



Ensuring PMCP/PSIP Interoperability

Recognizing the need for improved industry-wide PMCP interoperability, and thus more accurate PSIP, the ATSC has formed a new Working Group on PSIP Workflow Interoperability, PC-7. This group, reports to the ATSC's Planning Committee and is chaired by Chris Lennon of Harris Corporation, who provided this contribution to *TV TechCheck*.



For those not familiar with it, PMCP (ATSC Standard A/76B) is the Programming Metadata Communication Protocol. It provides a standardized means of communicating PSIP-related data among the systems that manage it. PMCP has been around for some time, and has recently enjoyed a significant uptake in the industry as interest in and awareness of the need for dynamic, accurate PSIP increases.

Part of the scope of the ATSC Planning Committee is to "support the use of ATSC standards and recommended practices through activities such as education, training, demonstrations and fostering interoperability." The goal of the PC-7 Working Group is to assemble a group of broadcasters and vendors who are implementing (or plan to implement) dynamic PSIP by way of PMCP interfaces between systems such as listing services, program management, traffic, automation, and PSIP generator systems. The group will work to improve interoperability of these systems by way of information exchange regarding PMCP and implementation issues, both on regular conference calls, and at one or more in-person interoperability sessions in Toronto in late Fall 2008.

The PC-7 Working Group hopes to provide members a forum in which vendors and broadcasters can work out interoperability details in an open, cooperative environment, benefiting not only the vendors, but the broadcasters who will be implementing these interfaces. Having all PMCP-compliant systems truly interoperable is in everyone's best interest.

PSIP Requirements and How PMCP Can Help

Since the Federal Communications Commission (FCC) incorporated ATSC Standard A/65, "Program and System Information Protocol for Broadcast and Cable (PSIP)," into its rules, stations have made great strides in complying with the provisions of the standard. This is good for broadcasters and good for consumers.

Since the first version of the PSIP Standard was published in 1997, compliance reflected good engineering practice on the part of television stations, since the standard offers benefits for both viewers and broadcasters. PSIP is—in fact—critical to proper operation of the DTV system.

For the viewer, PSIP permits suitably equipped receivers to build an on-screen grid of channels and program information for all DTV services. In addition, the viewer can seamlessly surf from NTSC to HDTV to SDTV. For broadcasters, PSIP maintains local brand identification through the "major channel number." PSIP identifies both the DTV channel and the associated NTSC channel and enables DTV receivers to associate the two. In addition, PSIP tells the receiver whether multiple program channels are being broadcast and, if so, how to find them. Furthermore, it identifies whether the programs are closed captioned and conveys available content advisory information, among other things.

The Role of PMCP

The Programming Metadata Communication Protocol (PMCP) can greatly simplify the process of generating highly-accurate PSIP data. A/76 was developed by the ATSC Specialist Group on Metadata Communications, TSG/S1, under the leadership of Graham Jones of NAB and now chaired by Art Allison of NAB.

Because PSIP and other DTV metadata is originated or processed by several separate systems and related equipment, there are often difficulties in communicating the appropriate metadata to the PSIP generator.

Implementing PMCP helps ensure that the transmitted PSIP information is complete and correct, with minimum manual intervention by the broadcaster.

PMCP is based primarily on XML (extensible markup language). It enables broadcasters and manufacturers to more easily interconnect systems that process PSIP and other DTV metadata. This includes, but is not limited to:

- Traffic
- Program management
- Listing service
- Automation
- MPEG encoder
- PSIP generator

PMCP is also extensible for other types of metadata, and can convey private information within the current data structure.

With the XML schema being both human and machine readable, PMCP implementation becomes a more simplified process by specifying exactly which elements are allowed in messages, their relationships, individual attributes, and data types.

PMCP references and is complementary to existing ATSC Standards. It supports the ISO Standard ISAN for unique identification of program content and carries all the information needed in one message structure for:

- Virtual channels
- PSIP events
- Programs
- System Time Table
- Directed Channel Change Table
- Regional Ratings Table
- Private Information

Get Involved

In order for simple and reliable operations to be possible, a lot of thought and effort has to be made on the front end design of these systems. Broadcasters cannot simply wait on the sidelines to see what the manufacturers implement. With the growing pressures of adding additional services in the digital domain and decreasing budgets forcing stations to do more with fewer people it is vital that these systems work well together. Manufacturers alone cannot effectively create systems that will meet all the needs of the broadcast community. Station personnel from the engineering, operations and traffic areas must also participate. The success or failure of these systems is dependent on their application at the line level, not the senior management level. The manufacturing community has a vested interest in participating since the sales of these systems are important to their growth but the broadcast community has an even stronger interest since the functionality and reliability of these systems play a vital role in the stations' ability to survive as well as grow.

ATSC members are invited to join the PC-7 Working Group at <http://members.atsc.org>. In keeping with the ATSC's long-standing policy of encouraging the broadest participation possible, non-ATSC members are also invited to participate in this activity. Non-members wanting to join PC-7 should contact Jerry Whitaker at jwhitaker@atsc.org. All ATSC standards can be downloaded from the ATSC Web site at: www.atsc.org/standards.html.

The advertisement features three book covers. The top cover is the 'NAB Engineering Handbook, 10th Ed. The Definitive Resource for Engineers', published by the National Association of Broadcasters. The middle cover is 'The IBOC Handbook - Understanding HD Radio Technology' by Ed T. Hooper, also published by NAB. The bottom cover is 'NAB Broadcast & Audio System Test CD - Volume 2'. To the right of the bottom cover, there is a promotional offer: '50% OFF' and 'Buy at NABStore.com'.

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The AFD Ready Initiative



AFD Ready is an initiative created by television broadcasters to insure uniform and optimum program delivery of television broadcasts after the analog shutdown on February 17, 2009. Through this initiative, participants will work to increase awareness of AFD and promote its use throughout the television industry.

More information on the initiative including technical information and whitepapers, industry links and a list of AFD Ready ATSC receiver/down-converter devices is now available at www.nab.org/AFDReady.

ATSC Digital Television Transmission System 8-VSB Fundamentals Seminar

Wednesday, September 24, 2008 – KNME, Albuquerque, N.M.

The 1-day 8-VSB Fundamentals seminar, conducted by Gary Sgrignoli, will help you develop a fundamental understanding of the digital VSB transmission system and its performance attributes as well as current practical application information. The seminar includes an optional site visit to KNME's DTV Tx site on Sandia Crest. For additional information contact the instructor Gary Sgrignoli, Meintel, Sgrignoli & Wallace at 847 259 3352 or Gary.Sgrignoli@IEEE.org or Jim Gale, KNME-DT, 505 277 2049, jgale@knme.org.

NAB'S Satellite Uplink Operators Training Seminar September 29 – October 2, 2008



If you weren't able to attend the June NAB Satellite Uplink Operators Training Seminar, you still have one more opportunity this year. The course will be offered September 29 – October 2 at NAB's headquarters in Washington, DC. This four-day course is designed to instruct students in the proper technical and operational practices that will ensure safe, successful and interference free

satellite transmissions.

You can check out a short video piece featuring satellite seminar instructor Sidney Skjei on the NAB365 Thought Leadership Channel at: <http://nab365.bdmetrics.com/spc-8-10720/nab365-tv.aspx>.

**TV TechCheck will
not be published
on July 7
but will return on
July 14.**

For more information call Cheryl Coleridge at (202) 429-5346 or go to [NAB Satellite Uplink Operators Seminar](#).



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