

**WBU-ISOG Forum
May 15-16, 2013**

Fox Networks
Learning Center
10201 W. Pico Blvd.
Building 103, Room 1150
Los Angeles, CA 90035

Draft Summary Report

Participants:

Please see the WBU-ISOG Forum Registration List.

Summary:

The most recent WBU-ISOG Forum was very successfully held at the 20th Century Fox studios in Los Angeles on May 15th & 16th. This meeting was focused on-matters of keen interest and concern to the global broadcast delegates who attended and participated in the Forum.

Fox Networks was an outstanding host, spearheaded by Paul Cohen, VP of Satellite Engineering, and arranged for meeting facilities which, for the first time, included presentations over Skype for two of the sessions.

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

The Forum Agenda and presentations (with the exception of those containing proprietary information) are available for public viewing and downloading at:

<http://isog.worldbroadcastingunions.org>

Approval of Draft Forum Agenda

On a motion from Akira Ogawa (NHK), there was unanimous approval of the draft agenda.

***** The Agenda was adopted.**

Approval of the Summary Notes from the November 2012 Forum

On a motion from Akira Ogawa (NHK), there being no changes to the summary notes, the notes were unanimously approved.

***** The Summary Notes from the November 2012 were adopted.**

Forum Highlights:

WBU-ISOG Recommendation for DSNG Parameter Set Update

The first order of business at the meeting 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, covering all-digital, MPEG-4 encoding modulation equipment, 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 close to being decided and, we hope, will be presented for final approval and acceptance at the next WBU-ISOG Forum in Q3.

Interference Session

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, to develop 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 at 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 is 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 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 is now awaiting 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 – formally V.O.A., Voice of America), 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, one-day meeting in Geneva that will bring together industry experts to further explore the curtailment of interference, particularly intentional jamming. Erwin Greiling, Product Manager at Siemens, presented the work being done on the geo-location of interfering signals.

WRC-15 “Spectrum Threats” Discussion/Update

Bob Plummer of Fox moderated a panel with Majid Khalilzadeh, Sr. Principal Engineer for Spectrum Strategy at Intelsat, Yvon Henri of the ITU and Zach Rosenbaum, Spectrum Development Engineer at SES. The panelists reminded the attendees of the threats to C-band spectrum and reiterated what needs to be done in preparation for WRC-15 (World Radiocommunication Conference-15) by broadcasters if we hope to preserve C-band bandwidth for content acquisition and, most importantly, distribution.

Beyond HD: An Update

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 the current status and what's to be expected in the next several years. Addressing the various issues related to the use and transmission of UHDTV were Gregory Cox, Sales & Applications Engineer from ATEME, EBU's Vlastimil Benovsky, Satellite Engineer at Eurovision and NBCU's Thomas

Bause Mason, Director, Advanced Digital Media Technology who took his turn on the panel over a Skype link.

Ka-Band Update & Offerings

Arnie Christianson, Sr. Manager, Technical Systems, CNN Satellites & Transmissions, lead a very in-depth session called "Ka-Band: Updates & Offerings". Responding to very poignant questioning were Mary Salih, VP of Client Services for Eutelsat America, Martin Turner, Director of Media Business for Inmarsat, J.J. Shaw, VP of Operations for O3b Networks and Gregory Steckman, Director of Professional Broadband Services at 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.

Occasional & Fixed Satellite Services for IP Digital Newsgathering

The first day of ISOG ended with Tom Gibbon of NHK moderating a panel, "Occasional & Fixed Satellite Services for IP Digital Newsgathering" with participation of Yasir Hassan, Director of Transmission Operations for ArabSat, Mary Salih, VP of Client Services, Eutelsat America, Ruben Lavcovitz, Business Director of North and Central America and the Caribbean for Hispamar, Peter Ostapiuk, VP of Media Product Management for Intelsat and, Stefan Jucken, Director of Strategic Business Development for ViaSat. Each company outlined their positive points regarding the digital IP business solutions they've developed and responded to audience questions on the special needs mentioned by the broadcasters at the Forum.

The State of IP Newsgathering

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 of Telecommunications and Affiliate Support for the ABC Television Group, satellite operators (Inmarsat – Martin Turner; Thuraya – John Huddle, Director of Media & Broadcast) modulator manufacturers (Newtec – Thomas van den Driessche, VP of Market Strategy; NovelSat – David Furstenberg, Chairman), service and bandwidth providers (Arqiva – Mike Pearson, Head of Global Operations, Broadcast & Media; GMPCS – John Stoltz, Director of Media & Enterprise Markets) and end user customers (ABC – Jim Casabella, Director, Advanced Technology; CBS – Michael Englehaupt, CTO of KQED, CNN – Arnie Christianson) 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.

DVB-S2 Extension Discussion

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

Bonded Cellular Encoding Technology

The final panel of the Forum covered an aspect of video collection not previously presented at a WBU-ISOG gathering – "Bonded Cellular Encoding Technology". This was a group of the prominent cellular aggregator companies and included a "live" demonstration from Dejero. Guy Bouchard of CBC/Radio-Canada moderated this session and the delegates had the opportunity to familiarize themselves with the cellular bonding techniques of Dejero Labs (Bogdan Frusina, Founder and CTO), LiveU (Ariel Galinsky, VP of Business & Corporate Development), Streambox (Bob Hildeman, CEO – including an equipment demo) and TVU Networks (Paul Shen, CEO – also an equipment demo). Working with Dejero, 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.

CID Resolution

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.)

The current language is as follows:

Propose that WBU-ISOG draft a resolution that would contain:

1. A requirement that by no later than January 1, 2015 all new CODECs purchased by end users contain Carrier ID that meets the DVB CID standard;
2. A requirement that satellite operators by no later than January 1, 2015 use a Carrier ID meeting the DVB CID standard in all uplink transmissions.

***** WBU Secretariat to polish and distribute CID Resolution for review and agreement.**

***** WBU Secretariat to distribute polished and approved CID Resolution to all satellite operators**

Next Forum:

It was decided to accept a gracious invitation from TV Globo of Brazil to hold the second WBU-ISOG Forum of 2013 in Rio de Janeiro (in early November). A very timely meeting location as Brazil will be hosting the 2014 FIFA World Cup and the IOC's 2016 Summer Games.