

CHALLENGES FOR CLOUD PRODUCTION

- Live cloud content production is undoubtedly one of the greatest revolutions in the media industry. Agility, flexible processes, scalable environments, and reduced production costs are some of the main reasons that make this technology extremely attractive and necessary for organizations.
- However, currently, most solutions heavily rely on desktop applications and compressed media rather than native cloud methodologies. There is some pressure to migrate current on-premises systems to the cloud through a “lift-and-shift” process.
- When will we have fully native cloud systems to fully leverage the strengths of this technology? How can we improve the quality of video produced in the cloud compared to uncompressed formats used in on-premises systems? How can we address issues like delay, synchronization, and interoperability? These are some of the challenges that will be addressed in this panel.

Moderator: Wilson Oliveira de Almeida, Coordinator of the TV 3.0 GT, SET

• LEVERAGING MULTI VENDOR INFRASTRUCTURE FOR REMOTE LIVE PRODUCTION

This presentation discusses a case study, developed with Grass Valley, RTS and AWS solutions, of how multiple hybrid/cloud-native solutions from different vendors are managed together to make cloud-based productions as easy as they were in the past using on-premises infrastructure. The first part presents the underlying architecture, which is based on media services blueprints. Those include a set of virtual functions (a replay or multi-viewer function) and also describe how the functions get connected to each other. Profiles are defined to apply different configurations to a virtual function and a resource management layer maps resources that are available and have the capabilities and the required capacity to execute the live production. Mediation translates the profile parameters into the required API calls to ensure that solutions from different vendors can be used independently of the supported protocols. The 2nd part discusses the entire lifecycle management of a production and how we can automate things as much as possible: enter planning data, deploy/configure resources, present control surfaces, monitor the event and finally decommission resources again, as if we were turning on an OB van for that production and, at the end, turn it off, making resources available for next live event. In summary, it shows the ability to simplify cloud multi vendor live remote production.

Speaker: **Fabio Acquati**, Chief Technology Officer, NGN Telecom

• CHALLENGES AND STRATEGIES IN PRODUCING EVENTS IN THE CLOUD: CONNECTIVITY AND DISTRIBUTED OPERATION

Producing events in the cloud presents numerous benefits, such as scalability, flexibility, and cost reduction. However, this approach also brings significant challenges in terms of connectivity and distributed operation. We will explore these challenges and the strategies to overcome them.

Connectivity is a central concern in cloud-based event production. Real-time transmission of audio, video, and data requires a reliable and high-bandwidth connection between the event location and the cloud. Latency is a critical challenge, as any delay in transmission can compromise the operators' experience and the product's quality. The use of advanced technologies, such as fiber optic networks and 5G, is necessary to ensure a stable and low-latency connection.

Different parts of the production process may occur in geographically dispersed locations. Managing and synchronizing these distributed operations requires a robust infrastructure and efficient control systems.

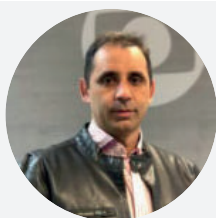
The use of efficient video compression protocols and optimization techniques helps reduce the required bandwidth for transmission, minimizing connectivity challenges. New solutions and innovations are emerging to address the challenges of connectivity and distributed operation. The ongoing advancement of 5G networks, the expansion of fiber optic infrastructure, and MEO satellite constellations promise to further improve connectivity and real-time responsiveness.

Speaker: **Boris Kauffman**, Solutions Architect Broadcast Specialist at Amazon Web Services (AWS)

• HIGH QUALITY PRODUCTIONS IN THE CLOUD

In addition to showcasing the AMPP and AMPP Grid tools, Bill Rice will be providing a comprehensive insight into Infrastructure, Protocols, Codecs, use cases, connectivity, and latency related to high-quality content and experiences in the cloud.

Speaker: **Bill Rice**, Director of Pre-Sales - Americas, Grass Valley



Wilson Oliveira de Almeida, Coordinator of the TV GT 3.0, SET

Telecommunications Engineer with an MBA in Network Management and Internet Technology at the Electronic Computing Center at UFRJ. Since 1994 he has worked in the Television sector and currently holds the position of Media Solutions Manager at Globo, with active participation in technology transformation processes, now focusing on the challenges of infrastructure migrations to IP & Cloud and the development of new codecs & formats with AIMS. He also coordinates the GT for TV 3.0 at SET, in addition to dedicating himself to virtual productions in XR, LED panels and projections. Married with 2 teenage children, passionate about his family and traveling, he continues to pursue his dream of becoming a... Barbecue Chef.



Fabio Acquati, Technology Director, NGN Telecom

He began his career at Tektronix, working as a Video Systems Engineer for South America and, during this period, he followed the evolution and transition of video systems, participating in the first digital TV tests in Brazil. He is currently Director of Technology at NGN Telecom, a company he founded and which works with monitoring, quality assurance and process automation solutions, where he acquired knowledge in the world of IP networks. Participates in the GT IP/Cloud and GT OTT groups, from SET, is an instructor at Globo's technology academy, provides training in the area and studies technology with the manufacturers he represents, participating in implementations and proofs of concept, experiencing the challenges of the world Video, IP, Cloud, workflow orchestration and process automation.



Boris Kauffmann, Broadcast Specialist Solutions Architect at Amazon Web Services (AWS)

He has over 15 years in the media industry, working in technology positions in broadcast, post-production and digital media preservation. Prior to AWS, he was responsible for the design and architecture of several IP-based video routing systems (SMPTE 2110) as a Solutions Engineer at Imagine Communications. Implemented several playout, master-control and routing systems in broadcasters in Latin America. Previously, he served as a Laboratory Technician at Cinemateca Brasileira, supervising migration and restoration workflows for films and videotapes in legacy formats. He has a degree in Electrical Engineering with an emphasis on Telecommunications from Universidade Presbiteriana Mackenzie in Brazil and is currently a master's student in the Postgraduate Program in Electrical and Computer Engineering at Universidade Presbiteriana Mackenzie, researching the transport layer of the new Brazilian Digital Television System (SBTVD 3.0).



Bill Rice, Director of Pre-Sales - Americas, Grass Valley

Bachelor of Science, Computer Engineering Technology / 2003 - 2006, Middle Tennessee State University (MTSU). Sales and Technology Manager with experience in product development, cloud architecture, customer service, networks, RF, broadcast, quality assurance, Linux administration and digital TV. I have the ability to sell, plan, develop, test, implement and maintain video technology, as well as train staff on existing and new solutions. I always put the customer first and I know how to inspire the team. Companies need employees who are constantly learning as technology evolves. Technology has enabled new efficiencies and revenue streams that were previously unthinkable.