



Implementing Data Center Application Services

Length
5 days

Format
Lecture/lab

Track
DCAS Support Specialist

Version
2.0

Course Description

In this course, you will learn how to implement intelligent network services using the Catalyst 6500 Application Control Engine Service Module, the Cisco Application Control Engine 4710 Appliance, and the Cisco Global Site Selector (GSS).

This course covers all the key features of the Cisco ACE, including resource virtualization and management, server load balancing (Layer 2-4 and Layer 7), SSL termination and offload, application-layer protocol inspection and fixups, and web application optimization features.

Who Should Attend

This course is designed for Cisco Channel Partner Field Engineers (FEs) who are planning to achieve the Cisco Data Center Application Services (DCAS) Support Specialist Certification.

Recommended Prerequisites

You will gain the most from this course if you have a basic understanding of the following topics:

- CCNP, CCIE R&S; or CCIE SP Certification
- Knowledge of Catalyst 6500 architecture and operations
- Familiarity with common web application protocols, such as HTTP and HTML
- Familiarity with common traffic control and monitoring protocols, such as RHI and QoS

Related Training

- Designing Data Center Application Services (DCASD) v1.0

DCASI

Learning Objectives

After completing this course, you will be able to:

- Describe the key functions provided by Cisco Data Center Application Services, and the products that support those functions
- Describe the key protocols used in IP-based data center applications
- Describe the structure and function of the Modular Policy CLI
- Describe the web application acceleration feature set and how those features can be used in the multi-tier application and data center design
- Describe the configuration tasks necessary to deploy the Global Site Selector
- Describe the high-availability features of the ACE Family of products, which are used to provide reliable application networking services
- Describe the steps needed to troubleshoot Application Services
- Describe the methods used to manage the GSS
- Describe the capabilities and configuration of the GSS Global Server Load Balancing





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Course Outline

Module 1: Data Center Application Services Overview

Lesson 1: IP-Based Data Center Applications

- IP Protocol Stack Review
- IP Application Review
- Web Technology Overview
- GSLB Overview

Lesson 2: Introducing ACE Family Solutions

- Multi-Tier Applications
- Intra-Datacenter Redundancy
- Multi-Datacenter Redundancy
- Application Delivery Products

Lesson 3: Deploying the ACE Appliance and Service Module

- Connecting ACE to the Network
- Network Topologies
- ACE 4710 Installation Procedure
- ACE Appliance GUI
- Virtualization
- Resource Management
- Authorizing Management Users
- Configuring Interfaces
- Configuring Management

Module 2: Implementing Server Load Balancing

Lesson 1: Modular Policy CLI

- Class Maps
- Policy Maps
- Applying Policy Maps

Lesson 2: Managing the ACE Appliance and Service Module

- Permitting Management Traffic
- SNMP Manageability
- Application Networking Manager

Lesson 3: Security Features

- IP Access Control Lists
- ACL Object Groups
- TCP/IP Fragmentation/Reassembly
- TCP/IP Normalization
- SYN Cookies
- Network Address Translation

Lesson 4: Layer 4 Load Balancing

- Load-Balancing Concepts
- Load-Balancing Algorithms
- Configuring Layer 4 Load Balancing
- Traffic Rate Limiting
- Load-Balancing Concepts

Lesson 5: Health Monitoring

- Health Monitoring Overview
- Active Health Probes
- HTTP Error Code Monitoring
- Using TCL Scripting
- Route Health Injection
- Backup Servers/Server Farms

Lesson 6: Layer 7 Protocol Processing

- Configuring HTTP Layer 7 Load Balancing
- Persistent and Pipelined HTTP Extensions
- Server Reuse
- HTTP Modifications
- Session Persistence
- Protocol Inspection
- HTTP Inspection
- FTP Protocol Processing
- RDP Protocol Processing
- Radius Protocol Processing
- RTSP Protocol Processing
- SIP Protocol Processing
- Generic Protocol Parsing
- Other Inspected Protocols

Lesson 7: Processing Secure Connections

- Digital Encryption Technologies
- SSL Service Options
- Configuring a Public Key Infrastructure
- Configuring SSL Proxy Services
- SSL Session Reuse Functional Overview
- SSL Queue Delay Functional Overview
- SSL Client Authentication Functional Overview



Learning Solutions



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Course Outline

Lesson 8: Migrating From CSS and CSM

- Overview of CSS and CSM
- Migrating CSS Configurations
- Migrating CSM Configurations

Module 3: Implementing Web Application Acceleration

Lesson 1: Web Application Acceleration Overview

- Web Application Performance Factors
- Web Application Acceleration Architecture

Lesson 2: Deploying Application Acceleration and Optimization

- FlashForward
- Delta Optimization
- Smart Redirect
- Fast Redirect
- FlashConnect
- Just-in-Time Object Acceleration
- Adaptive Dynamic Cache
- Single-Request Optimizations
- Compression Overview
- Configuring Compression

Lesson 3: Integrating Multiple Features Analyzing Network Requirements

- Designing ACE Contexts
- Designing ACE Features
- Configuring Multiple Integrated Features

Module 4: Implementing Site-to-Site Load Balancing

Lesson 1: Deploying the GSS

- Introducing GSS
- Purpose of GSLB
- ACE GSS Installation Procedure
- Connect the GSS to the network

Lesson 2: Managing the GSS

- Default Management Roles
- Configuring Management Roles
- GSS Network Management

Lesson 3: Implementing Global Server Load Balancing

- GSLB Methods
- GSS Load and Keep Alive Tracking
- KAL-AP Integration
- Using Network Proximity
- GSS Zones and Locations
- Proximity Subsystem and Database
- Proximity Network Design Guidelines
- Configuring Network Proximity
- Using DNS Sticky
- DNS Sticky Configuration and Monitoring

Module 5: Redundancy and Troubleshooting

Lesson 1: High Availability

- Redundancy
- Object Tracking
- Failover
- State Replication
- Fault-Tolerance Configuration
- Displaying Fault-Tolerance Information
- GSS Redundancy

Lesson 2: Troubleshooting Application Services

- ACE Architecture
- Troubleshooting Layer 1 and Device Management
- Layer 2 Connectivity
- Layer 3 Connectivity
- Server Load Balancing
- Security Features



Learning Solutions