

## Designing and Implementing Enterprise Network Assurance

**Duration: 4 Days**    **Course Code: ENNA**    **Version: 1.1**    **Delivery Method: Virtual Classroom**

### Overview:

The **Designing and Implementing Enterprise Network Assurance** course is designed to enrich and expand your knowledge and skills in the realm of enterprise network assurance and management. This training is structured into four different tracks, collectively encompassing a broad spectrum of network assurance and monitoring aspects. As a participant, you will first overview different Cisco assurance products, followed by two tracks focused on Cisco ThousandEyes solution, and one dedicated to Meraki Insight. You will acquire the skills not just to utilize these solutions effectively, but also to deploy, configure, and manage them in your network environments. This includes learning about the initial setup, fine-tuning for optimal performance, and conducting day-to-day operations that ensure continuous, seamless network assurance.

#### This course will help you:

- Position different assurance products from Cisco portfolio
- Install, configure, and manage Cisco ThousandEyes solution
- Utilize Cisco ThousandEyes to perform network troubleshooting
- Configure and leverage Meraki Insight and available dashboard tools to manage network assurance in Meraki environments
- Prepare for the 300-445 ENNA exam

**This course is worth 32 Continuing Education (CE) credits toward recertification.**

#### Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

### Target Audience:

Individuals utilizing Cisco ThousandEyes or Meraki Insight to manage network assurance.

### Objectives:

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| <ul style="list-style-type: none"> <li>■ <b>After completing this course you should be able to:</b></li> <li>■ Describe enterprise network assurance</li> <li>■ Describe how to monitor health and performance with Cisco Catalyst Center Assurance</li> <li>■ Introduce Cisco AppDynamics, Cisco Catalyst SD-WAN Assurance, and Cisco ThousandEyes</li> <li>■ Describe different Enterprise Agent deployment options, requirements, and procedures for agent deployment</li> <li>■ Describe different ThousandEyes test types</li> <li>■ Compare ThousandEyes web layer tests</li> <li>■ Describe, deploy, and configure an Endpoint Agent</li> </ul> | <ul style="list-style-type: none"> <li>■ Describe how to perform system administration</li> <li>■ Utilize ThousandEyes when performing the root cause analysis</li> <li>■ Describe Internet Insights</li> <li>■ Explain alerts and dashboards configuration</li> <li>■ Explain monitoring solutions</li> <li>■ Describe Cisco Meraki Network Assurance</li> <li>■ Showcase Cisco Meraki Insights</li> </ul> |
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### Prerequisites:

**Attendees should meet the following prerequisites:**

- Basic understanding of network fundamentals

### Testing and Certification

**Recommended as preparation for the following exams:**

- **300-445** - Designing and Implementing Enterprise Network

- Basic understanding of Internet Control Message Protocol (ICMP), User Datagram Protocol (UDP), Transmission Control Protocol (TCP), Hypertext Transfer Protocol Secure (HTTPS), Secure Sockets Layer (SSL), and Domain Name System (DNS) protocol
- Basic familiarity with Cisco Catalyst SD-WAN, Cisco Catalyst Center and Cisco Meraki
- CCNA - Implementing and Administering Cisco Solutions
- ENCOR - Implementing and Operating Cisco Enterprise Network Core Technologies

#### Assurance

Passing the 300-445 Exam will give you the Cisco Certified Specialist - Enterprise Network Assurance accreditation and will also count as the concentration requirement for the Cisco CCNP Enterprise Certification.

## Content:

### Enterprise Network Assurance Overview

- Modern Network Challenges
- Network Visibility in the Past
- Active and Passive Monitoring
- Modern IT Visibility Architecture
- Use Cases
- Cisco Enterprise Assurance Portfolio

### Introduction to Cisco Catalyst Center Assurance

- Cisco Catalyst Center Assurance Overview
- Cisco Catalyst Center Assurance Health Scores
- Cisco Catalyst Center Assurance Dashboard Time Ranges Concepts
- Network Device Health and Device 360 View
- Client Health and Client 360 View
- Application Health and Application 360 View
- Issues Operations

### Introduction to Splunk AppDynamics

- Splunk AppDynamics Introduction
- Monitor Applications with Splunk AppDynamics
- Business Analytics and Custom Dashboards
- Troubleshoot Performance Problems with Splunk AppDynamics

### Introduction to Cisco Catalyst SD-WAN Assurance

- Cisco Catalyst SD-WAN
- Cisco Catalyst SD-WAN Monitoring
- Cisco Catalyst SD-WAN Troubleshooting
- Cisco Catalyst SD-WAN Analytics Overview

### Introduction to Cisco ThousandEyes

- Cisco ThousandEyes Visibility
- How Cisco ThousandEyes Does It
- Cisco ThousandEyes Cloud Agents
- Cisco ThousandEyes Enterprise Agents
- Cisco ThousandEyes EndPoint Agents
- Cisco ThousandEyes Tests
- Agent Test Capabilities
- Agent Locations

### Enterprise Agents Deployment

- Enterprise Agent Operation
- Enterprise Agent Firewall Requirements
- Enterprise Agent Network Utilization
- Enterprise Agent Deployment Options
- Enterprise Agent on Cisco Platforms
- Virtual Appliance Setup
- Custom Virtual Appliance
- Embedded Enterprise Agent CLI Deployment
- Enterprise Agent Deployment with Cisco Catalyst Center

### BGP, Network, DNS, and Voice Tests Configuration

- Unified Test Overview
- Routing BGP Test
- BGP Test - Configuration
- Network Tests
- Agent-to-Server Network Test - Data Collection
- Network Test - Path Visualization View
- Agent-to-Server Network Test - Configuration
- DNS Tests
- DNS Tests - Metrics
- DNS Tests - Configuration
- Voice Tests
- Voice Tests - Metrics
- Voice Tests - Configuration

### Web Layer Tests Configuration

- Web Layer Tests
- HTTP Server Test - Metrics
- HTTP Server Test - Configuration
- Page Load Test - Metrics
- Page Load Test - Configuration
- Web Authentication Methods
- Transaction Test - Metrics
- Transaction Test - Configuration
- Transaction Test - Cisco ThousandEyes Recorder
- API Tests
- Web Layer Tests - Proxy Metrics

### Endpoint Agent

- Endpoint Agent Overview
- Endpoint Agent Use Cases
- Collected Data
- System Requirements and Installation
- Agent Settings
- Monitoring Settings
- Endpoint Agent Views

### System Administration

- Role-Based Access Control
- Account Groups
- User Account Settings
- Organization Settings
- Time Zone Settings
- Activity Log
- Cisco ThousandEyes Billing
- Unit Calculator

### Network Troubleshooting with Cisco ThousandEyes

- Troubleshooting Scenario A
- Troubleshooting Analysis - Scenario A
- Troubleshooting Scenario B
- Troubleshooting Analysis - Scenario B
- Troubleshooting Scenario C

### Alerts and Dashboards Configuration

- Alerts Overview
- Alert Rule Configuration
- Alert Views
- Integration with Splunk HTTP Event Collector
- Alert Suppression Window
- Enterprise Agent Notifications
- Notification Triggers
- Data Retention
- Dashboards
- Dashboard Snapshots
- Baseline Metrics
- Data Aggregation
- Widget Configuration
- Dashboard Examples
- Integrations and Data Export
- Adaptive Alerting

### Monitoring Solutions

- Monitoring Cisco Webex Meetings
- Monitoring Microsoft 365
- Monitoring Microsoft Teams
- Monitoring Cisco SD-WAN
- WAN Insights

### Cisco Meraki Network Assurance

- Wireless Health
- Switch Traffic Analysis
- Cisco Meraki SD-WAN Monitoring
- Security Center
- Logging Capabilities
- Supported Alerts

### Cisco Meraki Insights

- Cisco Meraki Insight Overview
- Web Application Health
- Web Application Health Configuration
- WAN Health
- VoIP Health
- VoIP Health Configuration
- Alert Management
- Internet Outages
- Cisco Meraki Insight Licensing

### Labs:

- Discovery Lab 1: Troubleshoot the Health of Network Devices
- Discovery Lab 2: Explore Cisco Catalyst SD-WAN Analytics
- Discovery Lab 3: Schedule a Test
- Discovery Lab 4: Deploy Enterprise Agent
- Discovery Lab 5: Configure Network, DNS, and Voice Tests
- Discovery Lab 6: Configure Web Server Tests
- Discovery Lab 7: Configure Transaction Tests

- Enterprise Agent Deployment with Cisco Catalyst SD-WAN Manager
- Enterprise Agent Deployment with Meraki Dashboard
- Enterprise Agent Docker Deployment
- Enterprise Agent Deployment in Proxy Environments
- Agent Labels
- Enterprise Agent Utilization
- Enterprise Agent Clusters

- Troubleshooting Analysis - Scenario C
- Troubleshooting Scenario D
- Troubleshooting Analysis - Scenario D
- Share Links and Saved Events
- Multi-Service Views

#### Internet Insights

- Challenges with Internet Monitoring
- Internet Insights Overview
- Internet Insights Packages
- Internet Insights Dashboard and Views
- Cloud Insights

- Discovery Lab 8: Deploy and Configure an Endpoint Agent
- Discovery Lab 9: Configure Account Administration
- Discovery Lab 10: Utilize Device Layers
- Discovery Lab 11: Examine Internet Insights
- Discovery Lab 12: Configure Alerts
- Discovery Lab 13: Build a Dashboard
- Discovery Lab 14: Implementing Network Assurance with Cisco Meraki
- Discovery Lab 15: Examine Cisco Meraki Insights

## Further Information:

For More information, or to book your course, please call us on 00 966 92000 9278

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