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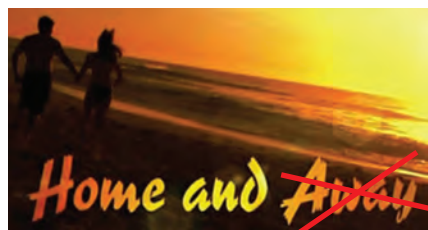




Resistance and Persistence!

By Phil Sandberg

SINCE OUR LAST ISSUE, the COVID-19 pandemic situation has become more serious, grimmer, it has impacted everyone on the planet. I'm not going repeat the stream of platitudes that have been filling up your inboxes and social media feeds, nor am I going to make pronouncements on where the industry is going to be in the months ahead, or when the virus has finally been eradicated.



What we are highlighting and celebrating in this issue is creativity and adaption, which is what we have always celebrated. Whether it be technology solutions to working in the current crisis, or imaginative changes to workflow, or finding new uses for old content, we are here to try and help you to navigate your way through this particular apocalypse (remember the bushfires, floods, cyclonic storms? Them were the days).

So, you be seeing more from us over the coming months, on more platforms, and more than reporting on who's using which to do what. We'll be making sure we keep in touch with you so you keep going. And we want

to hear from you, about your projects, your technology, and if you want to place a Work Wanted ad with us, just email me at papers@broadcastpapers.com. It's free.

And now a word from our founder.

Shame Neighbours! Shame Home and Away!

Shame! Shame! Shame!

Along with the Olympics, most sporting events, boot camps in the park and trips to the hairdresser, the COVID-19 pandemic has impacted production around the globe, including Aussie soaps Neighbours, and Home and Away. Seven Studios issued a statement that it would halt filming of Home and Away immediately due to the "increasing logistical hurdles related to the COVID-19 situation". Production company Fremantle and Network 10, meanwhile, issued a statement that Neighbours had decided to take a short break to "ensure the production model in place can withstand any potential impact of the current COVID-19 situation. The health and wellbeing of everyone on the set of Neighbours will always be our priority".

Now, these are admirable and responsible actions to take, but now is not the time to cast two of the nation's treasured cultural icons and exports into the deep freeze. Now is the time to adapt, to keep the cameras rolling and the soap "sudsing".

For the love of God, this is the genre that gave us a whole season of Dallas revealed at its conclusion to be but a dream had by one of

its main characters (spoiler - Pamela Ewing). So, forget the bomb planted in the surf club, or Toady's car catapulting from a cliff into the sea, get back on the horse and get back to those semi-plausible plotlines.

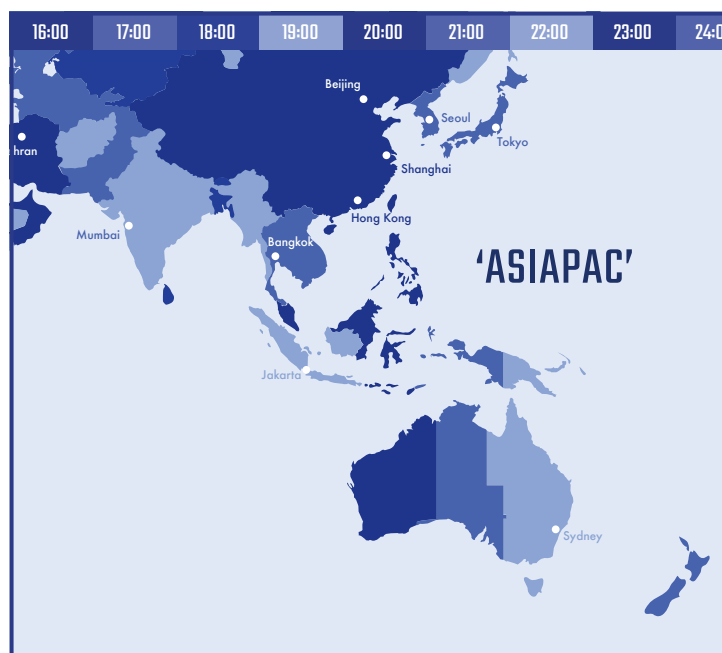
Picture this: Main character enters bedroom. She stumbles around. She's dizzy. She passes out. She wakes up two weeks later and the country is in isolation. Cut off from the partner of her dreams, she pines away the hours on Zoom misinterpreting comments from her loved one, getting into arguments, and then making up. Meanwhile, the town bad boy decides he can't be holed up in the local backpackers any longer. He needs to be with the young lady whose parents have forbidden him to see. Before he can get out the front door, he is warned by the police that he will be fined and possibly sent into quarantine. This stuff, now sponsored by Coles, Woolworths and Dan Murphy's home delivery, virtually writes itself. So, Self-Isolating Neighbours, and Home and Not Away, get back to your laptops, get back to work and get writing. You owe it to your cast and crew, you owe it to Australia, and you owe it to a locked-down, post-BREXIT Britain that has been reduced to rationing your output to two episodes a week to make your current seasons last!

Thanks for reading

Phil Sandberg – Editor/Publisher

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Nine Uses Grabyo to Distribute Content Across Digital Platforms

NINE, THE MAJOR AUSTRALIAN TELEVISION, digital, video, radio and publishing company, has partnered with Grabyo to strengthen its multi-platform content distribution strategy throughout 2020.

The broadcaster uses Grabyo's browser-based video platform to clip, edit and share content across its core areas – news, current affairs, sport and entertainment – instantly, ensuring Australian audiences can access this content in real-time, wherever they are. Nine has already achieved over 280M views on its social channels using Grabyo Publishing in 2020 Q1.

Amid the rapidly evolving news cycle surrounding the COVID-19 virus, delivering highly-accessible news content across multiple platforms is vital to keeping Australians well-informed about updates from the Australian government and health sources.

Grabyo's cloud-native platform will enable Nine to continually produce content remotely without reducing its content output or quality. Its digital and social teams are able to work collaboratively from anywhere across the country using only a laptop with an internet connection to update audiences with breaking news.

The broadcaster will use Grabyo to continually bolster its multi-platform content strategy throughout 2020, delivering sports, entertainment and news clips to its digital channels. Engagement peaks when events are live, and by publishing real-time content, Nine is able to capture and engage vast digital audiences across Australia and around the world.

Elliot Renton, Senior Director and Head of APAC at Grabyo, comments: "Our partnership with Nine Entertainment is a brilliant example of how broadcasters can thrive as disruption takes shape across the broadcast industry. The rapid rise of social video and the emergence of live streaming has dramatically changed the media landscape in Australia and this is driving a real need for lightweight video and cloud technology. Nine's content strategy is cutting-edge and by delivering tailored content across its digital channels, it is able to super-serve its audiences with the content they want to see. During this uncertain period, Grabyo is proud to deliver a service that supports teams working remotely and allows Nine to enhance their standing with Australian audiences."

Chris Ledlin, Head of Content Strategy & Commercialisation at Nine, added: "Grabyo's cloud platform allows Nine's broadcast, digital, publishing and radio teams the ability to customise, edit and distribute our premium video content across our core owned and operated platforms including 9Now, Nine.com.au and off-network assets, whether it be teams working remotely or from any of our locations across the country."

"Grabyo will be an essential product in the months ahead, as Nine's News and current affairs brands play a critical role in delivering a service to Australian audiences on this unfolding COVID-19 situation."

Nine uses Grabyo Studio to clip, edit and distribute content directly to its digital platforms. Grabyo has integration partnerships and can deliver content to all major social, mobile and OTT platforms.

Visit www.grabyo.com

PCBL Chooses ATEME for Downlinking of Pacific Television Content

ATEME HAS ANNOUNCED that it has provided Kyrion DR5000 Integrated Receiver Decoders (IRDs) to Pacific Cooperation Broadcasting Limited (PCBL), a New Zealand Government initiative that supports Pacific free-to-air broadcasters through the delivery of New Zealand-originated content for rebroadcast, and the provision of training to encourage the production of local content.

With a service area covering approximately 20 percent of the Earth's surface, PCBL opted for 52 DR5000 IRDs for its easy setup; fast signal lock; and industry leading RF robustness. A future-proof solution, the ATEME IRDs provide support for HEVC, in addition to 10-bit 4:2:2, SD, HD, UHD, MPEG2 and H264 to be installed into the 25 downlink locations.

"Some of our clients are in remote parts of the world, including Kiribati, Solomon Islands, The Kingdom of Tonga, and Niue. Support and service are obviously hard to come by quickly in these places, so the DR5000's robustness and user-friendly operation were key to our decision," said Natasha Meleisea, Chief Executive of PCBL. "With many of our broadcast partners spread across the Pacific, being able to roll out the decoders and configure them on site via USB proved to be another huge advantage. The ease of configuration, coupled with the skill of the onsite team, saw our fastest installation completed within 15 minutes."

"ATEME was always confident in meeting PCBL's exacting timelines and technical requirements," said Will Munkara-Kerr, Country Manager for ATEME Australia and New Zealand. "We are delighted to have been a part of PCBL's ambitious vision, and now that the initial phases have been successfully deployed, we are looking forward to continuing our close relationship as that vision expands."

Visit www.ateme.com

Magna Partners with MediaKind in Australia

MAGNA SYSTEMS & ENGINEERING has signed a channel partnership agreement with contribution and distribution specialists MediaKind and will now represent and sell all MediaKind products, services and solutions in Australia.

MediaKind Account Manager David Herridge explained, "Magna Systems and MediaKind are a great fit. Top tier channel partners like Magna are vitally important to MediaKind's growth goals and visions. In this partnership, Magna provide an extended sales arm for us locally in Australia, as well as a breadth of regional experience via key integration and implementation projects with broadcasters, telcos and service providers. By working alongside an agile partner such as Magna, we can deliver our operations at speed and integrate across our end-to-end portfolio."

MediaKind, formerly Ericsson, has a wide range of products and solutions that cover the end-to-end media value chain. Most relevant to the Australian market is MediaKind's application specific, direct-to-consumer packaged-solutions including Aquila Streaming for OTT services and Aquila Broadcast for DTH/DTT services. Alongside these are Prisma Core and Prisma Edge for Advertising and Rights Distribution, Cygnus Contribution and Cygnus Distribution for broadcast contribution and distribution and Cygnus 360° Events for 360-degree video as an application of OTT streaming.

Magna Systems CEO Matthew Clemesha said, "[MediaKind] has a unique heritage in contribution and distribution solutions which has now expanded into 360-degree video and OTT – all of which can add value to our clients in Australia. Our customers will also benefit from MediaKind's cutting-edge codec development, which in turn helps them make significant cost savings via reduced CDN and link capacity costs."

Visit www.mediakind.com and www.magnasys.tv



Introducing the World's Fastest Editor

DaVinci Resolve 16's new cut page and editor keyboard let you work faster than ever!

The new cut page in DaVinci Resolve 16 is the first major innovation in professional video editing in over 20 years! Designed for short quick turn around projects, the cut page is all about speed. Featuring a streamlined interface with intelligent new "smart" tools, the cut page and DaVinci Resolve Editor Keyboard are designed to save you hours of time on each job.

Work Faster with Dual Timelines

The cut page features dual timelines so you never have to zoom in or out again. The upper timeline shows the entire program while the lower timeline shows the area in which you're working. With the dual timelines you'll always know where you are because you always have a zoomed in timeline that's ideal for trimming and fine tuning your edits using the contextual tools.

Use Source Tape to Quickly Find Shots

Finding the right clip in a bin with hundreds of files is slow. With source tape you no longer have to waste time hunting through bins to find the clip you need. Source tape makes all of the clips in your bin appear in the viewer as a single long "tape." This makes it easy to scrub through all of your shots, find the parts you want, and quickly edit them to the timeline!

Instantly Edit Between Angles with Sync Bin

The sync bin completely revolutionizes multi camera editing! It displays all of the shots from different cameras that are in sync with the current shot in the timeline. You'll see the angles stacked as film strips in the bin, along with a multi-view display in the viewer so you can instantly choose a different angle and make perfectly synced cut aways.

DaVinci Resolve Editor Keyboard

The DaVinci Resolve Editor Keyboard lets you edit with both hands, dramatically speeding up your workflow! It's a professional keyboard with transport controls on the right side and edit functions on the left side. You can use the search dial and source tape buttons with your right hand to locate shots, while simultaneously marking in and out points, performing edits and live trimming with your left hand.

DaVinci Resolve 16	Free
DaVinci Resolve Studio 16	\$495
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➡ Learn more at www.blackmagicdesign.com/au



In the hot seat - Ticker CEO and Founder, Ahron Young.

On the Pulse with Ticker

C+T speaks to Ahron Young, CEO and Founder, of business news channel Ticker.

By Phil Sandberg.

LAUNCHED IN MELBOURNE in August 2019 by ex-Sky News Australia anchor Ahron Young, Ticker is a linear streaming channel operating 24 hours, seven days a week. The channel creates around seven hours of content a day. As well as the linear feed, Ticker also produces pre-recorded business lifestyle programming. All of its content is available on-demand through an app.

"I'd been thinking about the idea for a little while and it was just the right time, the right circumstances to kick off," says Ahron Young. "And the viewpoint was that the way that technology is going, you no longer need to have a TV tower on Mount Dandenong to provide and produce TV content."

C+T: Where do you sit in terms of viewers?

"In terms of our content reach per month across, I think, just YouTube alone, and that's one of many, is 3.2 million, is the number that sits in front of me, so 3.2 million people see our content on YouTube, be that parts of our shows, be that full hours of our shows. We then have the apps, Google, Android as well as Apple. We've got Apple TV as well as Android TV coming very shortly. We have Google Home, Alexa. We're live 24/7 on YouTube. We have our website where we have all the catch-up content there as well.

"We clip up bits of every single show and put it out on Twitter and Facebook. We're live on Twitter 24/7 and we also put up our content that's relevant on LinkedIn. And then, I guess the reason it's tricky is because we give all the hosts of shows the content as well, and the guests. And then they go and disseminate it their way too, so we actually kind of lose track. That's why it's a hard answer. We know what the minimum

is. We don't know what the maximum is. That's the new world. You never know how many people are seeing your posts on Facebook or your posts on Instagram. We cover it all. We had a post the other day on Facebook that went out to half a million people."

You are a graduate of the Sky News Australia school.

"Yes, that's correct. Sky was a great training ground. And it wasn't just a training ground in the sense I was also a trainer, I was always very, very forward thinking with technology. I loved technology and I would bring in and create new things that would become the standard for everybody else at Sky as well. That was not really ever an issue to walk away from in that sense. I guess what I realised is that Sky was on Foxtel and Foxtel obviously has a lot of competitors these days. And then you have the ABC on the other side, who can't – I mean they've got some commercial deals, but they can't go as far as what a commercial provider can. To me, there just seemed to be a real hole in the market for the sorts of people who were desperate to create content but didn't know how themselves.

"We're all told video, video, video, but for a lot of people, to do video cheaply for themselves because it's not their skill for their business, can actually be detrimental to their business if they do it themselves. What Sky taught me was that we were always the TV network that could do a lot with very little. And so, learning the skills and refining the skills of doing a lot with very little, being sent to stories on your own, being the bureau chief in Melbourne, as well as the chief anchor in Melbourne, as well as their chief reporter, and on and on and on it went, meant

that you pick up a lot of skills that you refine over the years. And one day you say to yourself, I can do this myself. I could be my own captain and I could determine my own value."

You launched in August, and you're in new studios already, can you give us an overview of the technology and the workflow?

"We have a newsroom, a large studio one, which is our news room kind of barn-style look. We wanted to be a modern version of what CNN set out to be. And then, we also have a multi-purpose studio, which is our studio two, which allows us to have people sitting at a bar, people standing up, we can change the lighting, etc., very, very quickly, what's on the LEDs very, very quickly. We can rent it out if necessary. Basically, something that they could both operate separately or at the same time, or we could in fact cross sometimes – start off in studio one, and we have an interview, my next interview guest is sitting in studio two, so we get up and I do what we call the newspaper front pages, our bookmark segment, as I walk between studios past the director, and sit down and the next time I'm on camera, I'm sitting in a different studio next to a different guest.

"The whole thing was designed from a journalist/producer's mindset of, how would this work? I had always been concerned about control rooms in TV being separate to the editorial. You end up with two different groups of people with two different ideas of how the show should look. And they don't communicate until the issue arises. I've experienced that in every TV station I've worked in. I remember years ago, my old CEO Angelos [Frangopoulos] said to me, 'If I could

>> continues p9

Densitron's Intelligent Display System (IDS) is GUI-based software for centralised system design, logic and management that can be integrated with

PAT Managing Director, Patrick Salloch, said, "I was introduced to Densitron by one of our customers, who interfaced into a rather large VSM system with Densitron control surfaces into their very large LAWO VSM system. We wanted to see how the customer had utilised the Densitron control panels and surfaces to enhance their user experience. What we saw showed great promise and we were blown away with the additional possibilities Densitron could offer our customers. We are very much looking forward to working with Densitron to bring their exciting HMI and control products to our customers in ANZ."

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Techtel Ensures Tasmanian Parliament is on the Record

BROADCAST SYSTEMS INTEGRATOR Techtel has developed an integrated browser-based software solution for the Tasmanian Parliament consisting of a purpose-built web interface which manages up to four simultaneous recordings of its video feeds. This comes as the customer deploys a new Television Broadcast System, also provided and integrated by Techtel in 2019, with an emphasis on automation and remote control of their broadcast equipment.

For the Tasmanian Parliament to have full remote control of its video recordings, Techtel designed a customised web application utilising a REST API interface which integrates with a video server from Bluefish444. This setup enables a single operator to control multiple HDI-SDI video outputs from up to four simultaneous events from the comfort of their own web browser.

An added streaming capability from the video server back to the control desk offers confidence monitoring for the operator through on-demand generation of video thumbnails.

Finally, all of these features are controlled via a unique user interface, designed by Techtel, with comprehensive drilldown detail and a high level of customisation.

"We developed this integration as the direct result of feedback from the Tasmanian Parliament - our customer wanted to be able to manage the recordings of their video feeds via a simple web interface and the Bluefish444 REST API integration lets them do just that," said Matt Feeney, Director of Projects at Techtel.

This custom integration is derived from Techtel's wider software integration platform, Inflo - a bespoke, "soft-coded" service which connects video files with multiple formats from multiple platforms and applications via one simple User Interface, helping organisations who deal with large amounts of video content aggregate their diverse subsystems from disparate platforms into one intelligent multifunctional system.

Visit www.techtel.com.au

Telcos Reassure Australians of Ongoing Delivery

THE AUSTRALIAN MOBILE TELECOMMUNICATIONS ASSOCIATION

(AMTA) and Communications Alliance have issued the first edition of "Keeping Australians Connected", in an effort to provide Australians with guidance around telecommunications services in the wake of the COVID-19 pandemic.

The industry advice includes updates on how Australia's communication networks are responding to the increasing demand and traffic, as well as information and tips for customers to ensure minimal disruption to their service.

Communications Alliance CEO, John Stanton, said, "The telecommunications industry has come together and responded to the corresponding increase in data usage and traffic by taking steps to ensure Australian mobile users are supported, and able to stay as connected as possible during these challenging times."

AMTA CEO, Mr Chris Althaus, said, "As concerns around the COVID-19 pandemic continue, the daily rhythm of many Australians' lives is being disrupted in unprecedented ways, including through open-ended remote working mandates and the desire for ongoing access to large amounts of media and information.

The industry will continue to work closely with the Government on business continuity plans as the COVID-19 situation evolves, and ensure the ongoing delivery of vital telecommunications services to help maintain opportunities for work and education for all Australians.

"Keeping Australians Connected" will be updated regularly as circumstances change and new information becomes relevant.

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Ticker TV Studio 1.

>> from p6

have, I would have built the control room in the middle of the newsroom, forcing everybody to talk to each other".

"When we were setting up our newsroom here, that's what I said, let's put a director's desk in the middle, so I can talk if I need to, so that the producers can talk to the director, so the social media team can talk to the director, and vice versa. Everyone's on the same page. It's the ultimate 'do not have silos' in your workflow."

What technology is in the studio?

"In both studios we use PTZs, so we have two PTZs in studio one, two PTZs in studio two and our wired camera is basically on a robotic automated dolly, so it just goes left and right and left and right, so we get that lovely movement shot, which obviously when you're doing shows which are robotic and two people having – or three people having a conversation, any movement you can add is important.

"We have Autoscript in the studios as well, so a proper autocue system. In terms of the equipment that we use, we use something called TinkerList, which is a Belgian-based operating system, the next generation for newsrooms, they're fantastic. That can actually talk to our computer systems as well. What I've tried to replicate is exactly what we had at Sky and what Channel Nine News and Channel Seven News, just without the ridiculous price. Everybody uses ENPS and Mosart, great, they were the first. Now there are prosumer versions, which are actually great and designed for one band operations. When we first started Ticker, we couldn't afford a director, so I was actually directing by having an iPad in front of me, but wirelessly connected to the control room and I could mix my own show by creating triggers and things. So, I'd press one button, the opener would kick off, and then it would eventually cut to camera one and bring up the correct supers in the right order and go to the right strap and bring up the bug, bring up the Ticker and put us live on air while recording the program too."

The content's been captured. Where does it go from there?

"The way that it works is we have three computers essentially in the control room. We have a studio one mixing system. We have a studio two mixing system. They're both independent of each other. And then sitting in

the middle, we have a master control. And the master control has a switch to say, are we going to go live to studio one or live to studio two, or are we going to play our pre-recorded play list of all the shows that we've created that go around the week?

"When we broadcast a show, we'll have everyone in place, everybody ready. We have a lot of remote guests who come in as well via web link and we then hit go, programme opener begins, it goes out live to three different places at once. First is to Twitter. Second is to an HLS feed that sends out to Google Home, Alexa devices, as well as our app. The third one goes out to YouTube Live, which allows us to then use it both on YouTube, but also sends that to our Ticker website and other places too. By choosing those three, that gave us the ability to in fact go out to nine or ten places at once live."

What's next for Ticker? And especially given the current public health crisis?

"Well it's actually been a perfect time, in the sense that we cover business and business that affects people. We don't sit there and tell you that the market's dropped by 0.05 percent and that BHP are doing something incredible in the Pilbara. We care about stories like female executives, so we have a show called 'She's The Boss', or people like myself looking to make a change to their career in their thirties and go off out on their own, so we have a show called '30 Life Crisis' with a positive psychologist. Coming up soon, we have all sorts of things. It's business lifestyle content for people who – we say under 45s, but I've never met anyone over 45 who doesn't like watching content for under 45s either.

"Each of our shows are perfect right now during a crisis because, while we're all in it together, everybody is suffering through different ways, whether it's retail, whether it's finance, so by having different shows that talk to different people, we're actually able to be a niche broadcaster. And because I built the studio myself, because we've kept our costs so low, we're able to actually become a niche broadcaster but also be profitable. We were profitable after three months. And there aren't many broadcasters who are making any profit at all."

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Media Tech in the Time of the Pandemic

C+T Speaks to Peter Bruce, Director of APAC for industry body the IABM, about the unfolding effects of COVID-19 on the media tech ecosystem.

C+T: The pandemic situation has seen many cancellations/postponements of trade shows. What are you telling your members?

"What we've done on our website, we've collated, and we're in communications with all the shows, and then highlighted the statements and when and where the shows will be postponed, or actually cancelled in some cases.

"Hopefully, everything starts to come back to normal within say Q3 and Q4. What it's going to mean is, there's going to be a whole kind of slew of shows and we see, for example, BroadcastAsia being put at the end of September which is just a couple of weeks after IBC, and so forth.

"What we are doing is going to roll out several initiatives where you can basically remotely trade. So, we've got several webinars which our members will be subscribing to and then basically having virtual conferences if you like. We've got what we call the BAM, the Broadcast and Media shop. They can put their products onto our website and then educate the end user. So, even if end users are stuck at home and working from home, they still want to understand about the solutions, about the workflows and so forth, and so we've got say a whole list of initiatives where you can remotely go through that and explain your product and services."

The IABM often facilitates end-user training. What strategy do you have in place for that?

"We've got online learning as well. We've got this big pool of lectures or webinars that you can just go on without doing a formal course because the problem is that people don't have, let's say have a day just to sit doing a course. So, you can also go online and then if you're interested, for example, in streaming, you can just go online and there's a whole core of information on our website."

Are your members reporting supply chain problems with the more physical technology?

"I haven't heard of issues so far, but obviously the lockdown of China, I'm quite sure it may have some knock-on effects. The issue comes that even if a product is made in the US, it may have some content or it could be a hard drive from Taiwan, a motherboard from Korea or Vietnam or something like that or China, so the supply chain for sure will have some kind of knock-on effect. And even if it sitting there, maybe it just can't be shipped and, as different countries go through lockdown, it may be that it's ready to go out, but there isn't somebody to ship it. We haven't actually had reports of cases yet, so it's hard to know what to advise."

Your members who had products slated for launch at NAB, how are you helping there?

"We're coming out with the use of webinars that our members can use to explain those solutions which are new, that have just been released. Then we're looking at a virtual exhibition. You'll be able to go online and then you'll be able to look at your product. As I mentioned, the end users have a job to do and they want to find out about different solutions and different products that are out there and this is where our BAM shop window, our virtual conferences, our virtual exhibitions with webinars, are going to help our situation if people aren't physically going to exhibitions."

What resources do you have in place for non-members?

"We have a program that we have been running for about a year now which is the IABM Global Engagement Partner Program. That allows non-members, and end-users such as TV stations, streamers, etc., to engage with the IABM.

"Dealers or resellers and other non-members can join that program. On top of that, a lot of what we call the knowledge hub, but a lot of that is open to non-members as well. So you can see webinars, you can see the BAM shop window and so forth. You can be a non-member to join, and put your products on that shop window. What we want, for example, if somebody's looking at cameras, we want all camera manufacturers of every type to put their products into that window. So, it's basically in a hub or knowledge within the industry."

I guess it's important to emphasise that business doesn't stop does it?

"No, exactly. People basically are stuck at home. When they're stuck at home, they want to watch movies, maybe streaming. Also, we play a fantastic role in terms of education in terms of especially government TV stations, educating and getting people through and understanding what is happening with this virus. So, the amount of viewing probably will end up being a gain during this period because people have more time. They're stuck at home and they've got to entertain the kids. They've got to understand what is really happening on an hourly basis.

"Business still goes on. We're still streaming, the TV stations are still running. So, therefore, they need solutions from the supply side of the industry. So, although the conventions may not be happening, things still go on."

Visit www.theIABM.org



IABM Director of APAC, Peter Bruce.

IABM Business Continuity Resources for Broadcast and Media

IABM, THE INTERNATIONAL association for broadcast and media technology suppliers, has launched an online repository for Business Continuity information from countries around the world to support the Broadcast and Media industry during the COVID-19 global pandemic.

The idea is to provide everyone in the Broadcast and Media industry with a single, central resource populated with relevant, local information to support their businesses in this difficult time.

The IABM team has sourced some official information from 13 countries and is asking the worldwide broadcast and media community to share any official information they have from their country or state with IABM, who will add this to the Business Continuity Resources repository.

Visit www.theiabm.org/business-continuity-resources

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Central Coast Newspapers: Keeping it Local from Print to Video

By Phil Sandberg

WITH MASTHEADS INCLUDING the Wyong Regional Chronicle, Peninsula News and Coast Community News, New South Wales' Central Coast Newspapers distributes around 20,000 newspapers per fortnight to a catchment of around 400,000 people. In addition to a print, online and social media presence, the company has made the foray into weekly video bulletins aimed at filling the local news gap for a region sandwiched between the larger centres of Sydney and Newcastle.

The bulletins have been put together by Central Coast resident Alexander Herget of Silverbulletfilms on behalf of the newspaper group.

"I saw what they were producing earlier, like they did a video news segment. And I thought I could probably help with that. And, I kind of reached out to the newspaper at that point because I'm interested in local community and I'm interested in skill building and community building, so I really thought this would be a great thing to do."

Since then, Herget and Ross Barry, proprietor of Central Coast Newspapers, have narrowed the production process down with the majority of interviews shot on a Thursday.

"We're shooting the on-camera bits on a Friday morning," says Herget. "And then sometimes there's a few interview pickups, things like that. And then there's a bit of green screen we do. And then I will do the edit on the Friday afternoon to be able to deliver on Friday, late afternoon."

"For the interviews, we generally shoot in the one camera, we do it news style. For the sit-down interviews, we have another segment, which is more of a deep dive, that we use three cameras. So, we will get a bit more dynamic interaction in the interview. I will do a three-camera set-up."

"I'm using the Canon XF105, and I'm shooting on the MXF format. I mean the other ones are MPEG4, the smaller cameras, the XA10s. But, I use them because they do use the similar chip, it's just a lens, and I'm using the XF105 because it has PCM sound, so you have that less compressed sound than using it on the other cameras. But, the image is great on the other little cameras as well, but if you use the sound of the main camera, that's fine."

Following the shooting of interviews, Herget edits the bulletins using Adobe Premiere.

"So, we kind of have a general skeleton of assets which are shot for the backdrops. And then we kind of insert those stories. So we're trying to keep it to a certain timing, depending on the weeks, but between seven, eight minutes. Because I'm shooting on solid state, it's very quick to go into the system. Then import in Premiere, which is been really great. I have used different editing programs as well, but it just seems to be working quite well for us, because you can mix and match different formats quite

easily. Sometimes, as well, we would incorporate footage from the community. That is definitely one of our aims, to train up citizen journalists, offer some basic courses in terms of camera and sound production, so that people when they see things developing they can send in footage."

Each story in the news bulletin is introduced by a host sitting in front of a green screen upon which various Central Coast landmarks are superimposed.

"I'm using the Ultralight plug-in," says Herget, "which is just a stock standard in the Premiere program. It works quite good, so I don't need any additional software really. It depends sometimes a little bit on the lighting, because if you're not shooting in a studio, which we haven't been, you're restricted in terms of light placement."

Herget's lighting arsenal includes Ikan LED lights, a Dedolight softbox, Dedolight tungstens.

"LEDs are just quicker to set up," he says, "you just flick them on and you get a base light level, and the camera seems to kind of like it."

When completed, the bulletin is exported in H.264 format for upload to YouTube and Facebook, as well as embedding on the newspaper's website. It is then archived to G-Technology local storage.

"We have about 6000 stories on our local newspaper website," says Herget, "which is fantastic. I think it's very unique, so it's being used as an archive already for a lot of people, because they can go back and they can search for different stories."

"I think more people are now really wanting some video content together with stories. When there's a video story, people tend to read also the associated print story, because obviously it's different angles on the story. And I think that's really one of the things we're trying to achieve, where we follow a certain angle maybe on the video story, and there might be a different angle on the print story."

According to proprietor Ross Barry, "People in Sydney are spoilt for choice with all the various media that they have access to, similarly in Newcastle and the Hunter. But the coast has always been a bit of a microcosm, that's starved for news in my view. And so Central Coast



Central Coast Newspapers' camera operator/editor Alexander Herget [left] and proprietor Ross Barry.

Newspapers really occupies a very important, or plays a very important community service role here on the Central Coast, in being the primary provider of news here. And the people here are fiercely local. So they want real, independent, local news. And that's essentially what three mastheads here deliver. And what we're trying to do is essentially to build out from print papers to establish a digital platform across websites and social media platforms.

"It's been a bit of a pilot. We're really trying to tap into that part of the community, which is online and wanting to receive their news online. We've had an incredible response from the public. And we decided to put that out on a Friday afternoon when people are coming home from work, or getting home from work, and just really trying to catch up on what's happened on the coast this week ahead of the weekend. Our intention is to try to increase the frequency of that and do that more often as we grow, and also to build out the digital content with a range of other interviews and more in-depth news stories."

"One of the challenges for any sort of multimedia organisation is the risk of cannibalising your own business with digital content. And so one of our key challenges has been trying to get that model right, and ensure that not only have we got good content that's being provided to the community in a timely manner, but that we've also got a business model that sustains all platforms, including the print business longer term. Elsewhere around Australia we've seen numbers for print newspapers declining, so digital's been growing at the expense of print. That's not the case here. Our print readership is growing, and it's still the primary source of our business and will be for a long time."

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Blackmagic Video Assist 3.1 and Blackmagic RAW 1.7

BLACKMAGIC DESIGN has announced Blackmagic Video Assist 3.1 and Blackmagic RAW 1.7 which add support for Blackmagic RAW recording from Panasonic EVA1 and Canon C300 MK II cameras on the new Blackmagic Video Assist 12G models. This update lets customers take advantage of Blackmagic RAW workflows and allows dramatically improved quality and creativity in the post production process. Blackmagic Video Assist 3.1 also adds support for metadata entry allowing shots to be logged and tagged on set for better management of media for large productions.

The new Blackmagic Video Assist 12G HDR adds professional monitoring and recording to any SDI or HDMI camera in all HD, Ultra HD, 2K and 4K DCI formats. The new improved design includes innovations such as brighter screens for HDR work, tally indicator, 4 built in scopes, enhanced focus assist features, 3D LUTs and native Blackmagic RAW recording from supported cameras. With 12G-SDI and HDMI 2.0 on both 5" and 7" models, customers get support for recording from virtually any device in all formats up to 2160p60.

A brighter touch screen ensures a better view of their recording when shooting HDR digital film, or when shooting outdoors in sunlight. The new design also features upgraded batteries and supports two standard Sony L-Series batteries. This means Blackmagic Video Assist 12G is incredibly versatile and is the perfect solution for the next generation of digital cinema shoots, live production mastering, broadcast testing and measurement.

Some cameras can output logarithmic colour space to preserve the dynamic range, which is great for later post production, however when these files are viewed on a monitor they can

look flat and washed out. 3D LUTs solve this problem because they allow customers to apply a "look" to the monitor so customers get an idea of how the finished images will look like when editing. LUTs can be applied temporarily for monitoring only, or they can be burned into files for use in editing when capturing Blackmagic RAW. Video Assist works with industry standard 17 and 33 point 3D LUT files, or customers can work with the built in LUTs such as Extended Video, Film to Video, Film to Rec.2020 and more.

Video Assist records using standard open file formats so customers don't have to waste time transcoding media. Recording works in industry standard 10-bit ProRes or DNx files in all formats and from all HDMI or SDI cameras, as well as 12-bit Blackmagic RAW when connected to supported cameras. Best of all media files work on all operating systems.

Blackmagic RAW is a revolutionary new format designed to capture and preserve the quality of the sensor data from cameras. Video Assist supports Blackmagic RAW recording from



popular cameras such as Panasonic EVA1 and Canon C300 MK II. This eliminates the problems with popular camera formats such as H.264, which are highly compressed resulting in noise and processing artifacts. It also saves camera settings and digital slate information as metadata, giving customers greater control of colour and exposure during editing, all without any loss of quality. Blackmagic RAW files are also small and fast to use making them easy to work with. Only Blackmagic RAW gives customers the highest quality, smallest files and fastest performance.

Blackmagic Video Assist 3.1 and Blackmagic RAW 1.7 are available for download now from the Blackmagic Design web site.

Visit www.blackmagicdesign.com

Atomos Updates OS, Enhances Ninja V Monitor-Recorder

ATOMOS HAS ANNOUNCED that the new AtomOS 10.3 update for the Ninja V HDR monitor-recorder is now available as a free download from the Atomos website.

The Ninja V is a recorder with a touchscreen-controlled 5" HDR monitor that allows the user to accurately expose and deliver cinematic quality from Log or RAW video. It has display modes for PQ and HLG HDR standards, plus standard video. Users can also load their own custom creative looks (LUTs) directly on the Ninja V. The high brightness 1000nit screen can be easily viewed outside.

The Ninja V runs Atomos' own AtomOS operating system with an intuitive user interface. A series of modules will allow for SDI expansion and multi-camera sync.

New features include:

Frame Guides for Social Media - Framing shots for posting on Facebook, Youtube, Instagram

or Twitter each have different aspect ratios. AtomOS 10.3 brings new frame guides so that social media content will always be properly composed and fit the different formats. For Facebook, Twitter and Instagram videos there are guides for 1:1 and 1.91:1.1. Portrait Instagram mode is catered for with a 4:5 ratio guide and there is also 9:16 for Instagram stories/TV, Snapchat and YouTube.

A 9 Grid overlay function has been added to this update: perfect for applying the rule of thirds theory to your image composition.

Legalise HDMI input - The update provides Ninja V users with the ability to manually apply a Full-to-Legal range conversion on the recorded input. The setting provides the option to legalize REC.709 inputs that are using Full range (8bit 0-255 / 10bit 0-1023) to accurately map these to Legal range (16-235 or 64-940) for increased flexibility with NLE systems.

IRE Scale for False Colour - False colour is an essential tool, helping filmmakers to get correct exposure. An IRE % scale with values has been added to False Colour mode view to help enable accurate exposure of skin tones when exposing.

Anamorphic De-squeeze - With the increase in the use of anamorphic lenses in productions we've added 1.25x and 1.8x de-squeeze to allow compatibility with a wider range of anamorphic glass.

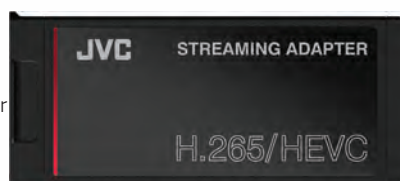
Rolling File Naming - Scene, Shot and Take file names allow users to accurately name planned shots as if using a conventional slate. This firmware update adds the ability to maintain continuous rolling file naming and take counts after re-formatting a drive. This function can be turned on or off in the file naming menu.

Users can update their Ninja V units by downloading the latest AtomOS 10.3 from <https://www.atomos.com/firmware/ninja-v>



JVC Professional Introduces HEVC Encoder

JVC PROFESSIONAL VIDEO has introduced its new KA-EN200G H.265/HEVC Encoder which is designed to deliver higher quality, lower bit-rate streaming. The plug-in H.265/HEVC module provides add-on value for the company's CONNECTED CAM series, which includes the GY-HC900, GY-HC500 and GY-HC550 camcorders.



The JVC module fits into the expansion slot of any model within the CONNECTED CAM line of camcorders for quick and easy HD streaming using the H.265/HEVC codec. Owing to its higher level of efficiency, High Efficiency Video Compression (HEVC) is an improvement over the widely used H.264/AVC compression standard. This results in higher quality images with reduced bandwidth – up to 50 percent savings – and allows producers to use 10-bit 4:2:2 rather than typical 8-bit 4:2:0 sampling.

"As the video landscape continues to develop, we are looking ahead to the evolution of the HEVC standard," says Edgar Shane, General Manager, Engineering, JVC KENWOOD USA Corp. "JVC remains ahead of emerging trends and evolving technologies, focusing on smarter engineering solutions for broadcast and streaming professionals. We recognise that HEVC offers many advantages over the H.264/AVC compression standard. By offering this new plug-in module, JVC allows its customers to future-proof the investment they've made in JVC's CONNECTED CAM line."

CONNECTED CAM camcorders are designed to optimise both video recording and IP performance. All 500 and 900 models provide reliable 1080p streaming and SMPTE 2022 error correction. Selected models also add Zixi error correction with FEC, ARQ and adaptive bitrate for reliable transmission. CONNECTED CAM's built-in streaming encoders with LAN/Wi-Fi connectivity provide broadcast-quality video-over-IP directly from the camera – no backpacks or encoders are needed.

JVC introduced the industry's first professional camera with built-in FTP and Wi-Fi connectivity. Since then, news-over-IP has become a reality, and live streaming has become more sophisticated. JVC continues its commitment to improving its IP performance by extending its product lines. With its catalog of affordable cameras and system components, JVC has created the most resilient IP video transport solutions that can be scaled to fit the needs of any production facility. This includes everything from broadcast news to PEG channels and houses of worship.

Visit <http://pro.jvc.com> and <https://avgroup.com.au>

Smartphone Live Streaming Production Solution

EXCITEMENT AROUND the smartphone-empowered VidiMo handheld, live production system from streaming solutions startup StreamGear Inc. has been rapidly building since its public debut at CES 2020.



VidiMo – short for Video director on Mobile – turns a smartphone and HDMI video source (such as a camera) into a full-fledged, virtual production and transmission studio, enabling a single operator to produce multi-source, television-style shows that can be streamed live, recorded or both. Offering an easier way for both video professionals and enthusiasts to create and stream engaging, high-quality, live productions, the new hardware-and-app combination enables anyone to become a multi-camera producer, social media video star or citizen journalist.

Combining the battery-powered VidiMo Go hardware with the powerful VidiMo Show app, VidiMo lets content creators combine the compact convenience, increasing camera quality and intuitive ease of today's latest smartphones with the superior creative functionality of a dedicated video or DSLR camera. Users can simply capture the camera's HDMI signal into their iOS or Android smartphone for live streaming, or use the app's elegant interface and advanced features to create sophisticated live shows that combine the HDMI input with the phone's camera and other sources.

The innovative VidiMo Go hardware doubles as both an HDMI capture device and camera mounting system to position the phone for convenient, touchscreen user control and program monitoring. Meanwhile, the VidiMo Show app provides a complete live production toolkit on the smartphone, letting the user be the director, operator and on-screen talent all at once.

For each show, users can switch between six fully-customisable scene layouts that mix live video and audio sources – including the HDMI source and the phone's front or rear camera – with graphics, text and pre-recorded media clips. A two-button remote control enables users to trigger app functions even while performing live in front of the camera. Shows can be recorded on the smartphone as they happen or streamed live to popular third-party services including YouTube Live, Facebook Live and Twitch.

Visit www.streamgear.io

Hitachi Kokusai Advances Camera Control

CONTINUING ITS TRADITION of making key technology transitions practical and cost-effective for broadcasters and video production professionals, Hitachi Kokusai Electric America, Ltd. (Hitachi Kokusai) has announced new features in its recently-introduced CU-HD550 camera control unit (CCU).

New capabilities include simultaneous High Dynamic Range (HDR) and Standard Dynamic Range (SDR) output with independent adjustments, and 4K/UHD output over single-link 12Gbps SDI connectivity.

The CU-HD550 and its companion CA-HF550 camera adapter collectively lower the cost of entry for 1080p60 video production. Also compatible with interlaced Z and SK-series

Hitachi HDTV cameras, the full possibilities of these latest accessories are unleashed when combined with Hitachi Kokusai's 1080p60-native camera heads to form robust video acquisition systems with completely progressive signal paths. The newest features being unveiled at the NAB Show further bolster its benefits for progressive workflows.

When used with an HDR-capable Hitachi camera model such as the award-winning SK-HD1800, new dual-workflow functionality in the CU-HD550 enables parallel HDR/SDR acquisition with a single camera by providing separate video shading adjustments for HDR and SDR outputs. This allows producers to fine-tune each output path for optimal results,

helping them to create superior-quality content for distribution to both modern and legacy display platforms without the significant cost and operational burden of separate cameras.

Meanwhile, a new configuration of the CU-HD550 helps smooth producers' transition from HD to Ultra HD by transforming natively-acquired 1080p video to 4K resolution and outputting the result over single-link 12G-SDI. The 4K output functionality supports High Dynamic Range when used with an HDR-enabled camera, while the colour matrix of the 12Gbps SDI output can be switched between ITU-Rec.709 and BT.2020 colour spaces.

Visit www.hitachikokusai.com



Adaptation: Throwing Out the Sports Broadcast Playbook

TO BORROW A

PHRASE from the email my superannuation fund sent me, "there's no sugar-coating the situation" both sporting organisations and sports broadcasters find themselves in during the COVID-19 pandemic. The Olympics has been postponed, regular sporting fixtures have been cancelled and sports content has dried up. It looks worse than Mark "Tubby" Taylor's batting average during his time as Captain of the Australian Cricket Team.

But, as the Greek philosopher Plato said, "Necessity is the mother of invention", and so it is that sports broadcasters have turned to creative solutions to keep both audiences and advertisers engaged.

Fox Sports Australia raided the vaults to launch a pop-up channel and give sports fans the chance re-live some of Australia's greatest sporting wins.

In a statement, the channel announced, "There's no better time to look back at some of the nation's most memorable and inspirational sporting moments, from individual triumphs by our Aussie athletes to our national team's endeavours on the world stage."

And they may be right. Whether it's watching Shane Warne mesmerize the Poms throughout the 2006 Ashes tour or watching Adam Scott become the first Australian to pull on the Green Jacket, or Ash Barty claiming her first grand slam at the French Open, or John Eales clutch penalty goal in the Wallabies win over the All Blacks in Wellington in 2000, archive content can not only populate a daily schedule, but also provide a moral boost for audiences at home.

Meanwhile, Foxtel's dedicated 24/7 AFL footy channel has been screening some of the biggest and best games in AFL history with a twist – fresh, new commentary, including pre-game, halftime and post-game analysis, original match-day interviews and via, FaceTime, interviews with the veteran superstars from those historic matches.

In a time when most of the world's biggest sporting leagues and competition have called a time out on their seasons, Nine's Wide World of Sports is delivering unforgettable moments from the worlds of rugby league and tennis with two new programmes.

"The Greatest NRL Grand Finals", available on free-to-air and 9Now VOD will break down the greatest moments from NRL history which



have become legend, along with the greatest matches, the greatest tries, and the greatest Grand Final pre-game entertainment – plus the moments which didn't quite go to plan. The commentary team will also be joined by players and celebrity fans who will re-live their favourite Grand Final memories. Viewers at home will also be able to weigh in and have their say on social media to share their thoughts and greatest memories.

Alongside the NRL programming, Nine will air "The Greatest Australian Open Matches" nationally on Nine, as former tennis stars and members of Nine's tennis commentary team Todd Woodbridge and Sam Groth analyse some of the most memorable Australian Open matches in the history of the Australian grand slam.

Over in New Zealand, Sky has also turned to the archives, rolling out classic fixtures from the BLACKCAPS/White Ferns, Vodafone Warriors, All Blacks/Black Ferns, Red Bull Extreme sport blocks, and the 2019 Supercars season.

The NZ pay operator has also launched a dedicated Sky Sport Quiz channel. Apparently, Sky is part-owner of Believe it Or Not – the well-known quiz company – and the BION team has been working with the Sky Sport crew to develop quizzes for broadcast. Viewers can even submit questions via sky.co.nz/sport-quiz. One suspects notorious Australian underarm bowler Trevor Chappell may get a mention.

Elsewhere, sports broadcasters have been equally creative. In the West Indies, former Australian cricket all-rounder Tom Moody is leading an all-star commentary team broadcasting new commentary for classic matches from the Hero Caribbean Premier League (CPL). The CPL has partnered with Australian cloud video production platform Grabby and is using its live streaming software to allow the commentators to broadcast remotely. The commentary team will be based in Australia, Trinidad and Barbados. Matches

are being broadcast as if they are live via CPL's Facebook and YouTube channels. To make each match as realistic as possible, CPL will not give any of the match information to the commentary team before the game starts. Their reactions and comments will be as if they are watching the games live for the first time – providing a level of authenticity.

The CPL digital team will also be covering these matches as if they are live, providing match

clips, graphics and behind the scenes content to replicate the CPL experience.

Meanwhile in the U.S., the National Football League's NFL Network has embraced working from home. Jon Raidel, Manager of Technical Operations, NFL Network, has built a new control room in his garage.

According to Raidel, "The last two weeks have been a roller coaster. I'm up and running with a [NewTek] Tricaster TC8000 and TalkShow Vs4000, and VizRT. All NDI on a dedicated work network using VLC player to bring in SRT Streams from around the NFL family homes, and can now transmit outbound using LiveU. It's fun putting pieces of a puzzle together and making it all work!"

Over at the PGA, the peak golfing body has enlisted professional players to provide new commentary and analysis on their past games. A recent webcast saw Brandt Snedeker takes viewers through through his 2 and 1 victory over Tiger Woods in group play at the 2019 World Golf Championships-Dell Technologies Match Play, shot-by-shot – all from his home in Nashville. Video technology start-up Kiswe provided its live cloud-based solutions for the webcast.

Being part of the "House of Mouse", ESPN has turned its Friday nights over to, that's right, Disney sports films, including "The Rookie", "Glory Road", "Miracle", "Invincible", "Secretariat" and "The Greatest Game Ever Played."

Alternative, non-contact sporting fixtures have also been on the agenda, especially where they

Over at the PGA, the peak golfing body has enlisted professional players to provide new commentary and analysis on their past games.

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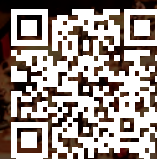
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>>continued from p16

conform to newly imposed health regulations.

In China, Tencent Sports recently used LiveU technology used to stream live a "Simulation Game" of the International Skating Union (ISU) Championships in Beijing within the strict limitations of the COVID-19 outbreak.

Following the International Skating Union (ISU)'s postponement of the 2020 World Short Track Speed Skating Championships in South Korea, the China Short Track Speed Skating team decided to organise a 'Simulation Game of the ISU Championships' in Beijing. Tencent Sports, the main broadcaster responsible for the live production and public broadcast, turned to LiveU to implement a remote production solution, deploying only the necessary equipment on site, including the cameras and wireless transmission units. All the rest, including production, contribution and distribution, was handled by personnel back in the studio at Tencent's technical centre.

This was challenging work within the strict limitations of the COVID-19 outbreak. The event organiser closed the stadium, didn't allow an audience to minimize the risk of people gathering in one place, and limited the number of essential staff on site. Tencent Sports used four LiveU LU600 HEVC bonding units, which provided solid high-quality live video streams with low delay. All the streaming came to a single high-density LiveU server, with the same delay, optimizing LiveU's Precision Timing in its at-home production solution. With support from China Unicom, a 5G signal was also available in the field – all the LiveU units combined both 4G and 5G connectivity to ensure optimal streaming conditions.

ESPORTS

Of course, the biggest alternative sporting format to emerge from the COVID-19 pandemic has been that of Esports. While arena-style physical tournaments have been closed down, traditional Esports leagues have not only increased their online audiences, but are also entering into collaborations with sporting codes from the physical world. In New Zealand, Esports have even been given official recognition as a national sports organisation (NSO), allowing wagering organisations such as TAB to offer odds on matches.

Meanwhile, on the track, NASCAR and iRacing announced the formation of the eNASCAR iRacing Pro Invitational Series to give fans a viewing alternative while the NASCAR season is on hold until at least May 3. The multi-week series features real-world NASCAR drivers competing on simulations of real-world speedways. Its first week saw 900,000 concurrent online viewers. As well as streamed online, these fixtures are available via traditional outlets such as Fox Sports in the U.S. and Australia, ASTRO in Malaysia, and Premier Sports of the UK.

Likewise, in the two-wheeled world, MotoGP has launched its online Esport Championship. When competing in each Online Challenge, gamers will



be classified in one of two categories: those from Europe and those from the Rest of the World. The gamers setting the fastest times will be awarded points. At the end of the third Online Challenge, the 16 gamers with the most points in the European classification and the six from the Rest of the World classification will make up the 22 riders that qualify for the Draft Selection with 11 of those guaranteed a spot in the Global Series. Content is available via the MotoGP VIDEOPASS.

ESL, arguably the world's largest Esports company, along with the DreamHack gaming lifestyle festival, recently sold the broadcast rights to its ESL Pro Tour, the Counter-Strike: Global Offensive to a number of broadcasters in Europe, including TV 2 Norway and Polsat Games, a Polish broadcaster with broad programming across gaming and esports.

Linking more than 20 tournaments and leagues, the ESL Pro Tour will feature an aggregate prize pool of more than \$5 million (USD) for 2020 from competitions across five continents.

For its part, Polsat Games will broadcast up to 2000 hours of CS:GO competitions in 2020, featuring commentary from the best Polish experts and analysts. The majority of the broadcasts will be hosted directly from the broadcaster's studio in Warsaw. Polsat Games has reported 100% growth in viewership figures in comparison to the same time frame in 2019.

Another giant of gaming, Electronic Arts (EA), producer of February's FIFA eClub World Cup 2020, has launched the "Stay & Play" programme which will use the resources of Electronic Arts to provide its community with new kinds of entertainment to play or watch during the

current public health crisis.

The company is enlisting athletes, celebrities and influencers to join games with players from home. The company says it is working with partners at FIFA, the NFL, NBA, NHL and UFC to "create new sports moments when sports in the real world have stopped".

Recent events have included both NFL and other sports personalities competing online with EA's Madden NFL 20, and an Apex Legends X Code Red charity tournament for the Red Cross and Red Crescent.

The gaming community has even joined with the World Health Organization to help slow the spread of COVID-19. Eighteen game industry leaders in the interactive entertainment space have launched #PlayApartTogether, an initiative that encourages their vast network of users to follow the WHO's health guidelines — including physical distancing, hand hygiene, respiratory etiquette and other powerful preventive actions people can take to fight COVID-19.

According to Riot Games CEO, Nicolò Laurent, "Physical distancing

shouldn't mean social isolation! Let's stay physically apart — and take other public health steps such as hand hygiene — to help flatten the curve and #PlayApartTogether to help power through this crisis. For Rioters, playing games is more than just a game; it's a meaningful life pursuit. And now, for the billions of players around the world, playing games could help the pursuit of saving lives. Let's beat this COVID-19 boss battle together."

"Games are a huge part of what brings the Twitch community together each day, added Twitch SVP of Content, Michael Aragon. "The #PlayApartTogether initiative is a reminder that even while it's crucial we keep our distance from one another, we can keep enjoying the games we love and stay connected with people online. We're pleased to share key messages from the WHO alongside other members of the initiative to continue providing a place where people can come together, play games, and create community.

Meanwhile, on the track, NASCAR and iRacing announced the formation of the eNASCAR iRacing Pro Invitational Series to give fans a viewing alternative while the NASCAR season is on hold until at least May 3



COVID-19 UPDATE

Due to the current COVID-19 outbreak in Australia and New Zealand, many of our staff are working from home, while others are in self-isolation having returned from overseas business trips. However, **our Sydney office is still manned and operating with logistics staff**, ensuring deliveries are received and dispatched, while strictly adhering to the social distancing guidelines.



This also goes for demo equipment. Although we can't currently come and see you in person, we can still ship you pre-configured equipment, or complete the configuration remotely. We can of course continue to discuss system designs, provide proposals and quotations. We can even run training sessions via video links. With a bit of ingenuity and creative thinking, we can still provide you with services and keep your project on track.

No doubt, these are challenging times and we as an industry have never experienced anything like this. One thing is for sure Professional Audio & Television will continue to provide sound advice and visionary technology.

Stay safe and healthy.

The PAT Team.



ausbiztv Captures the Market with NDI

WITH A DEPTH OF EXPERIENCE

unmatched by any Australian media start-up of recent times, ausbiztv has hit the ground running to launch a dedicated streamed business channel from a greenfield site using cutting edge technology and workflows.

Lead by Founder and Managing Director, Kylie Merritt, whose previous roles include CEO of the Nine/Australian News Channel joint venture, Your Money, and Digital Operations Director with Sky News, ausbiztv aims to provide live coverage of Australian business and financial markets during the trading day.

"After the closure of 'Your Money' which I was obviously heavily involved in and prior to that Sky News before, my view was that there still a lot of demand for live coverage of, particularly the Australian market, but Australian business more broadly," says Merritt. "A traditional television model is just really hard to make work just with the cost involved because while there is still a demand for this sort of content, it is a very niche audience. This is not a mass market. So, to make it work you need to be able to come up with a business model that can still provide that live coverage."

According to Merritt, ausbiztv will launch with six hours of live programming and quickly scale to eight - eight and a-half hours. To achieve that goal, the channel looked at removing many of the costs associated with traditional broadcast television.

"So that's what we started working on," she says. "A streaming platform with its own app and its own web app and some other distribution platforms that can be operated by a team of business journalists."

That team includes a who's who of Australian business journalism such as Nadine Blayney and Ingrid Williams, formerly of Sky News and Your Money, Sydney Morning Herald reporter David Stack, former trader Daniel Weiner, and long-time finance guru/morning television personality David Koch.

"We've got a staff of 16 all up," says Merritt. "And what we wanted to build was a workflow that allowed journalists to really concentrate



The ausbiztv team [CEO Kylie Merritt far right].

on journalism and on the content, but at the same time actually be physically able to produce all of that themselves and to put it 'where' themselves. And, to follow the content right from them having an idea about what they wanted to do through to actually executing that into a live streaming environment and then through to further curation of that content across various social platforms. So, we don't have studio crews. We don't have separate digital teams. The same person is essentially responsible for a piece of content throughout the whole chain."

Located in the recently completed International Towers in Sydney's harbourside Bangaroo precinct, ausbiztv has constructed two brand new studios to cater for both its own live production and pre-recorded programmes, along with third-party bookings.

"International Towers is one of our partners in this," says the ausbiztv Managing Director. "We've actually built two studios in Tower 3. The idea is that there is a news studio which is obviously where the live stream comes out of eight hours a day. And then, adjacent to that, is a commercial studio. It's very modular. You can use it for a whole bunch of different things. We will do, for example, our 'Startup Daily' show out of there every afternoon, but most of the time it will be available for our partners and clients to create their own content which

we will help them do.

"So, we will become a little bit, I guess, like a quasi-in-house studio for all of the residents of Barangaroo. There are three towers along here. So, it's a really simple little way for them to make video content that's cost and, also importantly, time efficient. But that studio will be available for commercial hire for anybody. "Our private market is really financial services and those kind of in the corporate space. We're not going to be making reality television in there. That's not really our area of expertise. But we would be working with, for example, some managers and stock brokers who might want to come in and do a weekly or quarterly or even an annual update for their investors. We can help them create that because we understand their content. That's kind of all we do. So, we're pretty focused on that."

The revenue model for the channel is neither advertising sponsorship nor subscription, instead much of the funding will be driven by hire of the second studio.

"We took the decision not to go down the paid subscription route," says Merritt, "just because it's a very long investment cycle and the cost of acquisition is very high and I come back to that point I make about this being a very niche service. So, before you've even begun you've said, 'Okay. Ninety percent of the population is not going to be

Located in the recently completed International Towers in Sydney's harbourside Bangaroo precinct, ausbiztv has constructed two brand new studios to cater for both its own live production and pre-recorded programmes, along with third-party bookings.

interested in this content anyway'. And so, from that 10 percent, you've then got to find enough people who are willing to pay for it. So, our content will be available free. You will have to login. So, there's some data in there. Phase two of the business centres very heavily around how we can use data to provide content and also investment opportunities to our users. Advertising we will post but it is not the core of our model. We don't have a big sales team that goes out and responds to agency briefs. Our kind of revenue model is essentially content. So, if you think about that second studio, for example, being used fairly continuously to turn out content for our partners, that's kind of how we're funding the business. It's almost like a business-to-business subscription model."

>>continues p22

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THE BUILD OUT

Integration for the ausbiztv project has been undertaken by Amber Technology. According to the company's Project Manager-Media Systems, Sean Frazer, "We've done the high level and technical design for the facility for the broadcast componentry and then supply of a portion of the equipment, and then liaising and coordinating with a range of vendors to stand the system up.

"There's two studios. One is a live studio with a permanently rigged set for news. It's got the ability for four people, or four hosting positions. And then there's a second

studio, which is more for post sort of workflows, pre-records, some basic interview capability. They'll be looking at doing some webcasting out of that studio. That's got a soft set and a green screen.

"The facility is built around the NDI protocol, and I guess there's a few parts to that. The first part is the Vizrt infrastructure. We're using Viz Verdi, that's got Mosart and all the rundown automation connected through a cloud instance of 7Mountains' DiNA, which is what we're using for NICS.

Viz Verdi is Vizrt's recently launched studio automation tool and 44-input, software-based

production switcher. Viz Verdi with IP-based infrastructure and NDI enables ausbiz to produce and re-purpose content across a variety of platforms. The channel will also make use of Viz Pilot Edge, the latest version of Vizrt's newsroom template graphics solution. This will help ausbiztv journalists create, manage and deliver high volumes of Vizrt graphics, videos, and maps. All elements are rendered by the Viz Engine real-time compositor which visualises the complex financial data coming in into informative and visually appealing graphics.

"Up in the cloud we've also got Mimir," says Amber's Sean Frazer,

Vizrt's Viz Verdi studio automation platform.

"which is going to serve as the platform archives. And that provides a lot of AI capability, things like image recognition, speech to text, all the stuff that you'd see from your Microsofts and your Amazons in the way of AI tech. And then we're also using Vimond IO up in the cloud, which they're using for production editing. That's all working off Amazon S3 and that's all integrated into the on-prem system.

"Back on the ground, we've also got VizEngine, VizClip Players, all that sort of stuff for news-based playout workflow. And then containing that or enveloping that is

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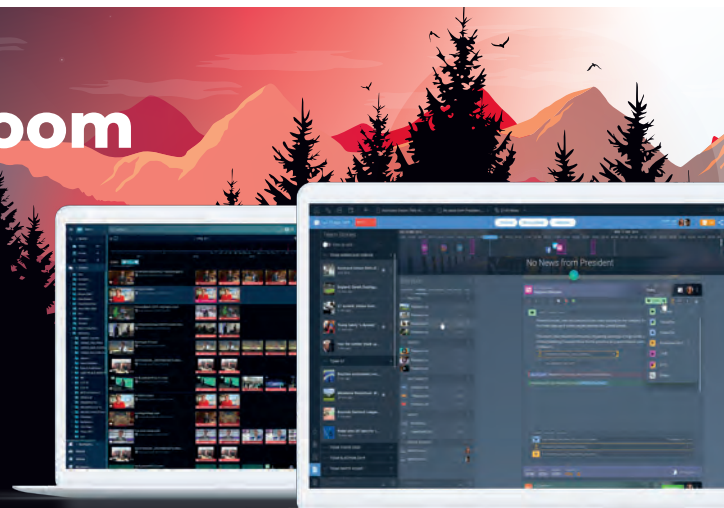
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the NDI network. We're using very little SDI. I think we've only got SDI feeds going into some Elemental encoders. But apart from that, everything else is GigE using the NDI protocol.

"For cameras, we're using BirdDog P200 PTZ cameras. They're all in NDI. We're running through a central HP Aruba network stack. One of the other things that we're using that's kind of new, I think we might be the first one to go live with it, is going to be the BirdDog Comms and BirdDog Central. We're using BirdDog Mini HDMI encoded, but also has a Comms interface on them, so that's going to be providing Comms and [ISB?] for the talent in each of the studios. And obviously managed through NDI and feeds into Viz, out of Viz, with the ability of routes through BirdDog Central.

"There's a couple of workflows that we're looking at, dependent on whether they're live or whether they're using the second studio. The first studio being permanently set, the camera positions won't be changing, so those camera pre-sets or shots will be saved in automation, that they can always recall that through the newsroom template, and then everything is automated downstream. The second studio, which isn't necessarily used for as much live stuff – we've got a little bit more flexibility in where we can move the cameras, we've got PTZ controllers, the BirdDog PTZ controllers going in to drive that, and we've also got a level of control through the TriCaster as well.

"There's also Autocue prompters via NDI, so we're encoding the prompter output. Basically, every video source would be available to route to any NDI compatible decoder within the facility. And then we may at some point in the future look at widening the reach of the NDI stuff, maybe using BirdDog Cloud to distribute or receive content from remote sources."

According to Frazer, remote connections used by the channel will be a mix of fixed and ad-hoc

"Remote feeds, we're managing through Skype," he says. "So, we've got a Newtek TalkShow that's going in the second studio, which is the non-live studio. We've got a TriCaster 410 Plus. And we've also got LiveU going in for remote connectivity into some of the clients that we'll be connected with."

"There will be a few fixed locations for regular customers that we'll be

crossing to. There is a lot of ad-hoc sort of people and, particularly with the challenges that we've got with COVID-19, there's been a real emphasis on remote connectivity and how can we quickly connect to people, so that's where the TalkShow is coming in and I think the 4000 gives us the ability to manage up to four concurrent Skype sessions, not that they'll be doing three-ways but at least they can have maybe two up and then have a third lining up or something along those lines. It's giving us that flexibility to be able to connect as quickly as we can."

Streaming from the studios will be handled by a pair of AWS Elemental encoders pushing the resultant stream to live streaming production company Corrivium, also located in the Bangaroo precinct. Connectivity for the ausbiztv facility has been enabled by fibre and network solutions provider, Vocus. Vocus is delivering a suite of data and voice services, including Vocus' Enterprise Internet, Internet Express, Cloud Connect, and unified communications products.

"Corrivium are developing all of the front-end interfacing and the streaming back-end," says Sean Frazer. "They will also be recording the studio output, which will then get recorded and stored in Mimir, which will give the AusBiz team the ability to clip up and then bring that down to reinsert it back into the rundown and that side of it too."

"I think we're kind of breaking ground on a lot of new products," comments Frazer. "The Viz Verdi is obviously new to market and the BirdDog stuff, particularly with Comms and Central, is new to market. There's a reasonable amount of new tech and obviously the risk that comes around that when you're trying to introduce new technology. But, at the same time, it reduces the amount of cable infrastructure that we've got to pull in and I guess enables a lot more remote production."

NEWSROOM WORKFLOW

As well as Vizrt automation and graphics, the Scandinavian tech flavour at ausbiztv extends itself to the DiNA newsroom system from Norway's 7Mountains, and Mimir cloud programme archiving from sister company Mjoll.

In 2019, Ausbiztv founder Kylie Merritt and Head of Content, Nadine Blayney, approached Stem Media, the Oceania distributors for 7Mountains and Mimir, to see how they could do television in "a really light way".



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According to Emily Dawson, Director at Stem Media, "They didn't want to have huge on-prem systems. They didn't want to have the huge clunky environment that requires a huge amount of people to operate. And, I guess it was kind of a really good time to start thinking about that because cloud-based workflows are becoming more common, people were starting to talk about it."

"They also wanted it to be very much that their journalists were content creators, they weren't just TV people or social media people or online people. We had just taken on DiNA and Mimir into Stem Media as Oceania representatives and we sort of showed them the products and we headed over to IBC and started talking with 7Mountains' sister company Mediability, which is Norway's largest systems integrator, about how something like this might come together."

"At around the same time, Vizrt launched their Viz Verdi system and we thought that could possibly be a really good solution, quite budget conscious, and it allows producers to take their content right from the start and, obviously, the studio automation makes it possible for them to put it to air as well. That was the ultimate goal, to have very few technical people, and to enable the journalists with the latest technology that's available, enable the journalists to do the entire production workflow from start to finish."

"Then we brought in Amber Technology to do the physical integration, so with all the journalists' workstations and all the monitors and touch screens, and all of those other physical servers and things like that. Sean Frazer has managed a project on that side of things as well. We're even going to have the presenters have the ability to use Mosart as well, so they can bring up their own graphics when they want to as well, so they're very much involved in the final look and feel of what it is on air too."

"Essentially the idea is – the ultimate goal with DiNA is to make it a one-stop shop for a journalist, so they're able to do everything inside of DiNA, so they can attach all of their vision, they can attach their graphics, they can publish to every platform that they need to publish all from within this newsroom system. And, it's fully cloud-native as well, so they can work from home if they need to. There's the rundown and the

television component of it. Then there's also CMS publishing, social media publishing all from within this system. I know it's a buzzword at the moment, but is exactly what we're going for there."

According to Dawson, the DiNA newsroom system is integrated with Mjoll's Mimir archiving platform.

"That actually sits in a panel inside of DiNA," she says. "They go out to edit in Vimond IO, and Vimond sends it to Mimir. And then, inside of DiNA, they have a panel on the right-hand side where they just click on that and they can grab their files and attach them into their story in their rundown. With the Mimir system as well, we're setting them up to have auto-transcription with things that are ingested for the VOD and then they are able to download SRT files, create all of those kinds of assets automatically from the system too. I think the transcription is what they will be using the most of in order to make it searchable inside of Mimir."

"Our technology brings us to the point where it's sent to be encoded. And then from there on, the live streaming part and all the CMS is taken care of by Corvium and Studio Hi, who are creating the CMS as well. If you talk about it from start to finish, it starts in DiNA, all the creation is done in DiNA. Then it goes into the studio, the journalists put it to air with Mosart and Verdi. Then it gets sent to the encoders. And then, when the journalists publish their VOD, they also publish it into Mimir and then the CMS retrieves it from Mimir, which is essentially an S3 bucket, so all the systems are looking at the same S3 bucket, whether that be ingest, edit, archive. That's pretty much it from start to finish."

THE NDI ANGLE

According to Eamon Drew, Chief Marketing Officer with Australian company BirdDog, the ausbiztv installation is a milestone for the adoption of NDI (Network Device Interface), the royalty-free software standard developed by NewTek to enable video-compatible products to communicate, deliver, and receive broadcast quality video over 1GigE networks.

"To be completely honest, this is like a dream come true installation



BirdDog CMO Eamon Drew with the company's P200 PTZ camera.

for us," he says, "not just because it's such a high-profile customer, but more because these guys have gone all in on NDI and NDI is sort of the technology we based our whole company on. It's an IP video format. All of the cameras are connected via NDI. All of the audio intercom is connected via NDI. That all goes into an NDI-based switcher. There's very little SDI cable in the whole installation, so it's sort of a dream come true for us in that it's a completely SDI-free installation on all IP video, based on this NDI technology that we've been so heavily involved in."

"It can run on any sort of networking, but the great thing about NDI is it's sort of that great cross point of compression versus quality. It's about 140 megabits running at 1080p/60 and obviously you can go up from there. You can run six or seven streams of full NDI at 1080p/60 down to 1G with ethernet cable. From there, if you need to scale, if you start talking 10 gigabit, then you start talking 60-70 streams and you can sort of scale up. There are certain installations around the world that have over a thousand streams on a single network, so it can definitely scale."

As well as BirdDog PTZ cameras, NDI encoders and decoders, and audio intercom (with Dante support enabled), BirdDog's Central PRO software routing platform, ausbiztv also employs BirdDog Cloud which enables remote productions over the public internet using SRT, the open source connection protocol developed by Haivision and Wowza.

"It maintains a really nice connection, even on multi-networks," says Eamon Drew. "Our BirdDog Cloud uses that and through the cloud, you can do PTZ

control, tally, audio intercom and you can even do shading of our cameras over the cloud using our control protocols. Then to send a confidence monitor back to the talent, you can use WebRTC (real-time communications protocol), which sends back a really fast way for the on-air talent to be able to view what's going live to air."

"We've had a lot of traditional broadcasters dip their feet into the waters of IP video and NDI around the world. A lot of them have sort of gone with SMPTE 2110. But, around the world, we're finding that NDI is being used, in terms of the sheer numbers, by more and more broadcasters, and then the smaller scale productions as well. I think over the coming 12 months we will see a huge uptake in NDI technology as people try to move away from what we would call traditional broadcasting, in a sense of having these studios where everyone goes into the one location."

"And as the world's becoming more disparate through this COVID-19 crisis, people are trying to find more and more ways to do remote productions and find more innovative ways to get things to air. I think the next 12 months will see a huge uptake and a huge ramp-up of people adopting NDI technology."

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Remote Interoperability from VSN

VSN HAS ANNOUNCED a number of enhancements to its VSN Crea Traffic and Scheduling System, VSN Explorer Media Asset Management System and VSN NewsConnect web plugin for news production.

The latest version of VSN Crea now benefits from even higher levels of automation, allowing users to more easily manage acquired content and advertising scheduling and enabling both improved accuracy and enhanced productivity.

"Historically, the management and monitoring of advertising scheduling and broadcasting rights has been a manual process, often relying on Excel spreadsheets – and as such, it was both time-consuming and error-prone," says Patricia Corral, Marketing Director, VSN. "Now, VSN Crea provides new levels of automation that can minimize the time and resources spent on the task while eliminating potentially costly mistakes."

Users can now locate content quickly with its associated broadcasting rights; automate the scheduling of their catalogue according to their own licenses and set-ups; and schedule advertising time slots with associated pricing depending on the time of broadcast or publishing while avoiding, for example, same-category repetition. The enhanced version of VSN Crea also allows users to perform a comprehensive revenue and ROI analysis with customised reports and dashboards.

VSN Explorer MAM

The new functionality now included in VSN Explorer MAM enables users to derive even more value from their content/media assets. It uses the power of semantic searching – in which the search engine understands the meaning of the enquiry, rather than looking for literal matches – to significantly improve how metadata is associated with content and improve the 'findability' of content so that searching becomes much more productive.

VSN Explorer MAM is now capable of syntactically cataloguing all the terms and sentences used in the description of scenes in order to achieve formal, unambiguous, accurate and user-agnostic metadata for content in any language. Qualifiers – such as colours, mood, commercial names, types of objects and so on – can be added to metadata in order to achieve even more precise search results. Advanced thesaurus management enables users to create different groups of terms and hierarchies by defining broader, narrower, related or preferred terms.

VSN NewsConnect News Production System

VSN NewsConnect, which brings together all the third-party tools required for news production, now enables users to control multiple studios in different locations, even if the systems used in the studios are different. This provides users with maximum flexibility for their daily work, enabling them to perform all the tasks for news production within one single workspace – improving efficiency and saving time.

"What this means is that a user – typically, a journalist – can simply send a news item to any studio and NewsConnect will automatically ensure that the delivered content matches the format requirements of the receiving devices," says Corral. "This remote interoperability is very useful in enabling news to be repurposed to the requirements of local broadcasters without worrying about technical compatibility – maximizing the value of the news."

Previously, sending a story to a specific studio would require knowledge of the systems in use at that studio, and manual adaptation of the media to ensure compatibility with the target NRCS, NLE, CG, video server, studio playout system and so on. Now, users can focus on creating stories: NewsConnect takes care of automatically adapting the media to the different systems available, sending e.g. linear TV, WebTV, non-linear platforms or social media as appropriate.

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Colourful Tales from the Crypt

C+T Speaks to Dee McClelland, Colourist on Miss Fisher and the Crypt of Tears.

By Phil Sandberg

BASED ON AUTHOR KERRY GREENWOOD'S historical mystery novels, Miss Fisher's Murder Mysteries portray the adventures of Phryne Fisher (Essie Davis), a glamorous private detective in 1920s Melbourne. After three seasons, the series, created by Deb Cox and Fiona Egger, has spawned a feature release, Miss Fisher and the Crypt of Tears, shot on location in Australia and Morocco. Produced by Every Cloud Productions, the film was written by Deb Cox, directed by Tony Tilse, shot by Roger Lanser, and edited by Stephen Evans.

Colourist on Miss Fisher and the Crypt of Tears, Dee McClelland, has been a mainstay of the franchise, having worked on all three seasons of the television series and now the feature film.

C+T: Could you describe the challenges and the differences between the TV series and working on this feature?

"Well, some of the challenges are much the same. Of course, we're having to make a contemporary environment look like it was set in the 20s, so there's quite a deal of visual effects work that go into to remove things that shouldn't be in the background. With the feature itself, there was a lot of locations that were mocked up, that didn't exist. For instance, their meeting on the bridge in London was basically all green screen. It had to be dealt with by Scott Zero at Chroma Visual Effects and his team. So, they're kind of similar in many ways. I think the major difference is that we're seeing it on a big screen, so every minute detail has to be crafted carefully so that it looks as excellent as it can on a large screen.

"For instance, on a TV series, an episode of Miss Fisher, I'm given a day and a half, maybe two days for a 30-minute TV episode, whereas for a feature film, I was given 10 days for the grade and that included half a day for a Rec 709 pass, so you get a bit more time to craft, but then you have a larger group of people in there working with you wanting their piece of the puzzle involved in the final product. So, it's more collaborative, it's more involved as a feature film than it is for a TV episode."

What's your primary platform for grading?

"Well, with the TV series I was actually on Lustre, which is an Autodesk product that was at Digital Pictures. Then, by the time we got to 2018, 2019, I was a freelance colourist and now working

primarily on Blackmagic Resolve which is pretty much in every post-production facility these days.

"I had to change modalities, but the techniques for colour grading pretty much remains the same no matter what kind of equipment you're starting with. Basically, getting a good balance to begin with, understanding what it is the cinematographer's trying to achieve. Now Roger [Lanser] and I have been working together since the first series of Miss Fisher and have done a number of features together as well. So, everything sort of feels pretty second nature to me with regard to the pictures he shoots. I can kind of tell what he'd like to keep, what he'd like to drop away into the darkness in the background. So, by the time we had the first grade review, he was rapt. He came in for the review and changed very little. There were just some things that he wished he could have lit a bit more or darkened a bit more or maybe let's not make that done so obvious, those kinds of things. So, we had a pretty efficient kind of grading set up and efficient grading review."

So, over the years, you guys have developed a bit of a language?

"I would say so. Most of my clients, it kind of ends up like that. It makes it a much more easier process, particularly these guys, and women, who are out shooting their next project, and don't always have the time to sit in the grade suite, so it's fantastic having that kind of shorthand and I can understand what it is he's after just by seeing what's on the screen. And I think he relies on that, too. It makes his life a bit easier because he doesn't have to go into minute details about what he wants, it's all kind of, almost spot on by the time he sees the first review, so it's good"

Set in Jerusalem, Crypt of Tears was shot in Morocco. Was there anything about the location that influenced you?

"Not particularly. I mean the colour palette was quite different over there and we enhanced to the glorious colours wherever we could. The number one priority, of course, is to make sure Phryne looks fantastic. So, looking after her complexion or a tiny bit of beauty treatment here and there just to help her along on the big screen. Roger really controlled the lighting pretty well. I was expecting there to be a lot of harsh contrast and having to work pretty hard to keep that nice and even, but he controlled it really well. He made my job pretty



Colourist Dee McClelland.

straightforward. Between Melbourne and what was shot in Morocco, I don't feel that I handled the pictures any differently. Probably just, as I say, enhanced the natural colour palette that existed in Morocco and made sure that Melbourne had the usual Melbourne look, which can be any season at any time. Just keeping things even and just keeping the focus on the actors is usually the key."

Who undertook the VFX work?

"That was Scott Zero at Chroma, is the name of his company and, much like myself, Every Cloud have had an ongoing relationship with Scott and his work, so they know him very well. In fact, I think he actually invested in the film and was part of the investment funding there for that, so great teamwork"

So, putting his money where his rotoscoping was?

"Exactly right, yes. So, there was a lot of to-ing and fro-ing with that. I mean this scene on the London Bridge, I'm not entirely sure which bridge it is, but there's a view of London in the background, there was a lot of backwards and forwards with that about would there be smoke coming out of those stacks? Should we have some more seagulls in the background? Just a lot of, what would it really be like at that time? So, a lot of research and getting all those little details right. Particularly, and I think this is what the difference is between the big screen and something for TV, probably wouldn't have spent quite as much time in detail because it's on the screen and off again pretty quickly for TV, but it's up there, it's larger in life for a feature film and they went through extraordinary details to get it right."



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What was your interaction with editorial?

"As far as my role with the editor, there's not a lot of interaction between myself and the editor unless he's cutting something and he's concerned about how they're sitting because of exposure or colour. We might get a couple of shots into the grading suite to just show them and reassure them that everything is going to be fine once we get the grade on things. But, apart from that, really the colourist and the editor don't have a lot of interaction. I'm pretty much at the very end of the chain. Everything's cut, usually locked off. I say that because that keeps changing these days. So, there's not really a lot of that. My interaction is mainly with the director, the cinematographer, when he's got the time between jobs, the producer, the visual effects coordinator, I spent a lot of time with her, just making sure that the shots that she was expecting have come in and are correct. There are, as I said, details that often get missed until they're on the big screen. So, that's probably where all my interaction is and of course, with the post house, at Soundfirm. So, working with, Ross Mitchell and the team there, they're a great support."

What was the production shot on?

"ARRI ALEXA. I've done a lot on ARRI ALEXA."

I guess the bulk of work you see now is originated on a digital format?

"Oh absolutely. I mean I've been around - I started my career in Motion Picture Laboratories processing motion picture film and then colour grading it on a Hazeltine analyser and film's been part of my career for two-thirds of my career so film now, really no longer exists. As far as I can tell, there's nowhere to really process, there's very few places that have scanners anymore. So, it's really faded away quite drastically."

What do you find is easy about Resolve? What might be improved?

"I have to take my hat off to Resolve, they're always working to improve things now that they have such a huge user base that people are putting their hands up and saying, this needs to be sorted and this isn't working. They're keeping on top of a lot of things. That's both good and bad in that you'll go into the suite and find they've upgraded the software and now you have to figure out where all the buttons are, where all the shortcuts are."

"So, its advantage is also sometimes its downfall for me because I can go into different places and find there are all different versions of the software and having to think backwards and forwards about where I'm going to do things. So, they're really good at getting on top of things, but as I say, the change is so rapid, it makes your head spin, especially as a freelancer. At least if you're in one place for a long time, they gradually move up through the versions of software and you get a chance to learn as you go. But some places just skip and you're bang up to version 16. You haven't had a chance to look at the manual yet or do a tutorial so that can be a bit of a stumbling block sometimes."

"So, as a freelancer, I have to dedicate a lot of my time when I have free time to getting up to speed with whatever's new. Resolve is really good in that it is everywhere now and most people understand it. The team at Soundfirm can be on a

Resolve in another room popping in visual effects whilst I'm working on another reel in another room. So that's a real advantage of collaborative workflow that Resolve have instigated over the past couple of versions of software. It just means that everything can keep on moving."

What are the big differences in colour space between the small screen versus the cinema?

"I think people are far more pedantic when it comes to a feature film, and so they should be because they're expecting it to be up large and on a screen for a number of weeks around the world. So yes, I think we get far more finicky with feature film. The other thing is when guys are working on visual effects, they're often looking at it on a small screen and then they get quite surprised to see how it actually looks on the big screen. So, things that might not be so obvious on TV are suddenly glaringly obvious. There is a lot more polish, I suppose, a lot more time spent getting things right. As far as the colour space

goes, as long as everybody who's working on the footage is looking at it in the same colour space, there really shouldn't be any great shocks when it gets to looking at it in a grading theatre, as opposed to working on it on a monitor in a VFX house."

What's next for you?

"Well the other feature that I have done with Roger is the Very Excellent Mr Dundee, which I believe is being released next month. I've just wrapped up a new series of Halifax Retribution with Rebecca Gibney and also How to Stay Married Series 2 with Lisa McCune and Peter Helliar. And what else? Five Bedrooms is about to start for me. They've been shooting for a couple of months now, but the grade starts at the end of the month. And Miss Fisher Modern which is also an Every Cloud production is going again at the end of the year. So, there's plenty of stuff to keep me out of mischief, I can tell you."



Miss Phryne Fisher (Essie Davis) and Detective Inspector Jack Robinson (Nathan Page) from Every Cloud Productions' *Miss Fisher and the Crypt of Tears*.

Blackmagic Design Announces DaVinci Resolve 16.2

BLACKMAGIC DESIGN

HAS ANNOUNCED DaVinci Resolve 16.2, a new update to the company's edit, colour, visual effects and audio post production software that includes major Fairlight updates for audio post production.

The new update has major new updates for editing in the Fairlight audio timeline when using a mouse and keyboard. This is because the new edit selection mode unlocks functionality previously only available via the audio editor on the full Fairlight console, so editing is much faster than before. In addition, the edit selection mode makes adding fades, cuts and even moving clips only a mouse click away. New scalable waveforms let users zoom in without adjusting the volume. Bouncing lets customers render a clip with custom sound effects directly from the Fairlight timeline.

Adding multiple clips is easier as they can now be added vertically to the timeline, not just horizontally, making it easier to add multiple tracks of audio at once. Multichannel tracks can now be converted into linked groups directly in the timeline so users no longer have to change clips manually and reimport. There's added support for frame boundary editing which improves file export compatibility for film and broadcast deliveries. Frame boundary editing now adds precision so users can easily trim to frame boundaries without having to zoom all the way in the timeline. Modifier keys are now supported so clips can be duplicated directly in the timeline using the keyboard and mouse. Users can also copy clips across multiple timelines.

DaVinci Resolve 16.2 also includes support for the Blackmagic Fairlight Sound Library with new support for metadata-based searches, so customers don't need to know the filename to find a sound effect. Finding audio effects is also faster with automatic sorting that will separate them first by category, and then by native or third-party plugins.

MPEG-H 3D immersive surround sound audio bussing and monitoring workflows are now supported. Additionally, improved pan and balance behaviour includes the ability to constrain panning.

The Fairlight audio editing also has index improvements. The edit index is now available in the Fairlight page and works as it does in the other pages, displaying a list of all media used, simply click on a clip to navigate directly to its location in the timeline. The track index now supports drag selections for mute, solo, record enable and lock as well as visibility controls so customers can quickly swipe through a stack of tracks without having to click on each one individually. Audio tracks can also be rearranged

by click and dragging a single track or a group of tracks in the track index.

AAF support has been refined so AAF sequences can be imported directly to the timeline in use. If the project features a different time scale the AAF data can also be imported with an offset value to match. AAF files that contain multichannels will also be recognized as linked groups automatically. The AAF export now supports industry standard broadcast wave files. Audio cross fades and fade handles are now added to the AAF files exported from Fairlight and will be recognised in other applications.

A new EQ curve preset for clip EQ in the inspector allows removal of troublesome frequencies. New FairlightFX filters include a new meter plug-in that adds a floating meter for any track or bus to keep an eye on levels even if the monitoring panel or mixer are closed. There's also a new LFE filter designed to smoothly roll off the higher frequencies when mixing low frequency effects in surround.

Working with immersive sound workflows using the Fairlight audio editor has been updated and now includes dedicated controls for panning up and down. Clip EQ can now be altered in the inspector on the editor panel. Copy and paste functions have been updated and now all attributes are copied, including EQ, automation and clip gain. Sound engineers can set up their preferred workflow including creating and applying their own pre-sets for clip EQ, and plugin parameters can also be customised or added.

Clip levels can now be changed relatively for adjusting the overall gain while respecting existing adjustments. Clip levels can also be reset to unity, removing any level adjustments made previously. Fades can also be deleted directly from the Fairlight Editor. Users can also now save preferred track views. More functions previously available via keyboard are now accessible using the panel, including layered editing.

The audio editor transport control has been

updated. Track navigation is now improved and even works when nothing is selected. Users can navigate directly to the timecode entry window above the timeline from the audio editor panel, and there is added support for high frame rate timecodes. Timecode entry now supports values relative to the current CTI location, so the play-head can move along the timeline relative to the position rather than a set timecode.

Support has also been added so the colon key can be used in place of the user typing 00. Master spill on console faders now lets users spill out all the tracks to a bus fader for quick adjustments in the mix. There's also more precision with rotary controls on the panel and when using a mouse with the use of a modifier key. Users can also change the layout and select either icon or text only labels on the Fairlight editor.

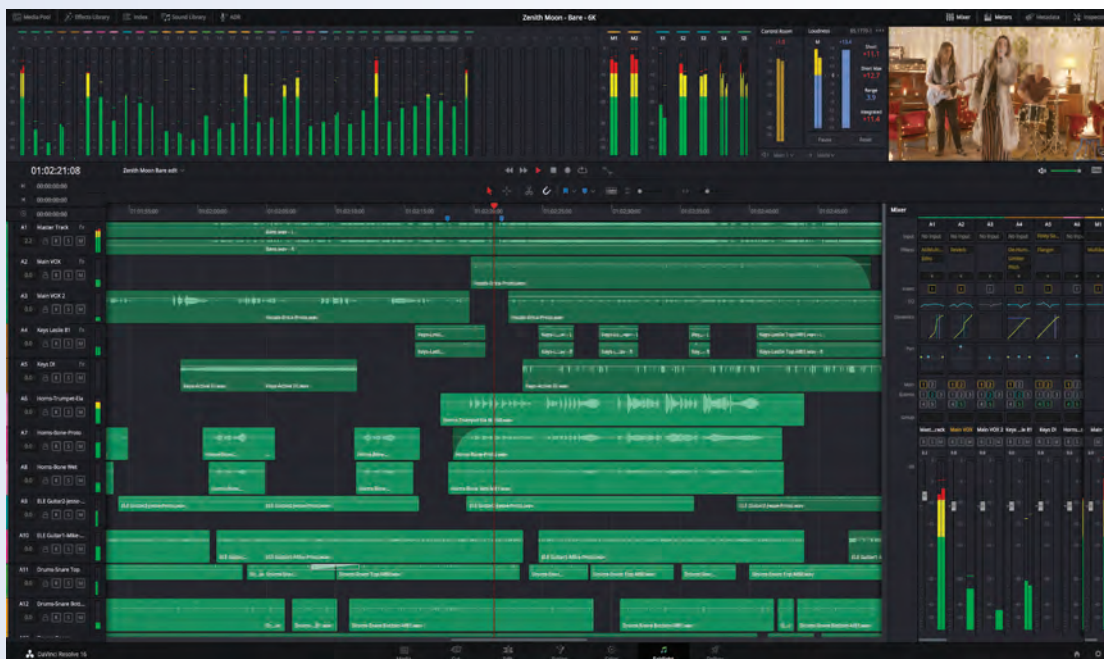
This update also improves editing in DaVinci Resolve. Loading and switching timelines on the edit page is now faster with improved performance when working with a large number of audio tracks. Compound clips can now be made from in and out points so editors can be more selective with what media they want directly in the edit page. There is also support for previewing timeline audio when performing live overwrites of video only edits. Now when trimming, the duration will reflect the clip duration as customers actively trim so customers can set a specific clip length.

The media pool now includes metadata support for audio files with up to 24 embedded channels. Users can also duplicate clips and timelines into the same bin using copy and paste commands.

Smart filters now let users sort media based on metadata fields, including keywords and people tag so users can find the clips they need faster.

DaVinci Resolve 16.2 is available for download now from the Blackmagic Design web site.

Visit www.blackmagicdesign.com





HDR Reference Monitor with Built-In Calibration Sensor

EIZO CORPORATION HAS ANNOUNCED the ColorEdge PROMINENCE CG3146, a 31.1-inch, DCI-4K (4096 x 2160) HDR (high dynamic range) reference monitor for professional post-production and colour grading workflows. It is the successor model to EIZO's flagship HDR reference monitor, the ColorEdge PROMINENCE CG3145, and is the first to incorporate a built-in calibration sensor.

Like its predecessor, the ColorEdge PROMINENCE CG3146 correctly shows both very bright and very dark areas on the screen without sacrificing the integrity of either. The monitor achieves 1000 cd/m2 (typical) high brightness and 1,000,000:1 contrast ratio for true HDR display.

The ColorEdge PROMINENCE CG3146 adds to its predecessor's impressive resume by being the world's first true HDR reference monitor to incorporate a built-in calibration sensor. EIZO utilized its extensive experience in hardware calibration solutions to integrate its unique calibration technology into its now highest spec HDR model. Hardware calibration ensures the screen stays colour accurate over time and streamlines colour management, so users can stay more focused on the creative process.

Furthermore, with EIZO's ColorNavigator 7 colour management software, users can regularly calibrate and quality control their monitor quickly and reliably. Users can calibrate all colour modes simultaneously, setup regular recalibration intervals, and maintain quality control in multi-monitor environments, all with a single software application.

ColorEdge PROMINENCE were the first HDR reference monitors to overcome the severe drawbacks of other HDR technologies available to the market – ABL (Auto Brightness Limiter) and local dimming. They achieve a true HDR visual experience without the limitations of these technologies to ensure users always see accurate colours and brightness in every pixel.

The ColorEdge PROMINENCE CG3146 supports HLG (hybrid log-gamma) and the PQ (perceptual quantization) curve for displaying and editing broadcast, film, and other video content in HDR. The optimized gamma curves render images to appear truer to how the human eye perceives the real world compared to SDR (standard dynamic range).

The colour and brightness of an LCD monitor can shift due to changes in ambient temperature and the temperature of the monitor itself. The ColorEdge PROMINENCE CG3146 is equipped with a temperature sensor for accurately measuring the temperature inside the monitor, as well as estimating the temperature of the surrounding environment. With this temperature sensing and estimation technology, the monitor adjusts in real time, so gradations, colour, brightness, and other characteristics continue to be displayed accurately. Furthermore, EIZO uses AI (artificial intelligence) in the estimation algorithm of the monitor so it can distinguish between various temperature changing patterns to calculate even more accurate correction. EIZO's patented digital uniformity equalizer (DUE) technology also counterbalances



the influences that a fluctuating temperature may have on colour temperature and brightness for stable image display across the screen.

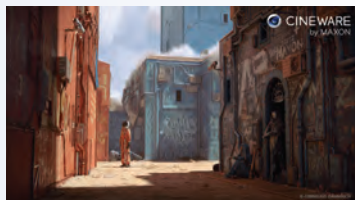
Additional features, include:

- Single-Link 12G/6G/3G/HD-SDI and Dual- or Quad-Link 3G/HD-SDI
- VPID support for SDI connections
- HDMI and DisplayPort inputs
- 99% reproduction of DCI-P3
- 3D LUT for individual colour adjustment on an RGB cubic table
- 10-bit simultaneous display from a 24-bit LUT for smooth colour gradations
- Quick adjustment of monitor settings via front bezel dial
- Light-shielding hood

Visit <https://www.eizo-apac.com>

Cineware by Maxon Plug-in for Unity Technologies

MAXON, THE DEVELOPER OF professional 3D modelling, animation, and rendering software solutions, has announced that it is now a Unity Technologies Verified Solutions Partner and is distributing a plug-in for Unity, called Cineware by Maxon. The new plug-in provides developers and creatives with seamless integration of Cinema 4D assets into Unity. Artists can easily create models and animations in Cinema 4D for use in real-time 3D (RT3D), interactive 2D, 3D, VR, and AR experiences. The Cineware by Maxon plug-in is available free-of-charge on the Unity Asset Store.



The plug-in is compatible with Cinema 4D Release 21, the latest version of the software, and Unity's latest release, 2019.3. The Cineware by Maxon plug-in does not require a license of Cinema 4D as long as Cinema 4D scenes have been "Saved for Cineware." By default, imported assets will appear relative to the asset folder or imported asset. The plug-in also supports user-defined folder hierarchies.

Cineware by Maxon currently supports:

- Geometry including: Vertex Position; Normals; UV; Skinning Weight; Colour Skin and Binding Rig; Pose Morphs as Blend Shapes; and Lightmap UV2 Generation on Import.
- Materials including: PBR Reflectance Channel Materials conversion - Albedo/Metal/Rough, Normal Map, Bump Map, Emission; Animated Materials - Colour including Transparency; Metalness; Roughness; Emission Intensity, Colour; and Alpha Cutout Threshold. Cineware by Maxon supports the option of not reimporting materials, as imported materials are automatically reassigned to updated geometry.
- Lighting - including Spot, Directional, Point; Animated properties supported include Cone, Intensity, Colour.
- Cameras, including Animated properties, Field of Vision (FOV).

The Cineware by Maxon plug-in is available at no cost for macOS and Windows on the Unity Asset Store.

Visit <https://assetstore.unity.com/packages/tools/integration/cineware-by-maxon-158381>

Collaborative, Remote Editing with DejaEdit

DEJASOFT HAS ANNOUNCED what it says is a "must have" file sharing and synchronisation tool for editors – DejaEdit.

DejaEdit is a collaborative editing film tool which offers editors working on Avid Nexis, Media Composer and EditShare workflows, across studios, production companies and post facilities, an application that ensures media files, bins and timelines are kept up to date across multiple remote edit stations.

DejaEdit has been tried and tested on real-world projects, and is well-established in Scandinavia and parts of Europe. DejaEdit increases productivity by allowing editors to transfer media files and timelines automatically and securely to co-workers around the world, without having to be online continuously. It can also empower multiple remote editors to work together, and assist exchanges of media with VFX houses, as well as enabling editors to easily migrate between office and home or mobile-based editing installations throughout the life-cycle of an entire project.

DejaEdit makes it possible to work with multiple remote Avid systems virtually anywhere on the planet. With global warming issues arising, and people being encouraged to minimise unnecessary travel for various factors, industry professionals can take full advantage of DejaEdit's powerful file synchronising capabilities without restrictions.

New features in DejaEdit Version 3.0 include "Private" and "Global" bin sharing, new security locks, and many other helpful features that facilitate media file transfer across large media projects such as TV series and feature films. DejaEdit is affordable with an appealing licensing model, tailored to suit every type of project from shoot to finish.

Visit www.dejasoft.com



Flame Stokes Efficiency with Digistor and EditShare

FACED WITH A BURGEONING workload of incoming content to version and pass through Quality Control (QC) for international sales and distribution, Flame Distribution required a new storage solution that was able to handle the performance essential for data intensive formats such as 4K. The new solution they chose was EditShare EFS 200 storage supplied and installed by Digistor.

Flame Distribution's Head of Technical Services Jason Lee explained, "Storage tends to be one of the largest and most significant purchases at many companies. Not investing in the right storage can not only be detrimental to our workflows, but also to the focus of our end users. Our existing storage was not performing properly and was slow impacting on everything from QC playback to editing. So we began looking at Tier 1 storage solutions as the main work volume is compressed footage from HD to 4K and beyond and we wanted to utilise the best technology to attain maximum performance. We discussed our issue with Digistor and it was clear an EditShare EFS 200 storage solution was the best way forward."

Flame Distribution's existing server for the media side of their business had been stretched as far as it could be. The server was installed over five years ago and even with subsequent storage enhancements, it struggled.

Lee continued, "Capacity requirements continue to grow with use of high-resolution cameras, delivery formats and ability to find free space for the storage. We needed new technology that would deliver efficiency in the way the team operates and give us the ability to deliver – that's where Digistor and the EditShare EFS 200 came in. The additional server also benefits the footage side of our business in the processing and handling of the rushes we receive in order to derive clips – another growing requirement."

Flame Distribution's requirements for the EditShare EFS 200 storage solution were comprehensive. They wanted great performance, a great MAM system and so much more.

Lee added, "We needed the new solution to be able to handle various formats such as DNX, ProRes 422HQ or 4:4:4:4 and XDCAM in various frame rates. It also needed to be able

to deal with broadcast-type projects, work with Mac and Windows workstations, have integration with Adobe Premiere Pro and QScan and handle various workflows such as QC, colour correction, VFX, transcoding and editorial. We also needed to have more than 30TB in volume space and be able to work with AI to help with closed captioning or metadata. On top of that the solution had to work with current backup and archive systems, offer great security and support for 10Gbe networking, offer remote collaboration and be able to work to storage devices as well such as Synology Server. Oh and we wanted top tier support. It was a big ask but I'm delighted to say Digistor and the EditShare EFS 200 storage solution offer all of the above."

It's clear Lee sees EditShare's EFS as a great solution as Flame now use the system when running technical assessments for HD and 4K formats, checking technical clip metadata and bringing data from a QScan into Flow then back into Adobe Premiere Pro. They also use it for editing trailers and promos for content markets or broadcasters, creating metadata for VOD platforms, ingesting, indexing, tagging, organising, editing and delivering content, remote editorial and approval and creating proxies.

Lee continued, "With the EditShare solution expansion is very straightforward. You can upgrade to the 'All-In-One' package, which gifts you a complete media production platform on top of everything else and which includes integrated asset management, archiving and easy tools to upload to the cloud and to use remote production. We have flexibility to work with every NLE, sound mixing or VFX program and every operating system. We also have easy

project and media sharing capabilities and an open platform design, integrated with Adobe, Apple, Avid, Autodesk, Blackmagic and more. EFS auditing also keeps track of the location and movement of all digital assets, and captures every digital footprint of a file."

It's fair to say Flame Distribution's workflows are second to none. In a technical assessment alone they deliver via media shuttle and send to the EFS 200 server. A QC is done through QScan

and then data is brought into Flow Browse for review. Flow brings the data into Adobe Premiere to help with eye-balled QC process and a QC Operator will pass or fail it at that point. Additional notes are taken through Flow and AirFlow is used for approval and feedback.

Lee said, "We use the EditShare solution for all of the above and more. EditShare has built an impressive stable of products to solve everything from automated QC to MAM. They even have a standalone piece of software to coordinate Adobe projects in shared environments. EditShare also offers a depth of product that most products do not and their storage solutions give Flame

Distribution a distributed file system and hardware redundancy ensuring the highest level of data protection. The EFS Native Client direct connectivity also delivers increased performance for us."

So, all in all an impressive endorsement of EditShare and its storage solution according to Jason Lee who added one last thing in conclusion saying, "I must also mention that Digistor's sales, service and support is perfect. They listened carefully to our requirements and came up with a solution that works well. The product knowledge of the sales team and their recommendations were spot on. Their customer service is excellent too. I would highly recommend them."

Visit www.digistor.com.au

"Capacity requirements continue to grow with use of high-resolution cameras, delivery formats and ability to find free space for the storage. We needed new technology that would deliver efficiency in the way the team operates and give us the ability to deliver."



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How do Media Companies Expand Global Operations? Migrate to an IMF MAM

By Julian Fernandez-Campon, CTO

A MAJOR US SATELLITE DIRECT broadcaster recently announced that it will drop its multichannel offering, except in rural areas of the US, while cable television franchises are confounded by viewers who “cut the cord”, a reality faced by broadcasters worldwide. Consequently, the revenue of these broadcasters is plummeting – so where are those viewers going? To OTT services of course! Having the capabilities to prepare content for multiple territories, platforms and different audiences has become essential for survival and intensified by the growing competition between OTT platforms to engage users with more attractive and personalised material. For this reason, preparations must be improved to the point that content is generated and/or repurposed efficiently and profitably.

Different technology players are working to secure their part in this game. One option gaining rapid adoption is the Interoperable Master Format (IMF), conceived by SMPTE to optimise the use of resources and guarantee interoperability between vendors.

Companies like Netflix, 20th Century Fox and Sony Pictures Entertainment have fully committed to this standard for products they distribute as well as those they receive. IMF packages can be automatically generated for distribution masters, localised and editorial versions to manage and optimise exchanged media, leading to excellent return on investment (ROI) in storage savings and speed of delivery to market.

These benefits really become evident when the number of versions increase. The time and technical resources needed to process them is reduced drastically through the concept of a “supplemental package”. This essentially stores all the changes/additions to the master version (dub cards, text insertions, localized audio tracks) required to make the specialized “supplemental package” inside the metadata of a localized version. These changes are typically a fraction of the size of the master media file.

Another key IMF aspect is the support from the SMPTE global community and IMF Users Group to ensure that the main pillar of the IMF specification, interoperability, is achieved and maintained across vendors, content providers, distributors and consumers. For that purpose, there are regular plug-fests where the packages generated by different tools are tested by all participants to ensure compatibility, meet minimum business requirements and assure that the standard is implemented as it's defined without diverging into vendor specific incompatible flavours.

However, among all these benefits there are some factors that lay outside the IMF specification scope, such as the management and automatic creation of these packages and related workflows. The questions we face are: How can we go from a non-IMF world into a fully IMF-based operation? And, what are the main challenges and considerations?

The first step to migrate to IMF from an existing database is to analyse and qualify all the information and media to properly design the process. This analysis can be used to drive the assessment from a simple support decision to a quantification of the benefits of migrating into IMF and an estimate of the ROI that can be achieved.

Clean and trusted data

Once the benefits are measured and the decision to migrate to IMF is taken, the next step is to identify the titles and content types, to start thinking in an IMF-mentality. This is the main challenge, as it doesn't really make sense to migrate into IMF without taking advantage of the supplemental packages and all the related components that are part of a title (feature movie or episode). Cleaning data is important as in some cases there are artificial versions or content that does not need to be migrated into IMF.

QC is also important in order to validate that all content to be migrated into IMF is valid. Automating this process and letting operators inspect the media only when an issue is detected will accelerate the transition and minimize errors ensuring consistency.

Automate now

Automation is one of the key drivers for cost saving and IMF can be used to orchestrate content management. Interoperable Master Packages (IMPs) contain metadata including IDs that can be used to identify the title and take decisions, including well known IDs such as the Entertainment Identification Registry (EIDR) codes or any other type of house IDs. All versions of a title are linked as the supplemental packages point to the Original Version (OV) or to another supplemental package as part of the same title.

Another key automation element is the use of file names. All files referenced are identified by Universal Unique IDs (UUIDs) so machines can easily identify and process the IMPs and manage the storage needed for them with improved security. This new way of thinking will minimize mistakes, double checks and redeliveries caused by the use of non-unique file names.

Starting with IMF

What media companies need to ask themselves is where are they positioned in the content supply chain: production, content distribution hubs, consumers? This defines how IMF should be adopted and the tools to be employed.

Once foundations are established and the transition is defined, it's key to adapt all systems to work with IMF, in some cases acquiring additional tools proven to successfully manage IMF assets. Depending on where the broadcaster is positioned in the IMF content supply chain (e.g. production / acquisition / distribution of some small titles), running pilot



projects to measure gains is a good practice to minimize the risks in a full deployment.

Data management is a final area of consideration. All information to be received or information that must be included in the IMF packages must be anticipated as well as what automation can be achieved following the IMF best practices and possibilities – in line with the customer's business rules. A good project plan with milestones will assist management in understanding timing for the first IMPs, expected improvements and optimisations to be achieved, and the overall process needed to seamlessly transition into IMF. This planning should include the acquisition/upgrade of equipment, training the staff and the final deployment.

Another attractive aspect of deploying this methodology is the real savings achieved by moving the media as little as possible. An IMF MAM solution can be deployed in a true cloud-based operation, where all content is received and delivered in the cloud, enabling the creation of new versions in low-resolution proxy form. This is key for localisation workflows that are distributed across geographically disparate operations and where external operations, such as dubbing/subtitling companies can access content, upload localised audio tracks/subtitles and check/QC them.

For media companies required to work with high-resolution content, an IMF MAM solution can be configured to support a hybrid architecture where all content preparation workflows are carried out on-premises, seamlessly integrating all third-party elements (editors, automatic QC, etc.) and supplying the final copy to the cloud for mass distribution. This includes multi-site operational deployment where content is located and accessed from the most suitable location with storage managed by a content management solution, disregarding the physical location of the file.

Careful and thorough IMF automation deployments support end-to-end workflows from the ingest of packages to the generation of new versions or the creation of new packages on-the-fly automatically, without human intervention. A modern MAM system coupled with foresight and planning can provide measurable efficiency, cost savings and the capability to profitably expand capacity and operations globally.

Visit <https://www.tedial.com>



Primestream Connects People and Media with Creative Bridge

PRIMESTREAM, the provider of asset management, automation software, and workflow orchestration solutions for media and production operations, has released Creative Bridge, a solution for unifying content creation workflows. As an add-on to Primestream's Xchange web-based media management platform, Creative Bridge allows all members of the content creation team to access any creative tool – Adobe Creative Cloud, Apple Final Cut Pro X, DaVinci Resolve, and Avid Pro Tools.

"Creative teams today want to be more connected and have greater visibility and better unification of the overall workflow, as well as the reliability and security essential to modern media production," said Namdev Lisman, executive vice president of Primestream. "Creative Bridge addresses all of these requirements, enabling accelerated workflows, boosting collaborative capabilities, and improving visibility into media. Establishing convenient and intuitive connections between users and creative tools, this new solution brings greater efficiency and productivity to content creation in any organisation."

With the addition of Creative Bridge, producers, editors, graphic designers, visual effects artists, and other creatives gain access to multiple creative tools through a single easy-to-use application. Because all projects and assets within the Xchange platform are connected, users can access those tools seamlessly with Creative Bridge. Additionally, team members can register new assets into the MAM/PAM with rich metadata and organizational folder structures. Personnel across the organization gain greater visibility into media and can quickly search, import, and register managed media.

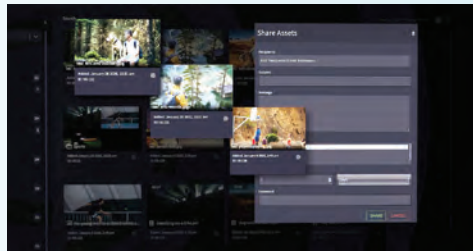
"Creative Bridge benefits anyone working in creative services," added Lisman. "With better visibility and a much closer connection between managed media and creative tools, teams can work more efficiently with media and collaborate more closely in producing compelling content."

Visit www.primestream.com

Cantemo Portal 4.2 MAM Update

CANTEMO HAS ANNOUNCED the latest update to its Media Asset Management System, Portal. Portal 4.2 launches new features including additional sharing options, improved search filters for predefined metadata values and a Centralized Transfer Configuration.

With its focus on delivering solutions to the broadcast industry, Portal 4.2 provides users with improved sharing capabilities. The newly improved Share Page allows users to share multiple assets and collections at one time. Its improved search capabilities include the introduction of filters within predefined metadata values; its new ability to use filtered searches allows for more accurate results with fewer empty returns.



Additionally, the Centralized Transfer Configuration feature delivers updated NLE settings, allowing users to set up various upload storages, agent bandwidth and define transfer settings for user groups. This flexibility allows users

to define and configure settings depending on location, enabling groups to upload and transcode using the resources nearest to their location.

Parham Azimi, CEO, Cantemo, commented, "Working with the media across many industries, our customers face significant challenges in regard to managing their assets. Consumer demand for content is at an all-time high; people expect steady access to new and interesting content. To respond to this demand, we're seeing content owners increase the amount of content they produce. Never has it been more important to keep track of the content they own. Adding to the complexity of content delivery is the growing trend for global working. Editing and sharing files needs to be simple and efficient to ensure that content is produced effectively. Portal 4.2 allows broadcasters to take control of their assets whilst providing intelligent workflows throughout the editing process."

In addition to the added features, Portal 4.2 also utilizes an upgraded version of web framework software, Django, 2.2, as well as an upgrade to Elasticsearch 7. Elasticsearch 7 introduces the ability to perform fuzzy searches, returning more results even if the query is not exact or incomplete. The latest version of React has also been implemented, allowing the use of React hooks for plugin development which will reduce complexity for cleaner code while maintaining high functionality.

Effective management of assets allows organizations to maximize the potential of their available resources, enabling them to deliver the best media content possible.

Visit <http://www.cantemo.com>

Interra Enables Video Captions with Machine Learning-Based QC

INTERRA SYSTEMS, the provider of software products and solutions to the digital media industry, has announced BATON Captions, a new addition to its BATON platform. Leveraging machine learning (ML) and automatic speech recognition technology, BATON Captions brings simplicity and cost savings to the creation, management, and delivery of captions for traditional TV and video streaming. BATON Captions allows broadcasters and other media professionals to address all of their captioning needs, from caption generation to QC, auto corrections, review, and editing.

Keeping in mind the high volumes of content being generated and distributed today, a defining feature of BATON Captions is that it offers industry-leading performance. Utilising the high-performance solution, media companies can dramatically expedite the caption creation and verification processes for both live and VOD content.

"Captions have long been mandated by all major

broadcasters, and now with the rise in global consumption of online content, captions and subtitles represent an amazing opportunity for television viewers to watch and comprehend foreign-language content with ease. However, captions can be tedious and expensive to produce. Also, when transitional issues happen throughout the file-based workflow, the delivery of captions becomes more complex," said Anupama Anantharaman, vice president, product management at Interra Systems. "BATON Captions leverages our industry-proven expertise in captions and subtitles QC to simplify this process and improve workflow efficiency. Using this solution, broadcasters and media companies can ensure that when content is delivered in multiple video quality levels within OTT video streams, the captions maintain a high quality."

BATON Captions reports on any drop or inaccuracy in captions and audio, as well as compliance issues, providing broadcasters with automated options for correcting alignment,

text, and spelling mistakes. Captions can be checked against actual audio essence, corrected, and exported to any industry-supported caption format. Through auto time stamping with state-of-the-art speech recognition technology, BATON Captions adds accurate time to dialogs in scripts, resulting in faster, more efficient caption generation.

Through web-services-based API support, BATON Captions can easily be integrated with third-party tools. Broadcasters have the option of deploying the captioning solution on premises or in the cloud for added flexibility. The application comes with a feature-rich review and editing platform with frame-accurate playback options. Offering support for a host of subtitle and closed caption formats, BATON Captions helps drive globalization of content for broadcasters and other media professionals.

Visit www.interrasystems.com



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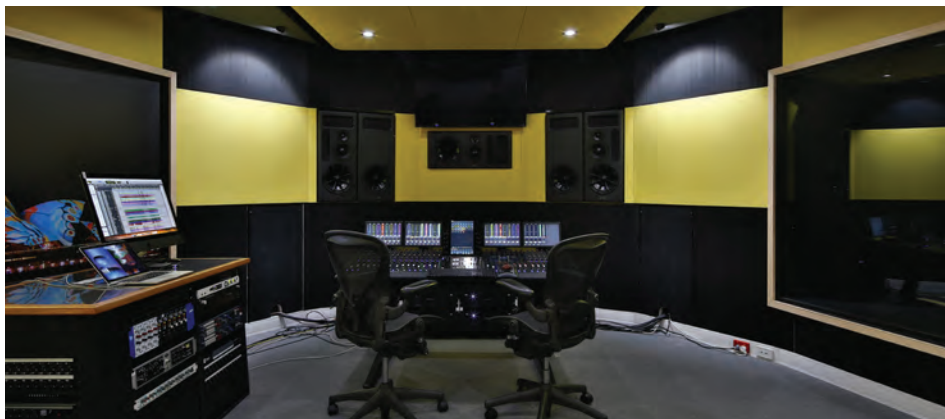
WHILE THE ONGOING COVID-19 situation has forced Australia's Studios 301 to suspend bookings of its recording studios, that has not stopped the iconic facility from offering online mixing, mastering and digitisation services.

In addition, the facility has introduced a "pay-it-forward" scheme aimed at helping the music and recording sector.

"At Studios 301 we acknowledge the significant impact that COVID-19 has had, and will continue to have on the creative industries. During this unprecedented time, we are acutely aware of the challenges that many of our engineers, producers, clients, music makers, artists and extended team are being faced with.

"What we have come up with is a pay-it-forward initiative. We are starting this with our senior mix engineer/producer Simon Cohen (Justin Bieber, Lizzo, The Black-Eyed Peas, Guy Sebastian, Thelma Plum, Starley & more).

"The simple premise is this: Anyone who books a full mix with Simon Cohen, we will provide an equivalent full mix as a pay forward to any



nominated person."

"We've had a great response to the online mixing launch and lots of people taking us up on our 30% off deal," adds Simon Cohen. "But I feel like I can do more to help.

"I'm aware that while some people are still fortunate enough to have a job there are plenty of musicians struggling to meet rent let alone splash out on their art. That's why I'll be offering a chance to Pay It Forward.

"The 30% offer still stands, but if you have the means to book a regular price mix, I'll donate a free

mix to the artist of your choice. It could be your best friend, your favourite artist or someone you've never met. Record label clients, you are welcome to get in on this too!

"I'm not challenging everyone else to match this. I know that not everyone is in a position where this makes sense for them but I'd love to do my part for binding the music industry closer together and help everyone get world-class sounding music out onto the streaming platforms."

Visit <https://studios301.com/>

Surround Solutions from Nugen

NUGEN AUDIO'S SURROUND SUITE offers a complete set of tools for upmixing, downmixing and multi-channel sound reshaping for the production market. Featuring the company's Halo Downmix, Halo Upmix, ISL True Peak limiter and SEQ-S match and morph EQ software, NUGEN's Surround Suite is suitable for both movie and television productions.

According to Paul Tapper, CEO, NUGEN Audio. "Surround Suite delivers all the control necessary to define, enhance and fine-tune a surround mix. As a result, it gives users access to precise and tweakable downmixing (Halo Downmix) and coherent and natural upmixing, from stereo to 5.1 and 7.1 (Halo Upmix). They can also take advantage of the suite's True Peak limiting (ISL) and linear phase EQ (SEQ-S)." NUGEN's Surround Suite offers full access to surround balances, clear visual feedback and individual surround channel access. The toolkit also allows users to regulate low frequency content and fine-tune surround mixes, without the possibility of phase warping.

Included among the NUGEN Surround Suite is Halo Downmix, which complements any post-production workflow. Using precise surround control, mix monitoring and versatile downmix balancing, Downmix helps to accelerate productivity on surround mixes. Typically considered the final piece of a production workflow, Halo Downmix allows users to easily deliver projects in both stereo and surround formats without compromise.

Somewhat of a 'parent' software to Downmix,

NUGEN's Halo Upmix is also included in the Surround Suite. With unique center-channel management and switchable dialog extraction, Upmix is suitable for everything from archive restoration and TV, through 7.1 feature films. With surround delivery requirement becoming increasingly common, Halo Upmix offers an indispensable tool for Dolby Atmos, Aura 3D and Ambisonic productions. A 3D immersive audio option is also available.

Also included as one of the software suite's plug-ins is the ISL True Peak limiter. This tool provides TPlim control, which automatically adjusts transfer curve parameters for minimally invasive brick wall protection. With NUGEN's ISL, there's no need to second-guess your sample-peak limiter or deliberately increase headroom to avoid a downstream problem. Instead, the software eliminates the risk of distortion from downstream codec conversions or inter-sample clip reconstruction errors, allowing users to edit to the standards of today's OTT/streaming services.

Lastly, with the SEQ-S plug-in, users can spline match and morph independent EQ transitions. This includes dynamic and static pass filter effects; seamless transitions between differing environments; and creative morphs and tempo-locked effects. Beyond traditional EQ, SEQ-S can be used to capture the flavor of a source audio and transfer it to a new piece – making it suitable for restoration and harmonisation work or to unify different takes or microphone positions, among other things.

Visit www.nugenaudio.com

CEDAR Improves Dialogue Noise Suppression



WHILE WORKING ON functional upgrades for Cedar Audio's DNS 8D, the company's audio research team was also refining its underlying algorithm to make sure that it wouldn't just be more usable but also better sounding than ever before. Those results have been realised in firmware v1.3, which the company says offers a more open and natural sound than earlier versions whether the operator is using the DNS 8D's machine learning capabilities or setting it up manually.

CEDAR's Managing Director, Gordon Reid, says, "When I compare the DNS 8D with our original dialogue noise suppressors I realise just how far this technology has come in the past few years. It's a continuous process; we enhanced the pre-set management and user interfaces for both the DNS 8D and its remote control, and now we're noticeably improving the audio quality. Existing users are going to like what they hear when they update their units to v1.3, and new users ... well, it will just sound great."

All DNS 8Ds shipped from this date will have v1.3 installed. Owners of existing units can download the new firmware directly from our website together with the latest DNS 8D manual which includes update instructions.

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Calrec RP1 for Remote Production with Riot Games League of Legends

By Anthony Harrison, International Sales Manager, Calrec

MIX LIVE TO AIR with no boundaries or borders, reduce production costs and increase content output: remote production gives broadcasters the ability to capture a wider range of live events, such as sports, esports, news or music festivals and mix them in a remote facility thousands of miles away.

Remote production yields huge cost savings and efficiency improvements; remotely controlled, IP-connected kit allows the expensive equipment to be located in a broadcast facility where it can be utilised more effectively.

Control rooms can switch between jobs and remote venues, with plenty of engineering staff and operational cover on hand. Plus, operators are able to work in the same daily environment, without travel expenses and setup time.

Calrec's compact 2U RP1 unit means that productions can have a console anywhere in the world without ever leaving the studio. Calrec's Assist is a browser-based interface that allows users to set up shows, memories, fader layouts, patching, bus setup, labelling, input and output levels, input channel parameters (including mic gains), routing and more, without needing a console. Calrec's Assist can plug into the network at the venue or at the studio. It can be accessed from multiple locations via a web-browser and different access levels can be granted to different users; an operator can be given basic control functions whereas an engineer can delve deeper to fine tune the setup or recall different setups as needed.

Assist can be used for setup and local control of RP1, and enables stations to reap the benefits of Calrec consoles without a physical control surface

Riot Games' 2019 League of Legends World Championship final in Paris relied on Calrec's RP1 remote production technology for the English language feed for viewers in North America, Europe and Oceania.

Dave Talavera, Audio Engineer with Riot Games, said, "When it came to building our new European facility in Berlin two years ago, we knew, given our experience with remote production, that was the path that we wanted to continue down. Calrec was the only company that had come up with a remote production solution for IFB and they are still very much at the forefront of this. This was essential for the remote production of the English language feed for the final in Paris."

Riot Games installed an Artemis console in Berlin, connected to the RP1 in Paris. The RP1 was used with the on-air talent in Paris and was controlled from Berlin. The on-air talent consisted of three "shoutcasters" – game commentators – as well as six analysts.

The majority of the English language feed producers were in Berlin with only a minimal footprint onsite, a key advantage of using remote production technology. As well as IFB for the talent, there was also a mix minus feed that was sent back from Berlin to the RP1 so they could hear video playback, music and so on. Some talent wanted to hear themselves as well as game action/other analysts/shoutcasters, which the RP1/Artemis combination was designed to accommodate.



Calrec's RP1 remote production platform.

The IFB for the on-air talent was processed onsite by Calrec's RP1 to avoid the delay that would occur if it had been routed to Berlin and back and networked around the Paris site on a DANTE IP network.

This allowed producers to control the talent audio from the console in Berlin. In addition, the Berlin console also handled the overall English language production mix, which was then sent, using Riot Games' Riot Direct backbone network, to its LA facility for onward distribution.

Talavera added, "We were very pleased with what we achieved with Calrec's remote production technology. It did exactly what it's designed to do and was great. We are very firm believers in remote production as it saves production costs in the long run and that's money that can be spent improving other aspects. This system proved that it works and saved the costs we anticipated."

At Calrec we worked very hard developing our RP1 system, listening to customer requirements and therefore clearly understanding how to create technology that satisfied those. We are very pleased that Riot Games recognises this. We are witnessing broadcasters starting to reap the benefits in terms of remote production, across eSports and, of course, more widely across the production sector. Remote production has now been adopted on a wider basis and has really taken off as an alternative to traditional workflows.

Visit <https://calrec.com>

Audio-Over-IP with Solid State Logic's System T

SOLID STATE LOGIC has announced advanced Audio over IP capabilities as well as recent feature developments within its System T broadcast audio platform. New developments in the System T line — including Solid State Logic's new HC Bridge SRC — deliver leading edge features for users pursuing advanced AoIP integrations or new Immersive/Next Generation Audio (NGO) workflow possibilities.

SSL has expanded its Dante-based IP Network I/O portfolio, which includes the HC Bridge SRC. The new network I/O device provides 256 bi-directional channels of sample rate conversion for AoIP networks and also facilitates connecting audio between devices running at different sample rates or in different clock domains on a Dante (48kHz and 96kHz), AES67 or ST 2110-30 networks. The two network connections can be physically or virtually separate networks, providing control isolation between two sets of equipment where an "AoIP discovery and control firewall" is required.

The System T platform architecture provides processing for multiple audio formats for immersive and three-dimensional audio; channel-based,

objects, Ambisonics and binaural. With support for multiple formats including ATSC 3.0, Dolby Atmos, and MPEG-H, the recent Sennheiser AMBEO partnership now adds on-board conversion support for the AMBEO VR Mic, with a 360 transcoder to render to a wide range of multi-channel outputs from 4.0 to 7.1.4.

SSL has also updated its range of console control surfaces. The large-format configurable S500 and S500m surface, as well as pre-configured surface options in the S300 suited to mid-size production facilities, make these consoles flexible for many different applications and scale of broadcast production. Running a Dante AoIP backbone and compliant with AES67 / 2110 protocols, System T offers advanced integration capabilities into an existing or future AoIP infrastructure.

In addition, SSL's latest V2.3 release now includes advanced DAW control, Immersive audio, Dynamic Automation and fully-featured on-board FX rack.

Visit www.solidstatellogic.com



Dante-enabled Multichannel Monitoring Solution

STUDIO TECHNOLOGIES has introduced its new StudioComm Dante Audio-over-IP-enabled multichannel monitoring system, the Model 792 Central Controller and the Model 793 Control Console. The new system combines a rack-mounted main electronics unit with a desktop user control surface. The 'fully-pro' signal path uses programmable logic to support both digital and analogue audio. An extensive set of configuration features allow the system to support next-gen immersive formats including 5.1.4, 7.1.4, and 10.2.

"We've designed this system to fit easily into any professional multichannel environment," says Gordon Kapes, President of Studio Technologies. "More and more studios are switching to Dante and AES67 networked audio infrastructures, but they still need to support analogue – this system provides both. As with all Studio Technologies products, users can be confident that what they hear on the output is extremely close to what went in – nothing more."

The Model 792 Central Controller has multiple digital and analogue inputs with configurable time delay, source selection, and level control. Digital and analogue outputs support formats of up to 16-channels. Analog two-channel inputs and outputs offer convenient support for stereo reference signals. Features, including trim levels, delays, dim and reference level, and pre/post outputs, can be optimised using the system's built-in web server-based menu pages. An FPGA-based 32-bit audio architecture offers high

headroom and superior audio quality.

The multichannel analogue I/O stems use the Model 792's rear-panel 25-pin D-sub in banks of eight channels, while a front panel 3.5mm stereo jack and level control provides a two-channel input for laptops, phones, and other stereo reference feeds. The digital audio I/O uses two gigabit ethernet interfaces to support switched and redundant Dante. A separate GigE Ethernet interface provides access to the Model 792's management web pages. These allow connection to fully-independent audio and management networks. The unit also features both universal AC mains and 10-18V DC inputs, which allow redundant power supply operation.

All analogue and Dante sources have independent level trim controls. Input signal delay of up to 999 milliseconds allows synchronisation with video display latency. On the output side, all Dante and analogue channels have independent trim controls, pre- and post-fader source selection, selectable dim attenuation, user-definable reference levels, and custom labelling for the multichannel and stereo stems.

The Model 793 Control Console provides convenient, fast, and intuitive selection of all sources and outputs, reference level, dim function, mutes, and solos. The user control surface features tactile, responsive, single-function buttons and a high-resolution encoder along with a graphics display. Four user definable



input stems and two outputs are directly selectable on the front panel, along with mute/solo buttons for every individual channel. Users can also select dim, reference level, and mute all functions. The rotary encoder supports level control for stems of up to 16-channels. The graphics display provides numerical level and status information, along with important system information such as the system's LAN IP addresses.

"We have been developing Dante networked audio solutions for several years now," says Kapes. "This system is an important step forward for us and represents excellent value and flexibility for any broadcast operation, post-production facility, or music studios that needs a robust, time-saving, and ergonomic networked audio solution."

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ACMA Report Provides Roadmap for Future of Radio

THE AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY (ACMA) has released a new report that lays out its priorities for the future delivery of radio and underlines the vital importance of radio to Australian audiences.

The Future delivery of radio report outlines how the ACMA will prioritise the provision of spectrum to best assist broadcasters to serve the Australian community.

ACMA Chair Nerida O'Loughlin said the ACMA is focused on how Australia can get the most out of its valuable but limited broadcasting frequencies, particularly for FM and digital radio.

"Radio plays a critical role in providing news and informing communities in times of emergencies, as we saw during the bushfires and are seeing now with the COVID-19 pandemic," Ms O'Loughlin. "We know that the radio industry needs to evolve in response to new technology and changing audience preferences, and the spectrum that the ACMA manages is a key part of that evolution."

"We have worked with all parts of the radio sector to understand their views on the future delivery of radio. And in response we are prioritising the frequency planning options that will assist radio broadcasters to make the best choices about their future service delivery," she said.

The ACMA priorities outlined in the report include the continued transitioning of commercial, community and national services in regional areas from AM to FM where spectrum is readily available, arrangements to allow further rollout of digital radio where this is feasible, coverage improvements for national, commercial and community broadcasting where spectrum is available and support for trials of new types of broadcasting technology.

"These priorities will guide our work and we intend to consult further with the radio industry on a work program each year through our Five-Year Spectrum Outlook," she said.

The Future Delivery of Radio Project was established by the ACMA to ask Australian broadcasters and audio content providers about emerging technologies, the impact on their businesses and the choices these create for the radio industry, including how radio will be delivered to audiences in the future.

Visit <https://www.acma.gov.au/publications/2020-03/report/future-delivery-radio>

SCA Launches Mood Targeting and Interactive Shakeable Audio Ads

SOUTHERN CROSS AUSTEREO (SCA) has announced two new digital audio advertising initiatives to help brands find and engage audiences.

New mood and activity audience targeting utilises SCA's and SoundCloud's first party data and insights to identify listeners' key habits and interests, targeting them during particular mood-states and activities. At launch the offering includes chill out, wanderlust, work out, night out and dinner party mood-states.

SCA National Head of Sales, Nikki Rooke, said: "This mood targeting product gives advertisers the opportunity to target with contextual relevance as well as apply best practice creative scenarios to each. The Studio at SCA and SoundVibes' creative treatment ensures messaging is on point for the listening occasion and able to deliver optimum attention and engagement."

In addition to the new audience targeting solution, SCA today also announced interactive audio ads with shakable and voice activated listener responses. The ShakeMe mobile-only format enables a listener to shake their phone or use a voice command to respond to a call to action such as: "shake your phone to" either open a website, download a voucher or call now.

SCA Head of Digital Commercial, Jonathan Mandel, said: "As digital audio continues to grow at a rapid rate, it's critical that we continue to innovate and offer brands best in class technology to achieve their campaign objectives. ShakeMe audio ads provide an all-new way for brands to engage with our audience and drive a call to action by shaking their phone when the ad plays. To date, our test advertisers have seen interaction rates more than 10 times a typical click through rate."

Mood targeting is available across InStream, SoundCloud and catch up radio, ShakeMe is available on iOS and Android through SCA's InStream, while voice-activation is in beta looking to launch later in the year.

Visit www.sca.com.au

AirCheck Now Monitors All Major DAB+ Stations

AIRCHECK HAS ANNOUNCED that it has expanded its coverage of digital radio to include all major stations, due to client demand. This increase in stations will deliver a more comprehensive overview of the advertising landscape on digital radio.

The addition of a further 29 DAB+ stations completes AirCheck's digital radio offering – advertising data across all DAB+ stations owned by Australian Radio Network, Nova Entertainment and Southern Cross Austereo is now available on the online platform.

AirCheck is the only supplier of this localised market intelligence providing accurate and immediate market analysis, allowing subscribers to compare individual and overall advertiser views across AM, FM and DAB+ stations.

New additions to the monitoring network include Hit Dance, Triple M Hard N Heavy, Smooth Relax, iHeartRadio 80s, iHeartRadio 90s, Chemist Warehouse Remix, The Edge and Kinderling Kids Radio across all available markets.

Digital radio is proving more important than ever with the latest figures from Commercial Radio Australia stating 3.7 million Australians listen to a DAB+ device each week and 49 percent of all households in Australia have access to a DAB+ device1.

During February there were over 447,000 ads on digital radio alone, which is more than half the number of spots placed on FM & AM channels nationally.

President of RCS, Philippe Generali, said, "The power of radio continues to grow as digital channels are added in Australia. Advertisers will find AirCheck analytics support client engagement and innovative selling strategies."

AirCheck's market coverage now comprises 137 radio stations including 80 DAB+ stations and 57 FM/AM channels in addition to 12 Music and Free-To-Air TV channels.

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Lawo Power Core Goes to the MAX

LAWO HAS ANNOUNCED a new software license package for its versatile Power Core AoIP mixing engine and I/O node: Power Core MAX. "MAX", short for Multiple Access, makes it possible for a single Power Core device to be the mixing engine for multiple on-air mixing consoles.

Power Core is a true AoIP workhorse. Dual-redundant front-panel AES67 ports can accommodate up to 128 streams with a total of 256 audio channels. Four front-panel MADI ports can handle 64 MADI channels each, for a total of 256 channels, or 128 MADI channels in dual-redundant mode. Meanwhile, 8 rear-panel expansion slots allow mixing-and-matching analog line, AES3, Mic, MADI with sample-rate conversion, and Dante interface cards to allow tailoring a custom I/O load to nearly any operational requirement. A unique Studio I/O card supplies mic inputs plus headphone and monitor outputs in a single space.

Power Core is a processing powerhouse too. 96 DSP channels allow sweetening and processing of large groups of audio signals; nearly 2,000 routing cross-points make Power Core a self-contained AoIP router that many radio and TV stations consider an ideal gateway for bridging legacy audio formats with standards-based IP media networks. ST2022-7 Seamless Protection Switching provides dual-redundant AoIP network

connections to ensure against network link interruption.

Four upgradeable license packages are available:

- The new Power Core MAX package, with support for up to 254 physical and virtual faders, 96 channels of DSP (EQ, dynamics, compression and limiting), 32 channels of bus DSP processing, VisTool Standard touchscreen GUI control, 1920 x 1920 routing matrix, a 78-station Intercom matrix, and support for up to 4 independent connected mixing surfaces — perfect for outfitting multiple studios with small or medium-sized consoles.
- Power Core XL, with all the features of MAX enabled for a single powerful console. This package is ideal for network operations, master control rooms, or large, busy main studios with multiple input sources.
- Power Core L, matched to the requirements of single medium- and small-console studios, can accommodate up to 64 AES67 streams and 128 MADI streams, 128 physical and virtual faders (including utility software mini-mixer), 48 channels of DSP audio shaping, 16 channels of bus processing, and a 1728 x 1728 routing matrix.



- Power Core SAN for configuring Power Core as a high-capacity networked audio I/O gateway with limited DSP processing capabilities.

Power Core has seen widespread adoption thanks to its flexibility, I/O capacity, and standards-based architecture. In addition to being 100% AES67 compliant, it also features ST2022-7 network redundancy via dual active front-panel SFP ports. Power Core is also the first radio console engine with ST2110-30 compliance — ensuring seamless interoperability in combined TV / radio broadcast plants. 5.1 mixing is supported, and consoles as large as 60 faders are possible.

Power Core is expandable and configurable. Along with the choice of multiple tiered license packages and a huge amount of standard AES67 and MADI I/O, clients can use the eight rear-panel card slots for a la carte addition of analogue, AES3, MADI and Dante interfaces. A unique Studio I/O card completes the package with mic inputs plus headphone and monitor channel outputs.

Visit www.lawo.com

Web-Enabled FM Receiver-Monitor



INOVONICS IS SHIPPING the new SOFIA 567 AM SiteStreamer+, the latest in the elite SOFIA SiteStreamer+ (plus) series with advanced features for critical monitoring situations.

The SOFIA 567 AM SiteStreamer+ includes many additional features to the INOmini SiteStreamers which are web-enabled receivers for remote signal monitoring. They are installed at a broadcast transmitter site, or any remote location with an Internet connection.

The SOFIA 567 provides analogue, AES3-digital and AoIP-streaming audio outputs. The Web Interface enables remote tuning, streamed audio, station switching, alarms, and more. Internet-listening is streamed for up to 10 listeners at once. Multiple stations can be sequentially monitored using the programmable StationRotation feature.

According to Inovonics' President & CEO Ben Barber, "The SOFIA product series is a game changer in the industry and the new 567 AM SiteStreamer+ offers advanced features for critical monitoring situations to radio broadcast professionals."

Visit www.avw.com.au or www.avw.co.nz

Song Metadata Service from StreamGuys

STREAMGUYS HAS ANNOUNCED an innovative new problem-solving tool in its end-to-end suite of SaaS solutions for producing, managing, monetising and delivering live and on-demand streaming media. The new SmartMetadata service automatically fills in missing music-related metadata in radio broadcasters' live streams, enabling them to provide a more consistent and comprehensive user experience for their listeners by improving their metadata display. StreamGuys will showcase the new service at the upcoming 2020 NAB Show (April 19-22 in Las Vegas), where they will co-exhibit with technology partner ENCO in booth N2616.

Portions of broadcasters' live streams may lack proper metadata for a variety of reasons: guest DJs bringing in their own music libraries; songs played from CD or vinyl records; content sourced over satellite; or inconsistent, improperly formatted or incomplete metadata in their own playout systems. These gaps detract from the consumer user experience, as today's listeners expect to see information such as song, artist and album names in their media players.

The SmartMetadata service listens to the broadcaster's live stream and uses audio fingerprinting technology to identify music within it. The service then sends corresponding metadata including song title, artist name, album name, marketing label and ISRC code back to StreamGuys' streaming servers.

The full power of SmartMetadata is further unlocked when combined with StreamGuys'

established SGmetadata service, which provides API or web socket access to the metadata in the live stream. Through SGmetadata, both the SmartMetadata-supplemented and broadcasters' original metadata can be made available to connected media players (such as StreamGuys' recently-upgraded, HTML5-based SGplayer), mobile apps and third-party applications.

Future SmartMetadata features will leverage the underlying technology's indexing capabilities to also enable identification of proprietary content such as PSAs, news, ads and original programming, which can be helpful for attribution of over-the-air broadcasts and internet streams. In addition to its primary cloud-based offering, SmartMetadata will optionally be available for on-premises deployment for organizations wanting to index such content within their studios.

StreamGuys also plans to integrate SmartMetadata with the AudioLogger functionality in the company's SGrecast live stream repurposing and podcast management system. This will enable audio recordings to automatically have the metadata accessible in the logger, which is beneficial for auditing and analysis as well as indexing or searching through recorded content.

StreamGuys' SmartMetadata, SGmetadata, SGrecast and SGplayer 3.0 are all available immediately.

Visit www.streamguys.com



WheatNet-IP Added to Audioarts Console

WHEATSTONE HAS ANNOUNCED that its DMX digital console technology will now be marketed under the Audioarts Engineering brand and become fully WheatNet-IP audio network compatible.

The DMX console's mix engine provides direct connectivity into the WheatNet-IP audio network, a complete ecosystem of consoles, talent stations, I/O units, accessories and virtual tools used in radio stations around the globe.

"WheatNet-IP'ing this console effectively brings Wheatstone's Intelligent Network routing and control to stations on a budget, allowing them to automate functions they couldn't approach before. This enables them to run leaner, more efficient operations overall, and opens a pathway to the new world of AES67 interoperability," commented Jay Tyler, Wheatstone's Director of Sales.

The console's mix engine includes a built-in 5-port Ethernet switch. No external switch is required to create or join an existing WheatNet-IP system, making DMX one of the more affordable entry-level IP audio networked consoles on the market.

Existing PR&E DMX users can upgrade DMX

surfaces and Razors to the latest firmware to take advantage of this change. Wheatstone's PR&E digital console series is now marketed under the Audioarts global distribution network, bringing intelligent networking to the Audioarts brand.

The Wheatstone L-16

Meanwhile, Wheatstone has release its L-16 console. Based on the same design principles as the LX-24: precision built, low-profile, tabletop IP control surfaces with hot swappable individual fader modules that offer assignable sources to any fader. Each fader can access four stereo output busses, a stereo cue bus, and its own individual Bus-Minus.

An OLED source name display, an A/B source selector, and one programmable soft button are also provided, and a SET button gives access to assignable controls in the master section. Snapshots of the L-16 configuration can be saved and recalled at the touch of a button, making setup for different



working sessions a snap.

The L-16 meterbridge features three sets of bright, high resolution LED meters. A digital timer is also included.

The console has control room and headphone outputs with level controls and source selection, as well as an independent studio monitor output. The L-16 also has a built-in cue speaker.

Visit <https://audioarts.com/>
<https://wheatstone.com/>
www.agilebroadcast.com.au

RadioPix for Visual Radio Production

BROADCAST PIX IS SHIPPING RadioPix, its new voice-automated, integrated visual radio production solution. RadioPix lets any radio station create compelling visual programming and generate new revenue streams through an easy-to-install, user-friendly system based on proven technology.

The new system combines Broadcast Pix's Media Aware macros with voice-automation to turn a radio station's host into a video producer.

RadioPix includes two new RoboPix PTZ cameras with 20x zoom and plug-and-play operation. Users plug them into two of the included Lenovo Tiny PC's 5 x NIC ports using CAT 5 cables, connect to the Audio Network for automatic triggering and receiving the station output and then connect to the internet to begin streaming.

RadioPix product manager, Jeff Adams says, "It's the behavioural intelligence that makes RadioPix unique. Show hosts don't usually have time to also produce the video content, so RadioPix automates the production process, keeping it visually appealing. By detecting microphone activity through the Dante interface, Broadcast Pix's visually aware macros can be triggered. For example, activity on all mics could trigger a wide shot. Then, there is the 'boredom' macro, useful when a guest is speaking for longer than a minute. The shot could pull back, bring up the lower third title graphic, go to a wide shot, and then go back to a close up to keep the output interesting."

On startup, the system is ready to go, but two hours of dial-in consulting is included to help create the station look and feel; for example, import and position the station ID, choose suitable video clips and graphics elements and finally program the behavioural intelligence.

The host can also override the behavioural intelligence from optional touch screen panels, MIDI interfaces or even footswitches.

Visit <http://www.broadcastpix.com>

Barix Expands SIP Opus Codec Family

BARIX HAS INTRODUCED a new second model in its SIP Opus Codec family of Audio over IP transport solutions. The economical M400 SIP Opus Stereo Encoder/Decoder combines the simplicity and versatility of SIP-based link negotiation with the exceptional quality and efficiency of the Opus compression format, forging an ideal IP audio delivery platform for studio-to-transmitter (STL), studio-to-studio (SSL) and remote contribution applications.

The M400 SIP Opus Stereo Encoder/Decoder features the open standard, royalty-free Opus audio compression format, which has gained significant popularity for its superior audio quality, bitrate efficiency and low latency. The new hardware device combines the advantages of Opus with SIP functionality to dynamically establish seamless links across SIP-compatible telephone, radio or other communications systems, enabling the codecs to 'dial' other SIP devices or phone numbers and automatically negotiate a transmission link for audio streaming.

Leveraging SIP-based connectivity enables broadcasters and producers to move away from the common legacy approach of using costly and technologically outdated ISDN circuits. For remote contribution from the field, SIP enables dynamic link establishment by 'dialing' registered SIP endpoints without the need for static, public IP addresses. The elimination of public IP

addresses brings similar benefits to STL and SSL applications while further increasing security.

Built on Barix's high-performance IPAM 400 audio module, the new M400 can be configured as either an encoder or decoder – switchable via the device's intuitive web interface – and offers stereo, line-level analogue audio input or output with RCA-type connections. Fully interoperable with third-party SIP-compliant, Opus-compatible products, the M400 also features advanced integration functionality including audio level supervision with SNMP trap generation and a serial tunnel (RS-232) for control of external devices or for transport of metadata from the encoder to the decoder.

The M400 SIP Opus Stereo Encoder/Decoder joins the previously announced, mono, bi-directional MA400 SIP Opus Codec, which offers analogue microphone or line-level input and 5W 8-ohm or line-level output in a PoE-powered configuration and now also includes RS-232 tunnelling support.

"SIP-based link establishment has proven to be very compelling for broadcasters as they transition their STL and remote contribution operations away from expensive and end-of-life ISDN services," said Reto Brader, CEO, Barix.

The M400 SIP Opus Stereo Encoder/Decoder and MA400 SIP Opus Codec are available immediately.

Visit www.barix.com



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Aspera: Squeezing the Pipes and Easing the Pipelines

C+T speaks to Mike Flathers, CTO of Aspera, an IBM company.

By Phil Sandberg

THE COVID-19 PANDEMIC has moved rapid data transfer, streaming and remote workflows to the top of every media technologist's agenda. According to Aspera Chief Technology Officer, Mike Flathers, they are applications in which the company is well versed.

"It's really interesting with this coronavirus thing happening," he says. "I've had numerous people both [in Australia] and then also ping me from the States. We talk about some of these 'remote edit at home' capabilities. With this coronavirus thing going on there are people saying, 'Hey can we just use these workflows to have our editors work from home off their laptops at their homes?'. And the answer is, 'yes', we can do that. So that's one thing, of course, just helping people work remotely to the extent that we can.

"Then there's standard file transfer. I've had several discussions about efficiency in the cloud and making sure people know kind of where the constraints of the cloud providers are to help them create workflows that maximise a pipe. I've heard several people say 'Yeah, no matter how hard I try, I can't get the speed into the cloud that I should be because I have a large connection'.

"With specialised hardware and such, we've done transfer speeds, very, very high, but when you're dealing with things like the cloud and a traditional environment, your link speed is going to govern what you can do

"Let's say you have a direct connection that's a 10G link, for example. Now, what a lot of people don't realise is just because you have a 10G link doesn't mean that you can get a 10 gigabyte transfer out of a single session. So, this is where some of our technology comes in to really help things. For example, if you just start a transfer, even if you have a 10G connection, owing to the cloud, you'll probably get, depending on the instance type that you use on the backend, you'll probably get somewhere around maybe 2.5 gigabytes a second maximum under the best of conditions. But, if you start employing some features that we've actually included in our recent products, they include things like, we call multi-session capability. So, we can actually split up a single transfer into several sessions and you can get around some of the per session flow constraints that exist. So, out of a single instance you might get maybe 4, 4.5 gigabytes a second. And there's other things that you can start employing for it to have multiple source servers, multiple destination servers and kind of maximise that flow in to get the full 10G pipe.

"As an example, when we worked with Fox Sports on the FIFA World Cup, we had a 10G line directly into the cloud. Well we actually - there wasn't a local PoP for the cloud provider in Moscow. So, we actually had a short hop to Frankfurt, from Moscow to Frankfurt, that was over another provider. But it was still a 10G connection, and over that 10G connection, we were able to consistently push 9.5, 10G a second through that pipe the whole time and we leveraged things like multi-session and multiple streams as well, multiple files and streams.

"That's something newer that we are supporting now, and that's our streaming capability. Our protocol has been tried and true in the industry for a very long time, our FASP protocol and we realised some time ago that we could actually apply that protocol to not only just files, but actually to streams as well. Of course, one of the challenges that we have when dealing with streams is making sure data is emitted in order. When we're dealing with files and writing files, on the backend we can leave holes on files until the files are finished and done.

"So, we had to put an interface on this to make sure that what actually comes out of the pipe at any given time, is in order. We were able to get by still leveraging the same protocol and actually emit streams. So, we have



Aspera Chief Technology Officer, Mike Flathers.

the capability to do stream to stream, so take a stream in, carry it over our protocols, remove our protocol and then push a stream out on the remote end. So, stream to stream, then stream to file. Take a stream in and then write it out to a file on the remote side.

And then the reverse of that, and that is file to stream take a file as a source and then stream it out on the other side.

"I should mention that the streaming capability was actually used very heavily for men's' and women's FIFA World Cup for remote editing, so edit at home. We integrated with a company called Telestream. They have a product called Lightspeed Live, Live Capture and the Lightspeed Live box takes traditional HD SDI in and then can do a variety of things with it, but in this case they're actually able to use our stream to file capabilities. So, take that stream and write it to a remote location. We had a one gig connection for this particular workflow, a one gig connection back to Los Angeles directly from Moscow. So we were able to write those streams and we could do - over this one gig connection, communications were actually on that same line, so we were kind of at 800 megabytes a second and we were able to push three 250 megabyte streams, concurrently for live editing within Adobe Premiere back in Los Angeles. So, all the way with less than a seven second delay.

"That was actually really cool because you can imagine the cost savings that you have by not having to have people travel and such and have people get home. You can actually build out in your own location. Any money that you'd spend with a temporary location, you could put local, in your home location or just save the money."

Telstra Broadcast Services has joined with IBM Aspera to work with production companies to create remote working solutions, including a free 90-day subscription to the IBM Aspera on Cloud for new clients.

Visit <https://www.ibm.com/products/aspera> or email paul.slowey@team.telstra.com

So we were able to write those streams and we could do - over this one gig connection, communications were actually on that same line, so we were kind of at 800 megabytes a second and we were able to push three 250 megabyte streams, concurrently for live editing within Adobe Premiere back in Los Angeles. So, all the way with less than a seven second delay.



Top Tips for Secure Remote Working

Evan Dumas, Regional Director, Check Point Software Technologies, shares some practical tips to enable employees to work safely from home during the Coronavirus outbreak.

ARE WE FACING AN UNPRECEDENTED PANDEMIC, or will our fears be unfounded? It's impossible to say right now, but global concerns over the current spread of coronavirus, and what will happen next with the outbreak is driving companies to review how their employees go about their daily tasks.

Millions of people across Asia have started working from home. Leading tech companies like Amazon, Microsoft, Facebook and other employers have asked their workforce to log in remotely until the situation improves and the virus is contained. In light of all of this, enterprises such as JP Morgan have taken steps to test drive their remote working policies and infrastructure. This impending working paradigm shift means that every member of the workforce must prepare for the day when they are instructed to work from home.

Working from home is not complicated. Most of us do so now and again. Accessing an internet connection is easy enough, and cloud office suites and SaaS applications make it seamless to transition from working at the office to doing so on the couch in your living room. But most organisations will not have supported so many employees working remotely, and employees themselves may be a little out of practice in observing best practices when working from home.

So now is definitely the time to review and enhance security around remote access to corporate data, at both ends of the connection. Here are our top tips for secure remote working for employees, and for their employers.

BEST PRACTICES FOR EMPLOYEES

We naturally tend to be more relaxed at home, especially when it comes to security. After all, we're in the safety of our own homes, so what could go wrong? Unfortunately, cyber-criminals are seeking to exploit exactly this sort of complacency with carefully-engineered phishing exploits and threats. So, employees should:

- **Passwords matter:** it's a good idea to review and strengthen passwords that you use for logging onto remote resources, such as email or work applications.
- **Be phishing-aware:** be wary of clicking on links which look in any way suspicious and only download content from reliable sources that can be verified. Remember that phishing schemes are a form of social engineering so if you receive an email with an unusual request, check the sender's details carefully to make sure that you are communicating with colleagues, not criminals. Our research team has uncovered that domains related to Coronavirus are 50% more likely to be malicious, so make sure to cast a critical eye over anything unexpected that pops into your mailbox.
- **Choose your device carefully:** Many employees use their company computer or laptop for personal use which can create a security risk. The risk is even greater if you use a personal computer for work purposes. If you have to use a home or personal computer for work, talk to your IT team about how to strengthen security – for example, by adding a strong anti-virus and security package to it.
- **Who's listening in?** Does your home wi-fi network have a strong password, or is it open? Make sure it is protected against anyone within range being able to access and connect to the network. The same applies to working from a coffee shop or hotel – use caution when connecting to public wireless networks. Unsecured networks make it easier for cybercriminals to access emails and passwords.

BEST PRACTICES FOR EMPLOYERS

This guide should serve as a starting point for organisations whether their apps and data are stored in data centers, public clouds or within SaaS applications.



Our research team has uncovered that domains related to Coronavirus are 50% more likely to be malicious, so make sure to cast a critical eye over anything unexpected that pops into your mailbox.

Trust no-one: Your entire remote access plan has to be built using the mindset of zero-trust where everything must be verified and nothing should be assumed. Make sure that you understand who has access to what information – segmenting your users and making sure that you authenticate them with Multi-factor Authentication. Additionally, now is the time to re-educate your teams so that they understand why and how to access information safely and remotely.

Every endpoint needs attention: In a typical scenario you might have people working on desktops inside the office. Assuming that their devices aren't going home with them, you now have a slew of unknown devices which need access to your corporate data. You have to think ahead about how to handle the threats posed by data leakage, attacks propagating from device into your network, and you need to ensure that the overall security posture of the devices are sufficient.

Stress-test your infrastructure: In order to incorporate secure remote access tools into your workflows, it's critical to have a VPN or an SDP. This infrastructure must be robust, and should be stress tested to ensure that it can handle a large volume of traffic, as your workforce shifts gears to work from home.

Define your data: Take the time to identify, specify and label your sensitive data, in order to prepare for policies that will make sure that only the appropriate people can access it. Make no assumptions about previous data management and take a granular approach which will serve you well once remote access is fully enabled. No one wants to accidentally provide the entire organisation with access to HR.

Segment your workforce: Run an audit of your current policies relating to the access and sharing of different types of data. Re-evaluate both corporate policy and your segmentation of the teams within your organisation, so that you can rest assured that you have different levels of access which correlate with the various levels of data sensitivity.

These cornerstones of remote access security will help organisations better protect their data and networks against threats and interception at both ends of the connection.

Check Point Software Technologies Ltd. (www.checkpoint.com) is a provider of cyber security solutions to corporate enterprises and governments globally. Its solutions protect customers from 5th-generation cyber-attacks with an industry leading catch rate of malware, ransomware and other targeted attacks.

Net Insight and Aperi Bring Home Virtualisation

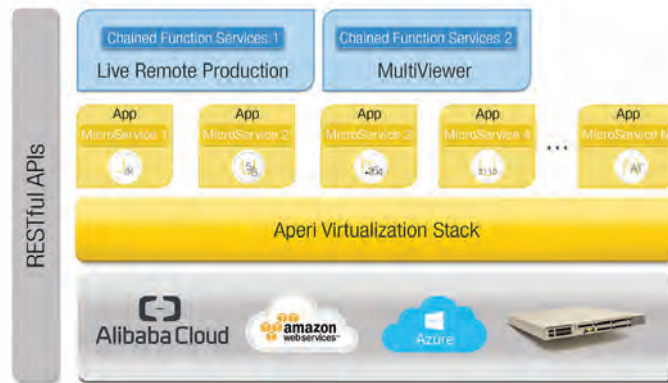
WITH THE ADVENT OF the global COVID-19 pandemic, Swedish company Net Insight has found itself at the forefront of solutions to enable remote-production in the age of social distancing.

As well as its own Nimbra product line of Internet-based transport and cloud-based transport solutions, the company's offerings include scheduling platform ScheduALL, which it acquired some years ago, and Aperi, a recent acquisition whose product portfolio is made up of live IP Media Function Virtualization (MFV) solutions for the broadcast industry. Aperi's IP-centric and FPGA-based media platform enables agile remote production for service providers, content owners, rights holders and broadcasters so they can produce high-quality content faster, more efficiently and at scale for a lower-cost.

Aperi uses service-oriented architecture (SOA) software design, allowing virtualised media functions to be dynamically piped between one another for aggregate workflows (e.g. Live Remote Production). Microservers (SDMPs) and their virtualised functions can be 'strung together' within a single A1105 or between multiple racks using IP. An Aperi app store allows access to a range of virtualised encoders, decoders, analysers, switches, multiviewers, scalers, codecs and more.

At IBC2019, Aperi launched a compact multi-format auto-sensing DVB-ASI or SDI to IP gateway function app that delivers standards-based encapsulation of ST 2022-2 and ST 2022-6 flows in an auto-sensing fashion, allowing content to play directly into IP-based workflows.

Aperi also showed fully integrated Network Address Translation (NAT) and firewalling (or policing) for both SMPTE 2022 and SMPTE 2110 IP flows controlled by leading orchestrator and NMS providers using Aperi's open RESTful APIs.



According to Ulrik Rohne, VP of Media Networks with Net Insight, Aperi is well positioned to be a tool for remote media production during the ongoing international health crisis.

"I think that has been one of the main use cases," he says. "The entire industry is moving in that direction, based on the customers that they have on the list so far. What we are doing also with our Nimbra portfolio, we are very, very much present in that space with remote production for many of our clients and I think this would be definitely a great addition to our toolbox to address those type of functions for a lot of clients globally.

"We have been quite successful in building contribution networks based on our JPEG2000 technology. I think in all continents around the globe. Also, lately we have been quite successful in a lot of the stadium products and also remote production for a number of companies. So, I think we operate very much in the same space as Aperi, but we complement - the product lines complement each other.

"Working together, the first use cases where [Aperi and Nimbra] will co-exist in the same sort of network or infrastructure is that we will most likely put our Edge Connect software on the Aperi units. We have a new offering, a cloud-based product that we call Nimbra Edge. You can see that as a media switch in the cloud and it can be deployed both in a private cloud or in a public cloud like AWS or Azure or even Alibaba. And today we offer that as a software



solution where you can actually have a docuware container that you could deploy on more or less any hardware that is opened to that.

And ingest media into the cloud, direct that to more or less any input where you would like to do that and there are different solutions in the market for this.

"But the Aperi boxes could be a great ingest point for these kind of services with its flexibility since we have - it comes in two flavours. We have the 1105 that is a full one-rack unit and we also have the AL1101 which is a third of that. That could be a small form factor that could be used for a lot of small installations out there where you actually want to get content both into the cloud and out from it.

"So, I think there is definitely a space where will see that we will integrate the Aperi way of thinking and get that into our Edge cloud platform, and to integrate it into the Nimbra ecosystem.

"Aperi embraces openness and, from a management perspective, integrates with Skyline and DataMiner and that is something that we support from the Nimbra side as well. But, for smaller installations, we also have our own quite neat solution, Nimbra Vision. And, of course, we will integrate and make sure that that works well together with our Aperi product line as well. So, I think that is the first two things that we will make to get this as a full-blown member of the Nimbra portfolio."

Visit <http://netinsight.net>

IP Contribution from Intinor

INTINOR IS A DEVELOPER of products and solutions for high quality video over the internet. Its solutions can combine as many as eight individual video feeds, and stream them synchronously across multiple internet paths.

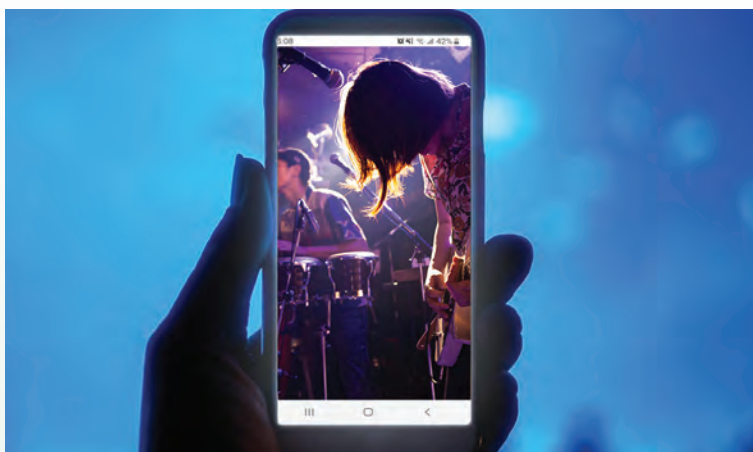
The Intinor solution creates a coherent video path over the public internet, using broadband (ethernet or Wifi), cellular (3G, 4G LTE or 5G) and Ka-band satellite as required to achieve the necessary bandwidth and resilience. The solution uses forward error correction and ARQ (re-sending) in Intinor's own transport protocol BRT. This gives the transport stream strong protection against lost packets - causing picture disruptions and freezes - while at the same time minimising latency.

"We have tackled head-on the major challenge of video over the internet: the risk of lost packets," said Roland Axelsson, CEO at Intinor. "IP is designed to get the data to the destination at all costs, however long it takes; video needs a complete new picture every 40 milliseconds. At Intinor, we have created BRT to virtually eliminate lost packets - and therefore picture and sound disruption - with minimal latency and minimal additional data overhead. The results are remarkable."

The Intinor solution is primarily software, but the company offers a hardware product, Heimdall, which incorporates eight 3G or 4G modems in a 1U rack cabinet, which along with an Intinor Direkt router can multiplex up to eight camera feeds with associated audio into a single stream, which is then transmitted over multiple bonded networks for delivery to a central production base.

The Direkt series is fully NDI compliant, so sits transparently in an NDI architecture. To create an "all-IP-infrastructure" says it is always looking to add more transport protocols to its mix. The latest additions are RTSP-pull and full SRT support.

Visit www.intinor.com



Skip the Occasion, Livestream it Instead

By Stephanie Chan, Editorial and Video Producer, Cisco

LIFE EVENTS ARE TURNING TO

video conferencing instead of cancellations. Schools and businesses aren't the only ones turning to video conferencing to aid with the latest at-home movement. With COVID-19 disrupting life events from family reunions and weddings to bat and bar mitzvahs, people have found a way to celebrate, capture key moments and connect via live video. For many companies, video conferencing has allowed employees to collaborate and carry on meetings, and event organizers are already looking at conferencing in lieu of physical activations. Families and friends have taken a page from this playbook and are turning to video to connect on what's important.

Can't Gather? Meet Virtually

People around the world are striving to reclaim their sense of normal as cancellations and shutdowns occur on a daily basis - public mass and funerals are cancelled in Rome, large gatherings, schools, and universities are being put on hold for the time being, and more and more employees are working from home.

Because more folks are working, learning, and getting entertainment at home, they are taking to video conferencing to connect with others. A 13-year old from New York held his own bar mitzvah while at home under quarantine. And Fortune recommends live streaming any upcoming weddings to reduce the spread of the virus - 360-degree virtual cameras and online streaming services can be used to bring the celebration to loved ones.

Companies are also transitioning to holding their massive in-person events on a virtual stage. Microsoft's Build developer event is set to go digital, Apple's Worldwide Developers Conference is embracing an online



format, and Cisco's own annual conference Cisco Live will be live-streamed along with a whole new, digital experience.

Will Virtual Events be the New Standard?

While intimate celebrations and gatherings may not be exchanged for the virtual version so easily, perhaps we are seeing a glimpse into the new standard of large gatherings. Sometimes, big in-person events can leave little room for things to go wrong - a last minute change could mean pricey airline and hotel cancellations, event space fees, rescheduled meetings, and rushed plans. While face-to-face networking and meeting personally with customers and partners is irreplaceable, perhaps there's a way virtual events can replicate some of that togetherness.

Diginomica writes that the future of virtual events could include digital meetups for presentations, online groups for round table discussions, and AMA-format fireside chats. In addition, digital event experiences could have some perks, including more flexibility in communications, the ability to join during your time zone or convenience, and the ability to leave discussions open (and not close them out after three to five days). Plus, participants can actively participate with the information they're receiving - they can save it, send it on.

Check out how Cisco is helping communities around the world by expanding the capabilities on their free Webex offer in all countries where it is available.

<https://blog.webex.com/video-conferencing/cisco-webex-supporting-customers-during-this-unprecedented-time/###>

Used with the permission of <http://thenetwork.cisco.com>

4K Decoder for NDI and SRT

MAGEWELL HAS ANNOUNCED what it says is the industry's first hardware decoder to support both Newtek's NDI technology for production-grade media transport and the Secure Reliable Transport (SRT) protocol — developed and open-sourced by Haivision — for internet-delivered H.264 and H.265 streams, the Pro Convert for NDI to HDMI 4K transforms IP streams up to 4Kp60 for baseband output over HDMI.

The company has also launched a second new model, the Pro Convert H.26x to HDMI 4K, which offers the same features as the Pro Convert for NDI to HDMI 4K for users who don't require NDI support. Both models also support additional streaming protocols including RTSP, RTMP, UDP, RTP and HTTP streaming.

The two new low-latency converters decode input streams up to 4196 × 2160 at full 60 frames per second for output to baseband monitors, projectors, production or distribution equipment via an HDMI 2.0 interface. Offering the high reliability, assured performance and compact size of dedicated hardware compared to software-based stream playout, they are perfect for applications including multi-site video distribution; image magnification (IMAG); video walls; digital signage; remote production; or bridging legacy and next-generation media infrastructures.

"We have received considerable interest from customers wanting the flexibility of decoding either NDI streams from their internal networks or SRT streams from external sources over the public internet," said Nick Ma, CEO and CTO at Magewell. "Each technology has its own distinct advantages for different applications, and we are seeing deployments of mixed infrastructures using multiple technologies to support specific production, display and distribution facets of the content chain. With support for NDI, SRT and even more protocols, the Pro Convert for NDI to HDMI 4K gives customers the versatility they need as their IP workflows evolve."

"SRT was created to enable secure, reliable video transport over unpredictable networks such as the public internet, and we see it as complementary to IP media transport technologies such as NDI that are most commonly used for private networks in production or internal distribution workflows," said Jesús Carrillo, Director SRT Alliance at Haivision. "Magewell has a tremendous reputation for delivering innovative yet practical solutions that empower its customers to leverage the benefits of the latest technologies. We're excited that it is developing multi-protocol, SRT Ready solutions that allow users to choose the best technology for their workflows."

"Magewell's extensive Pro Convert family of NDI converters have helped make the transition to IP-based workflows simple and cost-effective for countless media professionals ranging from educational facilities all the way up to high-end broadcasters," said Dr. Andrew Cross, president of R&D Vizrt Group. "It has been a pleasure to work with Magewell on their NDI support, with their new decoders being a clear benefit for all customers interested in IP video."

The Pro Convert for NDI to HDMI 4K and Pro Convert H.26x to HDMI 4K can automatically optimize output parameters based on EDID metadata of the connected HDMI display, while FPGA-based video processing enables high-quality up/down-conversion between HD and 4K. The compact devices measure just 3.97 by 2.4 inches (100.9 by 60.2mm) with a height of 0.92 inches (23.3mm), and can be powered via external adapter or PoE. Users can manage advanced features of the devices via on-unit controls, a browser-based interface, or connected keyboard or mouse.

Visit www.magewell.com

MediaKind: Enabling a New Kind of Media

By Chiranjeev Singh, Director Marketing APAC, MediaKind

REMOTE/AT-HOME PRODUCTION is now a staple proposition for sports, news and entertainment broadcasting, with the production process, camera control, vision mixing, audio mixing and more, all enabled remotely, typically at a centralised broadcast or production centre. This brings a wide range of benefits, including reduced production costs, increased workflow efficiency, economies of scale, and even a reduction in the carbon footprint of broadcast production.



The use of fixed studio infrastructure to produce an event offers real value, particularly for recurring events – and even more so for those that occur at different times. The enabler for this has been enhanced connectivity, allowing multiple camera feeds to be brought back from event locations. Now, thanks to a number of new and emerging technologies, we can drive further innovation into remote/at-home production.

ABR AND 360-DEGREE VIDEO STREAMING

At IBC 2019, MediaKind launched its optimised AV solution to enable low latency for ABR delivered live content. Key to the solution is its ability to reduce glass-to-glass latency delay from 45-60 seconds to 3-10 seconds – the same level as broadcast-type delivery. The use of Common Media Application Format (CMAF) Low Latency Coding with HTTP/1.1 Chunked Transfer Encoding eliminates some of the unnecessary delays between, for example, a packager and a CDN. This combination enables you to move data along the delivery chain at an earlier stage, as you are only waiting for a piece of that data to be ready.

The solution also leverages 'direct path technology', which transforms the way data is connected from the encoder to the packager, removing buffer delays, by taking the data for each picture as soon as it is available – thus eliminating traditional levels of latency. This is a key issue in the APAC region; according to Conviva's 'State of Streaming' report, which focuses on Q4 2019, Asia enjoyed the highest margin of quality improvement in buffering last year, down 53% year on year. However, the region remains a long way behind the global average for buffering – 0.94% against a global average of 0.37%.

One of the most exciting applications of this is the ability to live stream 360° video – a technology MediaKind has been refining with its Cygnus 360° Events solution. With the majority of live sporting events now either postponed or

cancelled for the foreseeable future due to the COVID-19 virus, there has been a significant uptick in popularity for esports globally.

This is an area where 360-degree video technology could really find a permanent home moving forward. There are numerous benefits, not least the ability to offer a complete, highly immersive perspective from a live event. In the future, we could see this technology offering multiple camera viewpoints from not only an arena but from within the game itself. With advancements in ABR streaming, we can now dramatically reduce the complexity of delivering 360-degree live content to consumers at home – offering an experience that surpasses the feeling of 'being there.'

ENHANCED CODEC PERFORMANCE

2020 is the year where significant developments will be seen on the codec front. From a production perspective, the higher resolution and frame rates that high quality streaming demands will require an increased use in HEVC encoding technology, which has already become the established de-facto standard for 4K UHD content and will play a highly influential role in reducing the bit rate needed for each camera's content. In the medium to long-term, the emergence of Essential Video Codec (EVC) and Versatile Video Codec (VVC) will play an increasingly influential role in addressing these bandwidth limitations; VVC, for instance, could reduce HEVC bitrates by a further 40%.

BETTER CONNECTIVITY ON LOCATION: THE CLOUD AND 5G NETWORK SLICING

Over the past few years, cameras have been embracing the use of SMPTE 2110 and SRT, which is helping to bring more resilience to the fore and encourage new innovations in the contribution and distribution space. MK RX1, MediaKind's multi-codec, multi-service professional decoder, for instance, incorporates these standards, so that operators can create a multitude of different processing functions and capabilities on a COTS platform and cloud-based network. In terms of remote/ at-home production, this means streams can now be returned directly to the remote production control centre.

Another MediaKind technology which is being used to address the video processing challenges in this space is MediaKind Encoding Live. Through leveraging the power of the cloud, TV service providers have access to the single most advanced cloud-based and virtualized video processing solution in the industry. Crucially, it enables last-mile encoding via direct-to-home encoders – powering the very



latest in immersive viewing experiences from camera to end user.

5G network slicing is another key feature for operators moving forward. By constricting a specific part of the network for use and guaranteeing throughput, there is the possibility to use a 5G link to get data from the camera at a live event, which can then be used remotely. This brings a degree of flexibility from the cameras into the production workflow. Setting aside a portion of the bandwidth means we can remove the issues that are being currently experienced with 4G via mobile cameras.

THE FUTURE OF REMOTE/AT-HOME PRODUCTION

Of course, the value of remote/at-home production is ultimately about mitigating risk and this has never been as pertinent as the unprecedented circumstances that can be seen throughout the world today. As the media industry looks to find ways to maintain operations without unnecessary exposure to the COVID-19 virus, there has never been a greater need to send fewer resources and personnel into the field to cover live events.

Video, audio and data feeds must be transmitted from a plethora of live settings to production centres in multiple locations. Typically, this involves video and audio compression to reduce the data rate to fit the available data bandwidth between multiple locations. As we move forward in these uncertain times, increased success in remote/at-home production will play an invaluable role in maintaining picture quality and low latency, and in helping to keep video and audio feeds perfectly synchronised.

Visit www.magnasys.tv and www.mediakind.com

With advancements in ABR streaming, we can now dramatically reduce the complexity of delivering 360-degree live content to consumers at home – offering an experience that surpasses the feeling of 'being there.'

COVID-19 NOTICES

The following information comes from responding companies regarding their operational status during the current COVID-19 crisis.
The information is current as of 02/04/20. Further updates can be found at <http://www.content-technology.com/main/covid-19-updates/>

AMBER TECHNOLOGY

As the COVID-19 situation continues to unfold, the team at Amber Technology remain committed to servicing their customer base during these challenging times, following the advice and directives of the Australian Government. On Monday March 23 we moved to work from home for our Account Managers, BDMs, Brand Managers, Marketing and ecommerce teams.

Our reception, warehouse, sales desk, service and credit departments, together with our Leadership team, remain onsite at our Sydney Head Office. Our Media Systems and TSG teams are working in a combination of work from home, onsite at Head Office and remote, depending on requirements of our customers. All are available via phone and email.

Visit www.ambertech.com.au

DIGISTOR

For the most part, our team will be working remotely for the time being, with the exception of a minimal number of team members who will be working on a rotating roster to ensure continuity of business, including the receiving and shipping of products

You will continue to have remote access to our team via the standard email and phone methods, however, in the best interests of our team's well-being and that of our customers, we will be endeavouring to restrict all non-essential physical contact with the help of teleconferencing technology.

Our online stores are fully operational, accepting orders and shipping.

For more details, visit <https://www.digistor.com.au/the-latest/cat/digistor-blog/post/digistor-covid-19-update/>

MIDWICH (including Blonde Robot)

Our offices across Australia, New Zealand and South East Asia remain open with critical on-site functions and services supported by smaller, local teams.

As part of our commitment to flatten the curve we have temporarily suspended visits and face-to-face events until we have confidence that it is safe to resume. In the meantime, we are bridging this gap with the use of conferencing and collaboration solutions.

There is currently no impact on our warehouses which are open and providing normal service-levels. Stock is forecast many months in advance and we are maintaining good stock levels across key lines.

For more visit <https://www.midwich.com.au/news-and-events/cat/press-release/post/Maintaining-our-levels-of-service-and-support-during-this-time/>

PANASONIC

Panasonic Business has moved to working from home. We are working to keep operations as normal as possible. However, some aspects of the business, such as logistics, are slower due to COVID-19.

Rob, Sandro and Mathew Alexander are working and are available via mobile phone and email.

We wish all our customers and colleagues the best and to stay safe. We will get through this together.

Contacts:

Rob Myers, National Sales Manager – Panasonic Broadcast, Cinema & Professional Video Division
Email: rob.myers@au.panasonic.com Phone: 0414 249 377.

Sandro Ricci, Technical Support Manager – Panasonic Broadcast, Cinema & Professional Video Division
Email: sandro.ricci@au.panasonic.com Phone: 0414 543 656.

Mathew Alexander, Product Marketing Manager – Panasonic Broadcast, Cinema & Professional Video Division
Email: mathew.alexander@au.panasonic.com Phone: 0408 971 042.

PROFESSIONAL AUDIO & TELEVISION (PAT)

Due to the current COVID-19 outbreak in Australia and New Zealand, many of our staff are working from home, while others are in self-isolation having returned from overseas business trips. However, our Sydney office is still manned and operating with logistics staff, ensuring deliveries are received and dispatched, while strictly adhering to the social distancing guidelines.

Visit <http://www.proaudiotv.com.au/>

ROSS VIDEO

Ross has briefed all employees on the symptoms of COVID-19 and has issued best practice guidance (from the WHO and national health authorities) in relation to personal hygiene, sanitation and how to reduce exposure. Very importantly, Ross has implemented a Work from Home First protocol; quite simply, all Ross employees able to work remotely from home have been doing so as of Monday, March 16th. Systems are now in place to support remote work for the vast majority of employees, thus mitigating both the possible contraction and spread of the virus.

Visit <https://www.rossvideo.com/covid-19-updates/>

SONY AUSTRALIA

Operations are as normal with only changes being no travel or intercompany meetings.

The sales and service operations continue as normal as we support our customers operations.

Contact Anthony Kable on 02 9887 0422.

STUDIOTECH AUSTRALIA

Studiotech Australia remains open at this time and our physical Hornsby premises are open 0900-1700 each weekday, as per usual.

However, we have now initiated our Business Continuity Plan (BCP) and the building is in a lock-down mode where a skeleton staff cover logistics and support efforts. Sales, Support and Logistic activities are continuing just as before the pandemic broke out. Customers who have support agreements in place, including 24/7/365 support, are un-affected.

Be assured that we will continue to be here for you, however at this point we may just have to have a video call, rather than sharing a coffee face-to-face. Any on-site work that cannot be resolved with remote access to the system and/or AV calls, will be assessed on a case-by-case basis.

Visit <http://www.studiotechau.com/coronavirus-update/>

The P.A. People

We want to assure you, our partners, that we are open for business and are here to support each of you in whatever way we can. In these uncertain times it is our intention to continue to provide stable, consistent service to our valued customers and suppliers.

All businesses will be managing costs - and this is true for us. We have encouraged staff to take leave or reduce their hours where appropriate, which in turn may impact our ability to respond in a timely manner. However, we will respond. Conversely, we may be awaiting a reply or information from you. We can wait until you are ready. We understand. Contact us when the time is right.

Visit <http://www.papeople.com.au/index.php/about-us/news/496-summer-and-covid-19-update>



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POSITION VACANT



PARLIAMENT OF AUSTRALIA
DEPARTMENT OF PARLIAMENTARY SERVICES

TECHNICAL OFFICER - BROADCASTING INFRASTRUCTURE AND SUPPORT PARLIAMENT HOUSE, CANBERRA, ACT

The Department of Parliamentary Services (DPS) is recruiting for a Technical Officer, Broadcasting Infrastructure and Support vacancy, within the Parliamentary Broadcasting Section, Digital Recording Services Branch.

DPS supports the work of the Australian Parliament and Australian Parliament House (APH) and is responsible for a wide range of services and facilities. DPS has a staff of approximately 1,000, and a diverse range of responsibilities, including custodianship of APH and security; reporting and broadcasting; library services; catering, visitor and art services; and ICT services (at APH and Electorate Offices nation-wide).

DPS requires an experienced Technical Officer in electronics to maintain, repair and support a broad range of complex analogue and digital video, audio and associated production equipment. The successful applicant will be responsible for undertaking complex repairs, maintenance, operations and installation of radio and television broadcast, communication and related equipment in Parliament House. You will have the ability to contribute technically to a small team who are actively supporting the broadcasting and other electronic systems required for the functioning of the Australian Parliament.

DPS recognises and values the contribution that our diverse workforce makes and in return offers great benefits. These include a competitive salary, onsite free parking and gym facilities, a wide range of professional development opportunities so you can take your career further, and all of this in a friendly and supportive environment. Conditions of service are in accordance with the DPS Enterprise Agreement.

If you think this role sounds like you and you'd like to work in a friendly, high quality team then DPS welcomes your application.

To apply, visit <https://bit.ly/3bFtOem>

WORK WANTED

BROADCAST INDUSTRY PROFESSIONAL

I'm a broadcast industry professional with over 30 years' experience. A career spanning operational and engineering disciplines, sales, marketing, business development and management.

www.linkedin.com/in/andy-liell-1191081
p: 0439 135 604
e: frankdog_au@yahoo.com

FREELANCE PAINT/ROTO ARTIST/ 2D COMPOSITOR

Currently looking for work in post production. Freelance Paint/Roto Artist/2d Compositor. Have been working remotely on independent films, shorts and commercials in the UK and Australia.

IMDB: <https://imdb.to/39obhlu>
LinkedIn: www.linkedin.com/in/monty-burgess
VFX reel: <https://vimeo.com/336497973>
e: montyburgess@gmail.com

BUSINESS ANALYST AND ENGINEER

Business Analyst and Engineer with a wealth of experience in broadcast, online media, adtech, IT and project management, having worked with major organisations in Australia and overseas. I can certainly make a difference to your organisation.

LinkedIn: <https://bit.ly/3dAO2bf>
e: pramamurugasu@gmail.com



We Want Your Working from Home Pics

WHILE OUR SOCIAL PAGES editor sorts out their Zoom account and cleans whatever it is that has built up on the webcam, we invite you to send us your working from pics for publication in our next issue. Whether it's to show off your impressive command console, or you're trying to get the kids and pets out of the home office, or it's a virtual drinks session, we want to see them.

Simply take a pic with your smartphone and email it to papers@broadcastpapers.com with the subject line "Working from home".



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ABE2020

Empowering Content Production & Delivery Technology

ABE2020 POSTPONED

The effects of COVID-19 have left us all facing unprecedented times, so with the health of attendees, stakeholders and their families in mind, we have made the decision to postpone the ABE2020 event until further notice.

The event, originally scheduled for July 21-23 at Doltone House in Pyrmont, Sydney, will be rescheduled with the exhibitors eager to create a world class event for the media and entertainment industry at the next appropriate time.

Taking our lead from Government and Medical advice we will work with all stakeholders to confirm the next appropriate opportunity for the event and communicate that new date to you as soon as it is confirmed.

In the meantime, we will make resources available on the show website, including online presentations and forums, and highlights from our last event and all our exhibitors would like everyone to know they are fully available for any technology enquiries, advice or support.

We and stakeholders wish everyone in the wider media industry the best during this time in the full knowledge that the industry will emerge at the other end of this situation and continue to create, deliver and support high quality content with innovative solutions

For more information and updates on the show, visit www.abeshow.tv



A photograph of a family (a woman and two young boys) sitting on a couch in a dimly lit room, watching a football game on a large television. The family members are cheering with their arms raised in excitement. The television screen shows a football player in a purple jersey with the number 1 running on a field.

Connect Everyone

BRING YOUR VIEWERS CLOSER BUT LEAVE YOUR TEAM AT HOME

Grass Valley's IP-enabled Remote/At-Home technology offers the smallest on-site footprint in the industry, powering your ability to deliver more live content from any location. And, our best-of-breed playout solutions suite is ready to deliver, regardless of the size and complexity of your operation. Connect your production team, connect your audience. Create connections with Grass Valley.

Find out more at grassvalley.com

Create Control Connect

Content your way.