8:30AM WEDNESDAY

PBS Digital Media Summit
(NOTE: full day program, breakfast & lunch included)

Building on the strong work done in 2013 and the continuing desire of PBS station leaders nationwide to further their work in digital media, the PBS Digital Media Summit brings together public media professionals from all areas of the station to work through some of the complexities of digital media through the Open Space Process. Our goal is to have station leaders across the country moving beyond talk to creating commitments to develop new or expanded digital projects that increase their station’s local impact, relevance, and sustainability. As broadcast technicians and engineers, you can play a strong role in leveraging digital media at your station.

What is Open Space? Have you experienced conferences or workshops where the speakers don’t cover the issues you want to explore or don’t give you enough time to discuss the topics with your colleagues? Then the Open Space Process is for you. Open Space is designed to take care of the needs of every participant and to build on the many assets and talents each participant brings into the room. The typical conference questions—who are the speakers? What is the agenda? What topics will we cover? How long do we have for each topic? Which workshops are we offering?—are irrelevant. Think of the Open Space Process as a day-long coffee break—that part of a traditional conference where you find the people with whom you really want to connect and talk about the issues most important to you. In the Open Space Process that’s what you do for the entire day, not just at breaks or at lunch before the keynote speeches begin.

How does it work? You identify the specific topics, issues, and questions you want to explore and/or share with your colleagues that fit within the overall theme. Together, you create the agenda and place it on a community bulletin board for all to see. You take the lead to:

- Present what you have learned and want to share with others;
- Open a conversation on a burning question or topic you want to explore with other participants where you don’t have answers;
- Attend only those sessions that truly engage you, for which you feel some passion;
- Capture the specific action steps, ideas, recommendations, and key themes from your group sessions and get them typed up, resulting in a Book of Proceedings for all to share;
- Commit to Action Steps on how you, public media professionals, can keep moving forward to develop new or expanded digital projects that increase your local impact, relevance, and sustainability.
Open Space is grounded on the principle that there are no hierarchies—all participants have equal status. Everyone is a learner and a real world expert who is invited to share what he/she knows or to seek what he/she does not. And, everyone has the responsibility to do what it takes to make the most of this opportunity. We think this is one time where what happens in Vegas won’t stay in Vegas!

1:00 PM WEDNESDAY
Cloud 101: The "Cloud": Internal, External, or a Combination?
The “Cloud” is the most widely used information technology term today. Everyone talks about Cloud Services and Cloud Computing as the future of IT, but few can really explain what the cloud is and how one might utilize in one’s organization. Do you implement cloud technology because this is what everyone is doing or do you implement for strategic gain?

This presentation will focus on understanding Cloud based IT infrastructure technology by focusing upon the terminology, implementation examples, implementation pitfalls, and security implications.

PRESENTER: Wayne Pecena, Director of Engineering, Texas A&M University - KAMU

TAC Opening and Welcome: Let’s Play in Traffic
Join the Traffic Advisory Committee for an hour of face time to kick off TechCon14! More often than not, the best resource that PBS Traffic Professionals have is other Traffic Professionals. In this opening session, you will meet your TAC and National Distributor representative along with your counterparts from across the country. Don’t miss the opportunity to put a face with a name! We’ll get the ball rolling with some lively conversation on a series of current topics. This is also your first chance to discuss best practices before the more targeted sessions begin. Join us for this opening session and help get TechCon14 off to a roaring start!

Presenters: TAC Members

Using DSLRs for Good
Like it or not, DSLRs and similar inexpensive "cinema" cameras are here to stay. They don't respect broadcast levels, have terrible audio, and require (arguably) more skill to use than standard ENG cameras. What are we to do? In this session we’ll go over some tips and best practices for getting the most out of these cameras, from the shoot through the edit to the delivery, as used in KLRU's award-winning documentary series Arts in Context. Cheap doesn't have to mean bad!

Presenter: Chris Ostertag, Digital Media Engineer, KLRU-TV
2:00 PM WEDNESDAY

Cloud 201: Leveling up with Cloud Technologies for Broadcast
Cloud 201 is the next “level up” from the Cloud 101 and 102 sessions that were included in the TechCon 2012 and 2013 programs. The intent is to do a deeper dive into the cloud computing technologies that have evolved for broadcast and other media and entertainment applications.

Included will be a discussion of IP-VPN connectivity options, the use of Class of Service/Quality of Service (COS/QOS) mechanisms and the use of IP multicasting and other bandwidth efficient methods for broadcast quality distribution. In addition, the use of orchestration layers to provide private/hybrid cloud services as well as performance expectations for linear and non-linear content distribution will be discussed.

This session will be of interest to those following the v6 next generation interconnection system work being done by PBS and are interested in some of the technology tradeoffs that will need to be made for that system. See also the companion Cloud 101 session being presented earlier in the day by Wayne Pecena.

PRESENTER: Ron Clifton, President, CliftonGroup International Limited

Filling The Frame - Moving Multicast Channels to 16x9 SD
Find out the latest on efforts to give stations the option to carry multicast channels Create and World in 16x9 SD. An open Q&A format with representatives from APT, WNET, WGBH, JMC Syracuse, Nashville Public TV and PBS ETAC.

PRESENTERS: Gerry Field, VP, Technology, American Public Television
Kevin Crane, VP, Programming & Technology, Nashville Public Television
Stacey Decker, Chief Technology Officer, WGBH
Frank Graybill, Senior Director of Engineering, WNET
Terry Harvey, Director of Engineering and Operations, Centralcast LLC
Philip Schoene, Dir., NOC Technical Maintenance & Engineering, PBS

The Evolution of Traffic in Public Media
The Traffic role in public media is evolving, and fast! Join Myers and station colleagues to hear how sales, file-based workflow and non-linear distribution are rapidly changing public media's “traditional” traffic roles and responsibilities. Discussions will include a more sales-oriented approach to trafficking and how efficient file-based workflows enable the evolution of traditional broadcast to encompass diverse distribution platforms.

PRESENTERS: Crist Myers, CEO, Myers
Tracy Carter, CTO, Myers

3:30 PM WEDNESDAY
Emergency Alerting: Real-World Examples of Safety and Emergency Information Distribution using
Broadcast and Mobile Television
This session will discuss the ATSC-standardized Mobile Emergency Alerting System (M-EAS) and review the workflow for M-EAS alerts, from initial reception at the station through the complete broadcast process, including workflow, operational practice and utilization procedures within television stations. We will look at the IT team progress in detail and review the workflow for alerts, from initial reception at the station through the complete broadcast process.

Additionally, we will share real-world deployments of safety and emergency information distribution systems over both Mobile (M/H) and Fixed ATSC broadcast, given that broadcast television is a robust medium for delivering information when other mechanisms are substantially degraded. The talk will focus on the technical details of deploying a secure, state-wide data distribution system that can be used by safety personnel to reliably and simply transmit information to other locations, whether stationary or not.

PRESENTERS: David Catapano, Senior Vice President, Engineering, Triveni Digital, Inc.  
Jay Adrick, Technology Consultant, GatesAir  
Mark Corl, CTO, Triveni Digital, Inc.

From Controlled Confusion to Collaboration and Empowerment: The myPBS Digital Workplace
Want to find out how to save your station 34 hours in receiving program schedule information? Interested in viewing streaming video of programs before they air? Need a more efficient way to coordinate activities, sync calendars and swap information among small teams? Look no further than myPBS! Join us for an informative session on this Digital Workplace offering such features as a comprehensive program search function, virtual group spaces where station members can collaborate and communicate, and program dashboards that hold all of a specific program’s resources in a central location.

PRESENTERS: Khadija Jordan, Associate Manager, myPBS Outreach and Education, PBS  
Lisa Richards, Senior Product Manager, Content Management Strategy, PBS  
Nicole Quirk, Spectrum Manager, PBSOcal  
Rachelle Byars-Sargent, Director, Collaborative Technology, PBS

IP Multicast: Does it Really Work?
IP Multicast is a unique aspect of IP Networking technology that provides “one-to-many” communications between a source IP host and numerous subscriber IP destination hosts. The use of IP Multicast for delivery of real-time media content often finds widespread use in the broadcast facility and related networks. IP Multicasting can be challenging to implement and guidelines will be presented to help evaluation the proper network environment for its use.

This presentation will focus upon understanding IP Multicast terminology, the addressing utilized, and the basics of switching and routing in a multicast IP network. Practical implementation examples to deliver AoIP and IPTV content will be utilized to illustrate the theoretical concepts presented.

• Introduction to IP Multicast Terminology  
• The Multicast Group  
• Multicast Addressing:
• Layer 2 Address
• Class D Layer 3 Address

• Multicast Switching & Routing

• Broadcast Deployment Examples
  • AoIP Systems
  • IPTV Systems

• Summary / Q & A

**PRESENTER: Wayne Pecena, Director of Engineering, Texas A&M University - KAMU**

4:30 PM WEDNESDAY
**ProTrack Boot Camp**
Ten Hut! Whip your ProTrack use into shape with the Myers training team. In this interactive TAC-sponsored user session, Myers will share best practices on the topics most frequently asked by you!

You will have a chance to share questions and thoughts from the floor after each topic. Topic presentations will include examples and resources that will help you accomplish your ProTrack tasks in the most efficient and effective manner.

**PRESENTERS: Alyssa Baer, Training and Implementation Specialist, Myers**
**Anthony Kubiak, Training and Implementation Specialist, Myers**

**Repack Implications for Antennas and Transmitters**
This session will explore two presentations:

• *Channel Change for Television Transmitters: Case Studies* -- During the ATSC cut-over in 2009, hundreds of VHF and UHF transmitters required channel changes and/or conversions from analog to digital operations. VHF solid-state systems and UHF solid-state and inductive output tube systems were converted and modified. Currently proposed FCC plans will require another round of channel changes. This session comes from thousands of combined engineering and service hours in the industry. Our experience will prepare station staff engineers and managers to meet the challenges presented by the FCC repack of the spectrum. Attendees will learn successful strategies with respect to channel changes for television transmitters.

We will compare budgets of new equipment purchases versus the costs of upgrading. Step-by-step evaluation and testing regarding retirement of an existing transmitter will be presented. RF system criteria will also be covered. We will reveal what is "by the book," where the reasonable compromises are, and share appropriate caution on what is and isn't
effective when modifying a legacy system.

- **Evaluation of Antennas, Combiners and Transmission Line for Repacking** -- the questions surrounding re-packing are usually: “When will it actually happen?” “How will it happen?” And “What is the incentive?”

For the purpose of this paper, we'll leap over all the political uncertainties and take an in depth look at the RF equipment required for re-channelizing. The presentation will look at what equipment is required for preparation during the transitional period as well as after the switch. Focusing mainly on the RF system, transmission line and antenna, the paper will analyze equipment that can be re-purposed or re-tuned and what needs to be re-placed. The technical variables, impact on available space, and tower loading all factor into the decision making process. In addition, the logistics of choosing an option will be examined.

**PRESENTERS: Cory Edwards, National OEM Manager, Dielectric**
**Dana W. Myers, Principal Engineer, GatesAir**

**Exploration of the role of Video over IP – niche player or the replacement of SDI?**

IP technologies continue to reach further and further into the television industry. Long past are the days of the isolated ethernet control network linking our DVE keyboards to the CPU. IP file transfers of graphics elements into the graphics engine debuted decades ago. Point to point serial control has been replaced by TCP/IP based control systems and sophisticated file based workflows now dominate the landscape. These advances leverage the commodity hardware and widely adopted standards of the IT industry to produce more efficient solutions for the broadcast industry. A similar transformation is underway with regard to the video stream, but how far will this transformation go?

Video over IP may by isolated to a dedicated LAN in the encoder system or employed for viewing proxies or the house IPTV system today, but what is the potential for video over IP in the broadcast workflow? Must it be confined to isolated compressed video domains, or will it replace SDI? This video over IP super session explores the question from the perspective of leading industry players.

**PRESENTERS: Jan Weigner, CTO, Cinegy GmbH**
**Mo Goyal, Director, Product Marketing, Evertz**
**Sara Kudrle, Product Marketing Manager, Miranda Technologies**
8:00 AM THURSDAY
PREC: Public Radio Engineering Conference Day One
The Public Radio Engineering Conference is open to TechCon attendees. Consult the PREC website for full agenda details.

8:30 AM THURSDAY
Opening Ceremonies
further details to come

PRESENTERS: Mario Vecchi, Chief Technology Officer, PBS

9:30 AM THURSDAY
V6: The Future of the Public (Media? Television?) Interconnection System
Join us for an update on what has been done over the past year as we work towards the October 2016 Interconnection refresh date. We'll share detailed results from our Proof of Concept work as well as our RFI industry research done this past winter. We'll then look at the plan and timeline for continuing this progress over the next year.

PRESENTERS: Tom Crowe, Sr. Director Engineering - Interconnection, PBS

11:00 AM THURSDAY
American Archive of Public Broadcasting: Project Update
An update on the American Archive of Public Broadcasting project and the work to transition the project from CPB to partners WGBH and the Library of Congress. We will discuss the challenges of migrating the materials from educational radio & television stations, NET, PBS & NPR member stations and where the inventory, metadata and migrations stand currently. We will cover the challenges of the metadata collection and processing, and an overview of where the archive will live and how the Library of Congress preserves media assets in general for the long term.

PRESENTERS: James Snyder, Senior Systems Administrator, Library of Congress
Casey Davis, Project Manager for the American Archive of Public Broadcasting, WGBH
Steve Davis, Executive VP and CTO, Crawford Media Services
Chris Lacinak, President, AVPreserve
Case Studies of Cloud Transitions – Getting Reliability and Efficiency from Private Cloud
Many broadcast and cable operators are moving to a cloud-based infrastructure to streamline operations and to offset financial pressures stemming from increased operating and programming costs. The primary stumbling block is that a migration to cloud is complicated and risky as it can come at the expense of maintaining production grade, five nine’s service quality. James will outline in simple terms the results that others in our industry have achieved so far, and will cover the benefits and challenges that still lay ahead.

PRESENTER: James Kelso, VP Product Management & Product Marketing, Sequencia Inc.

Next Generation Editing Platforms: Collaborative workflows for the Enterprise
Thanks to cloud computing, powerful devices and the proliferation of tablets, media companies are collaborating as never. In this session, hear how some notable companies are making anywhere, everywhere access to content a reality today.

The goal is to bring teams of talent together to collaborate and create productions from virtually any location with standard network connectivity. Editors, visual effects artists, and other video professionals can simultaneously access, stream, and work with remotely stored media without the burden of heavy file transfers, duplicating media, or proxy files. Find out how Adobe is addressing these challenges with state of the art solutions that leverages existing infrastructure, hardware and standard networking.

PRESENTER: Michael Coleman, Senior Product Manager Collaborative Workflows, Adobe

Wireless Mics, White Spaces & You
White Space devices have been approved for use across the country and are starting to roll out. Unfortunately, the FCC Rules have been written in such a way that unlicensed White Space devices are protected from being interfered with by licensed devices instead of the other way around.

What does this mean to you and your operations? How do you protect yourself from interference from unlicensed White Space devices. Can you protect your operations?

PRESENTER: Karl Voss, Chief Engineer, KAET-TV

12:00 PM THURSDAY
Birds of a Feather Luncheon
Make the connection and program your own topic at the Birds of a Feather Luncheon. Sign up in advance to either host or join a discussion here: http://bit.ly/TCboaf2014

You will also be able to register a topic onsite at the Registration Desk. Come to the session and:

- grab your lunch
Thursday 4/3

- check the topics key on the big screen
- locate your topic's table #

Find the answers to your most pressing questions and make the connection at the Birds of a Feather session!

1:30 PM THURSDAY

**Hazard Mitigation Assistance**

Each year businesses sustain thousands of dollars in damages from natural disasters. Did you know there is money available to help build safer, stronger communities? Learn about successful ways to obtain funds to protect your facilities.

*PRESENTERS: Cindy Jackson, Director, Broadcast Management & BCP, PBS
Clarence Copeland, Assistant Director of Engineering, Louisiana Public Broadcasting*

**It’s More Than Just More Pixels – Examining What Makes Ultra High Definition An Immersive Viewing Experience**

A number of 4K UHDTV landmarks emerged in 2013, including multiple test broadcasts of UHDTV, with commercial services touted as early as 2015. Some concerns have been raised that the proper viewing distance to perceive the higher picture resolution may require the screen to be larger than the typical family room will permit (or that one's spouse will allow!). However, there are many factors that may turn out to be more important than image resolution for an immersive TV viewing experience. This session will explore what really matters from a viewer's perspective including higher frame rates, higher dynamic range, and expanded color space.

*PRESENTER: Matthew Goldman, Senior Vice President TV Compression Technology, Ericsson*

**Search in the Absence of Sufficient Metadata & Automated Closed Captioning, Descriptive Video, and Language Verification**

Traditional methods of search rely on human-generated metadata to enable content search and discovery, but the explosion of digital media has made it difficult, time-consuming, and expensive to generate necessary metadata as fast as new media is ingested. Manual logging is time-consuming and may lack sufficient detail to find the desired media, and transcription can be prohibitively expensive. Both approaches have significant latencies; meaning content may not be searchable for days or weeks. Phonetic search, used by Nexidia Dialogue Search, offers a fast, low-latency, affordable solution by enabling search of the one of the richest sources of information about media—the words spoken within it—without the need for any metadata or captions.

The same and similar technologies used for phonetic search can be employed to enable automated verification of closed captioning, video description, and language. By comparing the closed captioning text to the phonetic sounds in an audio track, it is possible to perform a detailed analysis of caption coverage and report occurrences of missing or incorrect captions and caption synchronization problems. Taken one step further, the technology can be used to retime captions.
which may be time-shifted due to live captioning or other factors. Voice activity can be compared between two tracks to validate the presence of video description, and the phonetic makeup of a track can be analyzed to determine which language is being spoken ensuring the right language is present on the right track. All of this can be done much faster than realtime at a fraction of the cost of a human operator.

Drew Lanham (Nexidia) and Steve Wynn (PBS - MOC) will present the underlying technology and the products build around it, namely, Nexidia Dialogue Search and Nexidia QC. They will discuss the application of Nexidia’s technology within the Media Operations Center to enhance searchability of PBS’s digital archive and will detail how this has benefited PBS’s efforts to repurpose existing media assets. Additionally, they will detail how automated QC techniques are being employed to verify captions, video description and language within the MOC’s workflows.

PRESENTERS: Drew Lanham, SVP/GM, Media & Entertainment, Nexidia, Inc.
Steve Wynn, Director, Engineering & Maintenance, MOC, PBS

TV Everywhere: Heading Towards Critical Mass
A bold prediction: By 2018, Internet TV consumption will match that of TV broadcasts and pay TV networks. Welcome to the world of TV Everywhere. To date, TV Everywhere has experienced bursts of success with events like the Olympics and March Madness, but it hasn’t reached critical mass. That is now starting to change with more premium content coming online, an increasing shift from traditional TV to online viewership, and greater opportunities for content owners to monetize online views.

The increasing adoption of mobile devices is helping drive TV Everywhere’s success. Consumers expect any screen to act as a TV screen. TV is no longer the device; it’s the content. As TV Everywhere evolves, new technologies and features are set to deliver:

• Broad availability across any screen
• Synchronized viewing experiences for TV/devices
• Greater audience engagement/personalization
• Higher revenue for TV programmers/operators

Attendees will learn how data from TV Everywhere services will drive more personalized programming that captures the viewers’ attention. Additionally, this session will discuss the opportunities that TV Everywhere offers consumers, brands and broadcasters alike.

PRESENTER: Jens Loeffler, Principal Technical Evangelist, Video Solutions, Adobe

2:30 PM THURSDAY
Cost-Effective Captioning Workflows
Closed Captioning doesn't have to be a mystery! With the FCC's online captioning requirements now in full swing, the search is on for cost-effective solutions for getting captions online. There are some great tools out there, but they are few in number, and many are very costly. But what if you could use the tools you already had or other inexpensive tools? This session will provide the attendee with knowledge of the file types commonly used, free/open-source, or inexpensive software tools to manipulate those files and enable FCC-compliant workflows to create high quality captioned programming for on air and web delivery.

**PRESENTERS:** Bryan Fuqua, VP, Technical Services, WTCI  
Chris Ostertag, Digital Engineer, KLRU-TV  
Jim Klas, Director of Media Technology, State of Wisconsin - Educational Communications Board  
Ralph Welch, Director of Engineering and Technology, WCTE

**Establishing Organizational Protocols for File Workflow**  
Overview and walk through of the OPB initiative to establish a protocol for digital workflow.

**PRESENTER:** Michael Foti, VP Engineering, OPB

**Ultra HDTV: A demonstration of its impact on content and implications for Public Television**  
Sony is doing it. Canon is doing it. Netflix is doing it. Amazon is doing it. Hollywood has been doing it, Google is talking about doing it and Ericsson is delivering it. Well what can PBS do about it? These days, UHD/4k and plans surrounding its acquisition, processing, implementation and distribution are everywhere. Please join us for an in-depth and interactive conversation with industry leaders and member stations about what is possible now, what is really on the horizon for broadcasters and how PBS could be adaptable to this format in the future.

**PRESENTERS:** Ed Caleca, Calburk Consultants  
Hugo Gaggioni, Director Operations, Sony Electronics  
Matthew Goldman, Senior Vice President TV Compression Technology, Ericsson  
Renard Jenkins, Senior Director, Post Production and Network Operations Center, PBS  
Larry Thorpe, Senior Fellow, Canon

**Utilizing PBCore as a Foundation for Archiving and Workflow Management**  
Discover how the need to save at-risk assets from permanent loss led to the development of a robust workflow and archive system for station-wide use. From the most basic data elements of title and description to alternate titles and technical media information, PBCore can be extended to service the needs of producers, promotions, underwriting, management - all areas of the station. PBCore can also bring practitioners into alignment with EIDR and related standards in use in the entertainment industry. Explore the lessons learned and the benefits achieved utilizing a solid PBCore foundation.
Evolving Broadcast Software with ESB
PBS is in the process of building out Enterprise Service Bus technology at the core of the infrastructure. This is going to facilitate the integration of systems and orchestrate complex workflows around file delivery, transcoding, QC, etc. Learn about this foundation project in the evolution of the broadcast infrastructure and how it will streamline processes, scale to meet new demands, support technologies, and evolve to Interconnection Version 6.

PRESENTER: Chris Contakes, VP, Information Technology, PBS

Managing Media, Managing Change
If you’re looking for a practical, effective media management strategy, then come to this session. We’ve led our organization through a massive change to 100% file-based workflows, and have implemented the tools and processes to manage all of the digital content that comes from it. We’ll outline our methodology, and tell you the tales of an effective organizational change management saga that has gotten us to where we are at today.

PRESENTERS: Bart Chidester, Manager, Programming and Traffic, BYU Broadcasting – KBYU
Brandon Smith, Director, Technical Operations, BYU Broadcasting - KBYU

Technology & the Spectrum Auction
This session is a combination of two presentations:

1) TV Spectrum Auction and UHF Band Repack Update - The Spectrum Act of 2012 gave the FCC the authority to conduct TV band spectrum auctions and a resulting repack of the UHF television spectrum. The rulemaking process has been underway since 2012, with a series of learning workshops and public notices seeking industry input. A number of critical issues remain to be resolved, including the 600 MHz band plan, station compensation policy, implementation process and the implementation time frame. This paper will review the status of these and many more issues, assess the progress that has been made, and take a look at next steps.

Every station will need to prepare for the impact of repack even though they may not be participating in the auction process or operating in a critical spectrum area. Therefore, details of a suggested planning process for every station will be presented.

2) Technology Implementation of Channel Sharing - Alan Popkin of KLCS will discuss implications of recent “real world” proof of concept for channel sharing. Using the latest in compression technology Alan will demonstrate what can be accomplished through combining two stations into...
one 6 MHZ channel. Alan will display actual content and results from the end to end transmission test.

Every station will be interested in hearing about and seeing this first ever trial of channel sharing.

**PRESENTERS:** Alan Popkin, Director of TV Engineering, KLCS
Jay Adrick, Technology Consultant, GatesAir

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**The Continuing Adventures of NRT**

At this stage all of us have it... but not all of us are using it as much as we could or should. What is it you ask? Well, it is of course the PBS NRT System. Montana PBS will share their experiences in determining how and when to use an NRT file, and KSPS will build on last year’s session, detailing their journey into NRT workflows that extend the reach of “ET” into Production by moving NRT files requiring post production directly from the SSP to their Production SAN. If you are just beginning to use NRT or are ready to move on and become a power user, this session will help answer your questions.

**PRESENTERS:** Barbara Harms, Asset Manager/MCO, KSPS
Keith Jacoby, Broadcast Operations Specialist II, Montana PBS
Lynn Veltrie, Operations Manager, KSPS
Tom Crowe, Sr. Director Engineering - Interconnection, PBS
Tracy Carter, CTO, Myers

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**5:00 PM THURSDAY**

**Station Roundtables hosted by ETAC**

ETAC invites all member station attendees to join in roundtable discussions about the issues you want to talk about. All disciplines are welcome to meet your representative and talk about the challenges and successes your station is taking on. This session will be a great opportunity to obtain answers to the questions that you face daily.

**PRESENTERS:** Your ETAC Representatives

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**6:00 PM THURSDAY**

**Welcome Reception**

Our Thursday evening networking event is the Welcome Reception in the Exhibit Hall. Meet with our exhibitors and sponsors, or take the time to connect with colleagues. *Your badge is your ticket to this event.*
TechCon Agenda continues next page...
8:00 AM FRIDAY
**PREC: Public Radio Engineering Conference - Day Two**
The Public Radio Engineering Conference is open to TechCon attendees. Consult the PREC website for full agenda details.

8:30 AM FRIDAY
**Programming Pipeline**
Our day begins as we welcome Beth Hoppe, PBS' Chief Programming Executive and General Manager of General Audience Programming. Beth is going to review the state of PBS Programming, look at the latest content strategies, and preview a number of upcoming shows.

*PRESENTER: Beth Hoppe, Chief Programming Executive and General Manager, General Audience Programming, PBS*

9:30 AM FRIDAY
**File Delivery to PBS for Producers and Stations**
The promise of a true end-to-end file-based production model is nearly a reality (!), and with it, the possibility of a faster and cheaper broadcast chain may actually come true.

FRONTLINE's Associate Director of Broadcast, Chris Fournelle, and WGBH's Engineering Manager, Emeric Feldmar, demonstrate and explain their current file-based mastering and delivery workflows from a producer's edit suite to the PBS server.

Along the way, they will cover topics such as:

- Production challenges when planning for file-based mastering and delivery
- Technical evaluations in a file-based world
- New savings and new expenditures in time and money
- Where might it go next?

*PRESENTERS: Chris Fournelle, Director of Post-Production, WGBH
Emeric Feldmar, Engineering Manager, WGBH*

**Give Me A Break!**
Station breaks are a valuable asset, are you making the most out of yours? There are so many things to consider, program promotion, PBS branding, local events, pop-outs, billboards, ID's and of course underwriting. We'll analyze the structure of the 'perfect break' in this session and give you the tools to maximize your stations breaks. As Benjamin Franklin so eloquently said "Lost time is never found again."
Simplifying and Extending Compliance Logging Capabilities Across PBS Stations
The better a media enterprise knows its broadcast product, the better it can meet the demands of its audience, build viewership, and increase giving and sponsorship. Providing a window into the entire broadcast product, compliance logging helps decision-makers make better-informed choices about content production and delivery and enables users to drill down into detail about the transport stream or delve into measurements of key data.

Using a deployed system used across California’s San Francisco, Oakland, San Jose, and Monterey areas as an example, this presentation will examine how compliance logging can be deployed centrally for remote monitoring of a city- or statewide network of PBS stations. The session also will discuss how, by pairing audio and video with related data and by providing straightforward access to both, compliance logging technology offers the media enterprise valuable media intelligence that helps staff from engineering to executives to assure regulatory compliance while enhancing the quality and competitiveness of the on-air product.

PRESENTER: Andrew Sachs, Vice President of Product Management, Volicon

Three by Five: What to Know About Website Redesign
Does your station need a digital refresh? What are the technology options? What will be most economical, most effective? How do you begin planning? Who should be involved? This fast-paced, unique-format session takes you through the process of rebuilding your station digital presence and infrastructure from start to finish with tips, takeaways and answers from stations that have already gone through it.

PRESENTERS: Bill Sanford, CEO/Director of Engineering, Lakeland Public Television
Max Duke, Director, Station Products & Innovation, PBS
Pat Breen, Web Designer, KLVX

11:00 AM FRIDAY
Collaborative and Non-Technical Reasons to Consider Combined Master Control
Teams that work collaboratively can obtain greater resources, recognition and reward when facing competition for finite resources. The future must be looked at as much more than the intersection of common goals, it must be about building purposeful collective relationships and an unwavering determination to reach common goals that encompasses all aspects of the business operation. The age of information is upon us! There have been many strides with regards to improvements to communication, collaboration, and business process efficiency as our economy shifts from an industrial to a knowledge based economy. We are at the beginning of that revolution, despite crazy rate of technological change over the last 20 years - we do a disservice to our stations if we don’t buckle up, embrace the change and most importantly - enjoy the ride.

PRESENTER: Duane Smith, VP of network operations, JCT Services (WJCT)
Online Video Tips and Best Practices
Online Video has become an absolute necessity for any media company. YouTube is an irrefutable force, reaching over 150 million viewers per month. COVE has become a standard infrastructure product for PBS stations nationwide. Live streaming continues to be a way to deliver unique experiences to audiences. With all of these options, what are the best ways to attract and engage audiences? In this session we'll look at best practices for distributing content on YouTube, COVE and other services - from considerations when moving from broadcast to workflows to what to put in a headline.

PRESENTERS: Chris Ostertag, Digital Media Engineer, KLRU-TV
Max Duke Director, Station Products & Innovation, PBS

As “broadcast” and “IT” combine, using the same technologies and networking systems, the need for Cyber Security increases. Security is a moving target that seems impossible to achieve, but it is a goal we can all make strides towards. The effort required for solutions such as firewalls, and best practices seems high, yet the return on the effort to implement appropriate cyber defense systems is great.

This presentation provides a bubbly cauldron of basic information, spiced with a practical story or two from Taylor’s experience providing IT and broadcast infrastructure support at Illinois Public Media and Seton's latest project at PBS, installing high-capacity firewall devices between the broadcast and IT networks. Is this cauldron really bubbling? Like the proverbial pot of Stone Soup, it only gets better if you have a tale to share where you have combined Cyber Security with an active broadcast network to brew up your success story!

PRESENTERS: Seton Droppers, Information Security Manager, PBS
Taylor Judd, IT Infrastructure and New Media Manager, Illinois Public Media - WILL

The Importance and Details of Aligning and Calibrating Loudspeaker Monitors In the Broadcast Television Space
It's an under-appreciated fact that the most important element for maintaining consistent loudness of broadcast content is having consistent and correct calibration and alignment of the monitoring environment.

Lon will provide a comprehensive tutorial on the importance of aligning and calibrating loudspeaker monitors within the broadcast television space. The attendee will gain a better understanding of the details and benefits of a properly aligned and calibrated listening environment creating the “first line of defense” in loudness management.

PRESENTER: Lon Neumann, Principal, Neumann Technologies
12:00 PM FRIDAY
Keynote Luncheon
further details to come

1:30 PM FRIDAY
Achieving Error-Free Media in IP Video Networks
This Session highlights in detail how video over IP networks become ever more pervasive in both internal and external distribution plants. Data errors on IP links are more common, and thousands of pixels or audio samples can be corrupted by a single bit error. The presentation will arm engineers and technicians with the needed fundamentals to quickly troubleshoot issues with the right tools for the job that might otherwise take weeks to find.

PRESENTERS: James Welch, Sr. Consulting Engineer, IneoQuest Technologies
Leigh Whitcomb, Principal Engineer, Imagine Communications

Digital Distribution Strategy
As the crowded video distribution market continues to expand, consumers find themselves faced with more choices than ever. Content distributors have equally been left to face a growing number of strategic decisions regarding the distribution of content – both to maximize reach and revenue opportunities. What are the right platforms for PBS to have a presence on? How can we best serve the audience and PBS stations while also maintaining a steady revenue stream necessary to ensure our future health? Join this session and hear Jayme Swain, VP of Strategy and Operations for PBS and Andrea Downing, VP of PBSd, briefly review the digital distribution landscape and share their thoughts on the right strategy for PBS moving forward.

PRESENTERS: Andrea Downing, Vice President, PBSd
Jayme Swain, Vice President, Strategy and Operations, PBS

Rethinking Traffic & Master Control: Streamlining Workflow, Saving Money, & Reducing Headaches
Stations have new options with centralized master control services, but what if that’s not right for your station? Public TV stations workflow has changed dramatically from the traditional Master Control, but some stations still retain the traditional Master Control & Traffic functions, with new tasks added in. Hear best practices from stations that have completely rethought and redesigned their Traffic and Master Control to streamline workflow, reduce headaches and save money.

PRESENTERS: Your TAC & ETAC committee Members
**Tips, Tactics, Tools, and Tales of Project Management**
Interested in learning how to get projects done on time and within budget? This session will introduce you to basic project management concepts such as:

- getting approval for a new project
- mitigating risk
- handling change

...all through the use of real-world examples. We will also provide basic project management tools, discuss best practices and point you in the right direction for additional guidance.

*PRESENTER: David French, Sr. Director, Project Management Office, PBS*

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**2:30 PM FRIDAY**
**IT Roundtables**
Join PBS Vice President of IT Chris Contakes and members of his team for a roundtable discussion on a variety of IT related topics impacting the enterprise, including cloud strategy & implementation, governance and privacy issues with cloud file sharing services, enterprise security, software development challenges, etc.

This will be an interactive session with IT peers across the system, to discuss challenges and share success stories.

*PRESENTERS: PBS IT Staff*

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**PBS WARN - Updates and Future Direction**
The WARN project has been active since 2010, and completion of the primary mission - a redundant path for emergency alerts between FEMA and Cellular Phone companies - is within sight. Additionally, stations who have received sub-grants to improve their power backup and hardening are approaching their final deadline of August 31, 2014.

As we prepare for the full PBS WARN System test, we want to update the station engineering community on their part within the WARN system, their obligations following the end of the grant, and what to expect from the system test in May.

Also, we want to discuss an important improvement to PBS WARN which will allow stations to participate more fully in their communities as distributors of more detailed messages to more end users.

*PRESENTERS: Dana Golub, Executive Director, WARN, PBS  
Nick Doshi, Sr. Broadcast Engineer, PBS*

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**The Future of Broadcasting: ATSC 3.0**

ATSC 3.0 is a suite of new standards and practices for the next generation of broadcast television – a system that will provide even more services to viewers, but will also require a clean break from the technologies of earlier-generation DTV systems. The system requirements include a call for a flexible and more efficient physical layer, mobility, Ultra-High Definition (UHD) images, new solutions for audio, incorporation of new user technologies such as second screen, and incorporation of broadband connectivity.

ATSC 3.0 represents a cooperative effort between all segments of the industry and many parts of the world. Come to this session to hear an update on the standards process, the technologies, and the exciting possibilities for broadcasting in the future.

PRESENTERS: Richard Chernock, Chief Science Officer, Triveni Digital, Inc. & ATSC TG3 Chair

Traffic: Pay It Forward
You've spent 3 days networking, learning new things, and hopefully having some fun along the way. Now join the Traffic Advisory Committee as we wrap up the conversation before everyone heads home. We will discuss the greatest takeaways and share tips from sessions you may have missed. Please bring any outstanding traffic/scheduling questions and honest feedback to this roundtable discussion. You won’t want to miss this closing session.

PRESENTERS: Your TAC committee Members

4:00 PM FRIDAY
All FCC, All The Time
This session will be your one-stop shop at TechCon for information on the most important activity at the FCC that has the potential to impact your station. The panel includes three legal experts in the industry, who will present an overview of the regulatory landscape and answer your questions. Final topics will be determined in light of the latest developments at the FCC, but will include the spectrum incentive auction, online closed captioning, and potentially an update on indecency regulation, political ad litigation, ownership report rulemaking, and early lessons from the license renewal cycle. The spectrum presentation will catch you up on the past year in spectrum auction planning, what's to come, and the nuances of channel sharing.

PRESENTERS: Eric DeSilva, Partner, Wiley Rein LLP
Lonna Thompson, COO and General Counsel, APTS
Thomas Rosen, Senior Counsel, New Media & Regulatory Affairs, PBS
Todd Gray, Partner, Gray Miller Persh LLP

End to End System Test
Are you living near the edge of the digital cliff? Everyone needs to learn how to handle quality control issues, test & measurement of HD video, digital audio, compression, transport, as well as the related metadata from creation to distribution.
Learn how to make sure your content adheres to the “rules of the road” and operates within interoperability requirements. This tutorial will be presented with a focus on the practical aspects you need to know. Having a better understanding of these concerns will help reduce finger-pointing and save your team from technical errors that could cause the dreaded “Blue Screen.”

**PRESENTER: Karl Kuhn, Sr. Apps Eng, Tektronix**

**The Internet of Things: Public Media (Platform) Meets Star Trek**

Mr. Spock had a fantastic gadget available to him called a **Tricorder**. With it he could walk up to anything and anybody, search it and learn its origins, if it was friend/foe, how badly it was injured, etc., etc.

The Digital Age is bringing things like the Tricorder to our refrigerators, cars, homes and even our pets. The concept is called the [Internet of Things](https://en.wikipedia.org/wiki/Internet_of_Things) and public media is ready for it.

This session will demonstrate how PBS, NPR, American Public Media, Public Radio International and PRX have joined forces to create a new interconnection system for public media content. This system, called the **Public Media Platform (PMP)** is built on an API – which means that ALL public media digital content can be made available in this world of Internet Things.

Imagine the future. You’re coming home from a long day at work, Julia Child and Splendid Table are waiting for you at the fridge. They know you’re hungry, they know what’s in the fridge, they know what you like to eat... and they have a dinner planned for you!

Come and hear more, let’s have some fun with the Internet of Things.

**PRESENTERS: Kristin Calhoun, Executive Director, Public Media Platform**

**Wildfires, Hurricanes, and Tornadoes, Oh My! Increasing Government Support with Datacasting and iSAGA**

Datacasting uses a portion of the broadcast TV signal to transmit non-program data streams.

Situational Awareness Geospatial Application (iSAGA) is an advanced mapping technology created by the U.S. Department of Energy's Remote Sensing Laboratory at Nellis AFB which allows emergency managers to combine and visualize multiple sources of data in a specific area during an emergency.

Combining these two leading-edge technologies can provide invaluable information to first responders during emergencies in a secure and targeted format. Incorporating such concepts into the vision for IXCv6 and local services allows new conversations with public officials about what it means to be “Trusted, Valued, and Essential.”

This session will provide examples of station datacasting applications, and real-time demonstrations of the technology using the Vegas PBS broadcast signal.
5:00 PM FRIDAY
Closing Ceremonies
Our closing session combines the traditional Q&A with PBS Staff and some thoughts from our system's leaders. Chief Technology Officer Mario Vecchi will lead the PBS team to address any remaining queries, qualms or concerns before you leave TechCon. PBS President and CEO Paula Kerger will join us with an address on the state of the system and the work that we do every day.

Submit your questions in person at the session, or in advance by using:

- The Conference App
- Twitter @PBSTechCon
- Onsite until 3pm Friday using the paper form (deposit in any Feedback Form box)
- Email to pbstechconference@pbs.org

7:00 PM FRIDAY
Öff-site Netwörking (at the Hofbräuhaus)
Friday evening our networking event closes out TechCon with a return to Germany's legendary beer hall, the Hofbräuhaus! Join us for dinner and drink. Your TechCon badge is your ticket for this event.

Buses will arrive and depart every 15 minutes beginning at 7:00pm from The Colosseum transportation area just left of The Colosseum and next door to the Celine Dion store. Staff with signs will be there to help you find your way. The "Hofbräuhaus Buses" link in our conference app will show you where to catch the buses from Caesars Palace.

The Hofbräuhaus is located at 4510 Paradise Road, kitty-corner from the Hard Rock Hotel & Casino.
TechCon Agenda continues next page...
Ennes Workshop

The Ennes Workshops at NAB are complimentary with your TechCon badge, and will be located at the Las Vegas Convention Center, in S225. This full-day program will be an engaging set of sessions across a number of topics. More information on the TechCon website here: http://www.pbstechconference.org/agenda/ennes/