



## Broadcast Contribution—Digital Satellite News Gathering

### Company

Grupo Televisa, S.A., (Televisa) is the largest media company in the Spanish-speaking world and a major participant in the international entertainment business. Headquartered in Mexico, Televisa is the largest broadcaster in Latin America. Its three national television networks are comprised of 225 stations throughout Mexico and reach 99% of the country's television households with 74% of the television audience share.

### Challenge

For Televisa, the cost of satellite bandwidth to transport video between remote locations is a fixed and recurring expense. Televisa contracts a set amount of satellite time and bandwidth on a monthly basis. Operating within the parameters of their current bandwidth allocations, Televisa wanted to increase the amount of video streams transported for its digital satellite news gathering (DSNG) operations without sacrificing video quality. Before deploying the Envivio® solution, the company was using MPEG-2 compression for their contribution feeds. To achieve the quality required by its viewers, they were transporting video at 5 Mbps. At this bit rate, they had reached the limit of their allocated bandwidth and were unable to add more transport streams or improve quality.

### Solution

Televisa chose a real time IP video convergence solution from Envivio featuring forty 4Caster™ B3 encoders and ten 4View™ D1 decoders for its DSNG operations. Envivio MPEG-4 AVC/H.264 encoding technology delivers up to a 60% reduction in bandwidth while offering the same or better image quality than that of state-of-the-art MPEG-2 encoders. Deploying the 4Caster B3 into news vans, remote fixed locations and mobile flyaway units enabled Televisa to transport standard definition contribution feeds at 2 Mbps. The compressed IP video streams are then sent over Ethernet to the SkyWAN VSAT system where they are transported via MF-TDMA satellite to centralized production facilities. These compressed IP video streams are then routed over IP LANs to Envivio 4View professional decoders where the video is used in live and off-line production.

### Results

Televisa is now using less than half the bit rates previously required for each transmission stream. Bandwidth for each MPEG-4 stream is at 2 Mbps, instead of the previous 5 Mbps used with MPEG-2. As an added bonus, their overall video quality has improved over their previous solution. Televisa has also reduced their satellite capacity from 24 megahertz to 15 megahertz and were able to reallocate bandwidth to other applications. The Envivio MPEG-4 solution allowed Televisa to reduce the overall costs of their DSNG operations and effectively, do more with less.

## Grupo Televisa, S.A.

### The Company

- Grupo Televisa, S.A.
- Mexico City, Mexico

### The Application

- Digital Satellite News Gathering

### The Challenge

- Reduce bandwidth requirements for each stream without sacrificing video quality

### The Solution

- Envivio IP video convergence solution featuring 4Caster B3 encoders and 4View D1 professional decoders

### The Results

- Reduced required bandwidth for each stream by 60%
- Improved video quality over previous solution
- Considerable cost savings realized by allowing more streams to be transmitted within the same satellite bandwidth

*"We selected the Envivio systems after testing and comparing them with other systems on the market. The picture quality of the Envivio systems far surpassed its competition. Using the Envivio systems to lower the bit rates for each transmission stream, we can double the number of simultaneous transmissions over the same satellite bandwidth."*

*— William Aguirre,  
Director of Satellite  
Operations for Televisa*

# Grupo Televisa, S.A.



## Envivio Advantages for Televisa

### Bandwidth Optimization

- Using Envivio encoders enhances Televisa's video quality while allowing more streams to be transmitted within the same bandwidth thus maximizing the return on investment.
- The improved efficiency of Televisa's video transport system allows Televisa to schedule and allocate much less bandwidth per transmission. This results in considerable savings in both cost and resources.
- While offering the same or better image quality, Envivio MPEG-4 encoders reduced the bandwidth required for a Televisa video feed by more than 60% compared to state-of-the-art MPEG-2 encoders.

### Accurate Rate Control

- Televisa's contribution transmissions must reliably fit in a fixed bandwidth network topology.
- Using the constant bit rate (CBR) feature, Envivio encoders accurately compress streams with a fixed bandwidth output ensuring optimal video quality within the bandwidth specified by Televisa.
- Instead of using a variable bit rate for its DSNB application, Televisa has eliminated the need to provide a buffer and waste bandwidth in the case of encoding bit rate "peaks" or data loss when bandwidth limits are exceeded.

### Flexible Bandwidth Allocation

- Televisa uses the SkyWAN VSAT system to provide dynamic bandwidth allocation for scheduling transmission capacity based on transmission needs.
- If the video to be transmitted is not time critical or if schedule conflicts constrain any particular bandwidth segment then the Envivio encoders can be configured by Televisa for lower (or higher) bandwidth requirements.

### Pure IP Transport

- Using Envivio encoders and decoders, Televisa has switched from the MPEG-2 Transport Stream (MPEG-2 TS) to a Pure IP transport delivery.
- Pure IP offers higher bandwidth efficiency and more robust transport of video and audio signals over IP networks than MPEG-2 TS.
- Pure IP transports raw elementary streams directly over RTP/UDP rather than first embedding them within an MPEG-2 TS.
- Packets are specifically sized to the H.264 NAL unit making the stream more resilient to network jitter and packet loss.
- By using Pure IP transport, Televisa has the option of combining transmissions to include multiple audio and video streams which can be sent via satellite and separated at the receive location without the need for additional multiplexing or de-multiplexing equipment.

## About Envivio

Envivio Inc. is the leading technology provider of MPEG-4-based IP video convergence solutions for telcos, enterprises, and broadcasters. Supporting a wide range of network protocols, resolutions, bit rates and devices, Envivio is the only company to offer IP video convergence solutions from mobile to HD. Envivio solutions deliver industry leading AVC/H.264 compressed video quality at the lowest bit rate for mobile TV, Internet TV, broadcast contribution and interactive IPTV. Service providers worldwide use Envivio solutions to reduce their operational costs while offering subscribers compelling video services anytime and anywhere.

## For More Information Visit

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