

Presentation Server Specifications



Server Overview

The Presentation Server is an open-standards, open-architecture video and media Content Management System designed especially to handle the capture and streaming of presentations and lectures given at Universities, research laboratories, seminars, trade shows and conferences and any other setting where a knowledge expert's presentation and discussion will be recorded and streamed over internet networks.

The Server is available in three options – Hardware with embedded software, software with perpetual license (on customer's hardware or virtual machines) and as a Cloud Service

Unlike other video content management systems, the Presentation Server (PS) has facilities for dealing with both the video aspects of a presentation (e.g. a camera shot of the presenter) and the graphical aspects of a presentation (capture of computer screens, PowerPoints, Keynotes and similar demonstration materials used by the presenter).

The separate identification and handling of these three components (video, audio and graphics) separates the PS from its video-only CMS peers.

Administrative Interface

The server presents two different graphical user interfaces to the world, one being the administrative interface and the second being a viewer portal for discovery and viewing of content.

The administrator controls a large number of functions related to acquiring content for the server, identifying and indexing the material, verifying viewing rights and planning the proper distribution and publishing of the final media. These functions include:

- Scheduling capture of lectures and seminars - from inside the Presentation Server
- Manually uploading existing video files to the server
- Managing user and administrative roles
- Assessing server performance and load
- Verifying the timely progress of media through the system
- Defining series of lectures / presentations - Recording may be organized into series and different access control can be applied to different series. Review and approval of incoming presentation material
- Assigning appropriate processing steps (workflows) to incoming media
- Remote diagnosis, support and management
- Managing automatic updates
- Customized look and feel of the server – Each institution's own identity

FEATURE HIGHLIGHTS

ALL IN ONE

The presentation server encompasses the whole lecture capture solution from end to end.

OPEN STANDARDS

The presentation server is based off of public standards that are constantly evolving to meet the needs and standards of the industry. You are not locked into a monolithic solution.

VIDEO/GRAPHICS SEPERATION

Can stream video or graphics separately

SOFTWARE ADVANTAGES

- Can organize and manage recordings
- Server is both a live streaming server and a Video on demand server
- Unique architecture permits customized workflows and special processing operations
- Full OCR to Text support
- Windows and graphics can be re-sized independently

FUTURISTIC EXPANSION

Enables futuristic items such as the elimination of expensive and complicated tracking cameras, infrared necklaces, and more through software upgrades that support automatic teacher tracking.

HARDWARE ADVANTAGES

- Dual-redundant power supplies
- Hot swappable disk drives
- Rack-mount 2U Chassis
- Click and replace fans
- Dual Xeon processors
- Primary and backup storage

VM ADVANTAGES

- Integrates cleanly into customer's datacenter
- Maintenance and Backup per institution's standards
- Minimal training required for server support

CLOUD ADVANTAGES

- No IT infrastructure required
- Bandwidth requirements easily met for streaming
- Installed, serviced and updated by NCast support staff
- Redundancy and reliability from major cloud provider

Viewer Portal

Once presentation content is properly filed and indexed within the server, authenticated and authorized viewers of that content must be able to find it in the system and view it at a convenient time and place and on playback devices which might range from large screens in an auditorium to mobile phones and tablets on the go. The Viewer Portal provides for:

- Authentication of viewers or provision for anonymous viewing in integration with the CAS
- Authorization of viewers for access to different recorded lectures
- Playlist of videos with thumbnail and description (similar to you tube)
- Search facilities to provide for access and discovery of videos to be viewed - Content can be searched over streams and channels, subject, lecturer, date.
- Integration with and notification to Learning Management Systems about the arrival of new content
- Flexibility of playback on different OPEN media players and devices
- Capture of viewing statistics and user load
- Publishing and push of media to external systems like you tube, etc.

Viewer Controls

- Presenter Only
- Large Presenter Window, small Graphic
- Equal-sized Presenter and Presentation
- Small Presenter and large Graphic
- Graphic Only

Summary of Workflows

As mentioned earlier, with the potential acquisition of hundreds of new archives each day, the work required to process each incoming presentation must be minimal. The PS is ideally tailored to provide automated, customizable workflows to be applied to each new incoming Presentation.

A workflow is a specification for a sequence of discrete processing steps to be applied to incoming media, and it is possible to define a large set of different workflows within a PS. Workflow elements include:

- Scheduling – The plan to capture new media via the PR at a given time and place
- Inspection – Identification of the audio and video tracks in a media file

- Composition – Transcoding the media to different formats and resolutions
- Trimming – Editing steps required to finish the video
- Imaging – Creation of thumbnail and preview images for the media players
- Segmentation – Detection of significant scene changes or slide transitions in the media
- Text Extraction – OCR analysis of discrete scenes within the presentation to capture text content
- Distribution – Pushing the content to the available output channels and locations
- Streaming – Delivering the content to the local streaming server
- Archiving – Delivery of original and reformatted media to the storage system
- Publication – Handoff of associated text to the server's search engine

PROCESSING UPLOADED CONTENT

Once content has been uploaded into the system various processing steps may be initiated including:

- Splitting content to Presenter and Presentation Part, if video & presentation are stored in a single file
- Applying Segmentation and OCR to content containing the presentation
- Reconverting content to different qualities for users with different bandwidths
- Trimming uploaded content

PUBLISHING UPLOADED CONTENT

After processing the content is distributed:

- Publishing uploaded content as it was uploaded
- Publishing uploaded content in different qualities
- Publishing uploaded content with additional information that was extracted from the content (OCR, Segmentation) or information that the content was extended.

UPLOADED CONTENT

- Exported to other content servers
- Trimmed content downloaded to further process by other Video analytics software.
- Downloaded by users if necessary
- Embedded into web pages