

## Designing and Implementing Enterprise Network Assurance

Duration: 4 Days    Course Code: ENNA    Version: 1.0

### Overview:

The **Designing and Implementing Enterprise Network Assurance** training 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 (Day 2) operations that ensure continuous, seamless network assurance.

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

### Target Audience:

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

### Objectives:

- **After completing this course you should be able to:**
- Examine Cisco ThousandEyes solution and its high-level use cases
- Learn to effectively use Cisco Catalyst Center Assurance for at-a-glance health monitoring, metrics calculation, and data analysis, covering overall network, device, client, service, and application health
- Gain valuable insights for troubleshooting and issue resolution, ensuring a reliable user experience in your network environment
- Gain an introductory understanding of Cisco AppDynamics, Cisco Catalyst Software-Defined Wide Area Network (SD-WAN) Assurance, and Cisco ThousandEyes

### Prerequisites:

Attendees should meet the following prerequisites:

- Basic understanding of network fundamentals
- 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
- Basic familiarity with Cisco Catalyst Center
- CCNA - Implementing and Administering Cisco Solutions
- ENCOR - Implementing and Operating Cisco Enterprise Network Core Technologies

### Testing and Certification

Recommended as preparation for the following exams:

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

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

- Routing BGP Test
- BGP Test - Configuration
- Network Test
- 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 Tests Configuration

- Web Layer Tests
- HTTP Server Test - Metrics
- HTTP Server Test - Configuration
- Page Load Test - Configuration
- Web Authentication Methods
- Transaction Test - Metrics
- Transaction Test - Configuration
- Transaction Test - Cisco ThousandEyes Recorder
- 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
- Troubleshooting Analysis - Scenario C
- Troubleshooting Scenario D
- Troubleshooting Analysis - Scenario D

### Alerts and Dashboards Configuration

- Alerts Overview
- Alert Rule Configuration
- Dynamic Baselines
- Alert Views
- 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

### 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 Assurance
- 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 Tests
- Discovery Lab 7: Deploy and Configure an Endpoint Agent
- Discovery Lab 8: Configure Account Administration
- Discovery Lab 9: Examine Internet Insights

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

- 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

- Discovery Lab 10: Configure Alerts
- Discovery Lab 11: Build a Dashboard
- Discovery Lab 12: Enable Alerts and Configure Monitoring and Reporting
- Discovery Lab 13: Examine Cisco Meraki Insights

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### Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

[info@globalknowledge.co.uk](mailto:info@globalknowledge.co.uk)

[www.globalknowledge.com/en-gb/](http://www.globalknowledge.com/en-gb/)

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK