

FULLY IT-BASED PRODUCTION

Broadcasters are using more and more generic IT hardware, networks and storage systems to produce their content and preserve their valuable assets. But selecting and evaluating solutions that meet the specific demands of media workflows is not trivial. The EBU is helping its Members to make the right choices and cost-effective decisions in their next rounds of infrastructure investment.

BACKGROUND

Media production infrastructure is very demanding and therefore has traditionally relied on speciality hardware. The advent of Information Technology (IT) based on commodity off-the-shelf (COTS) equipment became a viable alternative at the point where its performance could match that of the traditional technology.

The first step saw acquisition and editing systems based on cassette tapes being progressively replaced by file-based workflows using generic data storage, packet-based networks (Ethernet, IP, etc.), powerful computing and expert software. This approach is now widely deployed but ongoing work aims to improve interoperability and performance, especially when scaling and distributing systems using the Cloud approach.

However, the live production environment still relies mainly on speciality hardware and dedicated SDI interfaces. Indeed, this is the most critical application for broadcasters, requiring the lowest latencies, and highest throughput and reliability, which explains why those proven technologies still dominate. Nevertheless, with packet-based networks continuously improving, and with 10 Gigabit Ethernet being more affordable (and 40 GigE and 100 GigE on the way), the industry is now talking about bringing the live production environment into a unified network architecture for the whole production food chain.



THE CHALLENGE FOR PUBLIC SERVICE MEDIA

The trend is to produce more content, for more and more formats (from mobile to Ultra High Definition) and platforms (mobile to big screens, second screens, hybrid, etc.) and with the same or even fewer resources. This requires more automation and flexibility in workflows. On the storage side, this asks for preserving more media data and for a longer time while being easily accessible, findable, retrievable and quickly repurposable.

WHAT IS SO SPECIFIC ABOUT NETWORKS AND STORAGE WHEN IT COMES TO MEDIA CONTENT?

It is not the individual demands of broadcasters that are unique, but the combination of them. They need high performance and high availability for live and real-time processes along with many decades of reliability for archived content. Because their demands change quickly, they need on-demand scalability of resources with guaranteed and predictable performance. And for these reasons, they need interoperability between all systems, with the ability to extend such systems with COTS equipment without compromising the required Quality of Service and control.

And, in order to use IT networks and storage to fulfil all of these requirements, there is a need for a deep unified knowledge that previously belonged to two different domains of expertise, and separate departments in many organizations: IT and broadcast engineering.

WHAT IS THE EBU DOING?

The *Strategic Programme on Future Networked Systems* (FNS) is looking into those new systems by promoting interoperability within the industry, raising and sharing the technical knowledge of the early adopters, and provide guidance towards best informed investment decisions. At the same time, FNS looks into the impact on production practices and potential new workflows (agile, distributed, remote, collaborative, etc.) and architectures (Cloud) that are enabled by this technological transition.

To do so, FNS hold focus days on specific topic with subject-matter experts. It publishes briefings of strategic and technological levels for the EBU Members. FNS also prepares the programme of the *Network Technology Seminar*, the EBU's main annual event at the crossroads of IT and media production infrastructures. Finally, further speciality work are conducted by subgroups on Audio Contribution over IP (ACIP), Future Storage Systems (FSS) and Service Level Agreement (SLA).

The EBU is also co-steering, together with the Video Services Forum (VSF) and the Society of Motion Picture and Television Engineering (SMPTE), the *Joint Task Force on Networked Media* (JT-NM). This industry-wide initiative aims at ensuring interoperability in network-based systems for live production. The ongoing Phase 2 is preparing a system reference architecture with that goal in mind.

FIND OUT MORE

Future Networked Systems Strategic Programme
Network Technology Seminar
Joint Task Force on Networked Media

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tech.ebu.ch/NTS2015
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