



CHAPTER TWENTY NEWS

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Next Meeting

SBE 20 and SMPTE Meeting on October 20th at Consol Energy Center in Pittsburgh!

(RSVP to http://groups.yahoo.com/group/SBE20/app/rsvp/entry/view/004f462b-d517-452f-9c90-f9cbb48f1445?#comment_form)

Please join SBE Chapter 20 and SMPTE at the Consol Energy Center at 6:00PM on October 20th for a full evening. Tours of the new home of the Penguins will be at the end of the evening with the presentations beginning about 6:30PM, but it is important to arrive on time to move through security at the new arena. Soft drinks and snacks will be provided prior to the meeting.

SBE Chapter 20 and local SMPTE members are pleased to announce the next meeting in Pittsburgh. The topic is from the top of the list which came from our survey earlier this year. "Working with Files" will be presented by four professionals with considerable experience in this critically important area of modern broadcast technology. The evenings presentations are the first of a two part series that SBE hopes can help production and broadcast professionals in the local area to arrive at common practices, facilitating delivery of broadcast ready content to local stations.

First a tutorial on file based technology will be presented by SBE Chapter Chairman and consultant, John Luff. John has been involved in advanced facilities for many years and has presented regional seminars on File Based Workflow in 9 cities across North America for SMPTE along with colleague Al Kovalick. He will cover topics including:

- File basics (wrappers, metadata, essence, compression types)
- MXF and AMWA specifications in the real world
- Effects of cascading compression on audio and video

Following John's introduction to the concepts Tom Pflaum, Vice President, Product Strategy and Solutions, Agility Products at Telestream (formerly with Anystream) will cover the general topic of transcoding content, including

- Transcoding essence (both decoding/encoding and direct transcoding)
- Handling VANC, Closed Captions
- Handling audio

The third presenter, Ed Fraticelli of PMI, and also well know to the local community, will cover the production side of the equation, including

- Handling files in production
- Delivering files from production to broadcast
- Local practices

This full evening of important content is intended to be preparation for a follow-up meeting local SBE Chapter officers are calling a "File Summit", at which we hope to get all of the stations in the region and much of the production community to participate in an interactive meeting aimed at smoothing the workflow which ultimately delivers content to stations. SBE, as a neutral party, is uniquely prepared to help all parties arrive

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Inside Outside Broadcasts

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Welcome to the first in a series on television remotes.

Our friends in England have a much more descriptive term for this, the "OB" or Outside Broadcast, for any television production occurring outside the studio. The folks at Ma Bell had another colorful term in the days of radio, NEMO, or "Not Emanating from Main Office."

We will try and cover all things technical and production relating to OBs, from one camera news live shots to the Super Bowl and the Oscars.

The fall is the favorite time of the year for the big remote truck companies; schedules are reasonably fixed with NFL and college football contracts and revenues take a strong upside turn with the return of the NBA and NHL seasons.

Technology changes are fairly limited this year for the NFL season; more super-motion cameras are being used, FOX has switched its graphics

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at common practices which will produce both more efficient workflow and superior quality in locally aired programs and commercials.

CONSOL ENERGY CENTER TOUR!!!!

We are particularly fortunate to be able to hold this meeting at the brand new home of the Pittsburgh Penguins, Consol Energy Center. To set the stage for the tour Karl Paulsen, SMPTE Fellow and senior staff member with Diversified Systems, will present an overview of the Consol Energy Center facilities and introduce our host, Chris DeVivo, who will conduct a tour for all attending.

Don't miss this important meeting and the backstage tour of the newest stadium in the NHL!

Our presenters for the evening will be:



Karl Paulsen

Karl is a senior member of the staff at Diversified Systems, based here in Pittsburgh. Karl has been a member of SBE for many years and is a Certified Professional Broadcast Engineer. He is also a Fellow of SMPTE and member of SMPTE's Board of Editors. He is also a member Institute of Electrical and Electronics Engineers (IEEE), and the Hollywood Post Alliance (HPA).

Professional Experience includes advanced video technologies, broadcast and media systems technology integration, consulting for media, broadcast and related technology companies, and design and engineering for major broadcast organizations . Karl is a feature columnist for "TV Technology", a leading industry trade magazine, and the author of "Video and Media Servers: Technology and Applications" published by Focal Press.



John Luff

John is a consultant in electronic media technology and frequent presenter at SBE and SMPTE meetings on a variety of topics. He was the founder of STI, a local system integration firm, and remained with AZCAR for 5 years after they acquired STI in late 2000. He has provided technical planning and project management services to a variety of broadcasters and programming networks since leaving AZCAR, and is currently writing a major training program for a major standards organization...stay tuned!



Tom Pflaum

Tom Pflaum has been in the video software industry for 15 years. Until last month Tom was at Anystream, working with broadcast companies implementing file based broadcast and new media production workflows. He was with Anystream for 10 years, as a technical expert, first running the engineering group and then working with customers to implement software solutions for file based video workflows as well as defining the product road map. After the recent acquisition of Anystream, Tom Pflaum is now with Telestream as Vice President of Product Strategy and Solutions.

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package to Viz-RT and more backhauls are being done in MPEG 4. ESPN has one weekly regularly scheduled 3D college game on Saturday night, a side-by-side production, from the opposite side of the field from the 2D 'cast.

Unique to the 3D telecast is a special version of the sideline cart from Chapman Leonard- two cameras are on the cart, the familiar manned sideline camera, and a pole mounted robotic camera taking the place of the traditional 20-50-20 up cameras for game coverage. The pole camera helps mitigate the lens limitations of 3D- it carries a Fujinon 42x zoom, and it eliminates two cameras and their associated costs.

The majors are experimenting with shipping discrete 5.1 audio stems back to the broadcast center, rather than Dolby, DTS or Circle Surround encoded feeds. The goal being one single point of Dolby encoding before transmission for all network programs for better consistency. Loudness Meters are being installed in the audio room to help with that problem starting at the original mix.

Enjoy your fall!



Ed Fraticelli

Ed Fraticelli is the VP Technology for Production Masters, Inc. (PMI). He has been at PMI from its inception in 1985. Over the past year, Ed was a project leader for the relocation of the PMI facility to its new 5th Avenue location. During this project, he re-designed the entire technical plant, including Tech Center, many video editing suites and PMI's audio recording studio.

Ed has also written technical papers published in the SMPTE Journal. He has served on the ITS Engineering Committee, where he helped to organize the first Technology Retreat, now sponsored by the Hollywood Post Alliance.



FCC IPAWS CAP & White Spaces

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The Department of Homeland Security's Federal Emergency Management Agency recently announced the adoption of a new digital message format for the Integrated Alert Public Warning System (IPAWS), the nation's next generation emergency alert and warning network. The goal of IPAWS is to expand upon the traditional Emergency Alert System by allowing emergency management officials to reach as many people as possible over as many communications devices as possible, such as radio, television, mobile phones, personal computers and other communications devices. The current EAS relies largely on radio and television to communicate to people.

The new digital message format being adopted by FEMA is the Organization for the Advancement of Structured Information Standards (OASIS) Common Alerting Protocol (CAP) v1.2 Standard. This open standard will enable alert messages to be easily composed by emergency management officials for communication with citizens using a much broader set of devices to reach as many people as possible.

"The Integrated Public Alert and Warning System will allow federal, state, territorial, tribal and local officials to get critical and timely information to the public that can protect communities and save lives," said FEMA Administrator Craig Fugate. "People get their news and information from a wider variety of sources today than ever before, and it's important that emergency management officials are able to reach members of the public no matter what medium they may be using. The Common Alerting Protocol gives us the opportunity to send one message over all IPAWS alert systems at the same time."

Under Executive Order, FEMA is responsible for establishing the protocols and standards for an integrated emergency alert system that can reach Americans over a variety of media in a timely manner. The Federal Communications Commission is the lead agency responsible for adopting and enforcing the requirements to ensure that communications service providers have the capability to receive and transmit emergency alerts to the public.

Rear Admiral (ret.) James Arden Barnett, Jr., chief of the FCC's Public Safety and Homeland Security Bureau said, "The adoption of the new CAP standard will ultimately transform America's emergency alert and warning capabilities and better enable Americans to receive these potentially life-saving alerts over television and radio broadcast stations, via the Internet, and on their cell phones. The ability to receive alerts over multiple platforms will dramatically increase the likelihood that Americans are receiving this critical information timely and are better informed to take actions that will help protect themselves and their families during emergencies."

In order to assist officials in evaluating new alert and warning systems, FEMA is conducting an assessment program to ensure products adhere to the IPAWS CAP profile. A list of pre-screened products that meet the profile will be published at

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the FEMA Responders Knowledge Base, to aid federal, state, territorial, tribal and local officials in purchasing emergency alert products that comply with IPAWS CAP. Vendors can apply for these assessments at www.nimssc.org/ipawscconform.

The three documents defining the FEMA IPAWS technical standards and requirements for CAP and its implementation are:

- (1) OASIS CAP Standard v1.2;
- (2) IPAWS Specification to the CAP Standard (CAP v1.2 IPAWS USA Profile v1.0); and,
- (3) CAP to EAS Implementation Guide.

Additional information and documentation on CAP technical standards can be found on the OASIS Web site, <http://www.oasis-open.org>. The CAP to EAS Implementation Guide can be found on the Web site of the EAS-CAP Industry Group, <http://www.eas-cap.org/>.

White Spaces

The FCC's latest ruling on unlicensed devices operating in the TV spectrum modifies the original 2008 order in four areas: Incumbent services, the devices themselves, databases they'll be required to check and the use of TV channels. The changes address 17 petitions to reconsider the 2008 order, though the FCC said it upheld "the majority" of those rules.

The Commission's Second Memorandum Opinion and Order, released on September 23rd, represents the final parameters governing TV band devices, or TVBDs. They represent a new class of personal communications gear that will be allowed to operate in unoccupied TV channels, *aka* "white spaces."

Broadcasters fought TVBDs because their potential to disrupt TV reception was unknown. As no such devices are on the market and only prototypes have been tested, this remains a concern. Particularly now that the commission eliminated a requirement that TVBDs automatically sense occupied channels. The devices instead will rely entirely on communicating their geographic coordinates to privately owned databases of channel usage and availability.

TVBD Types and Power Levels

Three basic types of TVBDs are described in the FCC's ruling - fixed, and portable Modes I and II. ("Portable" as in movable but stationary in use, versus "mobile" as in constant motion. The FCC has not yet taken up mobile TVBDs.) Fixed devices are just that - tethered to a single location, e.g., a home Wi-Fi modem. Mode II portable devices are those with integrated capability to communicate with the databases. Mode I describes portable TVBDs that are dependent on base stations or Mode II devices.

Portable TVBDs will be allowed to operate at 40 mW in channels adjacent to TV signals, and 100 mW elsewhere. A petition by the Community Broadcasters Association to reduce the adjacent channel power level was rejected. However, all TVBDs - fixed and portable - must have technology that adapts power levels to the minimum necessary to accomplish communications.

Portable TVBDs will be allowed to operate on unused channels between 21-51. Fixed TVBDs will be allowed to operate at 4 W on unoccupied channels between 2-51, except for 3, 4, and 37 (the latter used for radio astronomy). Fixed TVBDs will be prohibited from operating on channel immediately adjacent to TV signals. They will also be required to transmit an identification signal.

The commission modified the rules governing the allowable antenna height for TVBDs. Rather than just 30 meters above ground as previously defined, a height above average terrain, or "HAAT" was added. Fixed TVBD antennas will be prohibited from operating above a HAAT of 106 meters.

The 2008 order required all TVBDs be capable of sensing analog and digital TV signals as well as wireless mics operating at specified power levels. This requirement was dropped in the final order for devices that access a geo-location database. The FCC said it nonetheless expects manufacturers to voluntarily include spectrum-sensing technology in such devices.

The Commission said it would also accept applications to certify sensing-only devices under a "proof-of-performance" standard. Such devices would have to sense wireless mics and other low-power auxiliary stations at a minimum threshold of -107 dBm, up from -114 dBm. The minimum threshold for TV signals remains -114 dBm. The power limit for sensing-only devices is 50 mW.

The elimination of compulsory spectrum sensing means TVBDs can rely solely on database exchanges to avoid TV signals and wireless mics.



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