

Advanced Network Design

This course is based on Designing Cisco Network Service Architecture (ARCH – 642-873) which is also a key component towards achieving a much a coveted CCDP certification which is considered as must for current Network Designers. Building on the Designing for Cisco Internetwork Solutions (DESGN) course, the students will learn additional aspects of modular campus and edge network design, including high availability, security, quality of service (QoS), network management, data center, and IP multicast. In addition, the students will be able to design solutions for the network that are strategic to small, medium, and large enterprises, including virtual private networking, wireless, and IP telephony. The course covers issues and considerations for fundamental infrastructure services, including security, network management, QoS, high availability, and bandwidth use optimization through IP multicasting, and also design models for network solutions such as voice networking and application networking. The course focuses on design concepts based on the new Cisco SONA Architecture, emphasizing that Cisco delivers integrated and embedded services.

This 5 day course will be followed up with a 3 days hands on work shop (with 1 to 1 attention) covering design case studies which will further help master the concepts learnt and apply them to real life scenarios. Specific case studies can be developed along with your teams to reflect your current business operating environment.

Duration: 8 days

Batch Size: 5 – 7

Prerequisites

To gain the prerequisite skills and knowledge, learners must have the CCNA, CCDA, BCMSN, and BSCI certifications.

- The recommended courses for CCNA are Introduction to Cisco Networking Technologies (INTRO) and Interconnecting Cisco Network Devices (ICND)
- The recommended courses for CCDA is Designing Cisco Internetwork Solutions (DESGN)
- The recommended courses for BSCI is Building Scalable Cisco Internetworks (BSCI)
- The recommended courses for BCMSN is Building Cisco Multilayer Switched Networks (BCMSN)

Learners should complete the following courses or must have equivalent experience:

- Implementing Secure Converged WANs (ISCW)
- Optimized Converged Cisco Networks (ONT)

The following courses are recommended:

- Cisco Voice Over IP (CVOICE)
- Cisco BGP

Course Objectives

After completing this course the student should be able to:

- Introduce the Cisco Service Oriented Network Architecture (SONA) framework, and explain how it addresses enterprise network needs for performance, scalability, and availability.
- Describe how the Cisco Enterprise Network model is used in the SONA framework for designing enterprise networks.
- Create conceptual, intermediate, and detailed enterprise campus network, and enterprise edge and remote infrastructure designs that offer effective functionality, performance, scalability, and availability.

- Create conceptual, intermediate, and detailed intelligent network service designs for network management, high availability, security, QoS, and IP multicast.
- Create conceptual, intermediate, and detailed virtual private network designs.
- Create conceptual, intermediate, and detailed voice over wireless network designs.

Course Outline

- Module 1: Introducing Cisco Network Service Architectures
- Module 2: Designing Enterprise Campus Networks
- Module 3: Designing Enterprise Edge Connectivity
- Module 4: Designing Network Management Services
- Module 5: Designing High-Availability Services
- Module 6: Designing Security Services
- Module 7: Designing QoS
- Module 8: Designing IP Multicast Services
- Module 9: Designing Virtual Private Networks
- Module 10: Designing Enterprise Wireless Networks
- Module 11: Designing IP Telephony Solutions
- Module 12: Designing Content Networking Solutions
- Module 13: Designing Storage Networking Solutions