

# A case study of

Evolution of one of the world's largest Nimbra networks to HD, enabled by JPEG2000 and Ethernet

## The Issue

Premium service quality for live TV transmissions is key for EBU, but now in combination with additional services for file transfers and data traffic. Equally important is ensuring the highest possible utilization of cable capacity and easy network management in order to achieve the lowest possible operational cost.

In 2004, when fiber capacity was becoming more widely available, the EBU decided to complement its satellite network with a terrestrial portion, to maintain its position as the world's premier provider of international transmission services for major sports and news events. The aim was to find the ideal combination for seamless transmission of live broadcast video over a new, secure, high-performance terrestrial network, together with EUROVISION's existing worldwide satellite network.

Before implementing the new network the EBU invested considerable time in testing many different platforms and technologies, including MPLS and ATM, and it became clear that Net Insight's Nimbra™ would meet EBU's requirements. The Nimbra platform was the most cost-efficient option, with very high service quality, high bandwidth utilization and an expected low total cost of ownership.

Broadcasters have since moved from standard-definition television (SDTV) to high-definition television (HDTV) with JPEG2000 compression for more efficient use of bandwidth capacity. The transition to IP interfaces from legacy video interfaces has been accelerating. The increased need for network capacity has been met with cheaper IP connectivity compared to synchronous digital hierarchy (SDH) links. However, the main customer requirements have remained the same.

## THE COMPANY

The European Broadcasting Union (EBU) is the world's largest alliance of public service media organizations, with members in 56 countries. The EBU operates EUROVISION, the premier distributor and producer of top-quality TV that provides broadcasters a wide array of content spanning from live sports and news events to entertainment, culture and music.

The EUROVISION satellite and fibre network is one of the largest and most rock solid in the world. It delivers more than 80,000 hours of programming every year, the majority of which is live sports. Its undisputed reputation for flexibility and reliability is reflected in the prestigious events it regularly carries on the EUROVISION network.

**EBU**

OPERATING EUROVISION AND EURORADIO

# “We continue our solid relationship with Net Insight for the development of our network since we aim to be the standard-bearer for QoS and reliability around the world”

## The Solution

Since 2004, when the EBU selected Net Insight's Nimbra platform, the EUROVISION Fibre Network (FiNE) has evolved with Net Insight's latest Nimbra products and features and has constantly been adapted to new broadcaster requirements and infrastructure possibilities. The network is now fully adapted both to the use of HD, JPEG2000 and to the transition to IP now taking place in the media industry.

A key benefit of transition to Ethernet capacity is that the EBU now can order from the fiber provider exactly the bandwidth that is required for the customer traffic on a link. In other words, the EBU only pays for what it uses, whereas overspending was previously necessary due to the large incremental steps between available SDH capacities.

The flexibility also extends to special events of shorter duration, where the EBU can surge or “burst” capacity for the event, which results in lower cost and simplified capacity planning. These benefits have been achieved without changing the Nimbra hardware that manages and switches the circuits, making the transition straightforward and cost effective.

## The Results

With the Nimbra platform, the EBU has been able to continuously evolve its EUROVISION network while keeping it suited to its media customers' requirements.

Whether it is HD transmissions from the FIFA World Cup™ in South Africa or centralized productions abroad using JPEG2000 compressed feeds from the London Olympic Games, EUROVISION's network is always meeting the latest demands of the media industry.

Decisive factors in the EBU's selection of Net Insight's Nimbra solution were lowest Capex and Opex, guaranteed quality of service (QoS) for real-time video and highest bandwidth efficiency. Today these factors remain, along with additional advantages including:

- Smooth continuous growth of the network, now with more than 100 nodes on five continents, connecting more than 50 broadcasters.
- The easy implementation of new technology, e.g. for IP/Ethernet and HDTV, with or without JPEG2000 compression.
- The ease of transition to the use of IP trunks to decrease costs.
- Low latency, maintained below 50ms for intra-Europe connections.
- Error-free connections relieving EUROVISION in most cases from the use of FEC to compensate packet loss.

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