduction
- Create a Schedule
- Key Resources
- Scope of Project
- Planning Components
- Scope Management
- Effective Scheduling
- Summary

### Planning IP

- Introduction
- NAT Server
- TCP/IP
- DHCP
- WINS
- DNS
- TCP/IP Subnetting
- Classful IP Addresses
- Classless IP Addresses
- RFCs
- Addressing Scheme Diagram
- Steps to an IP Network
- Hosts per Subnet
- Summary

### IP Subnets

- Introduction
- IP Subnets
- DHCP
- APIPA
- Manual

- DHCP Server Console
- Assign DHCP Addresses
- Create a DHCP Reservation
- View the Address Leases
- Registry Key To Disable APIPA
- Best Practices
- Summary

### Network Performance

- Introduction
- Performance
- Utilization
- Evaluation
- Upgrade
- Actual Data Throughput
- Efficiency Rating
- Figuring Efficiency Examples
- Growth
- Best Practices
- Summary

### Routing and Switching

- Introduction
- Data Transfer Devices
- Routers
- Subnets and Routers
- Using Routers - Reasons
- Broadcast Domain
- Collision Domain
- Broadcast Domain Diagram
- Switches
- Benefits of Switches
- Virtual LANs
- Virtual LANs - Benefits

- Virtual LANs - Memberships
- Increasing Bandwidth
- Best Practices
- Summary

### Internet Connectivity

- Introduction
- Overview
- Public IP Address
- Private IP Address
- Network Address Translation
- Internet Connectivity
- Requirements
- Firewall Solutions
- NAT / Basic Firewall
- Use RRAS Setup NAT
- ISA Server
- NAT vs ISA
- Summary

### DHCP - Part 1

- Introduction
- DHCP Overview
- Config IP Address Manually
- Config IP Address Dynamically
- Central Admin of IP Addresses
- Lease Generation Process
- Lease Renewal Process
- Create DHCP Role on Server
- Configure DHCP on Client
- Configure DHCP Scope
- Create a DHCP Server Scope
- Authorize the DHCP Server
- How Client Receives an IP

(Continued on page 2)

# Maintaining Win2K3 Network Infrastructure

page 2

- Create a DHCP Reservation
- Summary

## **DHCP - Part 2**

- Introduction
- Class-Level Options
- Config Vendor/User Classes
- Relay Agent
- Ways to Implement DHCP
- Fault Tolerance
- Relay Agent Process
- Install/Setup a Relay Agent
- Configure Relay Agent
- Manage / Monitor
- Reasons to Monitor
- DHCP Database
- Database Files
- Backup / Restore
- Maintenance Guidelines
- Location of Database Files
- Backup/Restore Demo
- Select Backup Location
- Summary

## **DHCP - Part 3**

- Introduction
- Reconciliation
- Reconcile the Scope
- DHCP Registry Keys
- Rename dhcp.mdb
- Backup Registry Configuration
- Cautions with Registry Keys
- Create a Performance Baseline
- Reasons to Monitor
- How to Monitor
- View DHCP Server Statistics
- View DHCP Server Log File
- Auditing
- Auditing Data Collection
- Performance
- Performance Counter Demo
- Create an Alert
- Examine the Event Viewer
- Monitoring Guidelines
- Summary

## **DNS**

- Introduction
- Introduction to DNS
- Resolve Names with DNS
- Local DNS Resolver Cache
- Resolve Name with WINS
- Resolve Names with LMHosts
- Enable LMHosts Lookup
- Name Resolution

- Configuration Information
- Query Types
- Reverse Lookup
- Create a Reverse Lookup Zone
- Server Roles
- Security
- DNS Server Considerations
- Namespace Selection
- Namespace Considerations
- Zones
- Security Considerations
- Summary

## **IP Security**

- Introduction
- IPSec Overview
- Securing Network Environment
- IPSec Policy on Client
- IPSec Policy on Server
- Manage Filter Lists/Actions
- Default IPSec Policies
- NETSH Tool
- IP Security Monitor
- IPSec Mon - Main/Quick Mode
- Inet Conn Sharing / Firewall
- Prohibit ICS / Firewall
- Routing and Remote Access
- Config Routing/Remote Access
- Routing/Remote Enhancement
- Common IPSec Config Errors
- Summary

## **Network Access - Part 1**

- Introduction
- Components
- Server
- Requirements
- Types of Clients
- Security
- Setup Remote Access
- Manage Users Permissions
- Config Routing/Remote Access
- Connect through VPN
- Connect as a Client
- Failed Connect Attempt
- Summary

## **Network Access - Part 2**

- Introduction
- VPN Connection
- Connection Process
- Components
- Encryption Protocols
- Encryption Requirements
- Wireless

- Two Modes for Wireless
- Wireless Components
- Wireless Standards
- 802.1x Authentication
- Win XP Client Config Types
- Determine Auth Methods
- Dial-In Permissions
- Permissions
- Remote Access Policy
- Specify RAP
- Remote Access Logging
- Dial-In Permissions/Properties
- Raise Domain / Forest Levels
- Summary

## **Securing Win 2K3 Servers**

- Introduction
- Server Roles
- Examples of Security Threats
- Types of Data on the Server
- Methods of Securing a Server
- Assessing Implemented Sec.
- Disposing Server Hardware
- Availability of Win Server 2003
- Server Clusters
- Benefits of Clusters
- Network Security
- Net Security - Best Practices
- Wireless Network Security
- Certificates
- Enable Certificate Services
- MMC Certificate Snap-Ins
- Summary