Talking Tech with Cisco

CCNA Routing and Switching Gets an Update: What's It All About?

Posted by Gary Pfitzer in Talking Tech with Cisco on May 17, 2016 6:09:08 AM

It's been a few years since the Cisco CCNA Routing and Switching certification was updated, and a lot has happened in that time. In 2013, digital business transformation, network programmability, software-defined networking (SDN), the Internet of Things (IoT), and virtualized network services were not yet common terms in our lexicon. Even cloud—while certainly gathering force—was a much paler shade of what it is today in terms of acceptance and adoption.

Three years later, so much has changed. IoT has lit a fire under companies and organizations in all sectors to be more digitally agile and innovative in everything they do. The demands of digital business have spurred software-driven network architectural changes that incorporate automation and programming, turning the network into a more efficient, strategic asset for meeting enterprise requirements. It's all allowing cloud and analytics to be leveraged in new ways. "Transformation" is not too strong a word to capture everything that's been going on.

And Cisco has been busy during this period building a network architecture for the digital era: Cisco Digital Network Architecture (DNA). Take a look at Anand Nuggihalli's post and Jeanne Beliveau-Dunn and Rob Soderbery's post to learn more about Cisco DNA and how it provides the network infrastructure foundation to accelerate change, mine more business data from the network, drive more productivity through automation, and expand the ability of the network to respond to security threats.

Not Your Everyday Upgrade

All of this activity forms the backdrop for today's announcement of v3.0 of the Cisco CCNA Routing and Switching certification. It is not a routine refresh, but instead aims to address the major shifts in the industry during the past few years and provide network administrators with the training and skills validation that they need to evolve with these dramatically changing and exciting times.

Before diving more specifically into the nitty-gritties of the updated certification, let's examine how the role of the network administrator is being impacted by evolution of the network.

The Changing Nature of Networking

Traditionally, network administrators have deployed networks in box-by-box fashion, which can be slow. Provisioning, monitoring, and troubleshooting of the network has often been a tedious manual process that can be prone to errors. Even though the provisioning of compute cycles can take mere seconds, networking functions and services have lagged behind, taking weeks or months to deploy.

This all changes in a truly digital-ready network. Closed, hardware-centric devices now give way to an open, programmable, software-driven network. Manual, box-by-box management is replaced by network-wide, policy-based automation. Controllers simplify the network through abstraction and provide a platform for consistent policy enforcement, which, in turn, speeds up application and service rollouts while reducing risk. IT staff gain the time to focus on business strategy and rolling out new services, instead of repetitive operations.

And whereas programmability was pretty much limited to the data center in traditional networks, in the more flexible, automated networks of today, programmability can be accomplished across all segments of the network (Access, WAN, and Core).

In addition to **automation** and **programmability**, the digital-ready network embraces the following:

- **Virtualization:** Network virtualization enables the decoupling of hardware from software and provides the freedom to run services on any platform and to run third-party applications over the network.
- **Analytics:** A digital-ready network has the capability to reveal rich contextual insights into users, applications, devices, and threats to help the business and IT make better decisions.
- **Cloud service management:** Service management delivered from the cloud unifies policy and orchestration across the network, enabling business agility while contributing to security and control of on-premises solutions.

The Lowdown for the Network Administrator

It's a sea change. What does it all mean for the network administrator? And how is Cisco adapting its CCNA Routing and Switching training and certification program in the midst of this network transformation?

Network administrators will need to embrace a new architecture based on automation and virtualized network services to realize the benefits of greater network speed, simplicity, and insight being driven by digital transformation and required for IoT scaling. To do so will require migration away from CLI-based interaction with the routing and switching infrastructure toward controller-based interactions driven by business and application policies. In the course of this transition, the knowledge and skills required of a network administrator will expand significantly.

It is this network evolution on a grand scale that is making today's version of the CCNA Routing and Switching certification more than your ordinary update. Here are some of the biggest changes that network administrators can expect as Cisco upgrades CCNA Routing and Switching and works to prepare you for the digital age:

- Now woven into the program will be awareness of programmable networks (SDN) and how the separation of control plane and data plane impact the way that networks are provisioned. Network administrators will need new skills and expanded knowledge around controller-based architectures as networks become driven by business-critical policies.
- Connecting branch offices and mobile workers to the enterprise remains critical, and, with this in mind, Cisco has refocused the CCNA Routing and Switching certification on the most commonly used VPN technologies, including Dynamic Multipoint VPN (DMVPN), site-to-site VPN, and client VPN technologies.
- IoT is bringing massive scale challenges to networks and requires adoption of IPv6. Therefore, this latest revision of the CCNA Routing and Switching certification includes increased attention on IPv6 routing protocols, configuration, and knowledge.
- Because virtualization of network functions and the interaction of cloud-based resources on enterprise networks will continue to expand, network administrators can expect to see this key technology shift implemented in the CCNA Routing and Switching program.
- In addition, knowledge of QoS concepts and the ability to ensure critical traffic is being properly prioritized are essential to achieving business outcomes. Therefore, QoS topics have been added to the CCNA Routing and Switching certification, covering marking, shaping, and policing mechanisms needed to manage congestion within enterprise networks.

Many of you will no doubt want more of the nitty-gritties about how exactly the CCNA Routing and Switching exams are changing as a result of these shifts in the industry. For that, I direct you to an accompanying blog post by Cisco Learning Network community manager Karlo Bobiles. In it, Karlo explains specifically what content is leaving the ICND1, ICND2, and CCNA (composite) exams and what is being added. In addition, please visit the the CCNA Routing and Switching announcement page to get the latest on exactly when requirements are changing.

Through it all, the role of the network administrator remains vital! According to the U.S. Bureau of Labor Statistics, job growth for network administrators, network support specialists, and computer network architects is projected to grow by more than 31% percent by 2024.

There's a lot of newness to absorb in this significant revision update by Cisco to enable network administrators to keep pace with how their job role is evolving. Let us know your thoughts about it all below.

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Gary Pfitzer *is a content manager at Learning@Cisco, focused on bringing various aspects of today's IT journey to light through business papers, blogging, customer success stories, and other writing.*

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12 Comments

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asheerhasan May 18, 2016 11:31 PM

Dear Gray,
Good Day!

First of all I would thank to you for your posts, I am a CISCO learner so I want to ask you what are the opportunities running in CISCO cloud and how learners will grab opportunities on the same?

I am toggle between Cisco routing and switching and cloud, so please guide me as your point of views.Which is the better and get ease to enter in CISCO .

Actions

Gary Pfitzer May 19, 2016 12:38 PM (in response to asheerhasan)

Hi there, "asheerhasan"! I'm glad you are enjoying the posts. You might be aware that Cisco has a CCNA Cloud certification in addition to addressing cloud more fully in the context of CCNA Routing and Switching v3.0. In order to figure out for yourself what might be the best path for you to take, I encourage you to visit the CCNA Cloud Study Group (or perhaps the CCNA Routing and Switching Study Group) and ask some specific questions of the community there. Hopefully, members of the Cisco Learning Network community can help you gain the perspective you desire.
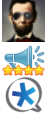
Best,

Gary

Actions

Muhammad Saleem Jun 1, 2016 2:24 AM

IT = everyday update

Actions

farroar Jun 1, 2016 6:22 AM

Great to see new content being added especially topics covering QoS. Very important topic and is becoming a fundamental requirement of all network engineers.

Actions

Gabriel Jun 2, 2016 7:12 AM

when is this test being refreshed? also when is the last day we can take the icnd tests? and what about students who have passed their icnd1?

Actions

Gary Pfitzer Jun 2, 2016 12:49 PM (in response to Gabriel)

Robert, hi there. The CCNA Routing and Switching tests have been refreshed. At this point in time, we are in a period where certification candidates can take either the old (v2.0) tests or the new (v3.0) ones. The last day to test with the old ICND1 and old CCNAX (CCNA composite) exams will be August 20th of this year. You'll have until September 24th for the old ICND2 exam. After those dates, the new exams kick in. It sounds like you might already have your CCENT certification as a result of passing ICND1. That certification will remain valid for you until your recertification date (three years from the date you earned your CCENT certification).

Take a look at these pages for more information to help you decide how to proceed:

1. The CCNA Routing and Switching certification main page.
2. A detailed blog post by Cisco Learning Network community manager Karlo Bobiles about the specific changes between the old exams and the new ones.

Also, Robert, some great webinars are just around the bend (starting June 8th) that should allow you to explore in-depth the personal strategy you'd like to take in making the most of your certification options. Check these out: The Essentials of CCNA Routing and Switching.

Good luck with everything!

Best,

Gary

Actions

Gabriel Jun 27, 2016 9:45 PM (in response to Gary Pfitzer)

Thanks Gary! I think I may be able to get this one done before it expires!!

Actions

Gary Pfitzer Jun 28, 2016 9:36 AM (in response to Gabriel)

Heh, heh, that's the spirit, Gabriel! Wishing you the best with this.

--Gary

Actions

vannaramao Jun 2, 2016 7:30 AM

Noted with many thanks.

Actions

Gary Pfitzer Jun 2, 2016 12:50 PM (in response to vannaramao)

You are welcome, Vannara!

Actions

S. Malachi Feb 14, 2017 10:09 PM

Hi Gary, I been met with an accident in the month of November 2013 but in God's grace I been recovered from it and was moving forward. My brother gave me an advice to make a step ahead through CCNA Networking course and the abilities to make a proceeding opportunities for job trials. So I visited the NIIT institute at Secunderabad on 21st Moarch 2016 for the guidence of classroom timings and the books needed for it. At the same time I was told that there were more than 80+ students in the classroom and I truely got feared and decided to join from 22nd March 2016. I came to classroom. But I only saw Me myself and a guy there in. That lecturer there in took only 15mins class in narrow short session and left for day. That's it. The next day he came to the room and been there for 20mins and then said "There will be classrooms sessions through Internet PC, where I stay in another area NIIT institute and give the classroom teching in day-to-day session from Monday - Thursday and where I have to come to Secunderabad Institute and have to come online from there through Net. That too 1:30 Hours only. In that online group, There were only 19 students only and that lecturer will go through in short tutorials as a Kindergarden rules. No wide subect been taught. I got stuck up there with no other help to real teaching classroom sessions in person of the Lecturer. I paid 39,000/- with the payment receipt. But no real tutorials. And left that NIIT Institute with in 20days. I tried to ask the lecturer about this but he never bothered to stand by and give a reply...

Am stuck now with no forward step. Can you please receive my presence and the situation and help me Gary.

I Myself an Indian. 7995495165 is my calling number.

Thanking you,
Malachi S

Actions

Rigo - Community Moderator Feb 15, 2017 3:31 PM (in response to S. Malachi)

Hi Malachi,

Thank you for sharing your feedback and I'm really sorry to hear about your experience with the training course. I'll be sending you a private message in just a moment for further follow up.

Regards,
Rigo
Cisco Learning Network Moderator

Actions