

# How Cisco Uses IPTV to Deliver Certification Training

## CCNA TV enhances training effectiveness through streaming video.

**Cisco IT Case Study / Video / Streaming Video for Enterprise Training:** This case study describes Cisco IT's deployment of innovative methods designed to enhance the effectiveness of formal certification training. Customers can draw on Cisco IT's real-world experience in this area to help support similar enterprise needs.

“Clearly, the Cisco certification process produces many competent engineers worldwide. That is a distinct business benefit for the company. But the CCNA TV broadcasts, in particular, deliver a valuable indirect benefit. We are providing a real service and solid knowledge for people who are outside of our normal broadcast audiences of Cisco customers and partners.”

— Brad Murphy, producer of CCNA TV

### CHALLENGE

Like many major technology-driven enterprises, Cisco Systems® offers a wealth of learning resources and tools in a wide variety of formats ranging from live classroom instruction to self-paced courses and online classes. Cisco® typically provides training for its network professional certifications—such as CCNA® and CCDA® certifications for network and design, respectively—through affiliated Cisco Learning Partners. At the same time, the company has actively sought to develop supplemental educational approaches that reinforce the learning students receive in these more formal settings.

One of these approaches is the CCNA Prep Center.

The CCNA Prep Center

(<http://forums.cisco.com/eforum/servlet/PrepCenter?page=main>)

is a Website that presents labs, simulations, test questions, articles, forums, and tips on passing the CCNA exam for novice network professionals. Though the site offers a wealth of information, both users and members of the Cisco IT and certification support communities felt the need for a more interactive, real-time way to participate in valuable technical training.

### SOLUTION

The answer to this need was CCNA TV. According to producer Brad Murphy, “CCNA TV exemplifies the classic marketing approach of giving people what they want. We based our pilot broadcast on research data that told us our audience was interested in real technical training, not high-level data or ‘fluff.’”

“We are quick to say that CCNA TV and the CCNA Prep Center site as a whole are a tremendous value-add to the CCNA certification program,” adds Peter Catalano, program manager for the CCNA Prep Center. “Cisco Learning Partners teach the official certification classes, and we always encourage people who want to sit for the CCNA exam to complete this course of training. However, we believe that the TV show, in particular, provides a terrific interactive format where participants can supplement their knowledge in real time.”

### The Show Environment

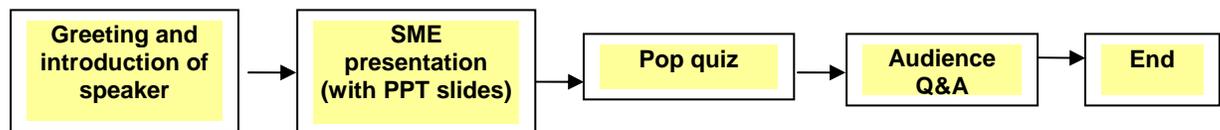
The CCNA TV show airs on streaming video, and participants register to attend—at no charge—at the CCNA Prep Center site. The show, which is a true multimedia production, is broadcast from a studio on the Cisco San Jose campus and hosted by Christine Yoshida, Manager of CCNA and Security Certifications for Cisco. During the show, Christine is on camera in the studio. Subject matter expert (SME) and presenter Mike Wilson joins Christine from the Cisco Research Triangle Park (RTP) campus via innovative two-way audio and video technology that allows him to

interact with Christine as though he were present in the San Jose studio. Other SMEs call in to answer questions at the end of the show.

### Program Structure

The structure of a typical CCNA TV broadcast is simple, and is shown in Figure 1. From her “Bistro” set, Christine Yoshida greets the audience and introduces the SME, who then presents the material. The audience takes a challenging “pop quiz,” which requires it to synthesize the material presented by the SME. Audience Q&A follows, and the show finishes.

Figure 1. CCNA TV Show Structure



### “Increasing Interactivity”

After the first few broadcasts, the CCNA TV team made several interesting observations—and changes—designed to increase the interactivity and liveliness of the show:

- Growing attendance made it necessary to increase the initial half-hour format to an hour. There was too much material and too many questions to handle in only 30 minutes.
- A real-time test of the audience’s ability to absorb the material (the “pop quiz”) boosts the ultimate value of the show to both participants and producers and generates a greater sense of involvement.
- Rather than limiting communication with the show’s host and SMEs to keyboard input, the team decided to allow participants to call in answers to questions, live and in person.

Given the overall quality of telephony worldwide, the team decided to use standard phone lines for call-ins without making any adjustments. Regardless of physical location, participants call the show on their existing phone systems. This approach has worked well, and audio quality has not been a problem. To ensure that all callers have an equal chance to answer a question—whether they are located in the next state or across the globe, the show host routinely takes the fifth caller when six lines are illuminated.

### New Video Technology

The ability to produce a lively, interactive TV show is enabled by technology that allows enterprises to build their video infrastructures on existing IP networks. This software and appliance-based solution has made it possible for Cisco to capture, deliver, and manage live or stored video and scales to meet growing demand.

“In the recent past, it would have been necessary to use a satellite backhaul to achieve the real-time, two-way audio and visual interaction that makes this show so valuable to the audience,” says Adam Hessler, manager of Cisco technical marketing. “That would have cost thousands of dollars, which is cost-prohibitive for this type of production. Because Cisco’s network can easily support the IP-based solution we’ve put in place, the only incremental cost we’ve incurred is for a few encoding and decoding appliances. We see rapidly increasing use of video throughout Cisco, and this technology will make that both possible and cost-effective.”

### Bringing the Show to a Close

After the pop quiz is completed and answers are discussed with the audience, the show host and SME are joined by an additional SME who calls in. Jointly, they address any CCNA-related questions the audience has. The show then ends, and the audience has an opportunity to take a survey that offers the opportunity to provide feedback and make suggestions for subsequent shows.

## RESULTS

CCNA TV has proven highly popular. Registration for the first broadcast was 600 people, but audience size has grown steadily ever since to more than 1400 people in April 2006. Though the majority of the audience is based in the U.S. and Canada, participants also register from Pakistan, Russia, Vietnam, Dubai, Nigeria, Columbia, and several European countries. In fact, “end-of-day” attendance in Europe is climbing.

“From all over the world, we’ve received positive comments about the show and great suggestions for how to make it even better,” says Peter Catalano. “People love the fact that they have another source of authoritative technical knowledge they can access from their desktops. And they are enthusiastic about the real-time quiz and their ability to call in with answers. One of the best responses we’ve received is that the audience feels a real sense of community with others around the world who are preparing to take the CCNA exam.”

In addition to the positive responses Cisco has received from candidates for the exam, the company has benefited by being able to quickly construct an effective approach to training that cost-effectively uses existing facilities and expert training resources, regardless of where they are located, to provide training to a worldwide audience.

## LESSONS LEARNED

The CCNA TV team has used both experience and audience feedback to continuously improve the show. Improvements include:

- The SME presentation is limited to 15 minutes, including “interjection questions” from the show host. These questions are cued into the script and are designed to add dialogue and interest to the presentation.
- Scripting has been refined to provide smoother transitions between the different sections of the program and also to handle potentially awkward pauses if the audience call-in is light.
- Musical interludes are longer to allow the audience more time to think about answers to questions and to call in.
- Rather than presenting the pop quiz one question at a time, the audience sees all the questions at once and is encouraged to answer any they know.
- A pop-up survey appears after each show when the participant closes the video window. This survey is based on a standard template that can be easily modified if additional information is needed from the audience.

## NEXT STEPS

Continuous refinement is the key to successful training and educational efforts. The CCNA TV team is always entertaining new ideas to make the show faster paced, more interesting, and a more valuable resource. One such idea is to add an in-studio guest to discuss new issues and news around the CCNA exam. Another potential innovation would be to take caller questions live and on the air during a Q&A session. Currently, questions are entered into a data system and read from a monitor.

“This show generates real participation and engagement,” says Brad Murphy. “That’s easier to achieve in front of a physical audience. The virtual nature of CCNA TV adds to the challenge of presenting a great show, but we have no doubt that we’ll continue to prove ourselves equal to meeting it.”

## FOR MORE INFORMATION

To read the entire case study or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT [www.cisco.com/go/ciscoit](http://www.cisco.com/go/ciscoit)

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