

# Optimising Converged Cisco Networks (ONT)



*Experts in Networking*

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This course is designed for network administrators and support or design staff requiring a greater understanding of the new technologies and applications of modern converged networks and delegates seeking CCNP certification.

Our four-day instructor led course teaches the characteristics of real-time multimedia traffic, such as voice, and investigates the importance of QoS on the network plus the application of wireless technologies to the enterprise using Cisco's Wireless Control System.

- **Authorised Cisco Instructors**
- **Live kit used for all labs**
- **12 months post course support**

### Pre-requisites

- Completion of the CCNA course or equivalent knowledge
- A basic knowledge of the Windows operating system

Course	Course Objectives
<p>Optimising Converged Cisco Networks</p> <p>This course forms part of the following Cisco certifications</p> <p><b>CCNP</b> (Cisco Certified Network Professional)</p> <p><u>Certification</u>            Required topics are covered for the Cisco exam:</p> <p><b>642-845 ONT</b></p> <p><u>Duration</u>            4 days</p>	<p>Upon completion of this course, the delegate will be able to:</p> <ul style="list-style-type: none"> <li>• The Cisco hierarchical network model in an end-to-end enterprise network</li> <li>• Specific requirements for implementing a VoIP network</li> <li>• Implementing QoS on a converged network using Cisco's routers and Catalyst Switches</li> <li>• Features and functions of the Security Device Manager on Cisco routers</li> <li>• Key QoS mechanisms used to implement the DiffServ QoS model</li> <li>• Configuring Auto QoS for Enterprise</li> <li>• Functions and features of Lightweight Access Points and Wireless LAN Controllers</li> <li>• Operation of QoS in Wireless LAN environments</li> <li>• Configuring Wireless LAN Controllers (WLC) to manage Lightweight Access Points using LWAPP</li> <li>• Configuring client authentication techniques including WPA/PSK and server-based LEAP</li> <li>• Configuring the Wireless Control System (WCS) for centralized management of Wireless LAN Controllers</li> </ul>

## Course Content

- Network Requirements
- Introducing VoIP Networks
- Digitizing and Packetizing Voice
- Encapsulating Voice Packets for Transport
- Calculating Bandwidth Requirements
- Implementing Voice Support in an Enterprise Network
- Introducing QoS
- Identifying Models for Implementing QoS
- Methods for Implementing QoS
- Advantages
- Implement the DiffServ QoS Model
- Introducing Classification and Marking
- Using NBAR for Classification
- Introducing Queuing Implementations
- Configuring WFQ
- Configuring CBWFQ and LLQ
- Introducing Congestion Avoidance
- Introducing Traffic Policing and Shaping
- WAN Link Efficiency Mechanisms
- Implementing QoS Pre-Classify
- Deploying End-to-End QoS
- Introducing AutoQoS
- Mitigating Common AutoQoS Problems
- Modify the QoS configuration created by AutoQoS
- Implement Wireless Scalability
- WLAN QoS Implementation
- Introducing 802.1x
- Configuring Encryption and Authentication on Lightweight Access Points
- WLAN Management