INSIDE CERTIFICATION

Cisco Updates CCDA

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Cisco Systems has long held a leadership position in the enterprise networking market. But, its business strategy has evolved over recent years. No longer all about providing the plumbing that transports Internet traffic, Cisco products have started moving out of the IT closet and onto workers' desktops (e.g., IP phones, VPN software, security agents) and are headed into consumers' homes (wireless routers, set-top boxes, networked home entertainment, etc).

Now, consistent with its longstanding tagline — "Changing the way we work, live, play and learn" — it is integrally involved in designing new IT solutions that better respond to market and customer demands.

In today's enterprise business environment, for example, intense competition and time-to-market pressures are prompting companies to develop new network solutions. Networking is no longer just about connectivity. Rather, it's about embedding intelligence in the network itself to improve business processes and performance. Embedded intelligence enhances the network's ability to promote increased communication, collaboration and business success. With this sudden and detailed awareness of the applications that operate across the network infrastructure, the network itself is becoming an active participant in application optimization, traffic prioritization and the value-add user services that are in rapidly increasing demand. An effective network can provide the foundation for transforming business practices.

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At the same time, consumers also want innovative new products and service offerings, and they want them now — along with improved customer service, enhanced customization flexibility and greater security — all at a lower cost. Given these challenges, network design principles need to evolve accordingly, enabling and accommodating voice, video, teleconferencing, interactive gaming and a host of other new Internet-enabled applications and driving applications that increase productivity, reduce time to market, generate greater revenue, lower expenses and foster stronger customer relationships. It's a tall order, but Cisco's vision appears up to the challenge.

The IT model has evolved from mainframes to client-server models to geographically distributed, Internet-based applications. Cisco's vision of the next phase of IT evolution is a real-time infrastructure that integrates the network and the applications that run over it into a single, unified system. The network is the single common element that connects and enables all components of the IT infrastructure.

Architecture Changes

The rich variety of application-level business solutions available today, along with the need to integrate these applications with each other and with the network, drives the need for a substantially modified reference network architecture. Cisco is embarking on a major revision of its Network Design Learning and Certification program. Focusing on the foundational Cisco Certified Design Associate (CCDA) certification, the new updated CCDA program ensures Cisco network design principles and strategies remain current with today's increasingly complex network infrastructure needs.

Cisco's enhanced design curriculum begins by introducing the set of principles that enable customers to embed greater application-level intelligence into the network infrastructure. The Enterprise Edition of this vision is what Cisco calls its service-oriented network architecture (SONA). The SONA framework shifts the vision and function of the network from a pure traffic transport-oriented view toward a service- and application-oriented view. The Cisco vision of the SONA-based intelligent information network encompasses these features:

- **Integration of networked resources and information assets:** Modern converged networks with integrated voice, video and data more closely link the application infrastructure with the network.
- **Intelligence across multiple products and infrastructure layers:** The intelligence built into each component is extended network-wide, achieving not just throughput but end-to-end system performance.
- **Active participation of the network in the delivery of services and applications:** With greater intelli-

gence incorporated into network devices, it is possible for the network to actively manage, monitor and optimize service and application delivery across the entire IT environment.

These features allow an intelligent network to offer much more than basic connectivity, bandwidth for users and undifferentiated access to applications. The intelligent network also offers end-to-end functionality and a centralized, unified control that promotes true business systems agility. This technology vision offers an evolutionary approach that consists of three phases in which functionality can be added to the infrastructure as required:

- **Integrated transport:** Everything — data, voice and video — consolidates onto a single IP network for highly secure network convergence. By integrating data, voice and video transport into a single, standards-based, modular network, organizations can simplify network management and generate enterprisewide efficiencies. Network convergence also lays the foundation for a new class of IP-enabled applications delivered through Cisco IP Communications solutions. Among other features, it requires finely tuned traffic-flow management and ubiquitous high availability.
- **Integrated services:** Once the network infrastructure has been converged, IT resources can be pooled and shared or "virtualized" to address the changing needs of the organization. Integrated services help unify common elements such as storage and data center server capacity. By extending virtualization capabilities to encompass server, storage and network elements, an organization can transparently use location-independent resources more efficiently. Business continuity also is enhanced because shared resources across the intelligent network provide continual service even in the event of a local systems failure.
- **Integrated applications:** The integrated application phase focuses on making the network "application-aware," so it can optimize application performance and efficiently deliver network-based services to users independent of location. Relying on sophisticated functions such as content caching, load balancing and application-level security, application-level services deployed across the network make it possible to simplify the infrastructure by integrating intelligent message handling, application optimization and security into the existing network.

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The Program

The new CCDA certification validates the knowledge and skills of associate-level network designers in the context of these market and technology changes. Although the learning objectives and identified job skills remain substantially the same, the certification emphasis shifts to reflect such new requirements as data center design, application networking design and preparing the network for voice and video application integration. New product families are introduced, including the integrated services routers, multilayer and multiservice switches and unified communication engines.

Specifically, the CCDA certification is based on the following course and exam:

- **CCDA:** 640-863 DESGN – "Designing for Cisco Internetwork Solutions (DESGN) v2.0:" The prerequisite requirement is an active Cisco Certified Network Associate (CCNA), with recommended prerequisite knowledge as taught in the Building Cisco Multilayer Switched Networks (BCMSN) course.

  The single course recommended to prepare for the CCDA certification exam — Designing for Cisco Internetwork Solutions (DESGN) v2.0 — will enable students to gather internetworking requirements, identify solutions and design a basic converged network infrastructure to ensure the full functionality of selected business solutions. The course provides participants with the knowledge and skills to achieve associate-level competency in network design. The course is the first in a two-course sequence that comprises the Cisco Network Design certification track. It focuses on state-of-the-art technologies as presented through a comprehensive case study.

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Specifically, upon completing the DESGN v2.0 course, the student will be able use the principles of hierarchical network design to structure and modularize a converged enterprise network. The course focuses on multiple design skills, including designing the Enterprise Campus module, designing remote connectivity modules as needed, designing a network addressing plan, selecting a suitable routing protocol for a set of business requirements, evaluating security solutions for the network, recommending a wireless network design, understanding and articulating the design implications of voice transport across the network and defining a comprehensive network management strategy.

The course consists of 10 half-day modules, as follows:

- Applying a Methodology to Network Design
- Structuring and Modularizing the Network
- Designing Basic Enterprise Campus and Data Center Networks
- Designing Remote Connectivity Modules
- Designing IP Addressing and Selecting Routing Protocols
- Evaluating Security Solutions for the Network
- Designing Networks for Basic Voice Transport
- Designing Networks for Basic Wireless
- Applying Basic Network Management Design Concepts
- Implementing and Operating the Network Design

The course reinforces theoretical knowledge presented in class through the practical discussion of case studies, along with select instructor-demonstrated simulations. No physical equipment is required or used in this course.

Value Proposition

A well-designed, converged, service-oriented network will provide the foundation for transforming business practices. Applying a real-time infrastructure that integrates the network and applications into a single, unified, integrated system enables organizations to improve business performance.

In today's business environment, companies that do not explore integrating embedded intelligence into the network risk falling behind the competitive curve.

The SONA approach promises to set apart those firms that take advantage of the technology and its implementation from those that do not. By integrating the latest Cisco platforms into the CCDA curriculum and reinforcing the skills taught with detailed case studies, students will acquire the ability to meet the skills and knowledge demands of the new network environment.

To learn more about the CCDA program, visit www.cisco.com/go/certifications.

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