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NABA *Acaster*

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Evolution of Media: A Challenging Agile World for All Broadcasters

Thomas Bause Mason & Jim Starzynski, NBCU

Starting in the late 1990s, the media industry continues to undergo a major evolution. Traditional linear production, processing and distribution workflows using tape deliverables continue to be replaced by file based systems. Accelerating this development is the rise of the internet and new media applications. Information Technology (IT) has become more and more a part of media engineering efforts cutting down on inflating costs while efficiently supporting ever-changing workflows and requirements. A totally new way of handling media is emerging and creates unique challenges to technologist and business people alike.

- Quality expectations
- Turnaround times
- Accessibility
- Content piracy and protection
- Monetization and content tracking

Media Workflows and Distributing Content

The challenges described above have a profound impact on modern media workflow design in broadcast and other media facilities. The explosion of an almost unending list of various recipients; iPad, smartphones, PCs, laptops, just to name a few, create a workload with shortened delivery timelines. This requires complex, fast workflows managed on

network-connected systems. These networks need to be flexible enough to adjust to new demands without the need to rebuild large parts of the facility infrastructure. They have to be efficient, leveraging automation as much as possible while limiting human interaction and manual steps

The introduction of emerging media technologies enables new business models and alternate ways of delivering content to consumers. Improved display technologies, better into-the-home bandwidth as well as the progression from analog to digital and from SD to HD creates



a new quality expectation. Consumers are demanding new ways of content consumption, moving away from linear, pre-assembled broadcast streams and are increasingly attracted to on-demand services. Content has to be available on multiple platforms A.S.A.P. (or very shortly after its broadcast debut). But beware... these new developments expose valuable assets to theft, making content security a vital requirement too.

that could potentially introduce risk to deliverables and reliability. This facilitates staff and equipment efficiencies to stay in-line with today's competitive media market.

File Exchange

Non-Real-Time content exchange is shifting from tape-based deliveries via FedEx or UPS to file distribution over private or public networks. This yields better scalability, faster transfer times and more secure and flexible, ways of moving content. Eventually file-based operations are forced into file delivery to enable a seamless workflow. More and

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Some Important Considerations:

- Workflow efficiency
- Distribution format diversity

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NABA-RACC MEETING

August 22nd
New York



more requests from file-based customers will put further pressure on content providers to switch away from tape-based delivery. For file delivery, FTP or UDP/IP applications can be used to deliver content in unicast (point-to-point) or multicast (point-to-multipoint) for flexibility. Encryption before or during exchange is needed to protect content and combat content theft.

Keep in mind, however, establishing a file-based delivery system comes with significant costs. Storage, network infrastructure, database as well as file management systems, etc., need to be purchased, deployed and maintained and a trained staff is also required. The higher cost of file delivery needs to be weighed against its benefits but due to industry momentum, the move may still be inevitable.

“THE HIGHER COST OF FILE DELIVERY NEEDS TO BE WEIGHED AGAINST ITS BENEFITS BUT DUE TO INDUSTRY MOMENTUM; THE MOVE MAY STILL BE INEVITABLE”

Single or Multiple Formats? Packaging... Identification...

A multitude of file format specifications have been created over time and continue

to emerge while content distributors and recipients struggle to meet these demands. This places a huge burden on the industry and calls for the obvious demand for standardization. However, it is unrealistic to expect adoption of one file format specification for all delivery needs. Hopefully there will be industry consensus that reduces the variance by targeting specific applications.

“REPURPOSING AND RE-PACKAGING OF CONTENT TO ADDRESS CONSUMER NEEDS IS A MAIN REQUIREMENT FOR MEDIA WORKFLOW DESIGN”

Repurposing and re-packaging of content to address consumer needs is a main requirement for media workflow design. Several versions (DVD, BD, Theatrical, TV) of the same content need to be uniquely packaged as a single show, bundle of shows or full season. Extra material, trailers, advertisements, warning cards, all need to be added, not to mention including metadata and auxiliary content like thumbnails, closed captioning and poster art. These processes are calling for standardization as well and are not efficiently fulfilled through manual processes. Automation is also the key for a successful packaging operation.

Another important process that must be noted is the inclusion of content identification. A persistent identifier, that can survive the whole digital supply chain from content creation all the way to display on a consumer device, will help to track content consumption and to create sophisticated business analytics. This will help content owners and distributors with monetization and content offerings.

Conclusion

A new world of non-real-time content distribution presents itself to today's broadcast and media companies in which file-based content delivery is beneficial and at last essential. It comes along with costs and challenges which need to be addressed but it will be, eventually, the only way how content can be moved through the digital supply chain in an efficient and flexible way. File-based workflows can scale and adopt in a way that tape-based and linear workflows cannot.

“FILE-BASED WORKFLOWS CAN SCALE AND ADOPT IN A WAY THAT TAPE-BASED CANNOT”

One important point in this new world is the need for industry wide collaboration to create open standards for file-based workflows and content exchange. Without it, interoperability will be a challenge. ■

NPR's New H.Q.

There has been an official change of address for NPR News, its six DC-produced shows, the Newscast unit, and the company's nearly 800 DC-based employees.

Earlier this Spring, NPR moved into a new building and began acclimating to new studios and equipment. NPR's *Weekend Edition Saturday* was the first program to broadcast from the new building.

NPR has permanently shuttered its old headquarters at 635 Massachusetts Avenue, NW. The new headquarters at 1111 North Capitol Street, NE unites NPR divisions and employees that had previously

been working from three separate buildings in downtown DC. The heart of NPR's new headquarters is an open, two-story newsroom with broadcast and production studios that can accommodate NPR's

24/7 schedule. NPR's news, music, programming and digital staff are co-located on these floors.

"After six years of huge effort and thoughtful planning, we are officially moved," said Gary E. Knell, NPR's President and CEO. "It's a transformative moment for our staff, member stations, and audience — all of us who care about the future of public radio. The collaborative workspaces and modern, multi-media newsroom will fuel interaction and creativity inside and out."

NPR has been headquartered in DC since its founding in 1970. Since then, NPR's stature as a media organization and the popularity

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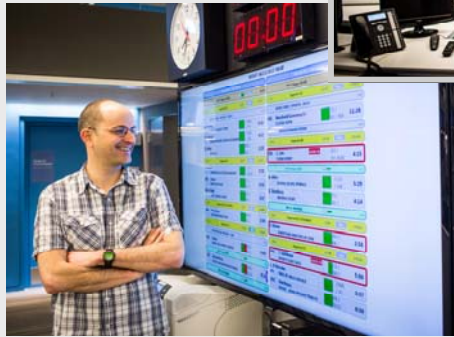


of its programming have grown rapidly, and the weekly audience for NPR programs has doubled.

The new headquarters was designed by the DC-based firm Hickok Cole Architects, and built by Balfour Beatty Construction. The 440,000 sq. ft. building features a four-story 1926 warehouse, the façade of which was preserved, combined with a new seven-story office tower.

As part of the move, NPR installed an all-digital system. Whereas NPR's 1994 headquarters were built around 1990's technology-tape machines and analog equipment. Its new headquarters is built

around digital audio and technology such as mobile phones that are now important news and



advantage of improvements in content generation that are only available with new digitally based technologies.

Among the amenities are public spaces and a performance studio, as well as ADA-compliant elevators

content gathering tools. With the move to 100 percent digital, NPR will now be able to take

that feature the voice of NPR special correspondent Susan Stamberg announcing the floors.

For more information:

http://www.npr.org/about/press/media/events_facilities.html ■

WBU-ISOG L.A. Forum Summary

Dick Tauber, CNN

The most recent WBU-ISOG Forum was successfully held at the 20th Century Fox studios in Los Angeles on May 15th & 16th. This first meeting of 2013 was focused on matters of keen interest and concern to the global broadcaster delegates who attended and participated in the Forum meetings. Fox Networks was an outstanding host, spearheaded by Paul Cohen, V.P. Satellite Engineering.

The meetings opened with an introduction and welcome remarks from Robert Briskman, Technical Executive of SiriusXM Radio and NABA's current President. The attendees also heard from our host, Clyde Smith, SVP, New Technology, who welcomed everyone to L.A. and the Fox Studios.



The first order of business was a review and discussion of next steps regarding a WBU-ISOG draft recommendation for a DSNG Parameter Set for transmissions from the field. The need for this follows the well-received WBU-ISOG Interoperability Set established for MPEG-2. This new effort, covers all-digital, MPEG-4 encoding modulation equipment and has been led by Guy Bouchard, Sr. Manager, New Broadcast Technologies for CBC/



Radio-Canada with valuable input received from members of the WBU Technical Committee. The Parameter Set is closer to being decided and, we hope, it will be presented for final approval and acceptance at the next WBU-ISOG Forum in Q3.

Continuing ISOG's commitment to reducing and mitigating all manner of satellite interference, Martin Coleman, Executive Director of IRG (Interference Reduction Group) moderated an eclectic panel of experts all working on aspects of preventing



interference. Pete Zilliox, Co-Owner of SatProf, whose company has developed on-line as well as hands-on training for VSAT uplink equipment operators for GVF (Global VSAT Forum) has been working with a team composed of broadcasters, satellite operators and manufacturers from both ISOG and RFI-EUI (Radio Frequency Interference-End Users Initiative) active members that have been developing a training program and obligations for remote earth station uplinkers of video content. Pete described the progress being made and the pilot program for testing the knowledge and competence level of participants. Paul Cohen detailed the progress of the ITU SG-4, from WP-4B towards final approval of the updated and revised General Access Procedures (GAP) for uplinkers that is now a draft NPRM. It's anticipated that at the next meeting of WP-4B the GAP document will be advanced as a full ITU recommendation (The GAP document is available on the

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www.rfi-eui.org site under the Best Practices pull-down). Ericsson's Lisa Hobbs, VP, Broadcast Compression Solutions brought everyone up-to-date on the progress of the DVB Forum Carrier ID (CID) standard (DVB/CID), which as of May 29th has met with final approval from ETSI (European Telecommunications Standards Institute). The approval of this digital, spread spectrum application is expected any day now. Andre Mendes, Chief Technology & Integration Officer for BBG (the Broadcast Board of Governors) discussed some possible options for dealing with deliberate interference. Yvon Henri, Chief of the Space Services Department of the ITU discussed the upcoming June 10th, meeting in Geneva that will bring together industry experts to further explore the curtailment of interference, particularly intentional jamming. Finally, Erwin Greilinger, Product Manager at Siemens presented the work being done on the Geo-location of interfering signals.



Bob Plummer of Fox moderated a panel with Intelsat, ITU and SES participation. The panelists reminded the attendees of the threats to C-band spectrum and reiterated what needs to be done in preparation for WRC-15.

There was an interesting panel on "Beyond HD: An Update", moderated by Howard Fine, VP, Broadcast Services at PACTV, on the higher format 4K video covering where things currently stand and what's to be expected in the next several years.

Arnie Christianson, Sr. Manager, Technical Systems, CNN Satellites & Transmissions lead a very in-depth session, "Ka-Band: Updates & Offerings". Responding to very poignant questioning were representatives from Eutelsat America, Inmarsat, O3b Networks and ViaSat. The use and application of Ka-Band satellites with new types of uplink equipment and service offerings from the satellite operators is still an evolving segment for our industry that the delegates have a keen interest in pursuing.

Also, Tom Gibbon of NHK moderated a panel, "Occasional & Fixed Satellite Services for IP Digital Newsgathering" where various companies (i.e., ArabSat, Eutelsat America, Hispamar, Intelsat and ViaSat) outlined their positive points regarding the digital IP business they've developed.

Later that evening, the ISOG attendees enjoyed a lovely reception at *The Garden* venue at the InterContinental Century City Hotel. This was graciously sponsored by Ericsson, Inmarsat, ViaSat and SES.

Day two began with probably the largest panel of diverse experts (10) ever assembled to address "The State of IP Newsgathering". Very effectively chaired by Rich Wolf, VP Telecommunications and Affiliate Support for the ABC Television Group, satellite operators (Inmarsat and Thuraya), encoder manufacturers (Newtec and NovelSat) service and bandwidth providers (Arqiva and GMPCS) and end-user customers (ABC, CBS and CNN) started off by briefly describing their individual perspectives on what they were doing for IP news collection, what they saw coming down the road and what they foresaw for the future and how IP had impacted customers around the globe.

The IP session led to a more specific session, also chaired by Rich Wolf, as a "DVB-S2 Extension Discussion". Vlastimil Benovsky, Satellite Engineer, Eurovision explained how the EBU had been employing NovelSat's NS3 modulation in Asia. David Furstenberg

(NovelSat) provided additional details on their proprietary modulation scheme and how it permitted much greater bandwidth efficiency and what they were developing for their next generation gear. Also, Thomas van den Driessche (Newtec) expanded on their approach to the DVB-S2 Extension and how they intended to serve their customers with standardized, improved and advanced modulation products.

The final panel of the L.A. Forum covered an aspect of video collection not previously presented at a WBU-ISOG gathering – "Bonded Cellular Encoding Technology". This was a group of prominent cellular aggregator companies and included a "live" demonstration from Dejero. Guy Bouchard of CBC/Radio-Canada skillfully moderated this session and the delegates had the opportunity to familiarize themselves with the cellular bonding techniques of Dejero Labs, LiveU, Streambox and TVU Networks. Working with Dejero

Labs, Stefan Jucken (ViaSat) took the attendees through the process of transmitting and then receiving as standard video a bonded cellular stream over a Ka-band uplink. There were also "live" demonstrations of content distribution from a ViaSat uplink truck outside the meeting room.

The meeting adjourned with a vote to send a WBU-ISOG Resolution in support of Carrier ID to all the satellite operators, including a proposed time line for mandatory adoption and implementation of CID. (The language of the Resolution will be polished and sent around to the WBU members for review and agreement.)

Lastly, WBU-ISOG accepted a gracious invitation from TV Globo of Brazil and the OTI to hold the second Forum of 2013 in Rio de Janeiro. A very timely offer as Brazil is the location of the next 2014 FIFA World Cup and the IOC's 2016 Summer Games. ■

Director General's Report

Michael McEwen, NABA



May has been one of those months when, we, in the Secretariat office, focus on chasing down all the follow-ups from Board and Committee meetings,

along with keeping a watching brief on developing projects and those getting ready to go. It is sometimes a bit of a grind, but it does have its moments.

Following-up on a suggestion from our recent Board meeting in Mexico, we worked with the membership on a project to test interference on C-Band. On May 24th, we signed an agreement with Alion Science and Technology to provide NABA with “analysis of the potential interference caused by IMT sharing of the standard space-to-Earth C-Band (3700–4200 MHz) as well as the extended space-to-Earth C-Band (3400–3700 MHz).” The project is being led by Winston Caldwell of FOX and is supported in its funding by CBS, Disney/ABC, FOX, Time Warner and NBCU..

Alion had prepared a response to the FCC’s Notice of Public Rule Making (NPRM) on an Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band on behalf of American content companies, many of them NABA members. It was felt that if this submission could be built upon to form a new submission to the ITU’s JTG 4-5-6-7 this July, it would make for a powerful argument about the importance of this spectrum to broadcast operations. Without getting into “ITU 101,” it suffices to say that initiatives like this concerning the broadcast gathering and delivery system as well as over-the-air spectrum are critical to the industry’s future and are clearly under assault from the broadband wireless and cell phone industries.

Along with the above, NPR is taking up some IMT testing on our behalf, and NABA and Telesat have funded work in the C-Band area as well. These are all pieces of a whole and when they come together this July they should provide solid empirical evidence of our concerns.

The Technical Committee meets in Toronto for the first time at Shaw Media on June 6th. The

TC will consider these and other spectrum issues, along with a major report from the Standardized File Exchange & Watermarking Working Group on their findings to-date and potential future action in this area.

As many of you know, NABA acts as the Head of Secretariat to the World Broadcasting Unions (WBU) and provides support and services to WBU Committees. In fact, just a few weeks ago, the WBU’s International Satellite Operations Group (ISOG) met in Los Angeles for a semi-annual Forum, hosted by FOX Networks. Attendance was very strong and the meeting focused on interference issues as well as digital uplink standardization and operations. See Dick Tauber’s article in this *NABAcaster* for an in-depth summary, including the exciting and timely location for the next Forum.

In mid-June, the WBU Technical Committee meets in Munich to consider many of the same spectrum questions that NABA is dealing with (this is not just a North American problem but truly a global issue for broadcasters); along with access services for the Olympic Games, FOBTv, UHDTV, and Radio DNS to mention but a few topics.

At the end of June, the Secretaries/Directors General have their annual meeting where the work of the WBU Committees (ISOG, TC, and the Broadcaster Treaty Working Group) are reviewed and evaluated with directions as required. Indeed, a busy time.

Finally, with the NABA Board approval of new Terms of Reference for the former Safety & Security Committee, now called the NABA Risk Awareness & Continuity Committee (NABA-RACC); this group will gather on August 22nd in New York to fill out a work plan based on the now approved mandate (check out the mandate in this *NABAcaster* as well).

So as we move into summer, we don’t seem to be slowing down much for those “lazy, hazy days of summer” as the agenda seems a touch unrelenting, but then whoever thought about holidays when the “six o’clock news is always at 6” (except when pre-empted by sports). Happy June!

Bob Winteringham and PMCG

Due to the U.S government’s budget sequestration process and its impact on CPB operations we are sad to report that Bob Winteringham’s position was recently cut as part of an overall 12% reduction in staff.

Bob has led the NABA Legal Committee for four terms and has been a Board member for an equal number of years and also as NABA’s Vice President’s since the AGM in 2012. He has strongly represented the interests of CPB and public broadcasting; he has led the LC with fairness, balance and integrity; and he has been the source of guidance to the Board on governance issues. His loss to both CPB and NABA will be very large.

Bob is being most positive about his future and has set up a consultancy firm — Public Media Consulting Group (PMCG) — that will provide consulting to public media stations regarding their compliance with the requirements of the Community Service Grant program. PMCG will also assist stations with financial reporting, policy formulation, audit preparation, and compliance performance. PMCG will also provide meeting facilitation and can alert stations about compliance matters arising from CPB Inspector General Reports and CPB actions. This is a highly specialized area which Bob believes could benefit from his experience and advice. We wish him every success here with PMCG.

Again, the NABA Secretariat and NABA Board of Directors would all like to thank Bob for his wise advice, guidance and steady leadership over many, many years.

Ben Ivins, Senior Associate General Counsel, NAB has already assumed the role of Chair of NABA’s Legal Committee.

For more info on PMCG:

www.publicmediaconsulting.com

To contact Bob Winteringham:

bobw@publicmediaconsulting.com

+1 202-417-6797

NABA-RACC Terms of Reference

As approved by the NABA Board of Directors at their May 2nd Meeting in Mexico City.

Mandate:

The NABA Board of Directors approves and authorizes the development of a Risk Awareness & Continuity Committee (NABA-RACC) to help raise members' awareness of the hazards and risks that impact the continuity of our business, the safety of our people and the successful recovery to business-as-usual in the event of a disruption.

Objective:

Provide a framework and communication channel to enhance the identification and awareness of risk-related topics concerning NABA members.

Strategy:

The Committee will use various communication and aggregation channels to identify, prioritize and collaborate on the best practices available to NABA members. This will focus on the understanding that risk is the result of attempting to achieve an objective. It can be both an opportunity as well as a possible source of danger.

As necessary, the Committee will request

the inclusion of other specialists from within the members' organizations or through external sources. The topics will range from all traditional areas or events of risk such as, but not limited to:

- Business Continuity
- Corporate Citizenship (Sustainability)
- Crisis Management
- Cyber & IT Security
- Disaster Recovery
- Environmental
- High Risk and Hostile Environment Deployments
- Insurance
- Occupational Health & Safety
- Property Loss
- Security

The findings, minutes and all other documentation will be communicated to the Board on specific cycles as well as prior to publication outside of the Committee's meetings and communications.

The Board will need to approve any documents prior to publication outside of the Committee infrastructure.

Once documents have been approved, this committee will facilitate the communications to government, regional authorities, media distribution platforms and other appropriate organizations to share the data developed through the collective efforts of NABA.

Structure:

The Committee will include the following positions:

- Chair (serves two years and may be nominated for a second term as per the By-Laws)
- Vice-Chair (as above)
- NABA Liaison, which includes providing organizational support, secretarial services, project management and other related duties as required

The goal will be to have each member company provide a risk representative on the RACC to help assure all concerns and insights are included.

Work Plan:

The Committee will hold scheduled quarterly meetings; two of which shall be face-to-face and two conference calls (additional conference calls or working group meetings as required).

As necessary, sub-committees will be assembled to address specific topics that may or may not include external members. Any sub-committee developed will include at least one regular committee member who provides liaison to the full Committee.

Please note that the next meeting of the NABA-RACC is set for **Thursday, August 22nd at CBS in New York**. Please RSVP via the Secretariat



JTG 4-5-6-7 Chairmanship

The Radiocommunication Bureau has been informed that Mr. Thomas Ewers is unable to carry out his duty as Chairman of the Joint Task Group 4-5-6-7 (JTG 4-5-6-7).

In line with the provisions of CV 244 and Resolution ITU-R 15, a new Chairman would normally be elected from among the current Vice-Chairmen. However, the Bureau has also been informed that Mr. Bashir Gwandu is unable to carry out his duty as Vice-Chairman of JTG 4-5-6-7 and that Mr. Naser Al-Rashedi would not be available to serve as Chairman.

Consequently, at its forthcoming meeting, the Joint Task Group will elect a new Chairman from among the members of the Joint Task Group. Heads of Delegation for the JTG 4-5-6-7 meeting are kindly invited to attend an informal consultation meeting on **Sunday, 21 July 2013 at 18h00 SAST** at the meeting venue in order to consider proposed nominations.

Coming Up in the July-August Edition of NABAcaster:

- ▶ News on GVF's SNG Operator Training & Certification Program
- ▶ Director General's Summer Report

Please contact Jason Paris (jparis@nabanet.com) if you would like to make a submission for our July-August edition of NABAcaster.

Japan Prize 2013



The Japan Prize 2013-International Contest for Educational Media, organized by NHK is accepting entries. The Japan Prize was established in 1965 and will mark its 40th edition this year. It has long contributed to the development of educational media by awarding quality programs and proposals with cash prizes.

The Japan Prize is open to educational programs and proposals divided into two categories:

- Audiovisual Division
- Program Proposal Division

All entries can be made from the official website below with a June 30th deadline:

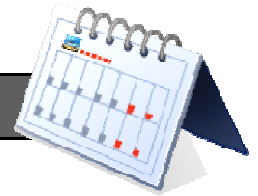
<http://www.nhk.or.jp/jp-prize/english/index.html>



Secretariat Office Closure

Please note that the NABA/WBU Secretariat office will be closed on **Monday, July 1st** in observance of the Canada Day holiday.

Looking Ahead - Key Dates & Upcoming Events



Date	Event	Location
June 6	NABA-TC Meeting (Hosted by Shaw Media)	Toronto, ON, Canada
June 12	WBU-TC Meeting (Hosted by EBU)	Munich, Germany
June 19	NABA-LC Teleconference	Toronto, ON, Canada
June 25	WBU-SG/DG Meeting (Hosted by EBU)	St. Julian's, Malta
July 7-24	ITU-R: Joint Task Group (JTG) 4-5-6-7	East London, South Africa
Aug. 22	NABA-RACC Meeting (Hosted by CBS)	New York, NY, USA
Sept. 12-17	IBC 2013 Conference & Exhibition	Amsterdam, The Netherlands
Sept. 30	NABA-BoD Meeting (TBD)	Los Angeles, CA, USA

A complete list of upcoming events is available in the Calendar of Events section at www.nabanet.com



The *NABAcaster* Newsletter is available in the members-only section of www.nabanet.com