

# EXCLUSIVE ARTICLES AVAILABLE ONLINE ONLY



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## UMID Applications in MXF and Streaming Media

By Yoshiaki Shibata

This paper reports on work in the SMPTE standards community to enhance applications of the Unique Material Identifier (UMID) in the material exchange format (MXF) technology. The latest SMPTE RP 205 specifying the UMID Application Principles was published at the end of 2014. The UMID Resolution Protocol is still under standardization. This paper demonstrates how various kinds of UMIDs in an MXF file are to be utilized to enable various UMID applications based on the UMID Application Principles. Furthermore, thanks to a type of UMID attached to every frame in an MXF file, there is a way for the UMID to be employed consistently and seamlessly between the worlds of an MXF file and a media stream composed of a sequence of frames. Some guidelines are proposed to maximize the interoperability of UMID applications in MXF and streaming media.

## A Concept for File-Based Content Exchange Using Scalable Media

By Heiko Sparenberg and Siegfried Foessel

This paper introduces a concept for file delivery using the features of scalable (or hierarchical) media like the Joint Photographic Experts Group 2000 (JPEG 2000) image coding system. The innovation of this concept is that, due to the scalability feature, the recipient may start to work with the transmitted content even before completion of the transfer. For this, a reduced subvariant, derived from the scalable sources, will be transmitted in the first phase until the full media data reaches its destination. The recipient is therefore able to get a preview faster. Subsequent phases will add more and more information to the subvariant transmitted in the first phase. A concept called the "Substitution Method" (which was presented at the SMPTE 2012 Annual Technical Conference) enables the software running at the destination to rebuild the file structure of each media file and to simulate missing data so that the images can be used for further processing before the overall transmission is completed.

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