

What is CCIE?

The expert-level certification is the Cisco Certified Internetwork Expert (CCIE). It is the highest level of professional certification that Cisco provides. There are 5 active CCIE tracks, as below. As of February 1, 2007 there are 14,177 people with active CCIE certifications.

The CCIE is comprised of a written exam and a "CCIE lab" exam (each in the specific area of the chosen track). The written exam is required to take the lab exam, and has a cost of \$300 USD per attempt. Upon successful completion of the written exam, the candidate then qualifies to register for the lab portion. The CCIE Lab is currently \$1,250 USD per attempt. CCIE Labs are offered only at Cisco locations. There are currently 10 locations to take the "lab" exam worldwide. The locations are Bangalore; Beijing; Brussels; Dubai; Hong Kong; Research Triangle Park, NC; San Jose, CA; So Paulo; Sydney; and Tokyo.

The CCIE Lab is an 8-hour hands-on exam designed to demonstrate that the candidate not only knows the theory, but is also able to practice it. Many prospective CCIEs need multiple attempts to pass the lab exam.

There are no formal prerequisites for the CCIE exam, but Cisco recommends one has at least 3 - 5 years experience in networking before attempting to become a CCIE. CCIE was the first Cisco Certified qualification, and as such there were no other certifications that could be taken prior. The development of the associate and professional certifications was due to recognition of the fact that a CCIE is overkill for many networking personnel, and also for the vast majority of businesses who employ such people, and that certifications needed to be offered at lower levels. Despite the development of the lower certifications, Cisco has chosen not to make them formal requirements for the CCIE certification.

It is possible to hold multiple CCIE certifications. This is done by passing both the written and the lab exam in a particular track. As of February 1, 2007 there are 1,069 individuals who hold multiple CCIE certifications. Of those, 158 hold three or more CCIE certifications.

The table below describes the focus of each CCIE track.

Routing and Switching Track



- Most popular CCIE track
- Expert knowledge of networking across LAN and WAN interfaces and variety of routers and switches
- Solve complex connectivity problems to increase bandwidth, improve response times, maximize performance, and support global operations

Security Track



- Expert knowledge of security and VPN solutions
- Solid understanding of Windows, Unix, Linux and HTTP, SMTP, FTP and DNS
- Core IP routing not required, but must demonstrate in-depth understanding of Layer 2 and 3 network infrastructure
- Capable of configuring complex, end-to-end secure networks, troubleshooting integrated environments, and understanding common attacks and mitigation techniques

Service Provider



- Expert level knowledge of IP fundamentals and technologies
- Expertise in building an extensible service provider network infrastructure to deliver rich managed services
- Advanced skills related to packet architecture and technologies important to service providers, such as service provisioning, MPLS, VPNs, service level agreements and basic security

Storage Networking Track



- Expert knowledge in the implementation and troubleshooting of storage area networks
- Skilled with LANs, MANs and WANs over Fibre Channel, iSCSI, FCIP and FICON
- Core IP routing not required, but must demonstrate in-depth understanding of Layer 2 and 3 network infrastructure

Voice Track



- Expert knowledge of Cisco Voice over IP (VoIP) products and solutions in an enterprise environment
- Capable of building and configuring complex end-to-end telephony network, troubleshooting and resolving VoIP-related problems
- Core IP routing not required, but must ensure quality of service using in-depth understanding of Layer 2 and 3 network infrastructure