



## DATA SHEET

# SECURING ENTERPRISE DATA CENTER ARCHITECTURES

## Course Overview

**Securing Enterprise Data Center Architectures is a lab-intensive course that allows students to integrate and test Cisco Systems® security products and security best practices that compose the Cisco® Enterprise Data Center Architecture. Students will implement and integrate the Cisco Catalyst® 6500 Series Firewall Services Module (FWSM); the Cisco Catalyst 6500 Series Intrusion Detection System Module (IDSM-2); Cisco Secure Monitoring, Analysis, and Response System (CS-MARS); and two Cisco anomaly detection devices: Cisco traffic anomaly detectors and Cisco Guard distributed-denial-of-service (DDoS) mitigation appliances. Hands-on lab experience includes use of commonly available network test applications and scripts that students can use to verify that implemented security techniques are successful. Students will learn best practices for implementing Layer 2 and Layer 3 security, with hands-on practice in implementing features such as port security and private VLANs.**

## WHO SHOULD ATTEND

This course is targeted toward data center managers and administrators, network administrators, security professionals, and engineers interested in deploying and securing Cisco network data center solutions.

## OBJECTIVES

Upon completion of this course, students will be able to:

- Identify and classify specific threats to which the data center is subject
- Analyze a given data center network topology and define and document a security hierarchy
- Outline security techniques available to minimize of security threats in the data center network
- Prioritize security events and implement appropriate measures to mitigate future events in the data center network
- Configure MARS monitoring devices to gather information from routers, switches, FWSMs, IDSMs, and Cisco Security Agent
- Configure a MARS global controller as a central reporting point for security events
- Configure, verify, and troubleshoot Layer 2 and Layer 3 security techniques
- Implement and troubleshoot the Cisco Catalyst 6500 FWSM at the Internet edge and aggregation layers
- Implement IDS at the aggregation and access layers
- Configure Cisco Security Agent to protect hosts
- Configure guards and detectors to identify and redirect attacks on the data center network

## Course Prerequisites

Table 1 shows course prerequisites.

**Table 1 Prerequisites**

Prerequisite Knowledge	Relevant Courses
<ul style="list-style-type: none"><li>• Experience using the Cisco IOS® Software command line interface (CLI)</li><li>• Routing fundamentals and IP addressing</li></ul>	<ul style="list-style-type: none"><li>• Introduction to Cisco Networking Devices (ICND)</li></ul>
<ul style="list-style-type: none"><li>• Knowledge and experience configuring Layer 2 and Layer 3 interfaces on Cisco routers and switches</li></ul>	<ul style="list-style-type: none"><li>• Building Scalable Cisco Internetworks (BSCI)</li><li>• Building Cisco Multilayer Switch Networks (BCMSN)</li></ul>
<ul style="list-style-type: none"><li>• Basic knowledge of Cisco Catalyst 6500 operation and modules</li></ul>	<ul style="list-style-type: none"><li>• Cisco Catalyst 6500 Advanced Switched Networks (CACSN)</li></ul>
<ul style="list-style-type: none"><li>• An understanding of firewall and intrusion detection systems concepts and operations</li></ul>	<ul style="list-style-type: none"><li>• Securing Networks with Cisco Pix® and ASA (SNPA)</li><li>• Implementing Cisco Intrusion Prevention System (IPS)</li></ul>

## Cisco Part Number

AS-TRAIN-E in North America and Europe.

AS-TRAIN-E-A in Asia Pacific.

AS-TRAIN-E-L in Latin America.

## Duration

Five days.

## COURSE OUTLINE

1. Introduction
2. Cisco Enterprise Data Architecture Security
3. Monitoring the Enterprise Data Center (CS MARS)
4. Securing Layer 2 and Layer 3
5. Implementing Cisco Catalyst 6500 FWSM at Internet Edge and Aggregation Layers
6. Implementing IDSs, Intrusion Prevention Systems (IPSs), and Cisco Security Agent
7. Analysis and Response with CS MARS
8. Implementing Cisco Guard DDoS Mitigation Appliances and Cisco Traffic Anomaly Detectors

## Lab Outline

Lab 1: Student POD configuration and Network Evaluation

Lab 2: Monitoring the Enterprise Data Center (CS MARS)

Lab 3: Implementing Layer 2 and Layer 3 Security: ARP inspection, uRPF, Port Security, and Private VLANs

Labs 4 and 5: Implementing Cisco Catalyst 6500 FWSM in Single-Context Routed and Multicontext Transparent Mode

Labs 6 and 7: Implementing the Cisco Catalyst 6500 IDSM-2 (IDS and IPS: inline modes)

Lab 8: Implementing Cisco Security Agent and Security Testing

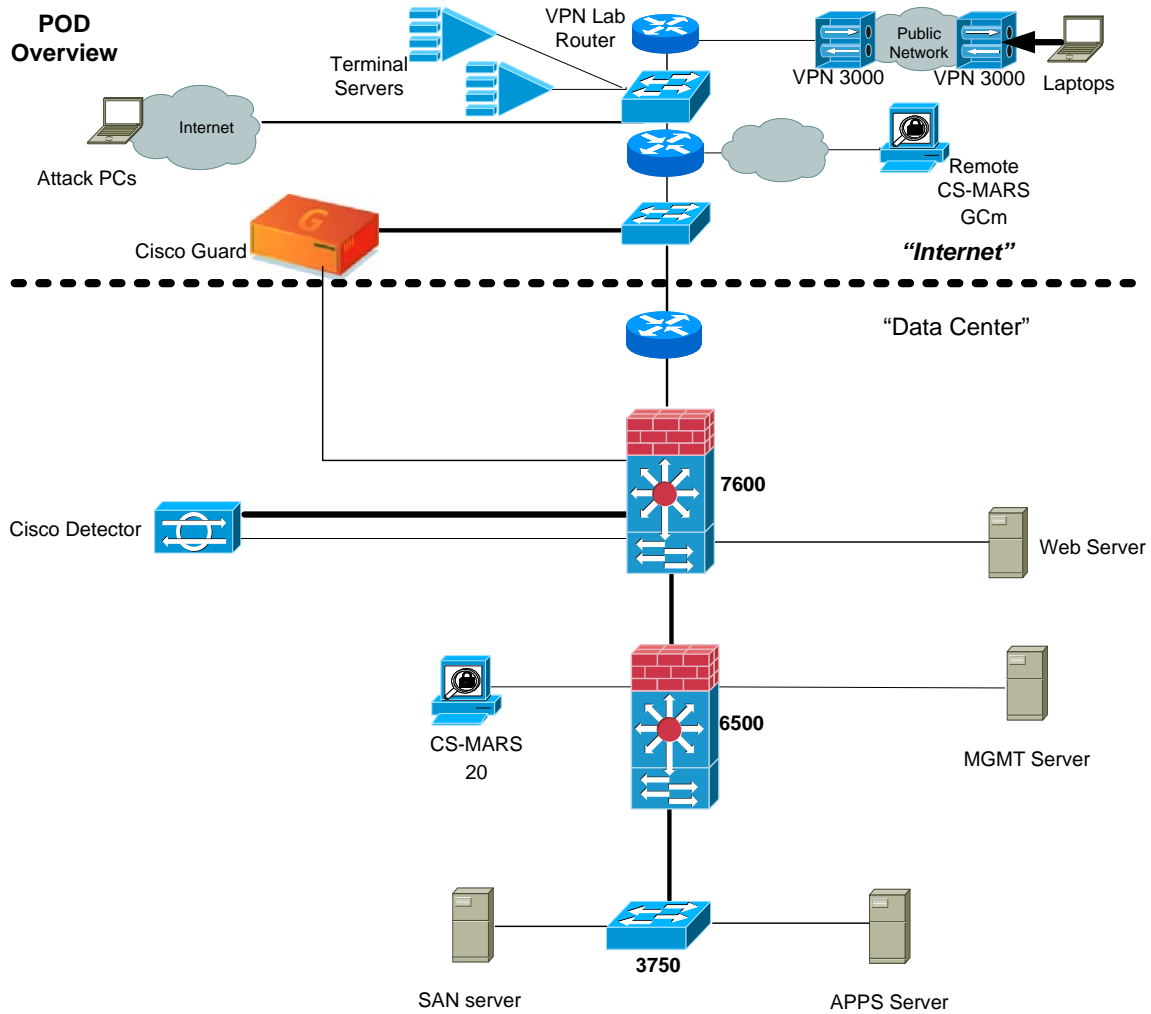
Lab 9: Analysis and Response Reporting with CS MARS

Lab 10: Implementing Cisco Guard DDoS Mitigation Appliances, Cisco Traffic Anomaly Detectors, and Security Testing

## Lab Topology

Figure 1 shows the lab topology.

Figure 1 Securing Cisco Enterprise Data Center Architecture Lab Topology



## REGISTRATION INFORMATION

For more information about schedules and registration for this course, please contact [aeskt\\_registration@cisco.com](mailto:aeskt_registration@cisco.com). The part number for this course is AS-TRAIN-E in North America and Europe, AS-TRAIN-E-A in Asia Pacific, and AS-TRAIN-E-L in Latin America.

### For More Information

For more information about Advanced Services Education course offerings, including custom training options, as well as Advanced Services Curriculum Planning Services and Advanced Services Technical Knowledge Library (TKL), refer to the Advanced Services Education Website at [www.cisco.com/go/ase](http://www.cisco.com/go/ase).



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Printed in the USA