



Brad Gilmer

## IP Systems Requirements

It has been a pleasure putting together the two issues of the *SMPTE Motion Imaging Journal* this year focused on Internet Protocol (IP) systems. For many years, SMPTE has been at the forefront of the IP transition, developing the bedrock Standards upon which facilities will be built for years to come. While work continues on SMPTE ST 2110, the basic essence Standards are complete. On the networked media open specifications (NMOS) side, the advanced media workflow association (AMWA) completed IS-04 and IS-05 for registration and device connection management several years ago. Manufacturers have been implementing these standards in their products for a few years.

We are now entering a new stage in the IP transition. The focus is shifting to the development of IP systems, which is why I first approached the *Journal* team with the idea to produce two issues on this topic. My proposal was that the first issue should focus on user requirements and the second issue should discuss the industry's response. We have mostly followed through on that. One exception is the first article in this issue by Gordon Castle. Castle's piece is quite unique in that he talks about the challenges of the transition to IP from the viewpoint of a senior business/technology person responsible for building one of the largest IP facilities in Europe. I was excited when he agreed to provide a submission because it is very rare that the industry has an

opportunity to hear directly from a senior executive regarding technical decisions and challenges they face in a major implementation of new technology. Read Castle's article for what it is—not an in-depth technical contribution, but the thoughts of a business/technologist responsible for implementing new facilities during this IP transition. Castle poses several questions and challenges, and perhaps one of you reading this will write a technical contribution to the *Journal* in reply. A discussion of the real-world challenges facing us all as we make the IP transition is good for the industry.

In addition to Castle's contribution, this issue includes articles from many others who have been "working at the coalface" of the transition to IP and have a focus on building systems from IP components. Gerard Phillips talks about systemizing ST 2110 and making IP simple, citing several technologies and best practices from the IT world that could help us as we look to make the construction of IP systems easier. Rob Porter discusses the importance of automated testing of ST 2110/NMOS systems and how this can lead to better interoperability and less difficulty for implementers and integrators. Richard Hastie, Gareth Sylvester-Bradley, and Thomas True discuss how accelerated server hardware, virtualization, and software composability will enable media functionality running in software on standard IT servers. Finally, Grant Hammond

and I present work we did on a deep dive into the workflow as a service delivered by the Dynamic Media Services Architecture in an attempt to develop both an architecture and a lexicon that allows us to communicate more efficiently around the subject of dynamic workflows provided by truly flexible facilities.

All in all, this has been a great experience, and I would like to thank John Belton and the SMPTE Board of Editors for their willingness to allow me to serve as guest editor of not one, but two issues of the *Journal*. Best of luck to Jaclyn Pytlarz who will be taking over from John. (Trust me Jaclyn, not all of the issues will be as unusual to work on as this one.) I would also like to thank Dianne Purrier, the managing editor of the *Journal*, for her help and guidance through this process. Thanks are due as well to the authors who contributed their time and knowledge to these two issues on IP systems. They have all been a pleasure to work with. Lastly, I would like to thank my cohort in IP crime, Richard Friedel. Richard and I stood up in front of a group many years ago and asked, "If we are going to move away from SDI, maybe we should start working on the replacement now." Not long afterward, the video services forum (VSF) started working on TR-03/04 which became ST 2110, and the AMWA began focusing on IP connections. So, if you want to blame someone for all this, you might as well blame us.

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