



USE CASE | BROADCAST

“ In looking for a new solution, NBC faced some challenges. The integration of the MSNBC Network into 30 Rock added 400 more production personnel with 50+ more required feeds all within NBC’s existing space. With a majority of NBC’s News, Sports and Entertainment programming originating in high definition, HD infrastructure needed to be supported. Given all these considerations, NBC’s best option was to go with an IPTV based solution, which was deployed. Advances in IPTV technology have made this a clear choice for cost, scalability and support. ”

Robert Goldfarb
NBC Universal, New York, N.Y.
Broadcast Engineering
Excellence Award: Best IPTV System



NBC Universal Deploys VITEC IPTV Solution for Its In-House Video Delivery System

NBC Universal, New York City

The Customer

NBC Universal Studios in New York’s Rockefeller Center is the network’s main production center for news and entertainment programming. A world-class nucleus of state-of-the-art production facilities, sales operations and management, the facility is a 24-hour hub of activity, creating and delivering content for the NBC broadcast network and its affiliates as well as the MSNBC cable news channel and local broadcast and cable TV outlets.

With more than one hundred remote feeds received at its headquarters, locally-generated programming and affiliates’ content, NBC’s thousands of employees are consuming hundreds of video feeds for various applications. Accommodating the growing demand to access feeds via TV monitors, computer workstations, public meeting rooms and new open space cubicles across 50 floors required NBC’s Video Distribution and IT teams to rethink their legacy RF video delivery system and to look for a more advanced, cost-effective and scalable solution.

The Challenge

NBC sought a technology for video distribution that would provide the scalability, flexibility and reliability suitable for a mission critical application such as feeding its News, Marketing, Sales and Operations groups real-time, high quality video to any location. Manageability was also one of the key requirements due to the scale of the channel line-up and the expected growth rate in the upcoming years. Last, with the vast amount of back-end gear in the facility, efficient rack-space utilization was presented as an important need.



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Before the VITEC solution was implemented, TV programming was distributed via a local analog RF system. It was quickly evident that adding to the existing analog system with additional cabling and TV monitors was not a feasible option capacity wise and cost-wise and. As an alternative, a digital cable (QAM) technology was considered. However, this option would have required a new digital cable-ready TV for every user, a logistical challenge and an expensive choice. With PCs already in place in every office or studio, there was a clear advantage in using an IP-based solution.

Based on an intensive technology and vendor review, NBC found its best option: An IPTV system from VITEC, to be installed on the existing corporate LAN allowing all users access to content using existing PCs, laptops and TV monitors regardless of location in the facility. The VITEC EZ TV IPTV Portal along with the MGW 5100 carrier-grade H.264 encoding and streaming platforms were selected as the ideal platform to meet these requirements.

The VITEC Advantage

In selecting VITEC, NBC was able to accommodate its needs in the three critical domains

❖ **Back-End:** The VITEC MGW 5100 Encoding and Streaming, blade-based platforms provided broadcast quality, 5th generation H.264 SD/HD encoding in a dense, rack-space efficient footprint. Offered with advanced Cluster Management software suite, the MGW platforms deliver reliability and automatic redundancy and failover capabilities suitable for 24x7 environments.

❖ **Middleware:** VITEC's EZ TV IPTV Portal is a ideal fit for a broadcast center. Its ability to organize live and on-demand content, regulate access to content with seamless integration to Active Directory and the customization options enabled NBC to deploy a solution to PC users and TV users that is easy to manage and maintain with workflows optimized specifically to its facility. Its ability to propagate channel line-up updates and text messages to the PC and set-top-box clients on-the-fly was critical with the dynamics of a broadcast center with multiple News channels.

❖ **Front-End:** VITEC browser-based EZ TV Player offered powerful playback features such as mosaic views and a unique CPU-Meter feature that ensured other mission critical applications running on the client machines will not be affected by the IPTV Player. Its Client-Server architecture allowed IT to launch the new IPTV service seamlessly to Windows and MAC users with no pre-requisites and with a minimal client signature.

Supplementing TV monitors with Amino IP Set-Top-Boxes, gave NBC the opportunity to take advantage of other VITEC-exclusive benefits: EZ TV Remote Control application was deployed in 17 new studios as an efficient video wall control solution. The EZ TV Remote Control application allows the operator to remotely assign IP streams to LCD and Plasma screens via a user-friendly visual user interface. The application allows NBC to utilize the video streams already on the network and eliminate the need for expensive analog/digital video switchers to control the various monitors mounted on walls.

Users that needed to keep using TV monitors were given Amino IP Set-Top-Boxes with an IR Remote control. These boxes automatically synchronize with the EZ TV IPTV Portal to provide up-to-date channel lineup information allowing the operator to manage content delivery to PC and TV from a centralized administration interface.





The VITEC advantage didn't stop at the technology. By selecting an end-to-end solution provider, NBC was able to eliminate integration risks and deploy a fully verified, proven system with components that operate in harmony in large-scale deployments around the world. Meeting the timeline was crucial and with a single solution provider

NBC was able to install, verify and launch 250 H.264 channels along with hundreds of Set-Top-Boxes within a single week. The complexity of the solution and the innovative workflows it was designed for provided NBC Universal and VITEC with the Broadcast Engineering award for "Best IPTV System for 2008".

Fact Sheet

Encoding:

- ❖ 10 MGW 5100 platforms
- ❖ 250 H.264 encoders
- ❖ Video format: MPEG-4 Part-10 H.264
- ❖ Video bit rate: 1.5Mbps
- ❖ Audio format: AAC
- ❖ Management: Cluster Manager system for centralized management, email-alerts and redundancy

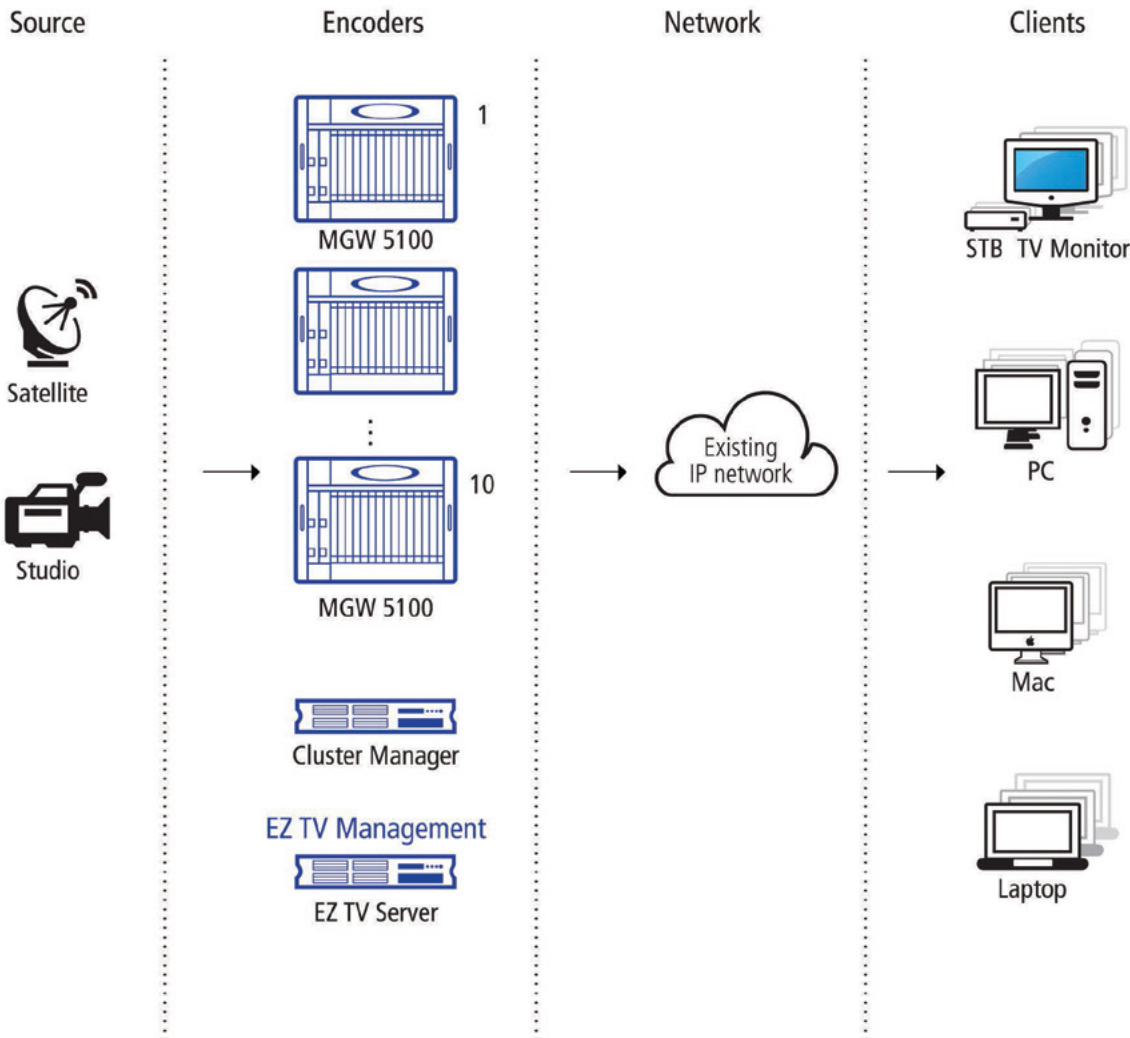
Playback:

- ❖ EZ TV Player installed and used on thousands of PC and MAC workstations
- ❖ EZ TV Player Lite as a floating, resizable single-channel player alternative
- ❖ Over 1000 IP Set-Top-Boxes to feed legacy TV monitors
- ❖ 17 Studios utilizing EZ TV Remote Control Application as a virtual video switcher

Networking:

- ❖ Cisco 6500 series routers for backbone
- ❖ Various Cisco routers and switches used as edge devices

Flow Diagram



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