



Overview

Many local state and city governments would like to be more transparent with their citizens. One way to accomplish this is to make meeting or committee sessions easily accessible to them over the Internet. Being able to access these sessions via live or on-demand streaming will make it convenient for citizens to become more aware and involved with the political process, and informed of current affairs. For local governments, streaming may be a viable alternative to broadcasting on public access or local television.

Solution Needs Assessment

Source Inputs

Professional cameras and real-time production equipment provide a high definition component video output plus stereo audio. The cameras are situated throughout the central meeting room of the government building. The production equipment is installed in the AV control room, adjacent to the meeting room.

Displays Near End

A professional LCD flat-panel display allows the AV production manager to monitor the video capture and production. Streamed video will be monitored on a laptop or desktop PC.

Geography

There is technically no limit as to the size of the geographical region where streamed content may be viewed, but typically viewers would be located within the city, county, or state.

Control System

The AV/IT manager would like to be able to remotely configure and operate the streaming encoder as well as other equipment that will be part of the online media delivery system.

Network

Citizens will access online video from their homes or wherever they may be, through a network connection, Wi-Fi, or 3G/4G mobile service. Within the government building, ample bandwidth should be available to deliver a good quality HD video stream.

Displays Far End

Internet users accessing streaming video may be viewing on their laptops, desktop PCs, televisions, tablets, or smartphones.

Solution Needs Assessment

Functional Requirements

The user experience in accessing online content should essentially be as easy as accessing streaming video from major sites such as Hulu or YouTube. A simple method will be required for internal or external users to subscribe to video streams over the Internet through their Web browsers or software viewers from PCs or mobile devices. Images should look good on a wide range of display sizes.

System Design Solution

Streaming Encoders

Audio and video camera feeds from the local government building are input to real-time production equipment to select and monitor multiple camera feeds, and incorporate titling and transition effects. The HD component video output from the production equipment is connected to the Extron **SME 100** Streaming Media Encoder and looped through to the monitoring display. The SME 100 will not be used to stream directly out to the Internet, but instead will be used to interface with the production video, provide high quality video processing, and deliver a master 720p stream that will be further managed by a media server. The media server will transcode it to an HTTP format and stream it to a Content Delivery Network - CDN service located outside the facility. The media server can also feed overflow rooms or other locations in the government building if needed, and archive meeting sessions so Internet users can access them on-demand. The CDN will manage and administer Internet user access to the streaming content.

Network

Shared use network bandwidths ranging between 6 and 10 Mbps should be made available for the SME 100 to deliver HD video streams to the media server. Some additional bandwidth should be allotted so the media server can send this stream out to the CDN and serve some internal locations. CDN content servers then forward the stream throughout the CDN service system. Internet users requesting streamed video are connected to the closest CDN content server, which delivers the video stream to their devices.

Decoding

As with other streaming or on-demand video resources on the Internet, users will be able to access online content with a wide variety of devices through Web browsers or media playback applications. Within overflow rooms and other designated locations in the government building, the AV/IT manager can quickly set up a PC to receive streaming video and feed a full-screen computer-video output to the display using a VLC or Quick Time® media player and Web browser.

Control

The AV/IT manager will configure and control the SME 100 over the network by accessing the internal Web pages.

