Richard Friedel

Forward: IP Systems Implementations

Welcome to this special issue of the SMPTE journal on Internet Protocol (IP) systems and their integration. Guest Editor Brad Gilmer has gathered a number of excellent papers to expand our view on the current state of IP systems implementations across the industry in this first of two SMPTE journal issues.

This issue's focus is on the current state of IP implementations across the industry and their challenges and successes, viewed from the end-user's perspective. This peer-reviewed exchange of ideas is intended to "inspire" additional work by our industry and help drive continued innovation and use of IP-based technology and systems.

IP system hardware, software, and standards are now well developed, and much equipment and many applications are available in the marketplace. However, like many new technologies, practical implementations often identify aspects of use that were not anticipated or planned for by the developers. No matter the amount of time or effort our technologists apply, the creative and operational folks within our industry continue to expand and drive our efforts to new heights.

Achieving the promise of IP technology has long been an industry goal. The ability to create flexible systems that can dynamically scale is a game-changing development. It is only recently, however, that it has come into its own. Today, IP technology is a key enabler of the changes we have seen in our industry, including new forms of production, distribution, and monetization. Every day, we read about some new evolution of our business. SMPTE standards, and similar work, are the engine that drives this technological shift, and this work underpins the future of media and entertainment.

It is hard to believe that it was only in 2013 that the Video Services Forum proposed a unified development of IP technology for professional media with SMPTE, Advanced Media Workflow Association (AMWA), and the European Broadcasting Union (EBU). This ultimately became the Joint Task Force on Networked Media (JT-NM) that developed a theoretical architecture and roadmap through the efforts of hundreds of technologists across both media and IT industries. That work ultimately led to the development of the Video Services Forum's (VSF's) TR-03 and TR-04, the forerunners of the SMPTE ST 2110 suite of standards, and to Newtek's network device interface (NDI). These technologies substantially drive the advancements in the M&E space today.

The articles in this issue cover broad areas of implementation.

Mike Strein of ABC discusses the challenges of transitioning existing SDI facilities to IP systems when you do not have a new "greenfield" facility project.

Willem Vermost explains VRT's facility obsolescence challenges and how their use of software-based systems are impacting production at their studios.

Sunday Nyamweno and his colleagues explain their use of IT automation tools to create infrastructure as code to allow almost instantaneous reconfiguration of their IP fabric at CBC/Radio-Canada's Media-Over-IP Data Center.

Jim Trainor of Jim Trainor Consulting exposes the critical need for a single authoritative source of information in modern IT-based systems and potential ways to achieve this.

Jim Beahn provides an end-user view regarding his experience at WTTG/WDCA as an early adopter of ST 2110.

I hope you enjoy and learn as much as I have from these articles. I would like to personally thank the authors and their collaborators for their hard work in developing IP-based systems and for their willingness to share their experiences and recommendations with all of us.

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