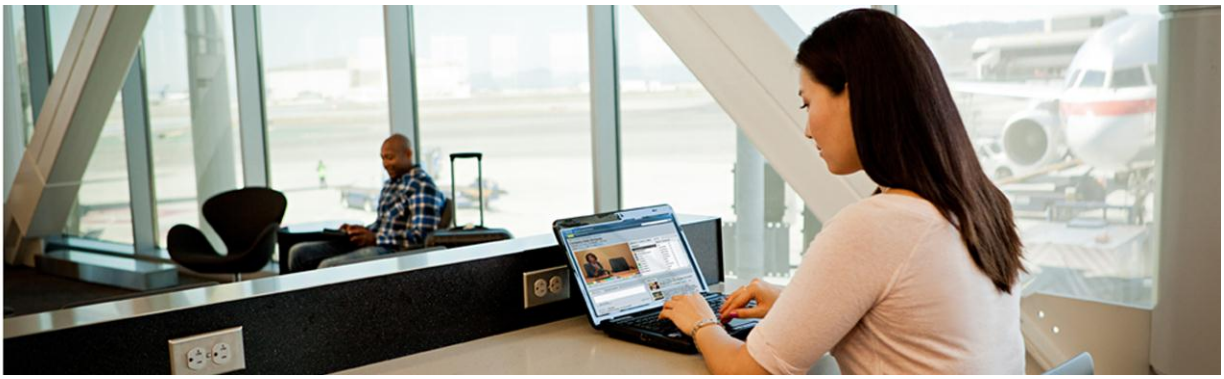
White Paper

15-Minute Guide to Video Content: Capture, Transform, and Share



What You Will Learn

You can increase the value of your videoconferencing endpoints by also using them to share video content for meetings, organizational communications, and training. This guide, intended for business leaders in any industry, briefly describes the lifecycle stages for enterprise video content:

- **Capture** video using any device, including smartphones, tablets, and desktops as well as Cisco TelePresence® systems and other equipment.
- **Transform** the video for optimized viewing on different devices, from mobile devices and PCs to large, high-definition displays in conference rooms or lecture halls.
- **Share** the video with people anywhere in the world, in real time or on demand.

Extending the Life and Value of Video

Traditionally, content from videoconferences was preserved only in the memories of the participants. Now, new tools to easily capture, transform, and share video extend the life of video and make it available to people anywhere, anytime, using any device:

- **Anytime:** People who cannot attend the live event can view video at their convenience. For the *Fortune* Brainstorm GREEN 2010 conference, for example, event organizers made content available to 1700 online participants in addition to 300 in-person attendees. Using a desktop or laptop with a broadband connection, virtual participants had the opportunity to experience every moment of all 26 keynote sessions, as well as interviews conducted by *Fortune* editors.

> "When past conferences ended, the content lived on only in the minds of the attendees. This year, we are sustaining the conversation by providing the videos in a licensed repository on Cisco Show and Share® [video sharing application] for 12 months."
> **— P.J. Boatwright, Vice President of Conferences, *Fortune* magazine**

- **Anywhere:** People can view live or archived video content from anywhere in the world. For example, for its annual offsite sales meeting, Mentor Graphics, of Portland, Oregon, brought Cisco TelePresence Content Servers to the hotel to capture video of presenters and their presentations. Remote employees could view the live broadcast from any of Mentor Graphics' 100 or so conference rooms or from their personal PCs, smartphones, and tablets. Employees also had the option to watch it later on demand.
- **Any device:** Video content is most useful when people can view it from any device, from mobile devices to desktop systems to boardroom-style Cisco TelePresence systems.
- **Start a conversation:** Social networking tools such as rating and commenting make video content even more valuable by enabling viewers to provide feedback. Automated keyword and speaker tagging make it easy for viewers to find and share particular clips.

The video lifecycle consists of three stages: capture, transform, and share.

Stage 1: Capture

Video content is born when someone captures the video. You can stream it live to people anywhere in the world, record it for later viewing, or both. Opportunities for video capture include:

- Instructors recording a lecture for viewing before or after class
- Company trainers creating training videos to supplement or replace in-person training
- Quality engineers capturing video of an error-prone manufacturing process to share with design engineers
- Sales representatives sharing a product demonstration
- Team members recording a Cisco TelePresence team meeting to share with people who cannot attend
- Executives delivering a real-time company update to all employees, also available as video on demand for employees who miss the live event

You can capture video with any device, from smartphones to professional equipment. If you have a Cisco TelePresence system, adding Cisco TelePresence Content Server enables participants to simply click to start and stop recording high-definition video. You can also record a Cisco WebEx® session that includes audio, video, and data sharing.

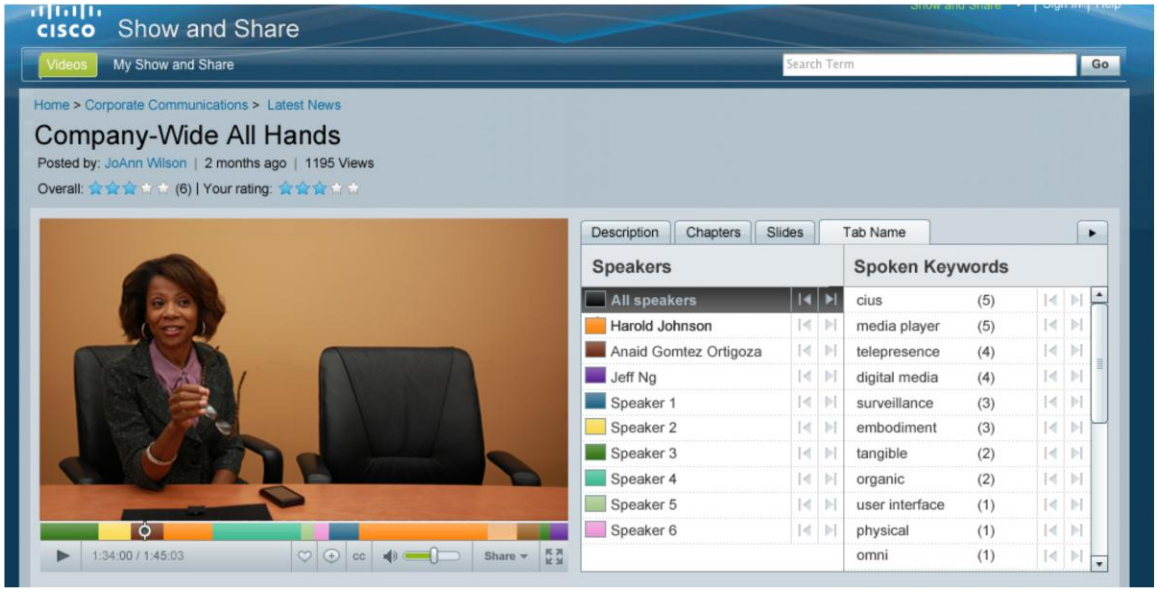
Stage 2: Transform

Before sharing captured video, you need to transform it for optimized viewing on different types of devices and different network connections, such as fast headquarters connections or slower home connections. Video transformation traditionally has required specialized skills and a lot of time. Now, new tools such as the Cisco MXE 3500 Media Experience Engine automate transformation so that anyone in the organization can do it. The Cisco MXE 3500 performs all steps needed to:

- Prepare video for optimized viewing on different devices, from smartphones to large, high-definition digital signage: This process is called transcoding.
- Treat video so that people can view it from homes or offices with low bandwidth, or when the network is congested: This process is called transrating.
- Make it easy for viewers to search video: The Pulse Video Analytics option in the Cisco MXE 3500 automatically detects keywords and speakers, making the task of manually tagging videos obsolete. Not only does automated tagging make a particular video easier to find among a library of thousands, it also enables viewers to navigate within videos to relevant clips of video by clicking speaker IDs or keyword tags, and share those clips instead of having to send time stamps (Figure 1).
- Make it easy for content owners to edit video: You can trim beginnings and ends, and add bumpers, trailers, watermarks, and graphics. Easy-to-use tools make these formerly expensive postproduction services available for everyday video.

> "The Cisco MXE Media Experience Engine is the foundation building block for all of our video programs. Without it, we couldn't take advantage of video to the degree we do because the IT team would have to make time to encode the video for the different types of devices used on campus."
>
> **— Joseph Deck, Chief Technology Officer, Our Lady of the Lake University**

Figure 1. The Cisco MXE 3500 Can Automatically Identify Spoken Keywords and Speakers



Stage 3: Share

After transforming video, you can stream the video live to viewers anywhere in the world, make it available for viewing on demand, or both. The Cisco MXE 3500 automatically selects the right format for different viewing

devices, so you do not need to know whether different viewing devices require MP4, Flash, and so on. You can schedule when each title should appear and also indicate when it should be archived.

> "With Cisco TelePresence Content Server, employees in India can easily view a team meeting in California, either as it is happening, or days, weeks, or months later."
> **— John Byers, Collaboration Engineer, Mentor Graphics Corporation**

User Experience

Common use cases for capturing video content include meetings, organizational communications, and training (Table 1). The user experience is similar for each.

Table 1. The Same Enterprise Video Content Tools Support Meetings, Organizational Communications, and Training

Business Need	Benefits of Video Capture	Enterprise Video Content Tools
Meetings	• Preserve content to review discussion • Find specific parts of a meeting by searching for keywords or speakers • Continue the discussion in the Cisco Show and Share community	• Cisco TelePresence Content Server • Cisco MXE 3500 Media Experience Engine • Cisco Show and Share video sharing application
Organization communications	• View on any device, including mobile devices, desktops, and digital signage • View or review the announcement whenever convenient • Quickly find specific parts of announcement based on keyword or speaker • Share and discuss with others	• Cisco TelePresence Content Server • Cisco MXE 3500 Media Experience Engine • Cisco Show and Share video sharing application
Training	• View on any device, anywhere • Review specific parts as often as needed to master the material • Share and discuss with others	• Cisco TelePresence Content Server • Cisco MXE 3500 Media Experience Engine • Cisco Show and Share video sharing application

Before Meeting or Event

The meeting or event organizer uses a tool such as Microsoft Outlook to schedule the Cisco TelePresence system or other videoconferencing endpoints used for recording, and to email an invitation. The invitation includes the URLs to view the session in various ways:

- On Cisco Show and Share application, with live streaming or on demand
- In a Cisco WebEx session, live or on demand
- On digital signage, live

During Meeting or Event

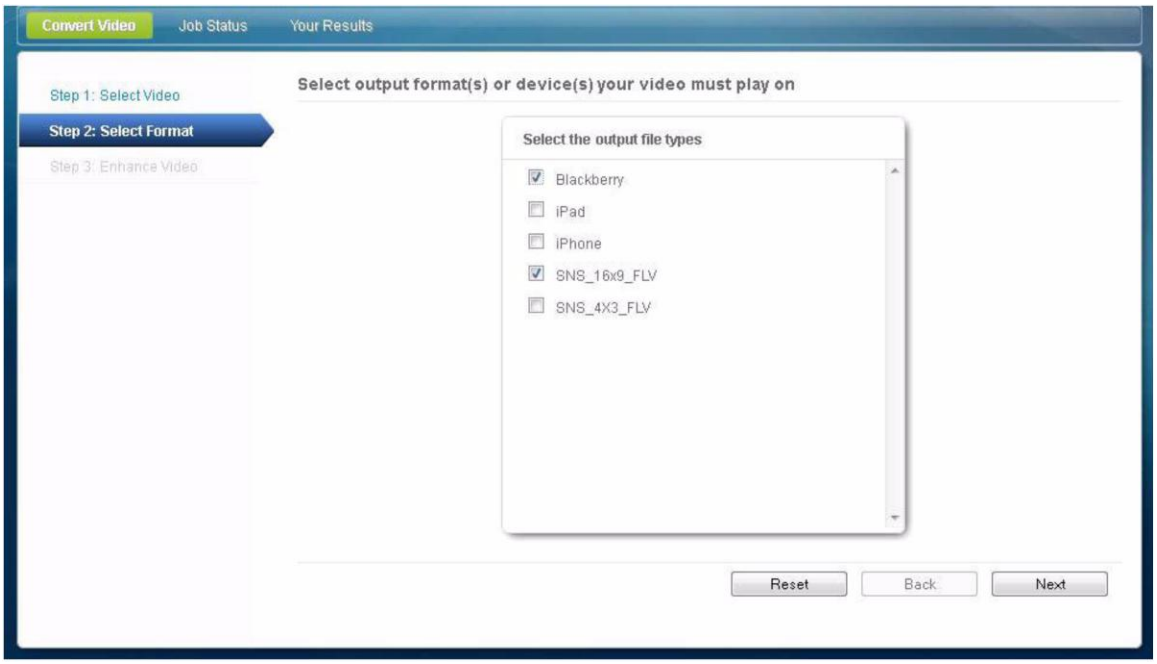
When the meeting starts, you can initiate recording from the Cisco TelePresence System interface or Cisco WebEx interface. Or, when you schedule a meeting using Cisco TelePresence Content Server, you can indicate that recording should begin at a specified time.

Participants who are not near a Cisco TelePresence room can join the live Cisco Show and Share session from desktops, laptops, tablets, or smartphones by clicking a link in the invitation. People using other videoconferencing endpoints from Cisco or other vendors dial the number provided in the email invitation. The organizer can also stream video to digital signage in training rooms and cafeterias.

After Meeting or Event

Optionally, the meeting organizer or another team member can use tools in the Cisco MXE 3500 to trim ends or add transitions, trailers, and watermarks. You select checkboxes to indicate the types of devices used for viewing, and then the Cisco MXE 3500 does the rest, automatically transforming the video, identifying speakers and keywords, and publishing the video to the Cisco Show and Share portal (Figure 2).

Figure 2. The Cisco MXE 3500 Automatically Creates Different Versions of the Video for Different Devices



People find out about the video through either newsletters or email messages containing a link, or by searching for keywords or speakers on the Cisco Show and Share application. They can watch on the application or on any video-enabled device, including desktops, tablets, smartphones, and even digital signs.

Case Studies

Training Organization Extends Video to Online Community

Travel costs and busy schedules prevent some people from attending Cisco® Live training events in person. In response, in 2009 Cisco launched Cisco Live Virtual, an online community where people can watch events live or on demand.

For the first 2 years, the Cisco Live Virtual team engaged a production company to record audio of selected sessions, synchronizing the audio with the presenter's slides. High costs included production crews for each room, travel expenses, shipping expenses for multiple road cases of gear, laptops for each room, and postproduction services.

For Cisco Live 2011, held in Las Vegas, Nevada, the production team automated video capture of 45 sessions held in four rooms, using Cisco TelePresence and enterprise video content solutions. Before the conference, a technician entered the session names, rooms, and start and stop times into Cisco TelePresence Management Server. A few minutes before each session was scheduled to begin, Cisco TelePresence Content Server instructed the in-room codec to begin recording. The same technician who captured video also performed postproduction editing using the simple interface. After the initial transcoding, the technician trimmed the beginning and end of the presentation and then uploaded the final file for viewing on Cisco Live Virtual.

Benefits of sharing video content from Cisco Live include:

- Wider audience: More than 7500 customers and partners who could not attend Cisco Live 2011 viewed at least one of the 45 sessions recorded with Cisco TelePresence Content Server during the event.
- Seventy-percent lower costs compared to having technicians in each room: Savings amounted to $100,000 at Cisco Live 2011.
- Little incremental cost to record more sessions: Just two technicians captured and transcoded video from 45 sessions.
- Faster availability of recorded video: The ease of transcoding enabled the Cisco Virtual Live team to publish sessions online within 48 hours, faster than the 72 hours needed for previous events that did not include video.

Our Lady of the Lake University Captures Clinical Interactions for Class Comment

At Our Lady of the Lake University in San Antonio, Texas, graduate psychology students need to capture video of their counseling sessions to share in class. Now they use a Cisco TelePresence System Quick Set C20 to transform a high-definition display in the counseling room into a telepresence system, including a camera.

At the beginning of a session with a patient, the student simply enters a name and date on a touchpad and presses a button to begin recording on a central Cisco TelePresence Content Server. The Cisco MXE 3500 Media Experience Engine automatically adds a watermark to the video to indicate that it cannot be shared and publishes it to the Cisco Show and Share portal. To comply with healthcare privacy regulations, the video is visible only to the professor and fellow classmates.

Conclusion

After investing in videoconferencing endpoints for real-time interaction, you can increase their business value by also using them to capture and deliver video content for meetings, organizational communications, and training. The investment is often nominal because your organization can use existing video capture devices, and easy-to-use tools for capture and sharing require little or no training.

For More Information

To learn more about Cisco enterprise video content solutions to capture, transform, and share, visit: http://www.cisco.com/go/videocontent.

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