VBrick IPTV Application

Delivering an 85% Reduction in Yearly Cable and Satellite Communications Spending at National Guard Test Bases

Customer Overview

The National Guard is the organized militia reserved to the states under Article 1, Section 8, of the Constitution of the United States, and is the oldest component of the United States Armed Forces. Headquartered at Arlington, VA, the National Guard Bureau oversees the administrative control of the Air and Army National Guard units of all 50 states, which fall under the command of their respective Governors.

The National Guard Bureau (NGB) was evaluating solutions to reduce their total yearly cable and satellite video communications spending. Through traditional cable or satellite service hook-ups at a variety of locations throughout the US, the National Guard was burning through millions of dollars a year in TV access charges. NGB also foresaw the need to provide scalable video broadcast capability to individual personal computers and televisions within various building locations for the National Guard forces throughout each state. A solution to provide on-demand video for the purpose of personnel training and dissemination of key information to large groups of personnel was also desired.

Challenge

While the VBrick solution itself was pretty straightforward, implementation of the system at each of the 12 Guard test bases did present some unique challenges. The IPTV solution would provide an end user experience quite similar to traditional broadcast TV, but the system was capable of many other features that end users needed to be aware of in order to make the most of the system. Education sessions and training plans were developed to ensure that the NGB would get the maximum amount of functionality from the solution. Additionally, a multicast signal was also implemented to make sure that users would have access to Video-on-Demand (VOD) programs, Commander broadcasts and ancillary training, as well as their own location's select local channels and news.

Solution

LTI DataComm provided a solution that would result in a wide dispersion of both user-recorded and leased broadcast video at significantly decreased cost over an extended period. Our design and installation team developed a supportable IP-network multicast solution utilizing Dell Portal and VoD (Video on Demand) servers in conjunction with VBrick encoders, set-top boxes and proprietary VBrick multicast software. The basic design begins with the reception of video from the local bases' video headend. LTI's VBrick system receives standard NTSC video from any number of sources for any number of application requirements.

- **Ubiquitous Access** – The system captures and delivers video from any source to any client
- **Reliability** – Uninterrupted access 7 x 24 x 365
- Network Citizenship – Optimized, non-intrusive performance across multiple network topologies.
- **Real Time Performance** – High quality, full motion, full screen video
- **Live and Stored Video** – Provides a simplified and unified user and network administration environment to access and manage both live and stored video.
- **Operational Control** – Real-time and pre-scheduling administrative tools to manage video operations and events.
- **Secured Access** – Protect live and stored video assets and manage access privileges across a growing population of users.
- **User Simplicity** – Intuitive, browser-tools to simplify the search, selection, and viewing of Live and Stored video assets by a wide-range of users.

LTI's solution included a minimum of 4 channels of encoded content for 12 bases chosen by NGB for this test project. Each video channel interfaces with a Windows Media encoder for conversion to a Windows Media video stream. Examples of video sources are a satellite video headend, local

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Case Study

Solution (Concluded)

cable television provider headend, DVD, VCR, Video Camera, or any other item producing a stand NTSC video output. The encoded video stream is presented to a GFE provided multicast enabled switch for transport on the base network.

The overall system design is a culmination of video appliances integrated to provide the most efficient video distribution available. This system is designed to support up to 1500 simultaneous users at a each base and is upgradeable to any number of users at each base. The Windows Media encoders provide the best quality viewing experience when combined with over quality and bandwidth combination. Bandwidth required to stream each channel range from 56Kbps to 2Mbps per channel. All appliances are integrated into the Portal Server management platform for a standardized management system which allows the administrator to have full control over the system. The management platform allows administrators to ensure all users have the required access, and that appliances are kept up to date with SMS push upgrades and SMS push viewer software. Users can be provided with specialized access privileges and/or assigned to viewing groups so each user is afforded the appropriate viewing experience.

Execution

There were four main components to effectively execute this requirement;

Site Surveys: The site survey consists of a review of the initial customer questionnaire, video ingress points, install location, network ingress points, STB locations and power and grounding requirements.

Staging and Pre-configuration: LTI DataComm provided the equipment; performed build-up and staging of equipment in standard communications racks; completed pre-configuration of the system based on input from Site Survey reports, and performed initial system testing.

Site Installation: LTI provided a certified team of technicians and engineers to support the installation at each location. Once all of the equipment was installed and integrated with the base network the onsite engineer processed quality control checklists and test and acceptance procedures with the base representatives.

Training Support and Site Acceptance: LTI provided a certified VBrick trainer to conduct a formal training class for up to 6 students at each location.

Benefits

Once the VBrick solution was installed and fully operational, the NGB realized multiple benefits. Most significant was the return on investment within 6 months after installation which resulted in an 85% drop in cable signal access costs annually. This was directly due to the reduction of the number of drops needed to provide service to all locations. Video functionality was greatly increased, and the additional features are currently being used for training, TV for set-top boxes as well as to the desktop, base event broadcasts, and other user generated content that is stored and distributed through the video on demand server. Overall, LTI delivered an innovative video communications solution to the NGB that allowed for timely and efficient, communication distribution with additional features, for a fraction of the previous system's cost.

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