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## The Impact of SMPTE in an IP Age

**A**t the IBC 2017 in September, SMPTE participated in one of the highlights of the five-day exhibition and conference. The IP Showcase, supported by the members of the Joint Taskforce on Networked Media; Alliance for IP Media Solutions (AIMS); the International Association of Broadcasting Manufacturers; and more than 50 manufacturers demonstrated the capture and delivery of professional media over an IP network. This collaboration puts SMPTE at the forefront of this evolving ecosystem, with the SMPTE standard suite called SMPTE ST 2110, “Professional Media Over Managed IP Networks.”

I am pleased to report that SMPTE ST 2110 is an approved standard and will be available in the SMPTE digital library by the time you read this article.

I must express the significance of the implementation of ST 2110. As the industry migrates to an all-digital ecosystem, standards are crucial to enabling system interoperability between manufacturers equipment. ST 2110 describes exactly how media—video, audio, and metadata—are interchanged throughout a facility. More specifically, the suite of standards specifies the carriage, synchronization, and description of separate elementary essence streams over IP for realtime production, playout, and other professional media applications. As more broadcasters migrate to IP-based systems to

move professional media around the plant, they can’t interchange between equipment without a standard methodology.

In effect, ST 2110 can hasten the replacement of serial digital interface (SDI) with IP and has the flexibility to enable an entirely new set of applications based on and leveraged by IT protocols and infrastructure. Now the media industry can see the benefits of software and virtualized access with new workflows and functionality. The move to an IP ecosystem has additional advantages that should increase reliability as well as reduce costs. With ST 2110, facilities can now rely on one standard data center infrastructure rather than requiring two sets of switches—SDI for professional media and IP switches for general data.

Manufacturers are already busy developing products to support and enable the use of ST 2110. During the IP Showcase presented at NAB 2017, 40 manufacturers participated with their products. At IBC 2017, that number had increased to more than 60. In fact, according to a recent survey of AIMS members, 70% indicated they would be offering equipment and solutions based on ST 2110 by the end of 2017.

While ST 2110 has significant benefits for broadcast facilities, other professional media applications will also gain from this standard. Essentially, professional media will benefit, wherever content is created and delivered. Motion picture studios, theme parks, live

event production, digital advertising, primary distribution, and playout can all realize the advantages of this new environment.

The development of ST 2110 has truly been an industry-wide effort. Within roughly 16 months, the idea was formed, and a standard was released. Many industry leaders believed in this effort and came together to realize this work. When the industry commits to working together coherently, standards can be developed and approved quickly. From this work, various specifications will be spawned to enable implementation in different facility scenarios.

Some have likened the development and release of ST 2110 to an industry transformational moment, similar to adding sound or color to film, or the move from standard to high-definition in television. Only time will tell if that is indeed an accurate statement, but it is clear that we have reached a significant inflection point in our industry. With new content creators entering the “online” market as well as traditional content creators migrating to an IP-based ecosystem, it is critical that SMPTE remain intimately involved in developing the consensus-driven standards that the industry wants and needs. With ST 2110 in place, manufacturers can develop products and services with enhanced features, knowing they can rely on the standard for interoperability. I’d say that’s a tremendous impact that SMPTE has in an IP age.

