



Deploying Content Switching Services with the Cisco Catalyst 6500 CSM

Length
1 day

Format
Lecture/lab

Track
Design/
Support

Version
1.0

CAT6K

Course Description

The Cisco Catalyst 6500 Content Switching Module (CSM) performs advanced Layer 4-7 content switching capabilities. The CSM adds high-performance, feature-rich load balancing to existing Layer 2-3 networks.

This course provides the knowledge and skills that you need to design, configure, and troubleshoot content networking solutions with the CSM. You will learn about the technical fundamentals of Layer 4-7 load balancing, and how to improve the scalability and reliability of network-based applications.

Who Should Attend

This course is designed for Systems Engineers and Field Engineers who need to design and implement content switching services using the CSM.

Recommended Prerequisites

- CCNP certification or equivalent experience
- Familiarity with the architecture of the Catalyst 6500 platform
- Basic understanding of Layer 4-7 protocols and content switching

Related Training

- This course is part of Firefly's *Designing E-Commerce Solutions With the Cisco Catalyst 6500 (DEC6K) v1.0* course

Learning Objectives

After you complete this course, you will be able to:

- Describe the benefits of balancing a transaction processing load across multiple servers
- Explain how real servers, server farms and virtual servers work
- Describe HTTP persistent connections and pipelining
- Explain how the CSM protects against DDoS attacks
- Explain the packet header transformations that the CSM performs
- Describe the load-balancing types supported by the CSM
- Configure bridging with one IP subnet
- Configure routing between IP subnets
- Configure aggregate mode traffic flow
- Configure CSM policy features
- Configure URL, cookie, and header maps
- Use of session persistence to resolve web application issues introduced by load balancing
- Explain the design constraints imposed by firewall load balancing
- Monitor real server health
- Explain how TCL is used to provide additional logic for CSM functions





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Course Outline

Lesson 1: Introducing the Content Switching Module

- The Web Server Request Process
- High-Speed Layer 4 to 7 Content Switching
- Application Uptime
- Load Balancing
- CSM Feature Overview
- CSM Management Overview
- Real Servers, Server Farms and Virtual Servers
- Persistent Connections
- Supported Supervisors and IOS Versions
- DDoS Protection
- Comparing the CSM-S to CSM and SSLSM

Lesson 2: Deploying the CSM

- Client- and Server-Side VLAN Configuration
- Packet Header Transformations
- Single Subnet Bridge Mode
- Secure Router Mode
- Aggregate (One-Arm) Mode
- Mixed Modes
- Load-Balancing

Lesson 3: Optimizing the CSM

- CSM Policy Features
- URL, Cookie, and Header Maps
- Sticky Groups
- HTTP Header modification
- Cache Load Balancing
- Firewall Load Balancing
- Health Monitoring on the CSM
- TCL Scripting

Lesson 4: Configuring High Availability

- Ensuring High Availability with CSMs
- Interface and Device Tracking
- CSM State Synchronization
- Nondisruptive Upgrades
- Configuring Geographically Distributed Services

Course Labs

- Lab 1: Configure CSM Router Mode
- Lab 2: Configure CSM Bridged Mode with Advanced Features
- Lab 3: Configure CSM Aggregate Mode
- Lab 4: High Availability



Learning Solutions