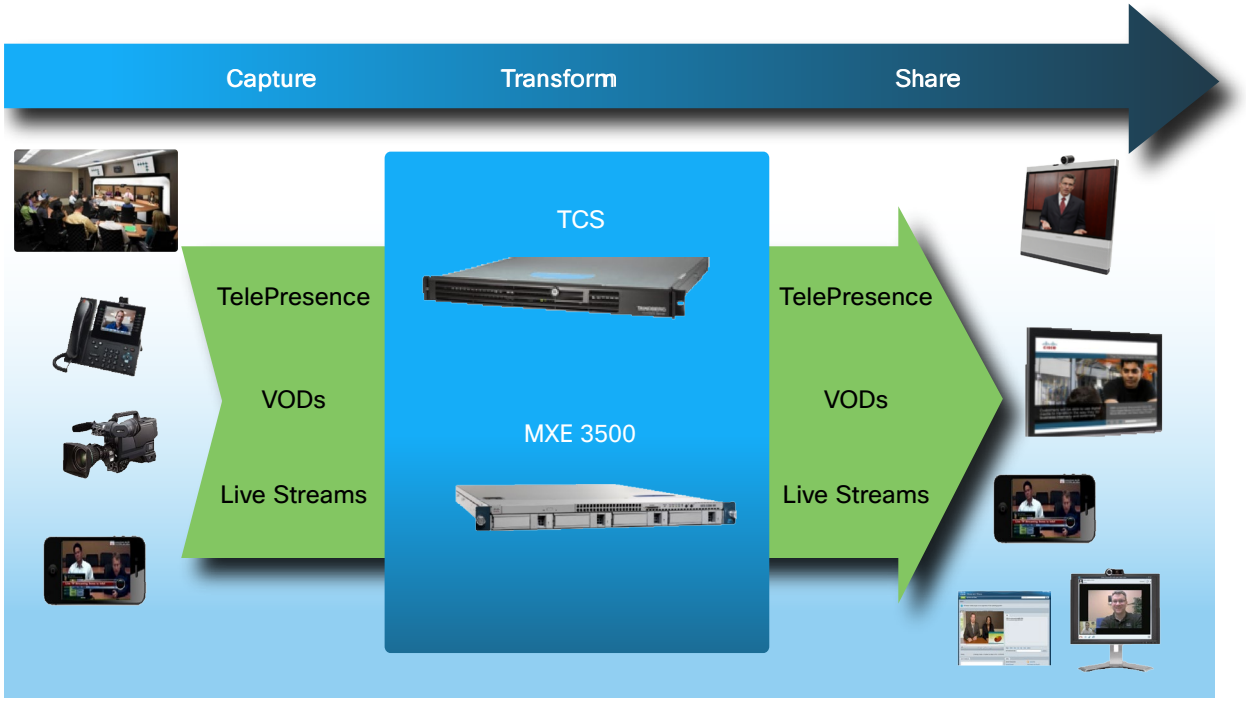
Capture–Transform–Share

Solution Guide



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Send document feedback to cs-tcs@cisco.com.

Contents

1. About This Guide

This guide provides a detailed description of the Capture–Transform–Share solution that enables you to:

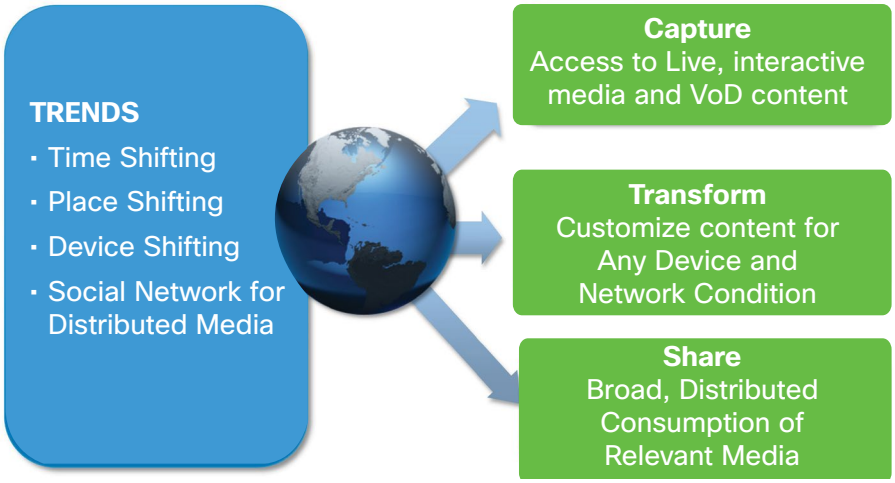
- Understand Capture–Transform–Share
- Identify the key components that make up Capture–Transform–Share
- Highlight the common deployment scenarios that show the practical applications of Capture–Transform–Share
- Understand three common use cases for Capture–Transform–Share: business meetings, corporate communications, and employee training.

2. The Capture–Transform–Share Solution

As organizations become more dependent on video for efficient communications, they are increasingly confronted with the operational challenges associated with the planning, deploying, and maintaining of all the components of a video infrastructure. Additionally, the complexity of rolling out an end-to-end video architecture is further complicated because organizations have to deal with a globally dispersed workforce that uses an ever-growing set of video-enabled appliances, needs to consume video under different conditions, and needs to manage an ever-growing library of video assets.

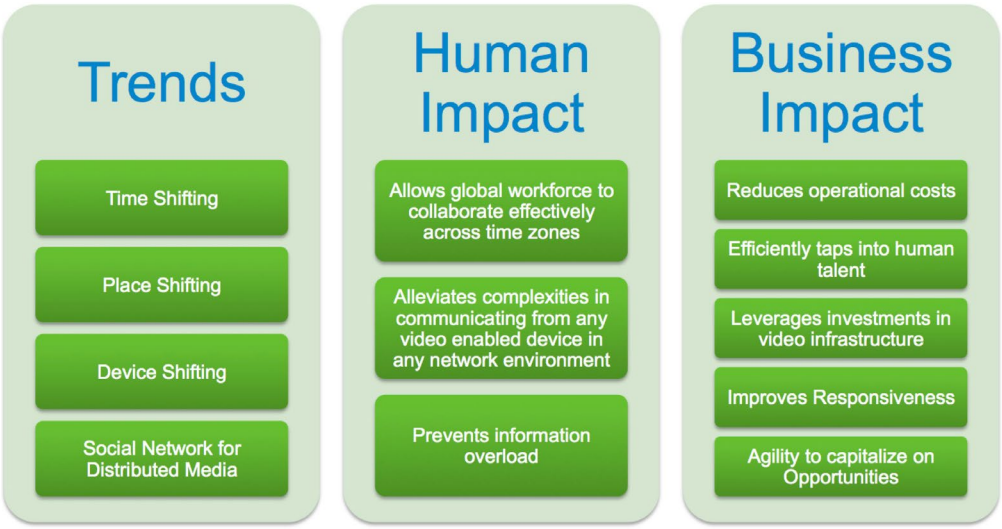
These trends can be described as time-shifting, place-shifting, and device-shifting, all of which require a social network for distributed media. The Capture–Transform–Share solution effectively addresses these trends by capturing all types of video, transforming video for consumption under a variety of conditions, and sharing video across a distributed architecture (Figure 1).

Figure 1. Capture–Transform–Share Solution



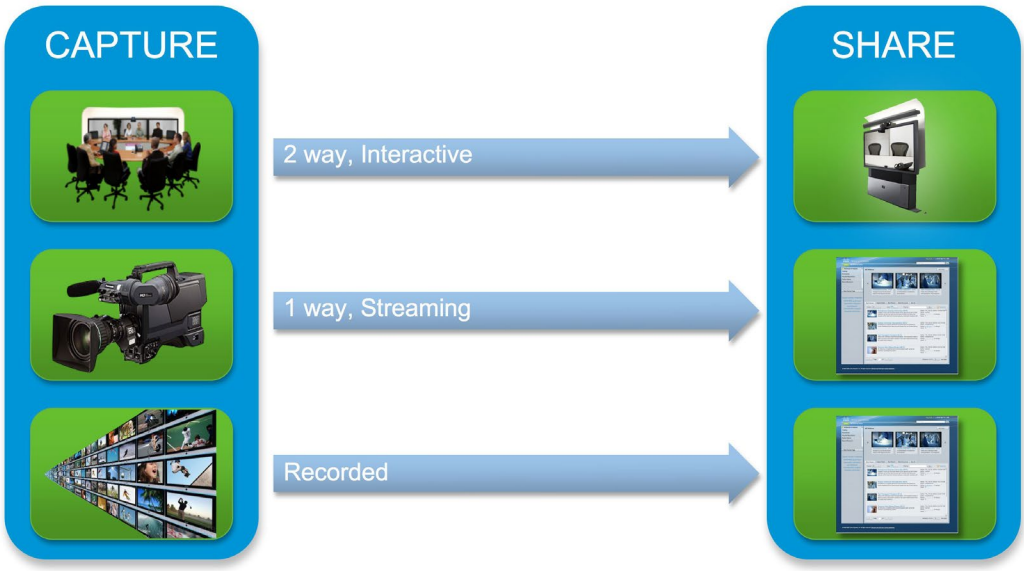
By addressing these trends with Capture–Transform–Share, organizations realize numerous benefits, including the reduction of operational costs, effectively tapping into human talent, and improved responsiveness of the workforce to name a few. Figure 2 summarizes some of the key benefits from the perspectives of both human and business effectiveness.

Figure 2. Key Benefits of Capture–Transform–Share



The transform piece in Capture–Transform–Share delivers tremendous value and allows Cisco to differentiate our offerings. Without the transform component, the sharing of live one-way video, two-way interactive video, and videos on demand (VoDs) is limited to a handful of combinations when considering video sources and endpoints, as shown in Figure 3.

Figure 3. Limited Options to Capture and Share Video

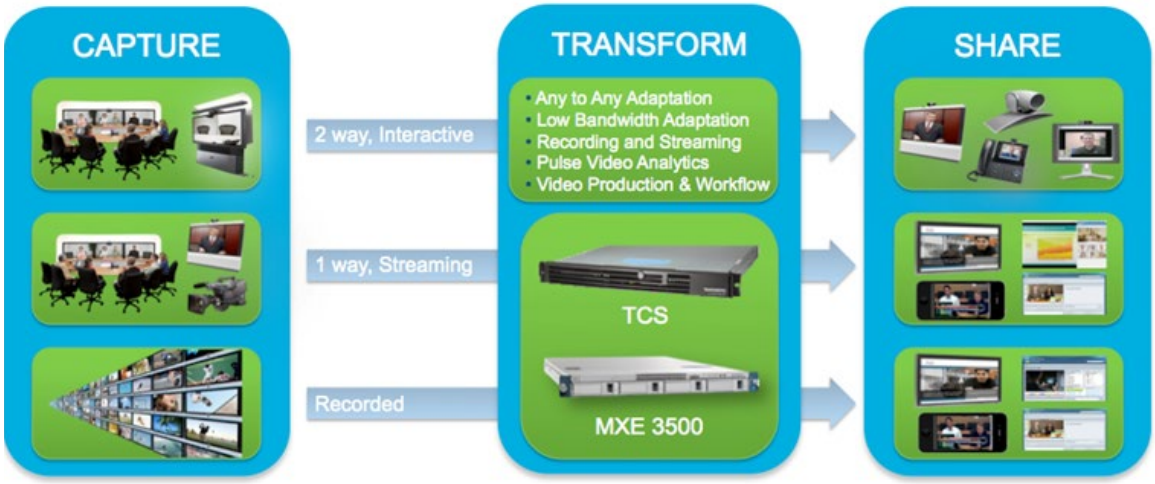


With the addition of the transform component, the solution extends itself in the following areas:

- Process videos originating from a wider array of sources
- Adjust resolution of video to customize for different endpoints
- Transcode media to consume on different devices
- Transrate media to play back even in adverse network conditions
- Layer on postproduction services that are normally cost-prohibitive
- Perform video analytics to auto-detect keywords and speakers, enabling more precise search and navigability

Figure 4 shows how transformation extends our video solution to diverse endpoints.

Figure 4. Many Options to Capture and Share Video



3. Solution Components

This section describes the following Capture–Transform–Share solution components:

- **Cisco TelePresence® Content Server:** Capture Live Meetings and Transform Two-Way Interactive, One-Way Live, and VoD Media
- **Cisco MXE 3500:** Transform VoD and One-Way Live Streaming Applications
- **Cisco Show and Share® Video Sharing Application:** Share One-Way Live Media and VoDs

3.1 Cisco TelePresence Content Server: Capture Live Meetings and Transform Two-Way Interactive, One-Way Live, and VoD Media

The Cisco TelePresence Content Server (Content Server) is a network appliance that enables organizations to share knowledge and enhance communication by recording their videoconferences and multimedia presentations for live and on-demand access (Figure 5).

The Cisco TelePresence Management System (Cisco TMS) can automatically include the Content Server in any scheduled or impromptu event. The Content Server workflow automatically produces high-quality videos of any standards-based conference from a multipoint control unit (MCU), Cisco TelePresence Server, or directly from a Cisco TelePresence System endpoint, including the video participants and any secondary content, such as a presentation.

Whether it is a university lecture, a corporate training session, an executive meeting, or any other critical event, the Content Server streamlines the process of capturing content throughout the organization.

Figure 5. Cisco TelePresence Content Server

Features and Benefits

- Creates business-quality multimedia content easily from any H.323 or Session Initiation Protocol (SIP) videoconferencing endpoint
- Supports live and on-demand streaming
- Creates content from anywhere using Cisco Expressway™ technology
- Manages and distributes live or recorded content to any PC and leading portable media devices in Flash, Microsoft Windows Media, and MPEG-4 formats
- Compatible with major distribution servers and leading corporate and education Web 2.0 portals
- Streamlines the production and distribution of professional video podcasts across the organization
- Integrates with the Cisco Show and Share media sharing application and Cisco MXE 3500

Performance Features

- Up to 1080p
- Support for five concurrent calls; up to two concurrent calls can be streamed live
- Videoconference bandwidth up to 2 Mbps
- Synchronized streaming of video and presentation in live and on-demand modes
- Unicast and multicast streaming support
- Internal and external storage capabilities
- Support for Microsoft Active Directory authentication through Lightweight Directory Access Protocol (LDAP)
- Call configuration and access rights management
- Ability to cluster up to 10 content servers for scalable environments
- Support for Structured Query Language (SQL) Server 2008 with Content Server clusters
- Ability to export and import conferences from one Content Server to another
- Endpoint playback

3.2 Cisco MXE 3500: Transform VoD and One-Way Live Streaming Applications

Cisco MXE 3500 is a powerful media-processing platform that helps organizations streamline operating costs associated with live media streaming, production, and distribution by delivering a rich set of any-to-any media processing (Figure 6). For live media streaming, the Cisco MXE 3500 delivers a scalable and reliable way to easily use an organization's existing IP infrastructure to broadcast live events. It does so by delivering live transcoding and transrating to live IP streams and pushing the processed content out to a variety of content-delivery-network (CDN) devices for scalable distribution.

Figure 6. Cisco MXE 3500

Simplify Workflow for Video Processing

Improve communication and collaboration with the Cisco MXE 3500 to enable video everywhere in the enterprise. The Cisco MXE 3500 extends the reach and usefulness of video for collaboration and communications through a collection of vital media transformation services, along with transparent integration into media-processing workflows as video files and live streams are created, transported, and consumed over the network. This simplified workflow opens the door to many uses such as meetings, events, training and education, organizational communications, safety and security, and advertising, where video enables faster business decision making, global collaboration, and scaling of expertise.

Any-to-Any Media Adaption Services

With any-to-any media adaptation on the Cisco MXE 3500, recorded and live video content is automatically adapted from a range of incompatible media formats, resolutions, and speeds, from standard-definition (SD) up to full high-definition (HD), so they can be viewed on demand or live by a wide variety of playback devices and applications, such as the Cisco Show and Share video sharing application.

Pulse Analytics for Video

The media analytics service on the Cisco MXE 3500 offers automated keyword tagging for spoken words and speaker recognition in the recorded video, enabling users to easily navigate to or search for specific content or speakers in the video.

Media Postproductions

The media postproduction capabilities of the Cisco MXE 3500 offer several unique professional studio-quality video features that can be fully automated and applied to source media files. For example, you can append introductory videos and trailers, watermarks, and graphic overlays to add dynamic multilayered titles, branded graphics, subtitles, captions, and animations directly on top of the video.

Embedded in the Network

You can enable delivery of application-independent capabilities that increase adoption of existing business investments without changing their behavior or creating an extensive IT burden. Part of a Cisco initiative for medianet architectures, the Cisco MXE 3500 is an important component of a pervasive video strategy. This powerful and flexible appliance integrates easily with many Cisco and third-party multimedia products. In addition, it provides excellent return on investment (ROI) and investment protection with software-based upgrades.

Features and Benefits

- Exceptionally high-quality media transcoding and transrating for file-based and live multimedia assets allows for any-to-any capture and playback on the network and end devices.
- The Cisco MXE 3500 provides powerful workflow automation for processing source multimedia streams and files.
- Its professional array of video and audio enhancement options includes studio-quality editing, graphic overlays, and watermarking.
- Pulse video analytics allows you to find videos based on what is spoken and who is speaking.
- An easy-to-use browser-based interface for managing content makes it easy for you to transform videos without training or administrative assistance.
- The solution offers a clustering option for high scalability and transcoding redundancy.
- It supports live streaming formats including Windows Media and live MPEG-2 Transport Stream (MPEG-2 TS) so you can deliver live streams content to Cisco Digital Signs for communications, training, events, or other applications.

3.3 Cisco Show and Share Video Sharing: Share One-Way Live Media and VoDs

Cisco Show and Share is a webcasting and video sharing application that helps organizations create secure video communities to share ideas and expertise, optimize global video collaboration, and personalize the connections among customers, employees, and students with user-generated content.

With Cisco Show and Share application you can create live and on-demand video content and define who can watch specific content. It offers viewer collaboration tools such as commenting, rating, and word tagging, and it provides comprehensive access reporting.

The Cisco Show and Share application fits into your organization's existing IP network and helps ensure that your video content is stored securely within your IT infrastructure. It supports established video formats including Windows Media, Flash, and the MPEG-4/H.264 standard for VoD files. The Windows Media format is supported for PC playback for live streams, and the MPEG-4/H.264 format is supported for both PC and Macintosh for live streams. When a Cisco MXE 3500 is available on the network, the Cisco Show and Share application allows you to have all files that are uploaded by the Cisco Show and Share application to be automatically transcoded to an optimal window size and bit rate using the Flash format. These files are automatically sent from the Cisco Show and Share server to the Cisco MXE 3500, where they are transcoded and then retrieved by the Cisco Show and Share application for editing and publishing.

The Cisco Show and Share application is one of the many portals that the Cisco MXE 3500 and Content Server products use to publish content and improve content search and retrieval of the media that we capture and transform.

4. Addressing Customer Use Cases

Now that we have a good understanding of the various components of Capture–Transform–Share, we can overlay these technologies and products on typical customer use cases for solutions that address important customer points.

The following important use cases are described in this section (Figure 7):

- Use Case 1: Business Meetings
- Use Case 2: Corporate Communications
- Use Case 3: Employee Training

Figure 7. Customer Use-Case Scenarios

4.1 Use Case 1: Business Meetings

Business meetings generally occur between employees of an organization. The following sections describe this use case:

- Description of Business Meetings
- Requirements for Business Meetings
- Workflow of Business Meetings
- Deployment Recommendations for Business Meetings

Description of Business Meetings

Business meetings are structured or unstructured in nature.

Structured Meetings

- Structured meetings are always scheduled (for example, a company all-hands meeting).
- Invites are sent by using Outlook.
- There are two interactive meetings.
- The time span is usually one hour.
- Live participants use a Cisco TelePresence System, videoconferencing endpoints, and a Cisco WebEx meeting application.
- Generally have a featured subject matter expert with other speakers who have the floor during different parts of the meeting.
- There is a level of interaction, but usually there is a designated Q&A session that follows the presentation.
- Audience members might reside in the same room as the presenters, or they could be remote.
- After the meeting the recorded content can be viewed in portals on a PC.
- Content postproduction (for example, overlays, bumpers, and trailers) and content re-purposing (for handheld devices) is a "nice to have", but not a requirement.

Unstructured Meetings

Unstructured meetings have many similarities to structured meetings. The important differences are that in unstructured meetings:

- Unstructured meetings could be scheduled or impromptu (for example, a weekly team meeting).
- There are usually undesignated speakers and frequent interruptions.
- The audio for each speaker is not necessarily ideal.
- The number of participants and locations is generally fewer than that of structured meetings.
- The frequency of requests to record unstructured meetings is lower than that of structured meetings.
- Postproduction is usually not required.
- The shelf life of unstructured meetings is generally less than that of a structured meeting. Figure 8 provides a high-level overview of a form of a business meeting in an enterprise environment.

Figure 8. Business Meeting Workflow

Requirements for Business Meetings

The requirements for business meetings, structured and unstructured, are combined in this section, which addresses the common elements of:

- Two-way interactive communications
- Low-latency communications
- Endpoints including the Cisco TelePresence System, videoconferencing, WebEx meeting applications, and PCs
- Data sharing with preconfigured layout
- Recording of meetings
- Active speaker capture
- Scheduled and impromptu meetings
- Recorded content to be consumed in a portal (for example, the Cisco Show and Share application)
- Postproduction confined to overlays, bumpers, and trailers

Workflow of Business Meetings

The typical workflow for business meetings is as follows:

Before a Meeting

- Outlook scheduling for Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx meetings (Meeting Organizer)
- Recording URL for Cisco Show and Share application copied into the Outlook invite (Meeting Organizer)

During a Meeting

- One-button-to-push feature for Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx OneTouch initiation (Meeting Participant)
- Recording initiation (Meeting Participant)
- Termination of recording (Meeting Participant)

After a Meeting

- View in Cisco Show and Share application on a PC (Viewer)
- View on standard browsers on handheld devices (Viewer)
- Optional postprocessing (Content Manager)

Deployment Recommendations for Business Meetings

The important deployment scenarios for business meetings vary depending on the desired end result. You can accomplish the general requirements for business meetings previously summarized by using the following deployments:

- Deployment scenario 2 for recording being performed by a Content Server, processing performed by the Cisco MXE 3500, and content shared to Cisco Show and Share application

4.2 Use Case 2: Corporate Communications

Corporate communications involve processes that are generally more mission-critical than business meetings. Typically, they occur between executives and employees within an organization. They are highly structured in nature. In the absence of our solution, organizations opt to have their production studios or third-party audio-visual teams handle the workflow associated with corporate communications. Reliability is critical for this use case.

The following sections describe the Corporate Communications use case:

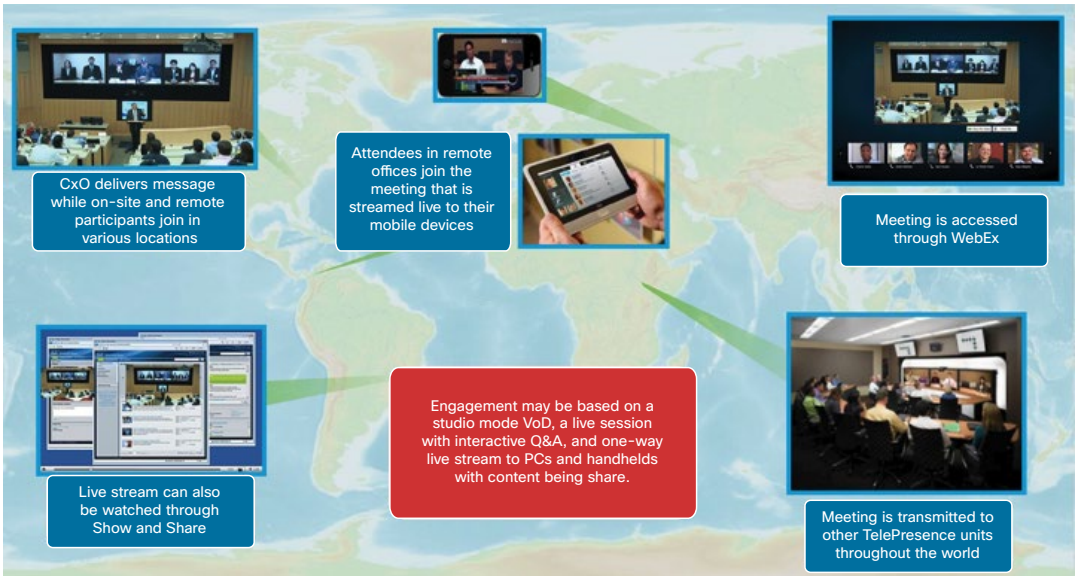
- Description of Corporate Communications
- Requirements for Corporate Communications
- Workflow of Corporate Communications
- Deployment Recommendations for Corporate Communications

Description of Corporate Communications

- Corporate communications are always scheduled (for example, a company town-hall meeting).
- Invites are sent by using Outlook or email.
- Time span can vary from 15 minutes to over an hour.
- Live participants use Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx meeting applications.
- Corporate communications generally have a featured subject-matter expert with other speakers who have the floor during different parts of the meeting.
- The speakers are usually located in a single location, but remote locations are possible.
- The quality of articulation and the sound quality are usually excellent.
- Interruptions are minimal.

- Audience members may engage in two-way interactions following the presentation, or during a designated Q&A session.
- During the meeting there is usually audience interaction through chat windows (for example, by using a WebEx meeting application).
- Concurrent live streams to different devices is common.
- After the meeting you can view the recorded content in portals on a PC.
- Content postproduction (for example, overlays, bumpers, and trailers) and content re-purposing (for handheld devices) is a requirement.
- Communications could also be prerecorded content without a live audience; the content is sent through email or web posting.
- Content is generally shared during the meeting. Content in this case can extend beyond Microsoft PowerPoint presentations and can include video clips.
- The shelf life for such engagements may be ranked as medium. Figure 9 provides an overview of corporate communications.

Figure 9. Corporate Communications Workflow



Requirements for Corporate Communications

The requirements for corporate communications follow:

- Variation of time span from 15 minutes to more than an hour
- Two-way interactive communications
- One-way live streaming with low latency to multiple sites
- Recorded content in different formats for consumption on handheld devices
- Ability for live content to go to signs in open areas
- Multiple bit rates for VoD content
- Support for low bandwidth environments for live video
- Chat sessions

- Endpoints that include Cisco TelePresence System endpoints, videoconferencing endpoints, WebEx applications, and PCs
- Data sharing with preconfigured layout for VoDs and live media
- Active speaker capture
- Studio mode options
- Ability to schedule
- Recorded content to be consumed in a portal (for example, Cisco Show and Share application)
- Postproduction for overlays, bumpers, and trailers
- Content delivery networks used at the back end
- Multicast content delivery usually employed for live one-way streams
- Redundant systems deployed for high availability because of event criticality

Workflow of Corporate Communications

The typical workflow for corporate communications follows:

Before a Meeting

- Outlook scheduling for Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx applications (Meeting Organizer)
- Recording URL for Cisco Show and Share application copied into Outlook invite (Meeting Organizer)
- Possible for invite to be in the form of an email with appropriate links (Meeting Organizer)
- Ability to preselect live audience members for all locations (Meeting Organizer)

During a Meeting

- One-button-to-push feature for Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx OneTouch initiation (Meeting Participant)
- Recording initiation (Meeting Participant)
- Termination of recording (Meeting Participant)
- Initiation of live one-way stream (Meeting Participant)
- Termination of live one-way stream (Meeting Participant)

After a Meeting

- Postprocessing (Content Manager)
- View in Cisco Show and Share application on PC (Viewer)
- View on standard browsers on handheld devices (Viewer)

Deployment Recommendations for Corporate Communications

The deployment scenarios for corporate communications vary depending on the desired end result. The general requirements for corporate communications previously summarized can be accomplished by using the following deployments:

- Deployment scenario 2 for recording being performed by the Content Server, processing performed by the Cisco MXE 3500, and content shared to Cisco Show and Share application
- Deployment scenario 3 for live streaming of media and content performed by the Content Server, and streams being played live in Cisco Show and Share application
- Deployment scenario 4 for live streams originating on a Content Server, being transcoded by the Cisco MXE 3500, and played live on digital signs

4.3 Use Case 3: Employee Training

Employee training is a structured engagement delivered by a subject-matter expert intended to provide transfer of information on a variety of topics. The venue can vary considerably based on the type of training being delivered. The simplest venue is the recording of a instructional VoD that is shared with viewers on their PCs. The most complex venue would involve multiple trainers with trainees in multiple locations over a two-way interactive medium that is simultaneously recorded.

The following sections describe the employee training use case:

- Description of Employee Training
- Requirements for Employee Training
- Workflow of Employee Training
- Deployment Recommendation for Employee Training

Description of Employee Training

- Training sessions are always scheduled.
- Invites are sent by using Outlook or email.
- Time span could be several hours.
- Multiple trainers could be present in a single session, but trainers would have their own allotted segment.
- Quality of articulation and sound quality is generally excellent.
- Interruptions are minimal during the training, but two-way interactive Q&A sessions are frequent.
- Live participants use Cisco TelePresence System and videoconferencing endpoints and WebEx application.
- The trainers are almost always located in a single location.
- One-way live streaming for the session might be used for passive audiences.
- Trainers could also use prerecorded content that is sent (without a live audience) through email or web posting.
- Recorded content is generally consumed on a PC but might also be consumed on handheld devices.
- Live and recorded content may be consumed on HD signs (for example, on a factory floor).
- Content is generally shared during the meeting. Content in this case can extend beyond PowerPoint presentations, including video clips and remote desktop screens.

- After the meeting the recorded content can be viewed in portals on a PC.
- Content postproduction (for example overlays, bumpers, and trailers) and content re-purposing (for handheld devices) is a requirement.
- The shelf life for such engagements may be ranked as high.

Figure 10 provides an overview of employee training communications.

Figure 10. Employee Training Workflow

Requirements for Employee Training

The requirements for training sessions follow:

- Two-way interactive communications
- Availability of recorded content for PCs through Cisco Show and Share application and handheld devices
- One-way live streaming with low latency to multiple sites
- Possibility for live and VoD content to go to signs in open areas
- Audio-only recorded format useful for consumption on MP3 players
- Endpoints that include Cisco TelePresence System, videoconferencing, WebEx applications, and PCs (some training sessions involve video cameras to encoders)
- Data sharing usually based on diverse sources in addition to PowerPoint presentations
- Speaker capture generally static to a single room
- Possibility for studio mode options for prerecording content
- Always scheduled
- Postproduction required, with the main focus on bumpers to introduce the training session and overlays to introduce the trainer
- Because of length of training session, ability to insert trailers for each training segment for chapter creation

Workflow of Employee Training

The typical workflow for employee training follows:

Before a Meeting

- Outlook scheduling for Cisco TelePresence System endpoints, videoconferencing endpoints, and WebEx applications (Trainer)
- Recording URL for Cisco Show and Share application copied into Outlook invite (Trainer)
- Possibility for invite to be in the form of an email with appropriate links (Trainer)
- Ability to preselect live audience members for all locations (Trainer)

During a Meeting

- One-button-to-push feature for Cisco TelePresence System and videoconferencing endpoints, and WebEx OneTouch initiation (Meeting Participant)
- Recording initiation (Trainer)
- Termination of recording (Trainer)
- Initiation of live one-way stream (Trainer)
- Termination of live one-way stream (Trainer)

After a Meeting

- Postprocessing (Content Manager)
- View in Cisco Show and Share application on a PC (Viewer)
- View on standard browsers on handheld devices (Viewer)

Deployment Recommendation for Employee Training

The deployment scenarios for corporate communications vary depending on the desired end result. The general requirements for corporate communications previously summarized can be accomplished by using the following deployments:

- Deployment scenario 2 for recording performed by Content Server, processing performed by the Cisco MXE 3500, and content shared to Cisco Show and Share application
- Deployment scenario 3 for live streaming of media and content performed by a Content Server and streams being played live in Cisco Show and Share application
- Deployment scenario 4 for live streams originating on a Content Server, being transcoded by the Cisco MXE 3500, and played live on digital signs

5. Deploying Capture–Transform–Share

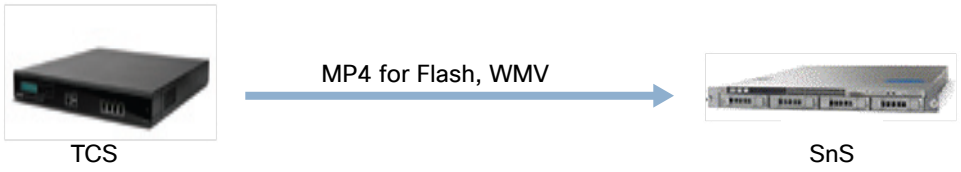
The following deployment scenarios address the customer use cases described previously.

- Deployment Scenario 1: VoD—Content Server to Cisco Show and Share application
- Deployment Scenario 2: VoD—Content Server to Cisco MXE 3500 to Cisco Show and Share application
- Deployment Scenario 3: Live Streaming—Content Server to Cisco Show and Share application
- Deployment Scenario 4: Live Streaming—Content Server to Cisco MXE 3500 to Cisco Digital Media Player

5.1 Deployment Scenario 1: VoD—Content Server to Cisco Show and Share Application

The Content Server to Cisco Show and Share VoD integration enables recording of corporate meetings, events, management broadcasts, and training sessions, and then automatically publishing the video to the Cisco Show and Share application for public viewing (Figure 11).

Figure 11. VoD Deployment with Content Server and Cisco Show and Share Application



Video 1. VoD: Content Server to Cisco Show and Share Recording

Call or Media Flow

In this deployment, Content Server records a meeting and uploads the VoD to the Cisco Show and Share application. When initiating a recording in Content Server, you can specify a bit rate that is compatible with the network bandwidth. You can record the VoD in MP4 for Flash.

1. Content Server records a meeting in MPEG-4 for Flash format.
2. After recording and processing, Content Server automatically uploads the VoD to the Cisco Show and Share application into a predefined category.
3. End users are directed to a URL on the Cisco Show and Share application to view the VoD.

Components

The following components are used in this deployment:

- Content Server Release 5.0 or later
- Cisco Show and Share Release 5.2.1 or later
- (Optional) Cisco VCS Control

Configuration Overview

The following configuration steps are required for this deployment:

- Configure Cisco Show and Share application
- Configure Content Server

Configure Cisco Show and Share Application

1. Set up Cisco Digital Media Manager (DMM) and Cisco Show and Share application.
4. Set up user authentication and define roles for users.
5. Configure categories for published VoDs. For detailed configuration information, refer to the following documents:

- Administration Guide for Cisco Digital Media Suite at: http://www.cisco.com/en/US/docs/video/digital_media_systems/5_x/5_2/dms/aai/administration/guide/dms_appliance_admin.html
- User Guide for Cisco Digital Media Manager at: http://www.cisco.com/en/US/products/ps6681/products_user_guide_list.html
- Administrator Guide for Cisco Show and Share application at: http://www.cisco.com/en/US/products/ps6682/products_user_guide_list.html

Configure Content Server

- Set up a media server on the Content Server that points to the Cisco Show and Share server.
- Set up a recording alias and its associated template, which links to the media server.
- (Optional) Register to a Cisco VCS Control to facilitate allowing videoconferencing endpoints to call into a Content Server recording alias.

For detailed configuration information, refer to the following documents:

- Cisco TelePresence Content Server Administration and User Guide at: http://www.cisco.com/en/US/products/ps11347/prod_maintenance_guides_list.html
- Cisco TelePresence Video Communication Server Administrator Guide at: http://www.cisco.com/en/US/partner/products/ps11337/prod_maintenance_guides_list.html

User Experience

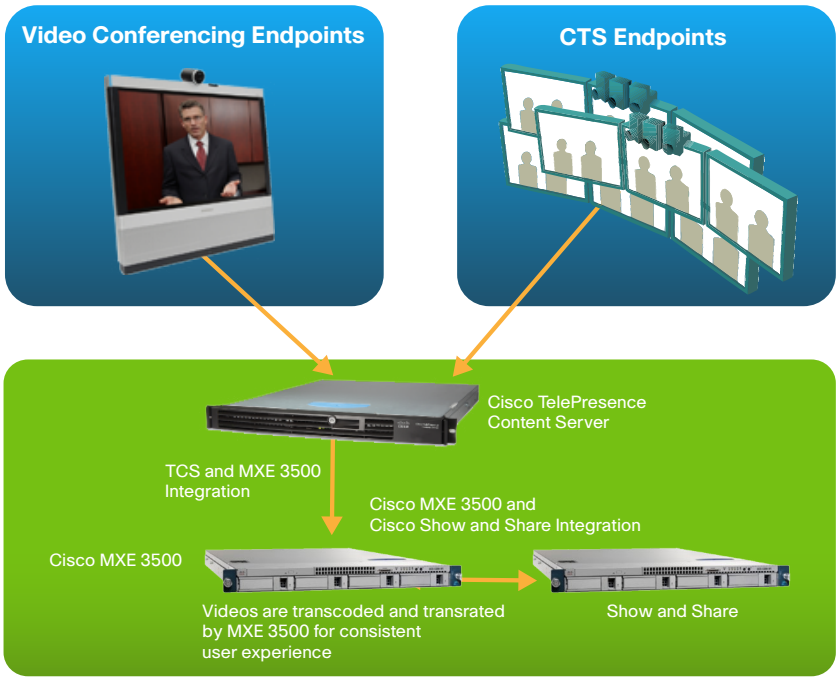
From an endpoint (Cisco TelePresence System Quick Set C20 [Quick Set C20], Cisco TelePresence System EX90 [EX90], or Cisco Jabber Video for TelePresence (Jabber Video), you dial a predefined Content Server recording alias to start recording. Alternatively, you can log in to Content Server, choose a recording alias, and dial in to a conference bridge; all endpoints (Quick Set C20, EX90, or Jabber Video) dial in to the same bridge.

You are directed to a URL on the Cisco Show and Share application to see the VoD from Content Server.

5.2 Deployment Scenario 2: VoD—Content Server to Cisco MXE 3500 to Cisco Show and Share Application

This deployment scenario takes advantage of the workflow enhancements in Content Server Release 5.2 and Cisco MXE 3500 Release 3.3 (available in late 2011) to provide a smooth, automated workflow integration from creating a video to sharing the video (Figure 12).

Figure 12. VoD Deployment with Content Server, Cisco MXE 3500, and Cisco Show and Share Application



Call or Media Flow

Configure a Cisco MXE 3500 profile to automatically publish transcoded videos to the Cisco Show and Share application. Configure Content Server with the media server to use the Cisco MXE 3500 profile to autopublish to the Cisco Show and Share application. You can create recordings on the Content Server using your personal recording alias. If your recording alias uses the template that has the Cisco MXE 3500 distribution output, then your recording is automatically distributed to the Cisco Show and Share application.

1. Content Server records a video by joining either a Cisco TelePresence bridge or a videoconferencing endpoint calling into the Content Server.
2. Content Server sends the recorded video to Cisco MXE 3500 through FTP.
3. Cisco MXE 3500 transcodes and transrates the video, optionally adds bumper, trailer, graphics overlay, or watermark, and then publishes the video to the Cisco Show and Share application through the Cisco Show and Share application programming interface (API).

Components

The following components are used in this deployment:

- Content Server Release 5.2 or later
- Cisco Show and Share Release 5.2.1 or later
- Cisco MXE 3500 Release 3.3 or later

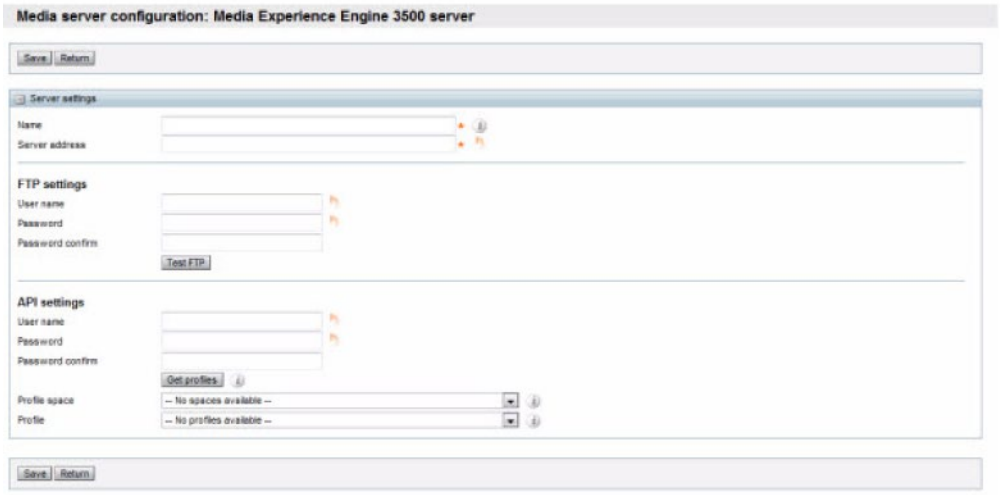
Configuration Overview

The administrator performs the following configuration tasks:

1. Log onto the Cisco MXE 3500.
   a. Configure a profile to send a video recording to the Cisco Show and Share application. Optionally, add bumper, trailer, graphics overlay, and watermark to the profile.
2. Log onto the Content Server as a site manager.

a. Add a Cisco MXE 3500 media server configuration and give the configuration an identifiable name.
   b. Choose the profile created in step 1 from the drop-down menu of all profiles available on the Cisco MXE 3500.
   c. Create or edit a template on the Content Server, adding a distribution output to send the recording to the Cisco MXE 3500 and choosing the media server configuration created in step 2a from the drop-down menu (Figure 13).

Figure 13. Media Server Configuration



User Experience

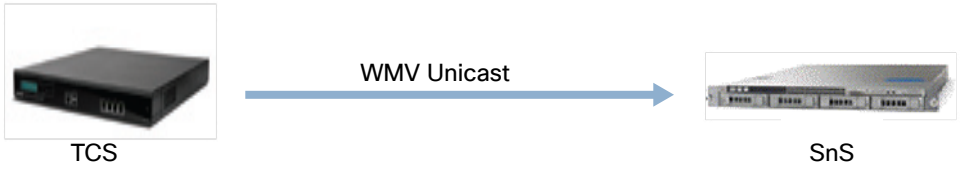
Using a predefined Content Server recording alias, you can call a Cisco TelePresence bridge from the Content Server user interface, or call a Content Server recording alias from a videoconferencing endpoint, such as Jabber Video or EX90. When the recording is completed and a certain time passes, depending on the length of the video, you can log in to the Cisco Show and Share application and find the video in the Most Recent tab. You need only to record the video; all other processes are automated by the integrations between Content Server and Cisco MXE 3500, and between Cisco MXE 3500 and the Cisco Show and Share application.

When the Cisco MXE 3500 completes the recording and processes it through its integration with the Cisco Show and Share application, you can view the recorded video in the Cisco Show and Share application.

5.3 Deployment Scenario 3: Live Streaming—Content Server to Cisco Show and Share Application

The Content Server to Cisco Show and Share live streaming integration enables recording and live streaming of corporate-structured meetings, companywide broadcasts, and training and events, and makes them viewable on the Cisco Show and Share application (Figure 14).

Figure 14. Live Streaming with Content Server to Cisco Show and Share Application (for PCs Only)



Note: For live streaming to a Macintosh, use H.264 streaming through Wowza.

Video 2. Live Streaming: Content Server to Show and Share Application

Call or Media Flow

The Content Server records and streams a meeting in WMV format in unicast. The Cisco Show and Share application has a preconfigured URL that points to the live event created for this live broadcast. Users point their browser to this URL and view the live event on the Cisco Show and Share application.

The Content Server sends either unicast WMV through its built-in WMS or unicast MP4 for Flash through an external streaming server to the Cisco Show and Share application. For WMV unicast streams, a server push model is used.

You can specify a custom bit rate compatible with your network bandwidth when initiating a Content Server stream. The supported formats are WMV or MP4 for Flash. WMV is best viewed on Windows-based PCs, whereas MP4 for Flash can be viewed on a wide variety of desktops, including PCs and Macs.

Components Involved

The following components are included in this deployment scenario:

- Videoconferencing endpoints (Jabber Video, Cisco IP Video Phone E20 [E20], EX90, C20, etc.)
- Content Server Release 5.0 or later
- Cisco Show and Share Release 5.2.1 or later
- (Optional) Cisco VCS

Configuration Overview

The following configuration steps are required for this deployment:

- Configure Content Server
- Configure Cisco Show and Share application

Configure Content Server

1. Configure a publishing point on the Content Server for unicast WMV.
2. Configure a media server on the Content Server that points to the publishing point.
3. Configure a recording alias and its associated template that links to the media server.

Configure Cisco Show and Share Application

1. Configure a live event on the Cisco Show and Share application that points to the publishing point on the Content Server.
2. Start a live event on the Cisco Show and Share application.

For detailed configuration steps, refer to the User Guide for Cisco Show and Share at http://www.cisco.com/en/US/partner/products/ps6682/products_user_guide_list.html.

User Experience

From an endpoint, dial a predefined Content Server recording alias to begin live streaming. Alternatively, log in to Content Server, choose a recording alias, dial in to a conference bridge, and have your endpoints dial in to the same bridge.

Using a web browser, go to the predefined Cisco Show and Share URL to view live streaming.

6. Conclusion

Whether you use video for business meetings, corporate communications, or corporate training, you can combine solutions from Cisco's suite of media-processing products to deliver a customized experience that is unrivaled in the industry today. You may now determine the use cases that you should address and identify the components you need for deployment. You also can take advantage of Cisco demo facilities to experience these use cases in a real-world setting before you deploy them in a production network.

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