Cisco Design and Architecture Certifications

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Overview

The Network Design Professional

Everyday, the network evolves and grows in complexity. New business requirements are created. New capabilities and functionality are demanded. Input from business units, users, and other functional areas is vital to determine the goals of the network.

The challenge is that many network designers are well versed at designing common networking applications and services like routing and switching, LAN and WAN design, and security. But fewer are properly trained to gather and interpret all the input to design and implement advanced applications and services such as wireless LANs (WLANs), application optimization, virtualization, the cloud, and IPv6, while keeping the end user experience in mind.

An elegant network design incorporates business needs and end-user experience as part of the design criteria. An elegant network design delivers a great user experience.

The Cisco Design and Architecture Certification Program demonstrates Cisco's commitment to the implementation of high standards for network design. By participating in this certification program, network design engineers get educated on design at the infrastructure level, which includes a broad, solutions-oriented approach to network design. This approach encompasses multiple technology areas and products from multiple vendors.

Job-Ready Practical Skills

The Cisco Design and Architecture Certification Program emphasizes network design principles and theory at the infrastructure level. This certification program specifically aligns to the actual job roles of network design engineers who a) design and develop basic routed and switched networks, b) design practical, cost-conscious systems for specific business needs, and c) translate complex business strategies into infrastructure requirements. Validating job-ready practical network design skills emphasizes the importance of industry-standard design principles and processes.

Network Design Best Practices

Many network issues can be avoided by starting the design process with a solutions-oriented approach to network design. A good network design matches an integrated set of solutions with the customer's business requirements. The Cisco Design and Architecture certification curriculum validates a network design engineer's understanding of the latest design best practices and design life cycle.

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The Design Life Cycle

Analyze requirements: Includes analysis of business goals, constraints, and desired user experience, analysis of technical goals and tradeoffs, ability to understand and characterize the existing network environment and network traffic.

Develop logical and physical design: Includes design network topology and models for addressing and naming, selection of routing and switching protocols, development of security and management strategies, selection of technologies and devices for campus and enterprise networks.

Test, optimize, and document the design: Includes testing the network, optimization of the environment for best performance, and documentation of the network design.

Monitor and optimize network performance: Includes maintaining the quality of the user experience by monitoring the health of the network.

Curriculum Overview

The Cisco Design and Architecture curriculum covers the breadth of job-related skills for network design engineers.

The Cisco CCDA® certification is for network design engineers, technicians, and support engineers, and it focuses on a basic understanding of network design fundamentals. The CCDA curriculum includes but is not limited to designing basic campus, data center, security, voice, and wireless networks.

The Cisco CCDP® certification is for senior network design engineers, senior analysts, and principal systems engineers, and it focuses on the design components of larger networks. The CCDP curriculum includes building scalable internetworks, building multilayer-switched networks, and designing network service architecture.

The Cisco CCDE® certification is for expert-level network design engineers, expert-level network leads of IT infrastructure teams, and expert-level network leads of architecture teams working in job roles that require them to translate business needs, budget, and operational constraints into the design of a converged solution. The CCDE curriculum prepares designers to develop design solutions at the infrastructure level for large customer networks.

The Cisco CCAr® certification is for senior network infrastructure architects who produce technical specifications for the network to support business objectives. The curriculum focuses on understanding the business strategy and translating it into technical infrastructure requirements.

Achieving CCDA Certification

The Cisco Certified Design Associate (CCDA) curriculum lays the foundation for network design engineering job roles. Candidates learn how to design routed and switched network infrastructures and services.

Requirements

The CCDA certification program is a three-year certification program intended to recognize basic routed and switched network infrastructure and services design skills.

There are no prerequisites for the CCDA certification exam. However, it is recommended that candidates have at least one to three years of experience, plus networking knowledge at the Cisco CCNA® (Routing & Switching) level and switching knowledge at the Cisco CCNP® level.

Recommended Skills and Knowledge

The following table contains information related to exam(s) and recommended training associated with CCDA certification.

Table 1: CCDA Exam(s) and Recommended Training

Exam Numbers	Recommended Training (Course Names)
640-864 DESGN	Designing for Cisco Internetwork Solutions (DESGN), instructor-led training

CCDA Recertification

CCDA is an associate-level certification that is valid for three years and must be recertified before the certification expiration date.

To recertify, certificate holders must pass one of the following before the certification expiration date:

- The current CCDA DESGN exam or
- Any current CCNA concentration exam (Wireless, Security, Voice, or Service Provider Operations) or
- Any current 642-xxx professional-level exam or
- Any current Cisco specialist exam (excluding sales specialist exams, Cisco MeetingPlace specialist exams, Implementing Cisco TelePresence Installations (ITI) exams, Cisco Leading Virtual Classroom Instruction exams, or any 650 online exams) or
- Any current Cisco CCIE® written exam or
- The current CCDE written exam or current CCDE practical exam or

- The CCAr interview and CCAr board review to extend lower certifications

Achieving CCDP Certification

The Cisco Certified Design Professional (CCDP) curriculum demonstrates advanced knowledge of intelligent network design concepts and principles. Candidates learn how to discuss, design, and develop advanced addressing and routing, security, data center, and IP multicast complex architectures that include virtual private networking and wireless domains.

Requirements

The CCDP certification program is a three-year certification program intended to recognize the skills required to discuss, design, and develop multilayer enterprise architectures and network components.

Before attempting to obtain a CCDP certification, a candidate must have a valid CCNA (Routing & Switching) and CCDA certification, or any valid CCIE certification. And it is recommended that a candidate have at least three to five years of experience working in a network design environment.

Recommended Skills and Knowledge

The following table contains information related to exams and recommended training associated with CCDP certification.

Table 2: CCDP Exams and Recommended Training

Exam Numbers	Recommended Training (Course Names)
642-902 ROUTE	Implementing Cisco IP Routing (ROUTE) instructor-led training
642-813 SWITCH	Implementing Cisco IP Switched Networks (SWITCH) instructor-led training
642-874 ARCH	Designing Cisco Network Service Architecture (ARCH) instructor-led training

CCDP Recertification

CCDP is a professional-level certification valid for three years and must be recertified before the certification expiration date.

To recertify, certificate holders must pass one of the following before the certification expiration date:

- Any current 642-xxx professional-level exam or
- Any current CCIE written exam or
- The current CCDE written exam or current CCDE practical exam or
- The CCAr interview and the CCAr board review to extend lower certifications

Achieving CCDE Certification

The Cisco Certified Design Expert (CCDE) curriculum validates expert-level network design skills. Candidates learn to analyze design requirements based on real-world business scenarios and use this information to develop, implement, validate, and optimize network designs.

Requirements

The CCDE certification is a two-year program intended to recognize advanced-level skills in network infrastructure design principles and fundamentals.

This highly prestigious certification validates the skills required to translate business needs, budget, and operational constraints into the design of a converged solution, bringing value to the enterprise.

To obtain a CCDE certification, candidates must prove and justify their theoretical knowledge of network design and best practices with a written and a practical exam. The written exam tests a candidate's combined knowledge of routing protocols, internetworking theory, and design principles. The practical exam is a scenario-based exam that assesses the ability to analyze design requirements, justify design decisions, and validate and optimize a network design based on best practices.

The CCDE certificate holder's design knowledge is both broad and deep. A CCDE certified individual must understand the requirements to design the infrastructure to support the applications (voice, video, security, etc.) running on the network.

There are no formal prerequisites for CCDE certification. However, candidates are expected to have an in-depth knowledge of advanced internetworking theory and design principles, and are strongly encouraged to have greater than seven years of job experience before attempting this certification.

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Recommended Skills and Knowledge

The following table contains information related to exams associated with CCDE certification.

Table 3: CCDE Exams

Required Exam	Exam Name
352-001	CCDE Written Exam
CCDE Practical Exam	CCDE Practical Exam

CCDE Recertification

CCDE is an expert-level certification that is valid for two years and must be recertified before the certification expiration date.

To recertify, certificate holders must pass one of the following before the certification expiration date:

- Any current CCIE expert-level written exam or lab exam or
- The current CCDE written exam or current CCDE practical exam or
- The CCAr interview and the CCAr board review to extend lower certifications

Achieving CCAr Certification

The Cisco Certified Architect (CCAr) certification is the highest level of accreditation achievable within the Cisco Career Certifications program. The CCAr curriculum validates the architectural expertise of network designers and architects who support increasingly complex networks. CCAr candidates show that they can effectively translate complex business strategies into infrastructure requirements, and clearly communicate and advocate a proposed architecture.

Requirements

CCAr certification is for senior network designers and architects who produce specifications for the network to support business objectives. CCAr holders are focused on infrastructure and long-term architecture development. As a result, they interface with multiple team layers from design engineers to CIO and CEO. It is important to have strong conflict resolution and communications skills.

There are no formal training programs available for the CCAr certification. Candidates must hold a valid CCDE certification and submit an application with their qualifications before attempting the board examination. Architectural Board members will interview and evaluate applicants. Approval to take the board exam is based on depth and breadth of architecture experience.

CCAr Recertification

Cisco Certified Architects will remain certified as long as they continue to contribute to maintaining the CCAr certification program. Current recertification policies require Cisco Certified Architects to complete qualifying events within the 24 months preceding the expiration deadline. Qualifying events include the following:

Contribution to the development life cycle:

- Significant participation in the creation of new exam content or
- Significant review and refinement of existing content or
- Involvement in the future direction of the program and

Participation as a judge in a candidate evaluation:

- Application review and interview for two candidates (in the case where the first candidate's application is not approved for progressing to the board review) or
- Application review and interview and in-person board review for one candidate (in the case where the candidate's application is approved for progression to the board review)

Learn More

For more information about starting your journey with Cisco Design and Architecture certifications, visit www.cisco.com/web/learning/certifications/associate/ccda.

DDM13CS3924 02/13