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Inter-Op Lab affirms IP's future role in broadcasting

BY SHAWN LIEW

SINGAPORE – "The future of broadcast is IP but the future is not here yet," said Dr Peter Siebert, executive director, DVB Project, quoting his chairman Peter MacAvock.

He explained: "In the future, IP delivery will become more and more relevant, but for now, many countries in Asia-Pacific are yet to enjoy ubiquitous broadband connectivity."

IP-based delivery of broadcast content, he revealed, is a key priority for DVB, which has started the technical work on ABR Multicast, which will bring multicast scalability to the over-the-top (OTT) delivery of live content.

Dr Siebert added: "Because of

The Broadcast IP Inter-Op Lab at BroadcastAsia2017 demonstrated that IP has a key role to play in the future of broadcasting.

the efficiency gains of multicast, more content will be delivered over IP broadband connections eventu-

DVB Project's Dr Peter Siebert: "Because of the efficiency gains of multicast, more content will be delivered over IP broadband connections eventually — but for the interim, hybrid technologies will remain prevalent."

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BroadcastAsia2017 had proven

that moving to IP today does not involve high risk, said Fintan Mc Kiernan, CEO of Ideal Systems South-east Asia.

Drawing on the key takeaways from the Broadcast IP Inter-Op Lab, set up by Ideal Systems working in conjunction with *APB* and

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Broadcasters urged to take a deep dive into IP

BY JOSEPHINE TAN

SINGAPORE – Broadcasters need to start embracing IP today by starting to plan for the transition to IP-based systems after a careful analysis of how IP can best address their current and future needs.

In a panel discussion at BroadcastAsia2017, entitled *Taking a deep dive into the practicalities of implementing IP workflows*, four invited panellists addressed some of the key

issues and concerns surrounding the transition to IP, particularly for broadcasters in Asia-Pacific.

Calling the transition to IP an "inevitable" one, Dr Amal Punchihewa, director, technology and innovation, Asia-Pacific Broadcasting Union (ABU), explained that the move from SDI to IP would be largely driven by cost, and this would in turn lead to new business alignments.

He continued: "IP delivery is now slowly maturing even as we've been

talking about over-the-top (OTT) viewing. However, IP can now also be used for production, and what is important is how we can implement IP on the production side."

Dr Ahmad Zaki Mohd Salleh, group general manager, engineering, Media Prima, agreed with Dr Amal's point on cost, and elaborated:

Media Prima's Dr Ahmad Zaki Mohd Salleh: "It is actually an economic drive for broadcasters to move to IP."

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4K/UHD recording with new Canon EOS addition

Canon's new EOS C200 digital cinema camera features the newly developed Dual DIGIC DV 6 image processing platform. This feature, said Canon, allows the EOS C200 to record 4K/Ultra HD (UHD) video to CFast cards using the new Cinema RAW Light video format. The EOS C200 delivers a maximum 15-stop equivalent wide dynamic range for 4K/UHD high dynamic range (HDR) video recording in Cinema RAW Light format, and a maximum 13-stop equivalent in MP4 format that employs Canon's proprietary Log gammas — Canon Log 3 and Canon Log.

Fujifilm launches new MK cinema lens

Fujifilm has made available the Fujinon MK50-135mm T2.9 zoom lens, the latest in the company's MK series of cinema lenses. The MK50-135mm is the same size and weight as the recently introduced MK18-55mm, but comes with a 50-135mm focal length. Fujifilm also recommends the MK50-135mm lens as a companion lens to the MK18-55mm T2.9 zoom lens. With a combined focal length range of 18mm-135mm, both lenses cover the most frequently used range utilised by emerging cinematographers, said Fujifilm.

PANELLISTS

Dr Ahmad Zaki Mohd Salleh
Group GM, Engineering
Media Prima

Phan Tien Dung
CTO
Vietnam Digital Television

Bernard Anthony
CEO
Cambodian Broadcasting
Services

Technology empowers post-production workflows

In post production, the raw content undergoes a workflow involving different workstations, where it is refined, edited and tuned to perfection. And where efficiency is concerned, editors are today able to deploy IP and cloud technologies to simplify workflow processes while enhancing communication across workstations. **Josephine Tan** reports.

There are three stages in filmmaking: pre-production, production and post production. Particularly for post production, workflows comprising ingest, editing, mixing audio and adding special effects have to be established in order to bring the recorded material to life.

As image quality, enabled by technologies such as 4K/Ultra HD (UHD) and high dynamic range (HDR), are now capable of providing greater details and sharpness, content producers are encouraged to produce their content in the best available resolution.

Bryce Button, director of product marketing, AJA Video Systems, tells *APB*: "The most important thing for editors to remember when considering 4K/UHD and HDR is that regardless of raster size, it is always a great idea to start with the best source image possible, even if it exceeds the standard delivery format used in most regional productions. Acquiring source materials at 4K/UHD, while using as much of the available colour space and luminance range as possible, will best position editors to deliver richer programming and provide future earning potential off of this source material."

In the *2016 Global 4K/UHD Industry Survey* report by Irdeto, 88% of the total respondents indicated that they will launch 4K/UHD content by 2020, and the key drivers for the implementation of 4K/UHD is the expectation that

AJA Video Systems' FS-HDR is designed to bridge the conversions needed from wide camera color spaces and luminance ranges to HDR standards, and from SDR to HDR to integrate non-HDR materials into HDR programming.

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>
> — **Bryce Button, Director of Product Marketing, AJA Video Systems**

consumers will pay 10%-30% more for premium content. "4K/UHD is looming large in Asia, and is being pushed in Japan, South Korea and China right now, while others will follow soon," says David East, director, news business development, Asia-Pacific, Grass Valley.

"Furthermore, some TV stations in Vietnam are looking at 4K/UHD production, and we are starting to see the requirement for compatibility in Myanmar," East continues. "Even though 4K/UHD may not be a transmission requirement for many countries, there are many situations where systems must be 4K/UHD-ready."

The creation and transmission of 4K/UHD content requires media operators to be equipped with more bandwidth, storage and processing power for editing systems. A shift away from SDI towards IP workflows, East suggests, will facilitate the delivery of 4K/UHD content for post-production editors. He elaborates: "As the SMPTE ST 2110 standard for IP becomes available, more data and, importantly, metadata, can be passed through the network.

"IP technology has been around for a long time, and broadcasters are now adopting IP workflows because they are format agnostic, enable multiple video streams on a single Ethernet cable, and allow easy integration of video from remote sites. IP workflows will smoothly scale to cope with 4K/UHD formats, HDR, HFR (high frame rates) and other emerging standards, but at a post-production level, editors need to yet again get ready for more data and storage."

Another advantage of employing IP is to enable cloud-based solutions in post-production workflows, thus providing editors with the ability to work with, edit and create content. Empowering the cloud enhances workflow efficiency while encouraging collaboration between departments. Particularly for productions involving geographically dispersed teams, the cloud supports access to materials from virtually anywhere.

Calling the use of cloud-based systems "a great advantage" to post-

production processes, Terence Teng, managing director for Asia-Pacific, IHSE, highlights that IP enables workflows to become more production-focused. He explains: "As content is handled in the cloud, physical interfaces are removed in favour of IP transmission and connectivity. Accessing content and moving it via the cloud therefore enhances efficiency and encourages collaboration.

"It is now viable and common for studios and editing suites to be created in which dedicated servers are replaced by general-purpose PC-based servers, workstations and shared software. It is a way of sharing physical resources; in fact, this is a trend that major post-production houses have adopted through the use of KVM (keyboard, video and mouse) switching systems."

The current limitations of cloud services, however, include bandwidth availability, and the cost of cloud storage, Grass Valley's East points out. "Media needs to be uploaded as well as downloaded, and the transfer speeds will have to improve, especially with the need for 4K/UHD production.

"There is no doubt that cloud production is here to stay, but it will not happen overnight, and people are looking very closely to see how efficient it can be. Right now we are at a point where the cloud is used for specific situations, though we certainly are not

ready to move all operations — especially the hardware — outside the traditional workplace."

Security and privacy also remain an overriding concern for many media companies, especially considering recent hacks targeting companies in the broadcast and media industry. "Although a number of cloud security and data management entities currently exist, these recent hacks, as well as a string of others across the globe have slowed the acceptance of cloud-based production and post-production in the media and entertainment industry," says AJA's Button.

In turn, Button highlights that the industry is starting to embrace a standards-based approach to IP production workflows, which ensures the ability to transfer large file sizes while reducing security concerns for producers. He says that broadcast IP is designed to comply with emerging industry standards to ensure "the least latency possible". Although broadcast IP workflows use IP as a means of transmission and communication, he adds, it can also be controlled carefully across private networks to ensure a level of security and predictability.

Despite both IP and cloud potentially simplifying the delivery process of 4K/UHD content to consumers, the majority of broadcasters in Asia are still broadcasting in HD. HDR, which

Deluxe Entertainment has installed IHSE's Draco tera S6 KVM switches to enable console switching between different workstations.

can be integrated alongside HD, and which can introduce new opportunities for broadcasters to bring more compelling content to viewers, is as yet, not widely deployed. Hence, in order to support multiple formats, AJA is offering its FS-HDR converter/frame synchroniser, which not only creates HDR solutions for 4K/UHD content, but also for HD workflows.

Designed to meet the HDR and wide colour gamut (WCG) needs of broadcast environments, the FS-HDR features conversion of 4K/UHD materials and camera sources to 4K/UHD HDR. And in scenarios where delivery of 4K/UHD might not be possible, the FS-HDR will enable delivery of rich colour and a wide range of luminance settings for HD HDR content.

Following the rise of multi-platform viewing, traditional post-production workflows will also need to include workflow automation so that content can be distributed to any destination. For instance, Grass Valley is offering its iTX On-Demand for automated video-on-demand (VoD) asset preparation and publishing. The iTX

On-Demand allows media operators to manage the repurposing, transcode and packaging of their content, specifically for different platforms and devices, thus improving the efficiency of publishing video content onto over-the-top (OTT) platforms.

Grass Valley's East concludes: "In some regions, the cost of labour to produce multiple versions may not be a dominant factor, but the automation of these processes offers the benefit of consistency, enhancing the product delivered to the end-customer."

For KVM solutions provider IHSE, its Draco tera S6 switch has been installed in Deluxe Entertainment's post-production studios. The Draco switch integrates with the Avid S6 console, allowing the desk-mounted digital visual interface (DVI) screens and USB devices to follow whichever Pro Tools workstation is selected from the console.

Doug Higgins, director of audio services, Deluxe Entertainment, explains: "Keeping all of our work and automation recallable across any of our mix stages, from the temporary mix to the final print master, is invaluable. All systems are on an IHSE Draco tera KVM switch, through which we can dynamically allocate any system to any room. It also means that we can quickly reallocate systems without any downtime should a failure occur."

Deluxe Entertainment's post-

production studios around the globe offer a mixture of recording equipment and digital audio workstations. Instead of having dedicated roles, individual studios can be assigned to projects with a central KVM switch connected to banks of editing workstations, content storage devices and audio tools. Equipment can also be nurtured and maintained more effectively, allowing software licences to be assigned as needed.

"Post-production producers, designers and editors need access to a wide range of source devices, often switching between them several times in the course of an editing session," IHSE's Teng says. "The most efficient way to do this is directly from their KVM workstation. For efficiency and to maintain their level of concentration, they need to make the change quickly without having to consider the process of switching itself."

KVM switching allows the digital asset source computers and tools to be located away from the mixing studios. Besides creating a conducive environment to the creative process, it also allows studios to be used for any task. "Editing tools required for a particular session are selected and accessed as and when needed. It is no longer necessary to dedicate individual tasks to specific rooms; instead, each room can serve a variety of roles with the advantage that the most suitable can be used," Teng concludes. APB

Designed to automate the VoD process, the iTX On-Demand from Grass Valley enables media operators to deliver VoD content to multiple platforms in advance of playout for pre-recorded programmes, or to reduce the turnaround time of a live event.