

CIT 265
Windows 2000 Networking Services Infrastructure Design

Course Description

This course provides students with the information and skills needed to create a networking services infrastructure design that supports the required network applications. Strategies are presented to assist the student in identifying the network technology needs of an organization, and then develop a design that meets those needs. This course is part of the Microsoft Certified Systems Engineer series. Lecture 2 hours, Lab 2 hours. Prerequisites: CIT 261; or consent of instructor.

Course Competencies

Upon successful completion of this course, the student can:

1. Describe the attributes of a Windows 2000 networking services infrastructure design.
2. Define the design requirements for a Transmission Control Protocol/Internet Protocol (TCP/IP) solution.
3. Design a Dynamic Host Configuration Protocol (DHCP) solution for automating IP configuration.
4. Design a Domain Name Service (DNS) service for name resolution.
5. Evaluate Windows Internet Name Service (WINS) as a solution for name resolution.
6. Evaluate and create an Internet connectivity design using Network Address Translation.
7. Evaluate and create an Internet connectivity design using Microsoft Proxy Server.
8. Evaluate and create private network connectivity designs using Routing and Remote Access.
9. Evaluate and create a design to connect a remote user to a private network using Routing and Remote Access.
10. Evaluate and create a design to connect a remote user to a private network using Remote Authentication Dial-In User Service (RADIUS).
11. Develop a management strategy for networking services.
12. Evaluate strategies to address interaction issues for the placement of services within an infrastructure.
13. Evaluate and create infrastructure designs based upon the applications in use by an organization.

Course Outline

- I. Windows 2000 Networking Overview
 - A. Introduction to Windows 2000 network services
 - B. Defining the network design attributes
- II. Designing a TCP/IP Solution
 - A. Identifying the networking solutions provided by TCP/IP
 - B. Designing a functional TCP/IP solution
 - C. Securing a TCP/IP solution
 - D. Enhancing a TCP/IP design for availability

- E. Enhancing a TCP/IP design for performance
- III. Designing an Automated IP Configuration Service Using DHCP
 - A. Identifying the automated IP configuration solutions using DHCP
 - B. Designing a functional DHCP solution
 - C. Securing a DHCP solution
 - D. Enhancing a DHCP design for availability
 - E. Enhancing a DHCP design for performance
- IV. Designing a Name Resolution Service Using DNS
 - A. Identifying DNS as a solution for name resolution
 - B. Establishing DNS functionality
 - C. Securing a DNS solution
 - D. Enhancing the DNS design for availability
 - E. Optimizing the DNS design for performance
- V. Designing a NetBIOS Name Resolution Service Using WINS
 - A. Identifying the networking solutions provided by WINS
 - B. Designing a functional WINS solution
 - C. Securing a WINS solution
 - D. Enhancing the WINS design for availability
 - E. Optimizing the WINS design for performance
- VI. Designing Internet Connectivity Using Network Address Translation (NAT)
 - A. Identifying NAT as a solution for Internet connectivity
 - B. Designing a functional NAT solution
 - C. Securing a NAT solution
 - D. Enhancing a NAT design for availability
 - E. Optimizing the NAT design for performance
- VII. Designing Internet Connectivity Using Proxy Server
 - A. Identifying Proxy Server as a solution for Internet connectivity
 - B. Designing a functional Proxy Server solution
 - C. Securing a Proxy Server solution
 - D. Enhancing a Proxy Server design for availability
 - E. Optimizing a Proxy Server solution for performance
- VIII. Designing Connectivity Between Private Networks
 - A. Recognizing routing as a solution for connectivity between private networks
 - B. Designing a functional routing solution
 - C. Securing private network connections
 - D. Optimizing a router design for availability
 - E. Optimizing a router design for performance
- IX. Designing Remote User Connectivity
 - A. Identifying routing and remote access as a solution for remote access
 - B. Designing a functional remote access solution
 - C. Securing a remote access solution
 - D. Enhancing the remote access design for availability
 - E. Optimizing the remote access design for performance

- X. Designing a Remote Access Solution Using RADIUS
 - A. Recognizing RADIUS as a solution for remote access
 - B. Designing a functional RADIUS solution
 - C. Securing a RADIUS design
 - D. Enhancing the RADIUS design for availability
 - E. Enhancing the RADIUS design for performance
- XI. Developing a Windows 2000 Network Management Strategy
 - A. Defining a network management strategy
 - B. Identifying the processes of the strategy
 - C. Generating information of the status of services
 - D. Selecting reactive or predictive strategies
- XII. Designing Strategies for Combining Services
 - A. Identifying benefits of designing services
 - B. Combining services in a design
 - C. Securing a design by combining services
 - D. Enhancing availability by combining services
 - E. Optimizing performance by combining services
- XIII. Providing Networking Service Designs
 - A. E-Commerce solutions
 - B. Joint project development solutions
 - C. Distributed sales solutions
 - D. Internet service provider solutions
 - E. Virtual office solutions