This event would not be possible without the exceptional generosity and unwavering support from our sponsors.
Welcome to the 2013 Bits By The Bay, the SMPTE Washington DC Section’s Technology Conference. To the left you’ll find a list of the SMPTE managers and friends who worked tirelessly to make this event possible.

This marks my 16th year as a member of SMPTE and my involvement with these conferences. It always amazes me how much everyone is willing to give to make this happen - from sponsors who say yes without reservation, presenters who make time in their schedules and contribute to our outstanding program, to you our attendees, who realize that investing in yourself is a win-win for you, your employer and our industry. Many of you come to this conference at your own expense, even using up leave from work to attend.

A few of my colleagues deserve special note this year. Eric Wenocur lassosed the presenters and put together a great program, our best ever. As you look at the speaker bios on the right, notice how many VPs and CTOs we have on the podium.

And when we found that government and military employees were having difficulty attending because of the sequester, Bob Natwick pulled out all the stops and our sponsors came through with enough additional support that we could let those affected attend for free. Even the hotel chipped in - we’re paying the same rates we paid in 2009.

This conference is for you. Have fun, meet up with old friends, make some new ones and learn something new, too. Please fill out the survey so we’ll know how to make our future events even better. Continue to invest in yourself - join SMPTE if you’re not already a member and come to our monthly Thursday meetings.

On behalf of my SMPTE colleagues, thank you for coming and I hope to see you at another meeting soon.

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Cellular Bonding for Remote Transmission

Dani Piascik, LiveU

Cellular bonding allows live, HD transmission from places no satellite or microwave unit can go, at a better price. This presentation will show the core features and challenges of transmitting over cellular as well as how the technology can fit into both news gathering and live production. Also covered will be OOB cellular vs WiFi and 4G scenarios, and H.264 live video bonding solutions will be discussed and compared to cost and space standpoint.

Virtualization of Broadcast Playout

Martin Holmes, Snell

Moving from videotape to file-based workflow to cloud-based resources for the broadcast play-out last century brings efficiencies in cost, time and management. The use of the automation, IT-based hardware, client/server applications, and virtualization, it is possible to move various production capabilities, master control and play-out into a completely remote private data center or cloud-based facility. The advantages, challenges and evolutionary approach to this disruptive technology are discussed.

Audio Processing in SDI Video Routers

Jeff Tolin, Utah State University

This paper will describe the latest advances in embedded audio processing technology within SDI video routers. A range of architectures are available today which allow users to process audio signals that are either discrete analog or AES, MADI, or embedded in an SDI video signal within a single routing switcher function. In addition, the session will explain how to gain real-time audio access through both web- and mobile-based apps that provide an agile and effective means of media content creation.

The Storm After the CALLM

Ken Tankel, Linear Acoustic

This presentation looks at some of the effects of the CALLM Act on broadcast audio. Have broadcast audio levels become more consistent? Have the changes been good for viewers? What are the next steps that can provide viewer satisfaction, compliance and better audio for the broadcast industry?
Keynote Presentation: Surviving a Disaster
Water Raps, CBS Sports Network

This two-hour session will cover the basic concepts in networking and Ethernet. Topics include: what is a network, the OSI model, routing, switching and addressing. The aim is to enlighten attendees about a discipline in which they may already find themselves working, and yet may be missing fundamental knowledge. The level of discourse will be broad and basic, with audience participation encouraged.

Lunch
Sponsored by Digital Video Group and Belden / Miranda

IT Networking Fundamentals for Broadcasters (carries through break)

Afternoon Break
Sponsored by Evertz Microsystems

Keynote Presentation: Surviving a Disaster
Water Raps, Director of Technical Marketing, Quantum

Content workflows for media and entertainment creators are "hyper-evolving," with production time shrinking, UHDTV (4K) video on the horizon, and "target" distribution platforms multiplying (one provider must output content to 46 different platforms). Traditional ways of storing, using and moving assets can benefit from an entirely new class of storage. This presentation will explore the concept of object storage for the media and entertainment segment in particular, where the technology does and doesn't fit, and how to leverage intelligent object storage in media workflows.

6:00 - 7:00 PM
Cocktail Reception
Sponsored by Harmonic
On the docks of the Bay

7:00 - 9:00 PM
Conference Dinner
Sponsored by Snell
Chesapeake Ballroom B

Multi-Dimension Compression: Primary Distribution
Gal Garniek, Evertz Microsystems

This presentation looks at the overall delivery chain with a focus on primary distribution: from content providers and stations to the end viewers and to secondary distribution (cable, satellite, etc.). The session will cover content distribution, the legacy/current situation, and review the challenges ahead. The approach presented will show a block-by-block system design to allow remote switching and monitoring of signals via internet control, including going "live" with reports from mobile devices. It also touches on distress control of protection switches, signal processors, and EAS presentation.

Ethernet has been around since 1973, and you're probably aware of many companies who have struggled to make it work for audio and video applications. But those are proprietary systems where often Box A can't talk to Box B. So IEEE, which controls the Ethernet standard, has been working on a re-write of Ethernet called 802.1BA, also known as AVB, for "audio and video bridging." This standard may herald a new way to design, install and operate audio and video facilities.

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What would happen to your station in a catastrophic disaster—one where the studio facilities have been shut down yet the transmitter remains viable? Being able to remain on the air requires remote switching, usually at a transmitter site. In a major disaster, being able to "live switch" easily between various sources, including those which may be asynchronous, or from mobile devices, plays a major role. This presentation will show a block-by-block system design to allow remote switching and monitoring of signals via internet control, including going "live" with reports from mobile devices. It also touches on distress control of protection switches, signal processors, and EAS presentation.

IT Networking Fundamentals for Broadcasters (carries through break)

Introduction to Integrated IP Transport
Steve Lampen, Belden

For media companies large and small, digitizing and archiving an entire library of video assets can be a daunting task. Archive solutions currently in use run from video tapes to spinning disks to external drives on shelves to digital tape systems. Choosing the right approach is important as these video assets are at the core of a company’s business. Providing a suitable long-term storage solution is critical. This presentation will discuss a model archive environment; the cost of maintaining legacy video technology; digital tape, disk, flash & cloud; OPEX cost considerations and staying current with new generations.

When Will Broadcast Plants Go Entirely IP Routing?
Stan Moote, Harris

This paper explores and explains the pros and cons of IP routing compared with the newer trends in integrated baseband routing solutions. Recent advances in Ethernet bandwidth are reviewed in relation to HD-SDI bandwidths. An example discusses how to build an actual full bandwidth HD mid-size router, leading to a discussion of unicast vs. multicast technology, as it pertains to a non-blocking signal flow through the plant—in contrast to conventional baseband matrix routing technologies. By taking various technology points and understanding how broadcasters use routers, time frames will be discussed for using full bandwidth HD IP routers.

Video Archive Reliability and Cost Considerations
Hossein ZiaShakjeri, Spectra Logic

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Leveraging Object Storage Technology in Media Workflows
Skip Levens, Director of Technical Marketing, Quantum

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Building upon the preceding Network Fundamentals session, this presentation will cover fundamentals of carrying broadcast quality video using IP networks. Packetization and encapsulation of video frames, broadcast-video-specific requirements and SLAs, IP video transport architectures and how to manage loss and build towards a lossless transport will be discussed. Case studies will illustrate real-life deployment of all-IP video transport networks and related considerations.

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