



Bruce Devlin

Internet Protocol

This month's *Journal* focuses on IP-based systems, where IP stands for Internet protocol and not intellectual property. The move to IP is motivated by the need for business flexibility in making programs. The days of big, permanent infrastructures where the TV broadcasters' studios were configured for a single show for months is a thing of the past. The drive for cost reduction and business agility means that making the best use of resources is the key. With IP, different signals can be placed on cabled infrastructure at different times of the day—ultrahigh-definition (UHD) productions at prime time, and then multiple HD programs, at other times. The workflows are moving from fixed, predetermined ways of working to software-defined switchable workflows that can be tailored or configured for a particular show or destination.

With all of this changeability and reconfiguration, I am often asked why do we need standards any more. My answer is quite simple. All this application agility requires stable underlying platforms if we are to achieve multivendor interoperability. If you only want to use a single vendor or a single open-source solution in

your facility, then that's your choice, but I personally believe that multiple vendors collaborating on the platform and competing with their applications leads to a healthy ecosystem. The follow-on question is what standards do we need, which is more difficult to answer.

In the past, I have stated that not every SMPTE document needs to be a standard, and in the software world, this is increasingly true. We should focus on SMPTE's technical activities and the fact that SMPTE, in this software age, should encourage special interest groups who care passionately about a subject to road-test the technology and then work with SMPTE to ensure that the correct elements required to develop stable platforms on which multiple vendors can innovate are published in the correct form. This might be as simple as registering and publishing a controlled vocabulary. It might be to encourage SMPTE to curate open source projects that form the key, stable, and foundational elements of the IP ecosystem. It might be to promote microservices and microservice frameworks to simplify and foster multivendor interoperable systems. It might be the definition and standardization of metadata transport over IP, for example, SMPTE 2110-41 Fast Metadata Exchange, currently

under development. It might be the definition of device capabilities, for example, the definition of Precision Time Protocol (PTP) device capabilities, which the SMPTE Technology Committee 32NF is currently working on. It might be generating cross-over standards to merge the live IP world with the file IP world by carrying production metadata down the value chain to distribution (<https://mxflive.io>).

SMPTE has all these mechanisms in place for the broad range of technical publishing that will be required for creating stable interoperable software-defined platforms in collaboration with other standards definition organizations. If you have a project that should be in SMPTE but doesn't feel like a traditional SMPTE project, then please get in touch. We are re-imagining the way SMPTE can enable success for the professional media community.

Finally, we hope you are all staying safe with the global COVID-19 restrictions. Our June standards meetings will be held virtually. If you have not attended a standards meeting before, then this may be your chance to listen and see how they take place. The guest participation forms with instructions are available on the SMPTE website (smpte.org → About → Policies → AG-15).

