Al Rayyan Satellite Channel takes first step towards cloud with virtual setup

CASE STUDIES
- Libyan media house builds Cairo facility
- DMI upgrades sports studio
- Al Jazeera Beirut revamps

REVIEWS
- DaVinci Resolve 12
- AJA Cion
- Xeen lenses

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Last month, we had a raging discussion on the cloud with some senior tech executives from leading broadcast networks in the region. It created the perfect opportunity for CTOs to get together and explore the vast potential of the cloud, and whether they were deluding themselves into thinking that a virtual setup or private cloud infrastructure on their premises delivered the benefits of a true cloud service.

Layers of misinformation were peeled away to reveal what a public cloud service could offer, which then brought us to a more fundamental question – how many vendors within the broadcast industry genuinely offered cloud support and how far has the broadcast industry succeeded in creating the necessary infrastructure to support such an ecosystem unlike its more sophisticated IT cousin.

Budget seemed a huge concern with broadcasters questioning why transitioning from a physical to a virtual infrastructure costs the same or more. They also challenged the existing business model of licensing and called for a more usage-based pricing system. One broadcaster suggested that vendors ally to create a “playground” so regional end users could play around with the different features within a cloud and familiarise themselves with it. Once they appreciate the benefits of such a system, perhaps it would be easier for them to take a call. At the roundtable, the broadcasters also decided to join hands to create a cloud consortium.

It was clear from the discussions that the end users were currently disillusioned with existing cloud offerings in the market calling them vendor-led rather than user-led, with associated exorbitant costs, the lack of a good infrastructure and want of best practices within the industry, adding to their concerns.

Having received umpteen press releases about cloud offerings from different vendors coming to IBC and knowing now the difference between a genuine cloud offering and a fake one, I’ll be on the lookout for some good solutions at the show. See you in Amsterdam!

Vijaya Cherian, Editorial Director
Grass Valley's iTX – the original integrated solution – continues to offer the most functionality to play out dynamic, fully composed channels. It’s a proven solution that can help reduce operational budgets by as much as 20% per year.

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Senior Vice President - Worldwide Research & Development

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Which camp do you belong to if you are an OTT player, asks Karim Sarkis
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Dubai-based systems integrator INC System Integrations has handed over an eight-camera, full HD OB van to Kuwait TV.

The double expandable van with eight Grass Valley LDX cameras is wired for 16 cameras and also features a camera with slow-mo capabilities. As the main contractor for the project, INC handled the project management and provided the broadcaster with technical advice.

The van boasts a 3.5ME Grass Valley Kayenne vision mixer, a Summa Calrec audio mixer and an XT Nano EVS server. Also featured are Concerto routers, an Edius editing station and a G8 Imagine Communications character generator.

The OB van will be used to cover sports and other live events held in and around Kuwait, commented Adeeb Abed, General Manager of INC System Integrations.

“It is capable of covering two events at the same time and transmitting in two different languages.

The van’s flexible design for the audio and video systems enables it to be cascaded/linked with other OB vans for covering big events,” he said.

This new addition brings the total fleet of Kuwait TV’s OB vans to six.

The project took nine months to complete. Abed added that the project was delivered on time but the logistics part of the project was the most challenging.

“The coach builder of the van, Spectra, is located in the UK, while the client is based in Kuwait. Coordinating between the two entities was challenging.

“INC was responsible for the logistics and shipping, which had to be planned properly. The project was delivered within the given time-frame but it involved high risk management on our part.”

Chris Darnley joins Fujinon
Chris Darnley has joined Fujifilm as Manager of the company’s optical devices division (Fujinon Lenses), BroadcastPro ME can reveal. Darnley will be based in Dubai and will be responsible for growing sales in the Middle East market.

In his current role, Darnley will be promoting Fujinon’s wide range of HD and 4K Fujinon lenses for use in studios, OB, ENG and film production in the region.

“Our role doesn’t end at selling as we will offer after-sales support and servicing to our clients. Service Manager Amer Wawi will be closely involved with our new and existing clients to offer technical support,” said Darnley.

Darnley is a well-known figure in the Middle East broadcast industry with extensive experience working with cameras and lenses. Prior to joining Fujifilm, he was General Manager of Alphatron’s Dubai branch.
Al Rayyan upgrades studio with Calrec

Qatari broadcaster Al Rayyan TV has installed a Calrec Artemis console at Al Shahaniya camel race track, as part of an upgrade to its studio there.

The Artemis console is in a sound control room that covers two studios, ambience from the track, and commentary from a roving vehicle. Al Rayyan’s former analogue desk lacked the processing power and outputs required to send numerous mixes, so operators had to use a submixer and patching to achieve a similar result, but with fewer channels of compression. The Artemis eliminates that practice, because every input and output can be compressed appropriately and numerous mixes created simultaneously on one board.

“The number of outputs has proven to be the most important part of the console,” said Hamza Guerfala, Sound Engineer at Al Rayyan TV. “It gives us the flexibility to patch between sources and destinations quite easily, which speeds up our workflow considerably.”

Al Rayyan has also purchased a second Artemis desk for a new OB truck planned for delivery in Q4 this year.

Dubai court fines illegal TV distributor

An illegal distributor of UKTV Abroad packages in the UAE has been fined $13,613 by the Dubai court.

Following a copyright infringement complaint filed by pay-TV firm OSN against the merchant, the Dubai Criminal Investigation Department (CID) conducted a raid on the provider and presented evidence before the court. The court ordered that all the digital set-top boxes and decoders confiscated from the vendor be destroyed.

In another raid, Ajman Department of Economic Development (DED) imposed fines of up to $2,722 and destroyed a number of confiscated materials, including Dish TV India set-top boxes.

EUTELSAT 8 West B launches successfully

EUTELSAT 8 West B satellite was launched into orbit by an Ariane 5 rocket last month, from Kourou in French Guiana.

The Editor of our sister publication SatellitePro ME was exclusively invited to witness the launch. After a full series of performance tests, EUTELSAT 8 West B will transfer to 7/8° West where it will enter full commercial service in early October.

EUTELSAT 8 West B is equipped with 40 physical Ku-band transponders designed primarily to serve direct-to-home TV markets in North Africa and the Middle East, to increase capacity and in-orbit security at the premium 7/8° West video neighbourhood. It will also introduce a C-band mission, with 10 physical transponders connected to footprints covering the African continent and reaching west to South America.

IN FIGURES

76%

Increase in the Middle East AV market, from $1.57bn in 2012 to $2.76bn in 2016

Source: InfoComm International
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Bahrain IAA upgrades with Avid news solution

Bahraini government-owned broadcaster, Information Affairs Authority (IAA), has embraced Avid Everywhere as the backbone of its new HD workflow.

The broadcaster has upgraded its legacy system to HD in order to take advantage of new technology and workflow efficiencies, such as remote web-based ingest and editing, to improve the quality of its production. IAA also minimised downtime and remained on air during the transition.

IAA installed an Interplay PAM with MediaCentral, with upgraded solutions from the Avid Media, Avid Artist and Avid Storage suites. MediaCentral | UX provides the remote working that IAA requires, with real-time access to production assets, metadata and iNEWS stories. The ISIS 7000 shared storage solution delivers SD, HD and 4K performance and collaboration capabilities while AirSpeed multistream, multichannel video server accelerates media workflows.

The editing is handled by Media Composer | Software with Media Composer | NewsCutter option. iNEWS and iNEWS Command control news content creation, automation and playout.

Commenting on the upgrade, Eng. Abdulla Al Balooshi, General Director of Technical and Technology Affairs at IAA, said: “We now have a sophisticated end-to-end tapeless HD workflow that is easy to use and provides the remote access we need. With built-in redundancy, we have the peace of mind that we can operate a quick news turnaround and offer a high-quality production, without worrying about on-air delays or system failures.”

EUROSTAR launches Asianet mobile TV app

EUROSTAR Group has launched the Asianet Mobile TV tablet and app for the GCC – a bouquet of twenty popular Malayalam television channels and an entire range of radio channels on mobile devices on-the-go.

The service has been launched in partnership with Asianet Mobile and Xperio Labs.

The Malayalam TV tablet is part of the Eurostar ePad range and is designed specifically for the Malayalee community to enable them to access TV and radio channels anytime anywhere.

The 7” high-definition tablet comes with an eight GB ROM, 3G connectivity and a 3000 mAH battery. It gives access to 20 Malayalam TV and radio channels. The Asianet mobile TV app can be directly downloaded to any Android or Apple tablet or mobile device and consumers can subscribe separately for the service. It can be purchased exclusively on goeurostar.com/mobiletv.

The service works on all data connections such as 4G/3G mobile connections and Wi-Fi. Xperio Labs has provided its streaming media platform to power the Asianet Mobile TV service.
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DFI to co-finance *The Idol* movie

Doha Film Institute (DFI) has signed a co-financing agreement on *The Idol* (Ya Tayr El Tayr), a biopic of Mohammad Assaf, the wedding singer from Gaza who went on to win the Arab Idol in 2013. Directed by Academy Award-nominated Palestinian Hany Abu-Assad, *The Idol* will premiere at the Toronto Film Festival in September.

Doha Film Institute’s participation in *The Idol* follows its recent co-financing role on an animated feature film version of Kahlil Gibran’s *The Prophet*. DFI’s co-financing division seeks to invest in projects that are culturally relevant and commercially viable, with the underlying aim of strengthening Qatar’s film industry by facilitating opportunities for collaboration and development for its national filmmakers.

**Tunisian film selected for Toronto International Film Festival**

Tunisian director Leyla Bouzid’s film *As I Open My Eyes* supported by twofour54’s development and post-production fund SANAD has been selected to screen five different times in the World Contemporary Cinema at the 40th edition of Toronto International Film Festival (TIFF), which runs from 10 – 20 September 2015.

It was recently announced that *As I Open My Eyes* was selected for Venice Days with another SANAD film, Madame Courage, which was selected for the Orrizonti Competition in Venice.

This is the sixth consecutive year SANAD films has been screened at TIFF, with half of last year’s Arab selection supported by SANAD including two narrative films Theeb, The Valley as well as Iraqi Odyssey.

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Yahsat to deliver new satellite in Q4 2016

Yahsat, the UAE-based satellite operator and provider of satellite broadband service YahClick, has announced that its new satellite Al Yah 3 is due to be delivered by the end of 2016. In partnership with Orbital ATK, Yahsat has now completed the Critical Design Review (CDR) on the Al Yah 3 satellite.

David Murphy, Chief Commercial Officer at Yahsat, said: “This is an important moment for us. This achievement demonstrates that we are on track for our scheduled launch. Our customers have told us they need more services, greater speeds and a wider coverage area and we’ve listened; Al Yah 3 will provide all three of these things.”

The Critical Design Review was the last chance to make any changes to the satellite design. Al Yah 3 now moves into the spacecraft integration phase of construction.

Masjid Al Haram in Mecca deploys Sennheiser mics

In a recent expansion of Mecca’s Masjid Al Haram, the Holy Mosque and associated elements were upgraded. Part of this project has been the complete upgrade of the Mecca Mokabariah facility’s microphones to the latest digital models from Sennheiser. These microphones are being used at all prayer locations around the Kaaba, and in the Mokabariah studios from where all audio content and prayers originating from Mecca are broadcast across the world.

The installation was undertaken by First Gulf Company (FGC) in collaboration with Saudi Broadcasting Corporation (SBC). Sennheiser’s MKH 8040 cardioid microphones paired with MZD 8000 digital modules have been used on site.

Ferrari World Abu Dhabi deploys Clear-Com

Ferrari World Abu Dhabi has installed Clear-Com’s FreeSpeak II digital wireless intercom system for ride operation coordination, communication and safety. Clear-Com Distributor NMK Electronics Enterprises assisted in the system design. FreeSpeak II will be used by the staff operating two rides, while the Scuderia Challenge is an interactive motion simulator.

Due to the noise levels and speeds associated with the rides, operators required a clear, effective and reliable communication system. FreeSpeak II allows large numbers of wireless beltpack users to roam across an expansive operation area and stay connected at the same time without compromising on performance.
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ChyronHego acquires VidiGo
ChyronHego has acquired VidiGo, a Dutch provider of IT-based software solutions for live broadcast production workflows. Based in Amsterdam, VidiGo provides a suite of tools for the creation and management of broadcast-quality video content. VidiGo solutions empower organisations to engage in video production by providing tools that are easy to learn and simple to use. With a strong focus on useability and automation, the VidiGo family of products minimises the need for specialised technical staff and helps lower production costs. In acquiring the VidiGo product family, ChyronHego will be well-positioned to take advantage of new and emerging opportunities in broadcast news, sports, and non-traditional markets such as corporate and public-sector video production.

4C buys Teletrax to create social and TV ads
4C, a data science software company, has announced that it has completed the acquisition of Teletrax from Civolution. Teletrax provides solutions for real-time television analytics and cross-screen synchronised marketing campaigns. The combined company, which will operate under the 4C brand and has 140 employees across eight international locations, will represent a comprehensive global platform for social and TV advertising. 4C specialises in the application of data science to deliver marketing software products. It built the first platform to enable advertising across Facebook, Twitter, LinkedIn, Pinterest, and Instagram through certified API access. 4C also offers a measurement and planning solution that improves TV advertising by providing insight into the behaviour of 1.5bn unique social media users across 250,000 interest categories, 50,000 brands and 6,000 TV programmes.

Extron takes over Entwine AG
Extron Electronics has announced that it has purchased Entwine AG of Zurich, Switzerland. Entwine specialises in building end-to-end video capture and presentation capture solutions using OpenCast Matterhorn, HTML5 and WebRTC. The Entwine engineering teams have provided best practice advice and hands-on assistance for using open source and proprietary video technologies in the education, corporate, and healthcare industries.

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QATAR'S VIRTUAL AMBITION

Qatar-based Al Rayyan Satellite Channel recently virtualised a large part of its broadcast IT infrastructure with the aim of transitioning to a full cloud setup in the future. Haitham Zaidan, who heads Engineering at the TV channel, speaks to Vibhuti Arora extensively about the virtual setup and his vision for a future in the cloud.

Launched in 2012, the free-to-air Arabic-language TV channel beams across the MENA region and Europe. The programming mainly targets Qatari youth and promotes the country’s culture and traditions. The channel produces most of its content in-house and has more than 500 staff including production, technical and creative professionals.

The channel recently undertook the implementation of a virtual channel playout setup using Imagine Communications’ VersioCloud. The first phase of the project was initiated two years ago by Haitham Zaidan, who was then Head of Broadcast IT at the channel and was recently promoted to Acting Director of Engineering. Zaidan hoped to upgrade to a virtualised setup two years ago although broadcast vendors then were unable to offer the necessary support and recommended that he stick to physical servers.

“Having come from an IT background, I wanted to have similar systems in place for broadcast as well,” says Zaidan.

“Virtualisation within the IT sector began almost ten years ago and is now well established. IT infrastructure has dominated the architecture used in broadcast engineering and it serves a vital role in networking, storage, databases, media delivery, post-production, asset management and traffic management.

“My objective was to have as little hardware as possible, and make the infrastructure more software-centric so as to save time, effort and money that would traditionally be spent on servicing and maintaining hardware,” he says.

Despite the lack of vendor support, Zaidan moved forward with his venture and virtualised the software part of Al Rayyan’s in-house systems, including media asset management, traffic and scheduling system, databases as well as workflow management systems.

“We virtualised anyway and asked the vendors to just install their software and not do anything else.”

Virtualising machines meant converting all of the resources of those machines to virtual copies — virtual machine, virtual memory, virtual network adapters, virtual processors and so on — and hosting them on a physical host. This physical host is a cluster of servers with multiple virtual machines. It provides redundancy to the hosted systems.

“This is what we call a private cloud,” Zaidan explains.

At NAB this year, Zaidan had the opportunity to witness Imagine Communications’ VersioCloud in action. The fully IP-enabled, integrated playout in the cloud platform serves as a playout solution that is 100% software, running on commercial off-the-shelf (COTS) IT platforms.

He approached the vendor and offered to trial the solution at Al Rayyan, whose virtual infrastructure is capable of hosting this new setup.

“I told Imagine that we wanted to be the first to test this in the region. We had several meetings but it took some time to be released, and by July, we had the system up and running at our facility.”

Imagine Communications deployed VersioCloud as a proof
Haitham Zaidan is Acting Director of Engineering at Doha-based Al Rayyan Satellite Channel.
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Media Oversight – Delivery Assured
of concept (POC) at Al Rayyan TV. The playout automation, graphics engine and master control switcher have been virtualised with this deployment. Playout involves a lot of hardware, but in VersioCloud, everything is combined in one machine, including the Nexio Playout Server, ADC Automation, Icon Master Control Switcher, Logo Generator and audio video encoders and decoders.

“By leveraging evolving IP and cloud technologies, we are able to move beyond what’s currently possible with traditional broadcast infrastructures. A traditional playout setup used to depend on dedicated hardware from specific manufacturers, while the playout from the cloud in this project comprises only software provided by Imagine Communications that can be installed on any kind of hardware from any major manufacturers. In our case, we have HP for servers and storage. The hardware required for the playout from the cloud is significantly cheaper than the hardware required for the traditional playout setup.

“Another cost saving in using this technology is that your data centre will have fewer physical machines, which means less power consumption and less cooling requirements,” points out Zaidan.

Since the playout from the cloud project is all about software, it is very easy to deploy without large-scale hardware purchasing, shipping and installation. The traditional studio output is converted to IP and the Versio inserts that feed into the playout chain. While the playout at the facility uses Imagine products, the broadcasters’ studios use Grass Valley HD cameras.

“Simply put, the VersioCloud is a virtual MCR. We still have to use our existing setup, as the entire broadcast chain at our facility doesn’t support IP. Versio is based...”

“Virtual machines are very easy to maintain, especially when you need downtime, as these can be moved to another physical server during maintenance or upgrade works without interrupting the running workflow”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel
PROCOVER

The existing broadcast chain at Al Rayyan uses a traditional baseband, which has now been integrated with the cloud playout.

“A deep knowledge in broadcast and IT systems and technologies formed the basis of this deployment. We will leverage the implementation in the future by creating new playout and disaster recovery sites with ready infrastructure”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel

on IP, but our existing setup uses traditional baseband, which means integrating the two systems into one chain. The output of Versio is converted to HD-SDI and then passed on to the traditional chain.”

The implementation was completed within 48 hours during the first week of June. Al Rayyan ran the testing for the remaining three weeks in June, before going live on July 1 this year. The end user and the vendor worked in unison to implement the solution.

Virtualisation of systems has several advantages, including cost savings, ease of deployment and easier maintenance.

“This is especially useful when we need to add a new channel to the playout chain. All we need to do is set up a new virtual machine, download and install the software, and it’s ready to play,” says Zaidan.

“Virtual machines are very easy to maintain, especially when you need downtime, as these can be moved to another physical server during maintenance or upgrade works without interrupting the running workflow.

“Moreover, with a virtualised environment, technology refresh is much easier and cheaper for the company. With constantly evolving technology, it is imperative for broadcasters to keep up to date to stay in the game. At Al Rayyan, we constantly try to update our existing facilities with new technologies, and this move is in line with that vision.”

Redundancy and disaster recovery in the broadcast environment is about replicating everything, which in a virtualised environment, is cheaper.

Some of the major elements of this workflow besides the Imagine Communications solutions include:

• HP Proliant servers with dual 24 core processors and 256GB RAM, which have been deployed at the facility. HP MSA 2040 storage with fibre channel is used to ensure there is enough online storage for the working virtual machine, as well as spare capacity for future growth.

• A significant part of this setup is the WMWare ESXI hypervisor, which serves as the operating system on the physical HP servers that creates the virtual environment to host the virtual machines.

The WMWare VCentre combines and manages all the HP servers or hosts into one cluster, and the WMWare VSphere controls and manages that cluster.

• The current network infrastructure at Al Rayyan TV is also powered by CISCO switches such as the Nexus 7000, which is the core of the IT infrastructure that now serves the traditional setup as well as the private cloud.

The virtual MCR

As proof of concept, the Versio Cloud MCR runs in parallel with Al Rayyan’s traditional setup. Hence it needs to be integrated with the playout chain, to share media,
AJA is offering CION production cameras to qualified shooters in the Middle East so they can experience the incredible film-like beauty of CION for themselves.

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databases and metadata between the two systems (traditional setup and the new system). This way, both systems share the same media, databases and network infrastructure and play the same content. This also allows Al Rayyan to compare both systems in terms of functionality, performance, reliability as well as integrity.

The existing playout domain was fitted into three racks and includes multiple video servers with shared storage, ADC automation, IconMaster master control switcher and its logo generator. The output of this setup is HD-SDI.

Zaidan explains that the new setup only requires half a rack of space to create a private cloud cluster that hosts virtual machines. This includes all of the traditional systems and the devices that convert the network IP stream to baseband as an HD-SDI signal. No new metadata is generated, as both systems share the same metadata.

“Both systems are sharing the same network infrastructure, databases, metadata, traffic and scheduling system and workflow management system. The outputs of both setups are connected to our central video router to continue the playout workflow to other sections of the channel,” clarifies Zaidan.

**The workflow**

The output of the new system is converted from an IP stream to baseband and integrated with the existing video and audio infrastructure, to compare the picture quality of the two systems.

“So this achieved the current workflow of the two systems running in parallel. This is the first step towards our future plan to virtualise the entire traditional broadcast IT setup in the channel. In addition, it is also the first step towards moving from traditional baseband playout to network IP,” explains Zaidan.
VersioCloud is a complete software, IP playout solution which incorporates the same core elements of automation, playback and graphics engines as the hardware Versio appliance. In the cloud setup, all of the traditional integrated channel playout functions such as branding, editing, graphics, automation and server capabilities are cloud-enabled.

Also available as part of the cloud playout solution are Imagine Communications’ Magellan SDN Orchestrator software control system and Selenio processing and compression solutions, enabling the transparent management of hybrid SDI, ASI and IP content, including a seamless on-ramp/off-ramp between IP and legacy baseband transport that accommodates media companies’ eventual transition to all-IP networks.

“The combination of cloud-based playout with hybridised legacy and IP transport enhances all aspects of the broadcast business. Benefits include improved visibility to optimise advertising playout, efficient methods of disaster recovery, fast channel creation to accommodate seasonal or one-time events, the expansion of brands and content into new markets and new geographies, and a pay-as-you-go Platform as a Service (PaaS) model to lower the cost and time barrier of the traditional methods of establishing a channel.

Live compressed and uncompressed IP streams for later audio and video processing are decoded. Video from live sources or the two internal clip playback engines are up-/down-/cross-converted, before the internal master control switcher switches.

“By leveraging evolving IP and cloud technologies, we are able to move beyond what’s currently possible with traditional broadcast infrastructures. Traditional playout setup used to depend on dedicated hardware from specific manufacturers, while the playout from the cloud in this project comprises only software”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel
between sources and adds graphics, branding and DVE moves. The audio is mixed, with loudness corrected, and encoded before final transmission. The branded channel is streamed as an uncompressed video-over-IP signal (SMPT 2022-6) or a compressed MPEG transport stream with either H.264 or MPEG2 video compression.

The Zenium workflow manager is part of the VersioCloud instance and is used internally to configure and design the video and routing signal flows. The modular and flexible Zenium architecture provides the capability to plug in audio and video processing components, as well as content augmentation functions such as live captioning.

Third-party processing components, such as Linear Acoustic's loudness monitoring, are enabled by the modular design. The VersioCloud is controlled with its internal ADC automation, but can be integrated with external ADC or D-Series automation systems.

Every aspect of Versio’s clip playout, graphic branding and master control is available for automation control.

The graphics engine can be driven via automation, and maintains a database of upcoming broadcast schedules which is updated as and when they are published. Up to ten graphics layouts can be loaded into memory and displayed on-screen simultaneously. Each layout can contain many individual elements, including test, graphics, animations, video clips and audio files. Mixing video, graphics and audio is managed by the Versio master control system. Controlled by automation, all of these aspects can be managed to create the exact on-air look needed.

The Magellan SDN orchestrator provides a Software Defined Network (SDN) orchestration management system to manage and simplify signal distribution and routing in the IP stream realm.

Al Rayyan’s operators and support engineers were using the same technology on the physical setup. The technology in the virtual setup requires the same knowledge.

“At Al Rayyan, we constantly try to update our existing facilities with new technologies, and this move is in line with that vision”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel

“A deep knowledge in broadcast, and IT systems and technologies formed the basis of this deployment. We will leverage the implementation in the future by creating new playout and disaster recovery sites with ready infrastructure, for any future seasonal/temporary channels or new permanent channels,” points out Zaidan.

At Al Rayyan, we constantly try to update our existing facilities with new technologies, and this move is in line with that vision.”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel
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THE MAKING OF BILAL

Bilal is the region’s first attempt at a full-fledged animation film for theatrical release. Vibhuti Arora speaks to Ayman Jamal, the man behind Dubai-based animation studio Barajoun, to find out more about what the making of the film entails.
The Barajoun studio in Dubai Media City is abuzz with activity as its full-length animated film *Bilal* approaches release. Just a few months away from seeing the light of day, there is heightened excitement around the film, which has been in the making for three years, with parts of it in post-production and almost ready. It is due for international release in Q1 2016, beginning with North America and followed by Europe, MENA and other territories.

Ayman Jamal, Founder and Managing Partner of Barajoun Entertainment and the man behind *Bilal*, says it’s exciting to see the character he conjured up in his head come to life. Jamal, originally from Saudi Arabia, moved to Dubai a few years ago.

“It has been an extremely rewarding experience to see *Bilal* take shape. Animation is a genre that comes with a lot of flexibility, yet it has its own set of challenges,” he explains.

Barajoun, claims Jamal, is the first attempt to start an animation studio in the MENA region. The company was part of Dubai International Film Festival (DIFF) last year and exhibited at the Dubai Film Market. *Bilal* was officially announced at DIFF 2014.

“We are the only full-fledged animation studio in the region that can handle a complete production right from conceptualisation to final rendering. The closest animation studio to us is in India.”

Jamal stumbled upon the idea of creating a character and then a film around it when he first read the story of *Bilal*. “It is the true story of an African slave who lived in the region 1,400 years ago. The film encapsulates *Bilal*’s journey from despair to hope, as he grows from a child into a young man, and how he frees himself from the clutches of slavery.

“I thought to myself that this was a story that needs to be shared with the youth of the world. They should know more about this character. I had the choice to make a feature or an animation and I decided to go with the latter, although I had never done animation before. I was making short films, commercials and documentaries at that time. The idea of doing an animation was to deliver the message to teens and to make it more universal. The film is entirely in English,” he explains.

However, this meant setting up a studio as well, because the studios in the region did not have the wherewithal to create a feature-length animation film of the scale that Jamal had in mind.

“There is a gap in animation in the region that needs to be filled. That’s how the idea of setting up Barajoun took root.”

Fascinated by the story of Bilal, Jamal began to flesh out his character in the script. He started the pre-development stage with the story, character design and environment, and created an entire ecosystem around the protagonist. He then had some sketches made based on the script and took the idea to potential funders in the GCC.

“Funding films is a big challenge, especially in this region where there are no equity funds or non-governmental organisations to support film production. I took the basic draft to investors and set up Barajoun when we had about 30-40% of what we needed. And there was no question of any other place but Dubai. I thought of Dubai as the best place for this venture.”

The idea was to create a studio
on the lines of Disney, Pixar and Dreamworks, the major names in animation that are known worldwide.

More than 220 people are working on the 110-minute film, which has more than 92 locations and 10 main characters, as well as more than 80 secondary characters.

“Our animators are from 24 different countries and they bring a lot of experience, exposure and depth to the project. This is important to us, as we are addressing a global audience. About 90% of our artists were recruited from outside Dubai. Studios usually run on 15% human capital; the rest are recruited on the basis of the production requirements of each individual project,” says Jamal.

Jamal explains that each job in animation is very specialised. “People wrongly believe that any person that works in animation can do everything. That’s not the case. A concept artist, for instance, can only do concept, cannot do modelling or 3D. A modeller, on the other hand, cannot do hair and clothes; an animator cannot do lighting or environment modelling, to name a few. Each section has a specific pipeline that calls for specialised skills. At Barajoun, we have all the required pipelines, be it for modelling, 3D environment, lighting or hair and clothes, and we can do everything in-house.”

Many of the animators working on Bilal have previously worked on international projects such as Finding Nemo, The Matrix and 300.

The infrastructure at Barajoun was designed and executed by HP, EMC and other local partners. The studio boasts 85 HP high-performance workstations, Dream Colour software, IPS monitors and Cintiq tablets. The HP remote graphics software allows seamless collaboration for artists split across multiple locations, HP networking with 10G supports the studio’s scalable WAN/LAN infrastructure and HP BladeSystem servers handle rendering. The studio equipment also includes SAN (storage area networks) and EMC Isilon NAS (network attached storage) with a combined one petabyte of storage, state-of-the-art perimeter security appliances and redundant backup power UPS.

Barajoun runs its production environment on various operating systems ranging from Linux and Windows to Mac. The film is using 600 render nodes with a combined power of 20,000 processor cores, created both in-house and outsourced. At the time of going to press, the film had already completed 150,000 frames using about three million render hours.

In movie-making, everything stems from a good script, which defines how the story will take shape. At the script stage itself, each character has to be properly defined. Character development in animation is a key component of the script; one has to keep in mind how the character looks and how it will be perceived by the audience. Jamal gives the example of a battle scene involving a lot of detailing that features several different elements in the same screen space, including men, horses, camels, sand and rocks. One of the more complicated and amazing special effects is sand, which is created by generating lots of points inside the computer, called particles. As many

“We are the only full-fledged animation studio in the region that can handle a complete production right from conceptualisation to final rendering. The closest animation studio to us is in India”

Ayman Jamal, Founder and Managing Partner, Barajoun
as a billion particles may be needed to create sand for one scene.

“Such scenes take more time and effort, but each character adds a new dimension to the scene. In feature films, if the script is good, you can let go of the quality. In animation, there is no room for that. The benchmarks are high. Quality in animation is paramount and we have tools to ensure that too,” Jamal points out.

The film has been created with Autodesk Maya as the main pipeline, with several other secondary pipelines working in tandem. Jamal calls the style of *Bilal* stylised realism.

“There are two distinct styles of theatrical animation – the Dreamworks Disney style of colourful, talking animals and objects, and the game cinematic style where the characters look real – something you would see in a game-based animation such as *Destiny*. We didn’t want to limit ourselves to any of these, hence created our own original style. *Bilal* has a distinct characterisation and falls somewhere in between the two styles. Having an identity was very important to us. It’s not a Shrek, nor is it entirely real. Our target audience includes video gamers and teens.”

Speaking about the pipeline for the project, Jamal explains that the film’s pipeline is non-linear, which means “we can always go back and change something in any asset and the changes will reflect throughout the linked departments. The process starts by making concept arts for characters and environments. Storyboards are drawn, and the first draft is locked based on these storyboards. While the character and environment departments create the assets based on the designs approved by directors, the animation department works on the animations, animated storyboards of the scene. These animatics are later used by animators to start the blocking phase of animation, where the timing and staging is locked. This is the process that most animation films follow.

Once a shot is animated, it is handed over to different departments. This happens through TACTIC, a digital asset delivery solution, which is used to move files between various departments. In the Barajoun studio, TACTIC is linked to all its software through custom tools and plug-ins written exclusively for *Bilal*.

The simulation department then takes over to create hair/fur sim, cloth sim, particle sim and fluid sim.
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The results are then cached to disks to pass on to the lighting department, which assembles the shots. Assembling is needed because a shot is broken into many dependencies for different departments, to allow them to work on it simultaneously. The shot is assembled through Barajoun’s in-house plug-in, which reads the data from the TACTIC database and brings all the assets back into Maya.

The lighting department takes into account the mood-boards created by the art department. All shots are presented to the director and VFX supervisor twice a day, where they also comment on lighting and look-dev. The look-dev artist ensures that the final rendered look of environments, props and characters achieves the artistic vision of the art director.

The shots are rendered in Dubai and at off-shore render farms in China and passed to compositors, who colour balance them and add optical and visual effects, such as lens distortions and dust hits. The final render output is then sent to the edit department, where the director previews the sequences with music, sound and Foley (reproduction of everyday sound) effects in a final cut.

Speaking about some of the challenges, Jamal, says: “Developing the thick hair of characters was quite a task. Despite this stylisation, in textures, for example, the hair and clothes of characters are realistic and display a great level of detail. This combination of realistic textures and stylised features is very rare in animation,” explains Jamal.

This film has among the most characters in an animation movie, adding to the complexity of the project. *Bilal* also features characters and pet animals for symbolic purposes. The pet animals are an artistic way to represent the nature of each owner’s personality. The team goes the extra mile to develop the fur and feathers for animals. The stylisation of the characters in a realistic environment and props is what makes *Bilal* special, points out Jamal.

*Bilal* is currently in post production, which is being carried out at Parkroad, New Zealand, part of Peter Jackson’s group specialising in DI and sound design services for Hollywood blockbusters such as *Lord of the Rings*, *The Hobbit* and *The Adventures of Tintin*.

While he does not divulge the cost of the project, Jamal does say that animations require bigger budgets. “The budgets will be revealed by our distributors at the time of the release. While a non-animation action feature movie takes about 12-16 weeks, an animation film of the same direction may take up to 150 weeks. That’s for the big studios that work with several pipelines distributed globally. The average time it takes for Dreamworks or Pixar to produce a film from start to finish is about two years.”

As *Bilal’s* production team prepares to enter the final stages of the film, research and development for Barajoun’s next project has begun, with the story development already underway.
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A CLOUD IN THE DESERT

Last month, BroadcastPro Middle East, in conjunction with Imagine Communications, hosted a roundtable on the cloud in the region. The roundtable was well attended by CTOs and senior executives from various broadcast entities in the GCC. Vijaya Cherian brings you a comprehensive roundup of the discussion, with insight into some of the chief concerns raised by regional broadcasters and a possible cloud alliance proposed at the discussion.

Cloud has caused a stir in the broadcast industry. While the IT industry has taken great strides on this front, the potential of cloud still remains fairly unexplored within broadcast. Thus far, the concept of cloud has primarily been vendor-led within broadcast; then again, only a few vendors have made much progress on this front. The frontrunners are having to invest heavily and are trying to pass their initial costs on to the end user, namely the broadcaster. Therefore, prohibitive costs, the shortage of proven solutions in the market and the lack of options across the entire cloud chain have hindered the adoption of this technology in the Middle East and North Africa.

Perhaps one area where broadcasters have been comfortable attempting any sort of tinkering has been Disaster Recovery. However, the associated costs, lack of a proper licensing model and the paucity of adequate support from all of the vendors in the broadcast chain has made this challenging for end users.

We had a full house at the roundtable, with Stephen Smith, CTO of Cloud at Imagine Communications, moderating the discussion along with Anas Abu Hantash, Business Manager, Solutions Architect at Imagine Communications. Participants included Mohamed Abuagla, CTO of Al Jazeera; Dominic Baillie, CTO of Sky News Arabia; Haitham A. Zaidan, Acting Director of Engineering at Al Rayyan Satellite Channel; Saeed Lootah, Head of TV and Radio Engineering at DMI; Azaib Lakhdawala, Head of Technology Planning and Projects, DMI; Omar Alzoubi, Systems Engineering Head, DMI; Mahesh Jaishankar, VP of Datamena and Broadcast, du; Laurent Tescari, Director Product Development at E-vision; Mohamad Fares, Head of Broadcast Technology at Qatar TV; Nick Barratt, Senior Broadcast Manager at MBC Group; Paul Green, Senior Digital Technology Manager at OSN; Peter Van Dam, Acting Director of Broadcast Technology at Abu Dhabi Media; and Yves Durieux, EMEA M&E Domain Lead from HP.

The participants first decided to revisit the definition of a cloud, owing to the many different interpretations associated with it. All of the end users at the table agreed that most of them did have some sort of a virtual environment, tantamount to a private cloud, at their premises. They chose, however, to term this ‘virtualisation’ and commented that this was perhaps the first step towards moving into a complete cloud environment, but must not be mistaken for cloud itself.

Regional TV viewing trends

Stephen Smith of Imagine Communications set the stage for the discussion by first asking the participants about the demographics of their audiences. He commented that global trends show that 50% of people under 35 consume traditional linear content, while the rest have moved to on-demand or online platforms. By the same token, most people over 35 continue to consume content primarily on linear platforms. He questioned if the same was true for the Middle East as well.

Al Jazeera’s CTO Mohamed Abuagla shed some light on the demographics in the region, based on recent studies undertaken by the network. He pointed out that there was much greater diversity in the demographics than they had initially anticipated.
“We have a host of channels that target different demographics. We have various categories based on the statistics. Up to 18 or 18-24 seem to have a different viewing habit, and these are the people that are going extremely mobile. 18-35 is somewhat linear, but we have seen a gradual shift from linear to online in this age group, while those above the 45+ bracket seem to prefer appointment-booking programmes.”

Most of the others commented on the demographics related to their specific offerings. OSN’s Green said that content was also a consideration for online platform take-up. OSN noticed that during live sports broadcasts of cricket and golf, there were significant spikes in second-screen usage.

All participants agreed that viewing habits seem to be transitioning from traditional, content-based viewing to mobile and on-demand. The obvious follow-up question was how broadcasters were looking to recapture an audience that had shifted to mobile devices.

Re-strategising early on, commented Abuagla, explaining that early studies tracked that mobile would overtake linear viewing in 2015 regionally. That shift, however, happened in 2013 – almost two years early. This meant the network had to re-strategise how to offer news bulletins to people watching on mobile devices.

“I think the stickiness is probably closer to the entertainment side – sports, movies, drama series and so on – to get the smaller screen experience, but for news specifically, we had to repackage the way we do this and build platforms specific to the demographics and geographies involved. This was based on the timelines and the attention span of different age groups, hence our AJ+ fully digital channel,” he added.

**Transitioning from a linear to an IP model – the implications**

Smith then headed into the core topic of the day by commenting on how the marketplace is changing; new delivery mechanisms are becoming gradually available with the transition from a traditional linear overview to an IP delivery model. Of course, this gradual transition has opened the doors to creating a lot more channels targeted at specific events or maybe, just split in terms of targeting a regional/micro-regional demographic.

“One of the ways to do this is to move out of a physical infrastructure into an elastic model, which means you are not just being provided with basic infrastructure but are partnering with someone who provides you with compute, connectivity and storage on-demand. You’re launching these services as pure software solutions as and when they are needed,” commented Smith.

While Baille agreed with him, the CTO pointed out that one of the basic challenges lay in the fact that a large number of geographies that local broadcasters broadcast do not have the required connectivity. He pointed out that satellite was still the most effective way to reach many people.

“Satellite is a cost-effective way to get your channels across to these people who do not have proper connectivity. I don’t know when these smaller towns in Saudi Arabia and so on will have enough capacity to access this.”

Mohamad Fares of QTV seconded this by saying that a large portion of Qatar’s homes have a 1MB connection and no fibre connectivity, making satellite the most viable method for broadcasters to reach viewers. It was agreed that the problem was not confined to the GCC area but spanned the MENA, including the Levant. Most agreed that connectivity was more a geographic issue than a demographic one.

With this perspective in mind, Smith asked if originators would consider moving to a more software-oriented solution.

Regardless of whether we are trying to create multiple IP channels for targeting micro demographics or an appointment-based linear delivery over satellite and FTA – if we can use the same technology to target all platforms, and instead of having that technology exist in your own data centre, it was hosted in a public or private cloud, with everything running in software, and your channels are delivered to an earth station or transmitter as a transport stream over IP, would that be something you would consider?”

Peter Van Dam from Abu Dhabi Media pointed out that legal issues would be a huge concern for the state broadcaster.

“To move our content to another cloud somewhere that is not government-endorsed would be a huge concern, so legally, this would not be possible”

Peter Van Dam, Acting Director of Broadcast Technology, Abu Dhabi Media

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“To move our content to another cloud somewhere that is not government-endorsed would be a huge concern, so legally, this would not be possible,” he stated.
Some end users in the room, claimed to have taken the first step to the cloud with a virtual setup. Mohamed Fares, Head of Broadcast Technology at Qatar Television, pointed out that the broadcaster’s “content is hosted and broadcast from both a private and a public cloud for different applications”.

“QTV virtualises a significant amount of its application on an infrastructure as a service platform. One of the successful implementations is the virtualisation of Imagine’s Broadcast Master platform on a completely redundant, highly available cluster. These measures of operating on a private cloud have given us great benefits in terms of an elevated viewer experience, decrease in total cost of ownership and decrease in operational complexity,” he elaborated.

Participants questioned if the QTV implementation was indeed a cloud implementation in the full and mature sense of the term. “Not yet,” Fares conceded. “In some cases, it is a virtual server, but we do also have some physical servers. We look forward to seeing the technology evolve and allow us a higher level of integration in terms of operating on the cloud.”

Laurent Tescari from E-vision added that every telco is aware that IPTV is becoming increasingly important, but they have to be convinced there is a business case. “There is an opportunity for some MENA telcos to migrate to the cloud in the next couple of years. All the telcos are not comfortable in continuously investing in an infrastructure that a proof of concept at our facility,” he commented, clarifying that it is still only a virtual environment and not cloud in its purest form. Lakdawala of DMI commented at this stage that every broadcaster is using “some form of private cloud within their premises”. “The challenge is having a public cloud in the region.”

Mohamed Fares, Head of Broadcast Technology at QTV

“A proof of concept at our facility,” he commented, clarifying that it is still only a virtual environment and not cloud in its purest form.

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“I need only one ticker licence across 20 channels. I could spin up the service when I need it, use it and spin it down when I don’t need it … That true micro service architecture is what we require for a cloud environment”

Dominic Baillie, CTO, Sky News Arabia

is not necessarily doing well or is profitable,” he commented.

At this point, Abu Hantash asked if broadcasters saw themselves moving from their traditional broadcast chain to a standard IT platform rather than having a proprietary platform from each vendor.

Redefining the cloud
Al Jazeera’s Abuagla commented that the above is not a cloud offering.

“That question defines a software-isation of broadcast technologies. What I am asking for is mature software solutions that run on agnostic systems. Give me an OS and the specs, and I should be able to run anything on it. We are looking for that day in broadcast, I don’t know if that day is here yet, but it is the first step. Then you have to go into the virtualisation of that entire environment, which is the next step, and then you have to go to the cloud-isation of that whole environment again. I don’t think we are there, because there is no ecosystem that does this in a seamless fashion at present.”

He added that cloud for the IT market became more widespread and mainstream after they “figured out all of the pertinent parts of the chain”.

“They had sorted out all the steps to the cloud. They ensured that software-defined networking, software-defined data centres and so on were sorted out before, so they were able to give you a full ecosystem to work with. While I appreciate that some are trying to push the industry in that direction, I don’t think the vendors in general are ready.”

Baillie noted that delivery of content through traditional methods and new media is being handled differently.

“I guarantee you there is enough cloud infrastructure ready to support web delivery of content, so all that is going to happen is traditional vendors need to disappear from the infrastructure and completely go new media. Replacing SDI with IP is a broadcast way of keeping the industry moving forward. It is not necessarily the right way to do it, in my opinion.”

Business models – Licensing or utility models better in a cloud?
Smith pointed out that people often get buried in the details of making the technology transition and lose sight of the business goal.

“This comes back to the question of how do you manage the transition from yesterday’s infrastructure to what you think the infrastructure of tomorrow will be, which most believe is simply migrating to IP. IP is a necessary step in achieving software-defined workflow and cloud enablement, but it’s not the goal.

“It’s about breaking the model of delivering traditional channels, breaking traditional workflows and doing things differently. It is not about old media and new media; it’s about delivery platforms that can target all audiences consistently.

“People get fixated on changing the wire while maintaining yesterday’s workflows, instead of focusing on how to be relevant and delivering their content everywhere.”

Baillie argued that it could be done but queried what the cost of such an exercise would be.

“I would argue that most of us in this room do not have a huge amount of money to play with. Until you have embraced it like the US, where we are only paying for usage, it’s not going to work. I need only one ticker licence across 20 channels. I could spin up the service when I need it, use it and spin it down when I don’t need it. I want to bring out an extra channel because I am broadcasting cricket and I have six extra angles. That true micro service architecture is what we require for a cloud environment”

Haitham Zaidan, Acting Director of Engineering, Al Rayyan Satellite Channel

“We virtualised our MAM, traffic and scheduling system, workflow management and data bases. Next year, we will move editing, graphics, automation clients and all users clients to a virtualised environment”
require for a cloud environment.”

Green cited another example.
“We did a project a couple of years ago looking at the cost of DR and the options of outsourcing to another site or utilising a cloud-based solution. We expected to see the price of the cloud solution to be negligible until we spin it up when required, but we found it was costlier than outsourcing to a dedicated ready system. Maybe when we get a public cloud with more regional players in and established vendors supporting software only, it will become cost-effective.”

He commented that the cost was primarily a combination of different factors. In addition, achieving it in the cloud was challenging because many vendors do not have licensing models to support it.

“We spoke about if we own licences, these should be transferable between our main and DR site; we shouldn’t be paying double for something we would only be using exclusively. Some vendors may give you 50% discount for example, but that, to me, is not acceptable in a software-only model. When we also looked at hosting services on the cloud within the DR scenario, most of our current vendors did not offer a software-only solution that we could potentially run in a virtualised environment. So then you deal with the challenges of having a different set of vendors in your DR solution and the associated complexities of training operators using multiple systems, one of which is never hopefully going to be used.”

He added that if people were provided a choice between a ready-built site and a cloud environment, most people would opt for the former because it runs perfectly.

“There has to be a reason to move to the cloud, and that should be that the cost of moving into the cloud is negligible until you spin it up, whereas with this one, I have to pay capex and build it up.”

Baillie pointed out at this juncture that it would be more sensible to build a new system in the cloud, and then the DR would just be additional instances. Green agreed, but pointed out that as a large pay TV operator, OSN, this could be risky.

“We have a large customer base and trusting a new technology in the region where we face so many challenges is extremely risky. Doing it in a DR scenario is less risky, as you can build confidence in the solution before moving into your primary, but even that is a challenge because it is not currently cost-effective,” he said.

“A software-based model – The way forward

Smith pointed out that if you consider only a portion of the environment instead of looking at the bigger picture, it will always appear to be more costly.

“I would argue that virtualisation is a transient technology that allows existing and legacy applications to function in a cloud environment. We really want to avoid the concept of a virtualised server running on a specific host. Instead, we want autonomous micro services that have no notion of a machine at all, no notion of local storage or that you own a fixed amount of compute. It should be a simple model of consuming resources – resources that are either compute, connectivity or storage and are not dedicated to a specific machine.

“When we look at DR capabilities, we should not be thinking of a DR system or site, as this implies we are writing multiple cheques without gaining additional functionality. You write a cheque for your primary chain of origination, and a similar-sized check for your backup chain of origination, and a third check for DR, and you’re hoping you will only ever have to use the primary chain.

“In this model, two-thirds of the propositions that are coming to the table are single vendor-led and that limits choice”

Nick Barratt, Senior Broadcast Manager, MBC Group
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“Every broadcaster is using some form of private cloud within their premises. The challenge is having a public cloud in the region”

Afzal Lakdawala, Head of Technology Planning and Projects, DMI

‘just-in-case’ infrastructure, but as an extension of business as usual. You have paid for it, you are depreciating it and you should be utilising those resources every single day. When in a scenario of reduced capacity, you may have to sacrifice some business functions, and you should know what those business functions are.”

Green countered that by saying that no broadcaster in the room had a green field site.

“If we did, we may seriously look at such a solution. It would be a good way forward, because you have a single main and DR system, and can train everyone once. But we have an established system, where we replace aspects every few years as technologies advance, but to move everything into that environment and have a single setup is a challenge.”

Baillie seconded that by commenting on the risks involved.

“You have to be able to take some sort of controlled or phased approach. Ideally, you should have a whole system in the cloud and slowly transition your content to it. In reality, however, having worked with at least three broadcasters in this region, the ability to do that is hard to come by.”

Yves of HP commented that cloud is indeed a journey.

“It is good you are looking at where you want to go and thinking small steps. DR, however, is a good way to start.”

Baillie interjected at this point that no one is disagreeing.

“Taking a small step or moving parts of a system to the cloud is not the problem. The issue is money. It is prohibitive. I have to invest in a private cloud. This is only cost-effective if it is public cloud. I don’t have a POP here, and therefore I have connectivity and latency issues getting out of region.”

Green agreed cost was an issue even for taking a first step towards a cloud solution.

“In the US, people transcode on the cloud because it is cheap and flexible, but it works because there is cheap connectivity. We looked at the option of sending our high-res files to the cloud to be transcoded. The problem was I have to pay du too much to get it to them,” he commented.

Call to Action – Forming a cloud alliance in MENA

Abuagla seconded this.

“It is amazingly costly to network any two points in the Middle East or the region in general. It costs a crazy $15,000 to network one point to another, versus the $1,000 which will get you that T1/E1 line in the US. Co-location is also hugely expensive here. This is an evolution that will take time. We need to work together. I don’t think broadcasters will be willing to jump in for several reasons including legal issues, risk, cost, connectivity and the fact that our business does not have the tolerance to test new technologies live. I have the tolerance to play with them, but give me a playground to familiarise with.”

“I don’t see the industry even interested to build a free community cloud for broadcasters to play. On
the IT side again, there is a cloud alliance. We need to have one for broadcasters so we can all operate under one umbrella.”

Abuagla’s call for an alliance to create a “playground” was welcomed instantly by all the broadcasters. “I think if there is such an alliance that basically allows all the really big vendors to come together and show the broadcasters an ecosystem that works end to end, it will be more effective. Show me how a complete ecosystem works. Secure it. Address legal issues. Then I will play, but I am not going to pay for the right to play; however, I’ll pay for what I consume.”

Du Datamena’s Mahesh Jaishankar offered to host the playground for everyone if the vendor community could be engaged to come together to support the exercise and provide the required connectivity.

Abu Hantash commented that Imagine Communications was already in talks with HP, Datamena and other players to create a consortium. Everyone agreed that there were several virtual environments in the region but no proper cloud case studies.

“I haven’t heard of a complete solution around a true private cloud that actually mirrors the characteristics of a cloud as a service model. I need to be able to use it, charge it back or show it back. I need to be able to know I can consume it and meter that consumption. I should never run out of it. I can use it as much as I can, and I can push it more and it expands, and I can push it even more and it still expands. I don’t think anyone has that here,” commented Abuagla.

DMI’s Alzoubi suggested a hybrid cloud environment, which gives the end user the flexibility to operate parts of his environment in a cloud.

Cloud as a service
Smith defended virtualised solutions, explaining their purpose in the transition to cloud.

“I don’t see the industry even interested to build a free community cloud for broadcasters to play. On the IT side again, there is a cloud alliance. We need to have one for broadcasters so we can all operate under one umbrella”

Mohamed Abuagla, CTO, Al Jazeera

“For me, cloud is technology in an as-a-service business model.”

For the most part, he conceded that when talking of the cloud, the reference was primarily to “virtualised systems running on a private infrastructure”.

Al Rayyan TV, which recently undertook a private cloud at its office in Doha, commented that the decision to move into a virtual environment was planned two years ago.

“We virtualised our MAM, traffic and scheduling system, workflow management, data bases. Next year, we will move editing, graphics, automation clients and all users clients to a virtualised environment. We saved a lot in the last two years in terms of support time, rack space, even power consumption. For example, we had more than 10 servers to host Imagine products but now, we are using only two physical servers to host the same number of virtual servers,” stated Zaidan.

Lootah from DMI, however, questioned if loyalty to one brand was a smart move.

“What if the company that has deployed your entire system goes out of business? You don’t have a support contract. I would be concerned about running my entire virtualised environment with just one vendor.”

Abu Hantash responded that even in such an instance, “the end user would lose only the software part rather than losing one’s investments for both hardware and software if they move the standard broadcast chain (media, automation, video server, GFX, routing etc) into a 100% software model running on commercial off-the-shelf IT platforms”.

“This would enable rapid deployment, simplified access, monitoring and control, configuration over installation, with no equipment on the customer’s premises or investment required compared to what we do now.”

Abu Hantash also defended the Al Rayyan installation, saying that the virtualisation would have happened at the broadcaster’s facility anyway.

“They already had an HP Blade. We created a couple of virtual machines and we installed our VersioIP and got the IP stream output. I was support engineer, and it took me two weeks to commission the traditional system with the huge rack spaces, wiring, etc. This is something that will happen sooner or later. The best practice for us understanding the IP/Cloud solutions is now to deploy proof-of-concepts and see how broadcasters see the benefits. Based on their individual feedback, we can help build something together for the end user. We are also working with HP and du to see whether we can build POCs in each facility.”

The discussion then moved to how much downtime was permitted within a broadcast environment.

“Cloud service providers will offer a
fixed SLA, which may be okay for your email server, but we need to see if it is suitable for a broadcast environment where, for example, during a *Game of Thrones* finale, downtime is unacceptable," commented Green.

Abuagla took the discussion one step further by stating that "the cloud perspective should take away the whole need to DR or BC".

"The cloud should give you an SLA and an availability standard, and then I shouldn’t have to worry about it anymore."

Everyone questioned what kind of compromises were acceptable during a downtime. Lootah pointed out that confidence in the cloud was so low at the moment that he would accept a virtualised channel in the box only "if my primary is gone with all of its redundancy, if my DR in Studio City is gone and my MediaDeck in Samacom is gone".

"Then, perhaps, I will accept a channel running out of a box with limited capabilities, because something is better than nothing. But I will first exercise all the other options available to me. It is just cutting all three steps in the middle and moving."

Abuagla suggested working from the outside in.

"If the vendors can prove that the cloud environment is safe and works, you may move it to the third tier, then the second, then the first. That would be the evolution you are talking about."

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### The Al Jazeera business model

Abuagla explained *Al Jazeera*’s business model at this point, which most agreed was hugely impressive.

“We have a broadcast centre in London and DC; we have operations working out of New York, Turkey, Balkans and so on. By design, we are obviously going through a massive upgrade of a lot of all our infrastructures. We have built it in a way that our DR for Doha is London and the DR for London is DC. The DR for DC is KL and the one for KL is back to Doha. We pretty much have done it, but I own the network and I had to pay to connect everything absolutely fully, with a lot of money.

"That's why the big deal we did with Ooredoo facilitates our cloud future, but we had to write out several cheques for each setup in each location. You're building that promise within your environment, so I could call it if I connect it, and I guess orchestrate it. I can build it as a big private cloud environment that is truly serviced based on all of this stuff, but this is a luxury others don't have. I have this because I have to be geographically dispersed and I have business models to which I have to respond to out of the US, London, etc. I can build a DR solution that is basically an actual production solution for someone else.

He added it would have been ideal to have seven primary sites and one DR site, but “there was nothing available”.

"If I had the ability to build my core out of Doha, I would have done that and, basically, built cloud instances for London and cloud instances out of the US. If the industry was capable of giving me those options, I would never have had to write that cheque multiple times.

"We are building a mini, private cloud; we are building our own infrastructure and systems, but we are also building our own search capabilities so anybody anywhere should be able to access it without any issues. I am, however, willing to divorce from that if I have a great cloud solution."

Smith commented that this is the path *Imagine* is headed down.

"If you just look at the intent of cloud, instead of scaling up or scaling..."
down, we are looking at n number of licences. You may buy 10 licenses and you may decide to scale up to 100 channels and have to buy 90 more, and then what happens when you reduce it to 90, and what are you going to do with those 90 licences? So we have moved to a utility model. So when you start the channel, the meter is running, and when you shut it down, the meter stops, and this is being fine-tuned right to the last level.”

The broadcasters called for a shopping cart experience where they can pick and choose the solutions they want without having to worry about the infrastructure that drives them. Abuagla pointed out that the

IT industry has already achieved this progress by sorting its infrastructure service, moving into databases, applications, authentication, analytics and so on, and now it has gone one step further by looking at platform packaging as a service type of model.

“Essentially, you have a shopping cart, in which you put all the items you want … they are pre-integrated and have all the API figured out between them. Everything is software-defined and only when that has been done have they moved to the next step,” he commented, adding that everyone is cognisant that the sensitivities on IT are different from broadcast.

He went on to question whether there were enough vendors buying into this model and actually transitioning into virtualising their software so it can run on this model.

Smith countered the arguments, stating that end users should not be picking and choosing systems. Instead, they should look at what they want delivered, as in 2 MPEG transport, delivery of three languages, graphics plus capture and so on.

Should cloud be vendor-led or user-led?
Nick Barratt of MBC Group pointed out that the difficulty does not lie in specifying the functionality, “which is what you want to do, and you have this in any sort of hardware replacement”.

“It is the back-end functionality that hits us, and it’s the same change you have to manage when you are swapping out one vendor’s solution for another.”

A conversation raged on whether there were too many specifications on specific vendors, solutions and so on. Smith argued that “all these systems exist because you want to bring that complexity to the table” and advocated a strong software approach.

“You have physically dictated the chain you have to n number of times to replicate it. In the software world, you couldn’t care. You would care about the functionality, and your specifications would go like this – here is the template for my channel and for resiliency. I always want it to be two, and I don’t care about where they are originating from physically, but I need to ensure they are not put on the same physical machine, or the same physical network or data centre. Then you may be paying only for one package. You probably are paying for what is currently being packaged and received.

“If we abandon this notion of I have all these disparate systems that are connected by unidirectional coax, and instead go with a software model, then there is really no automation anymore.”

Abuagla agreed, stating he does not want discussions to revolve around vendors and products.

“I want them to be around features and solutions. I don’t want to say I want this vendor and this product and plug it into this and that. I want to be able to say I want these ingest

“We want autonomous micro services that have no notion of a machine at all, no notion of local storage or that you own a fixed amount of compute. It should be a simple model of consuming resources – resources that are either compute, connectivity or storage and are not dedicated to a specific machine

Stephen Smith, CTO of Cloud, Imagine Communications

“All the telcos are not comfortable in continuously investing in an infrastructure that is not necessarily doing well or is profitable”
Laurent Tescaari, Director Product Development at E-vision
capabilities; I need to have archiving and editing capabilities. I need to playout on these platforms, and I need analytics; and here is my SLA.”

“I don’t care what technology you are playing in the background or what storage is being provided to me. I don’t care how the chassis looks and what hard discs are installed in this thing. I just need to support my business operations, while cloud vendors provide me the tools to do so.

“I want to ensure I want storage whenever I want it. I need the following services regardless of who is providing them, fully integrated, and they will give me this thing, and I want to pay for what I use when I use it.”

Anas interjected that the one-stop-shop Abuagla requires “doesn’t currently exist”.

Maybe! But when that happens, we have the cloud,” argued Abuagla.

**Conclusion**

Smith concluded by commenting that the transition from traditional broadcast to a more personalised and immersive experience is definitely happening. He added that the current step in that evolution is to change the wire from coax to Ethernet, although this also allows you to get to a state where you can begin to virtualise, which is the first step in getting to cloud enablement.

“Once you are there, you can then stand up for new channels, looking at changing business models, changing revenues in the market, etc.”

Barratt was quick to add here that he was sceptical of being vendor-led.

“The propositions that are coming to the table are single vendor-led and that limits choice,” he cautioned.

Lootah called for greater collaboration between telcos and the vendors, while Baillie added that for content consumption, we need to look less at traditional broadcast suppliers and look at the likes of services providers within IT.

“Everything we have discussed is largely on the consumption side, and I don’t see a future for broadcast manufacturing companies in that side. If you really want to make the transition, you have to sit there and rethink what we are trying to achieve and what’s the best way to get the decision-makers to take a positive call. The way we have done things thus far is not necessarily the best way. It has evolved through need and technical advancement.”

The roundtable concluded with some key points: a virtual private cloud environment is not the same as a public cloud experience; local broadcasters require a playing field where they can familiarise themselves with the different cloud features; and the vendors and service providers at the table (Imagine Communications, HP and du Datamena) would aim to work out a strategy that would include more players in the future.
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Augmented reality in sports broadcast is a growing trend these days, as viewers become more discerning and demanding. Ncam’s Nic Hatch explains what augmented reality can do and how broadcasters can use the technology to attract more eyeballs.

Sport is perhaps the most compelling genre on television. It is best watched live, so that you really don’t know what’s going to happen until it does. That’s great for retaining audiences.

But sports fans are very demanding. They want to know what’s going on. Today, that translates into a large number of cameras. For instance, where once just a handful of cameras would cover a football game, today audiences expect 20 or more around the pitch. The audience also expects the action to be analysed and explained. All of this footage will be recorded and ready for instant replay, for example. Commentators and pundits will talk through replays, explaining what created the point of excitement.

Inevitably, broadcasters have
looked to technological innovation to give them the edge, to make their coverage the one you choose. Investment in advanced technology will be repaid by bigger audiences and, therefore, higher advertising revenues.

**Augmented reality**

Today, creative sports directors are increasingly turning to augmented reality. Put simply, this means taking the live camera feeds and adding to the pictures’ graphical elements, to further explain what is happening and its significance.

So in swimming or track athletics, for example, you might put a line on the screen which shows the world record pace. You could add an offside line to a football match, or the gain line in rugby. Hawk-Eye, popular in cricket, is often used as augmented reality, showing the predicted path of the ball on top of the video.

Sometimes augmented reality is used to build up the atmosphere. Showing team logos apparently painted on the pitch is common, or putting winning swimmers’ flags and order onto the pool. It can also be used for virtual advertising, substituting the hoardings around the playing area with replacement content.

**Studio**

Increasingly, the same augmented reality techniques are also being applied in sports review programmes, back in the studio. Back in 2013, Ian Finch, director of the BBC’s football flagship programme *Match of the Day*, said: “The implementation of augmented reality allows us to bring a whole new approach to our studio presentation.

We are now able to complement our existing hard set with virtual set pieces, which can be animated at the touch of a button. The system also allows us to enhance our on-screen graphics by delivering team formations on the studio floor as a 3D illustration, moving the camera along the defensive line or focusing on an individual by flying the camera across the virtual pitch. Add to that the use of team badges, maps and written text, and we have a studio environment that can keep on evolving and moving forward.”

Other broadcasters such as Fox Sports have picked up on this and apply hugely creative presentation to a wide range of sports.

But when talking about augmented reality applications in sport, it is easy to focus on the software that takes the statistics and dynamics and creates the augmented elements in real time.

It is certainly true that this requires a lot of complex processing, and the power of these applications should not be underestimated.

**Precision**

But there is a second major challenge. Having calculated where the offside line is, or where the ball would have gone, or what the world record pace is, the software has to know where to put it on the screen.

None of these are of any use if the augmented elements are not in precisely the right place on the screen: just a few pixels out may make the graphics meaningless.

So this means you have to know precisely where the camera is pointing at all times. In fact, you need to know where the camera is in three-dimensional space, plus the zoom setting of the lens, as an absolute minimum. Outdoors, at a sporting event, the cameras which will have augmented reality tend to be in fixed locations.

In the studio, though, they will move around. Some will be on pedestals or jibs, but others may be handheld or on Steadicam, in which case you need to know the pitch and roll of the camera as well as all the other parameters.

Traditionally, this was accomplished by rather long alignment procedures. In the studio, markers were placed on the walls – where you had to shoot around them – or on the ceiling. Some systems used a reference point on the floor and dead reckoning from there.

The modern studio cannot afford the time needed for this sort of alignment. A number of companies have developed systems which provide virtually instantaneous alignment, either using the existing geometries of the scene or by tracking unobtrusive additional markers.

The result is that augmented reality can be set up quickly and precisely, adding to audience enjoyment by enriching the experience.

Nic Hatch is CEO of Ncam.
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Al Jazeera Media Network recently upgraded its Beirut bureau and built a new studio at the facility with Dubai-based United Broadcast and Media Solutions (UBMS) as the key systems integrator for the project. Beirut was the first in a series of more than 80 bureaus worldwide to be refurbished as part of the broadcaster’s drive to modernise its infrastructure.

Al Jazeera Media Network recently commissioned a news bureau in Beirut, Lebanon to Dubai-based distributor United Broadcast and Media Solutions (UBMS). The bureau’s main role is to offer live events and news coverage from Beirut and offer support to the main office in Doha.

To complement the completely redesigned state-of-the-art workplace environment produced by Al Jazeera’s Creative Division, UBMS procured, delivered, installed, tested and commissioned all of the equipment and handed over the completed project to the broadcaster earlier this year.

The new facility has been operational since then and is being used as a bureau for the network to gather and distribute news.

The bureau now hosts four fully-fitted edit rooms with voice-over capabilities, a media archive and storage, five DTL positions, a fully-fitted control room and a studio. All control rooms are based on portable equipment, so that in an emergency, equipment can be placed in travel cases and deployed on-site.

The three-camera studio has two sets and is being used for producing press reviews that broadcast every Tuesday with plans underway to produce documentaries and other news programming as well.

Ali Husseini, Head of Network Operations Standards, Compliance and QC, says the upgraded bureau in Beirut is a major step forward for Al Jazeera.

“The Beirut bureau is the first in a series of upgrades that Al Jazeera Media Network has undertaken for all of its 80-plus bureaus. The facility is now equipped to handle news as a regional hub. We have always had a bureau in Beirut, but the new facility is bigger and technically more advanced. It has simplified the processes for correspondents and editors.

“From two down-the-line positions, we now have five down-the-line positions, which is a major stride. In breaking news situations or when we need to cover a major story live, the facility is usually busy providing guests and correspondents, the capacity depends on how many simultaneous live takes can be done. We can do up to five at the same time with different feeding points that vary from 3G tools to fixed SNGs, while the newsroom carries on doing its functions,” he explains.

A team of 35 operates from the bureau, including correspondents, video editors, engineers and operational staff. The bureau is connected to the hub in Doha to transmit content through two SNG hubs in the bureau for playout. The transfers are also carried out via file-based delivery workflows using FTP accelerators, FileCatalyst and Quicklink file transfer.

The new facility in downtown Beirut equips the team to produce live windows in studios with rolling news. This makes newsgathering and processing quicker and easier for correspondents.

“Correspondents and cameramen are now able to access the archive database of the network, which means they can view and process their clips on their desktops. A studio location means a proper setup for interviews with talents who don’t have offices,” explains Husseini.
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“The Beirut bureau is a replica of the newsroom at the headquarters in Doha but on a smaller scale, yet it is able to serve the same functions. That means crews on the ground are no longer isolated, but it is as if they are sitting with their colleagues in the headquarters.”

Husseini adds that the crew had to “constantly scout for locations to shoot their stories before this setup was established”.

They would shoot in cafés and other public places in the absence of a full-fledged studio.”

The switchover from the old to the new studio was seamless, he says. “We were mindful of the fact that the switch had to have zero impact on broadcast. The changeover to the complete technical fit-out was achieved in three to four hours. We rehearsed for a week for the switch before going live.”

The main challenge in the process was the time constraint. Time is always a challenge and the changeover had no room for error. The old and the new bureaus were running in parallel to ensure a seamless switch.

“The Beirut bureau is a busy one with all that is happening in the region; our coverage highly depends on its contribution. I must add here that the Beirut bureau management was really supportive and enthusiastic; nevertheless they were keen not to interrupt the contribution, so we deployed a team in the old bureau and we did the switchover, where the standby team was ready to roll back in case something happened,” says Husseini.

The setup
It was a single-site project that involved a studio, control

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Apple ProRes HQ
Kit list

Studio:
- Three Sony PMW-500 cameras
- Canon HJ17ex 6.2RISE lenses
- Sachtler System 18
  S1 SL MCF tripod
- Autocue OCU-PSP17MWAPP
  teleprompter and other accessories
- 14 pcs of Litepanels
  Hilio D12 Daylight
- Telescopic drop arms

Studio Control Room:
- Data Video HS-2000 HD switcher
- 500 GB LaCie External HDD
  with USB and Firewire
- Fostex 603 1B audio monitor
- Sony BVM-F250A
  professional monitor
- Allen&Heath Mix Wizard
  3 12:2 audio mixer
- Prospect TC-22 telephone hybrid
- Miranda Blue
- ETC SmartFad ML lighting desk
- Tektronix 5200
  waveform monitor
- 3 DTL rooms
- One Sony PMW-500 camera
- Canon HJ17ex x 6.2 IRSE lens
- Sound Device 302 three-
  channel audio mixer and
  other audio accessories
- Three edit stations with
  Media Composer running
  on MacBook Pro with 2TB
  Thunderbolt external hard drive
- Editshare 16TB shared storage

The main studio in the bureau
uses three Sony PMW-500 cameras
with Canon HJ17ex 6.2RISE lenses. The studio can handle
the production of news bulletins,
analysis and talk shows.

Kyriakos explains: “The end
user required a turnkey project
that offered the entire broadcast
chain right from production to
transmission. So, alongside the
production facility, we handed over
the broadcast infrastructure as
well, complete with a studio control
room, gallery and edit suites.”

The studio control room has a
Data Video HS-2000 HD switcher,
500 GB LaCie external HDD with
USB and Firewire, Fostex 603 1B
audio monitor, Sony BVM-F250A
professional monitor, Allen&Heath
Mix Wizard 3 12:2 Audio Mixer
and Prospect TC-22 telephone
hybrid. The glue used is from
Miranda and also installed is an
ETC SmartFad ML lighting desk.
The Tektronix WFM5200 multi-
format, multi-standard compact
waveform for monitoring.

The studio also boasts three edit
stations with Avid Media Composer
running on MacBook Pro, with a
2TB Thunderbolt external hard
drive supported by EditShare 16TB
shared storage, which is at the
core of the facility, offering central
storage system for the project. It
allows multiple editors and creative
contributors access to all media from
a central store. The entire process
is transparent, enabling writing to
the same volume simultaneously.
EditShare also supports project
sharing and bin locking for Avid,
Adobe and Apple NLEs.

According to David Castle, Regional
Manager for the Middle East at
EditShare, the latest tools make
day-to-day administration easy, with
individual project management and
dynamically resizable storage spaces.

“ Systems are enormously
flexible and let you manage multiple
projects according to the needs of
the organisation, the Beirut bureau
in this case, and the individual users.
The system also comes with 4K
capabilities built-in and a fully scalable
architecture,” comments Castle.

EditShare engineer Adrian
Poole worked with engineers from
UBMS, who reported that the
editors using the system found it
extremely convenient to ingest
media and then have access to the
folder structure, complete with all
their own content. This, he says,
is the system’s key strength.

The main area where the
bureau can expand and scale is the
storage and archiving systems from
EditShare. These are connected
through a 10G fibre connection
with Cisco through the editing
workstations. The entire system
is flexible and scalable for further
expansion and growth.
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Dubai Media Inc. (DMI) recently completed the refurbishment of its sports studio. The eight-camera studio, which was an SD facility earlier, has had a complete makeover to a full HD sports production studio.

The exclusive sports studio is dedicated to the broadcaster’s four sports channels and its refurbishment falls in line with DMI’s vision of upgrading its broadcast production facilities to bring them at par with technological developments worldwide. The upgrade integrates the sports production and sports news activities into a single high-definition production facility at its main studio – Studio F.

Rashed Amiri, General Manager at Dubai Sports that manages the four sports channels of DMI, says that sports has been leading the way for technical innovation across the broadcast industry and this project has been a welcome move for the team.

“Most of the new broadcast technology is driven by sports. When you put a new system in place, it inspires the staff to work more efficiently, which has been the case here. Tapes are tedious but with the new tapeless format, it’s easier for our staff as everything is streamlined.

“It’s been a 360-degree transformation for us. With more cameras, it’s easy to change the sets within seconds. In the old setup, we used to have one hour fillers when changing from one set to the other. Therefore, there was a limitation to how much we could do in terms of programming. Now all of our energies are focused on programming and creating content,” says Amiri.

In the previous setup, there used to be two sports news bulletins in a day. The new facility broadcasts sports news every two hours, round the clock. Many of the popular weekly shows are now shown daily. The frequency of programmes and the quality has improved, affirms Amiri.

DMI’s sports channels broadcast throughout the world from Vancouver to Australia. In the last seven years, the broadcaster has been bringing the German Football League to the region, in addition to live boxing from the US, American football, Golf and ATP Tennis. All the games are broadcast with Arabic commentary, which is done in-house.

“Around the year, we have 22 big international events and 300 plus local events. Sport is a very demanding genre and sports organisers also stipulate certain specs these days. If you don’t have good media that meets international standards to cover events, they won’t give you the rights for it. For example, in 2010, the International Tennis Federation refused to allow any coverage of its matches in SD, even the local channels were not allowed to transmit in SD,” points out Amiri.

During the last Olympics, Dubai Sports launched seven additional channels to broadcast the games.

“We see it as a good way of encouraging sports in the country to inculcate a love of sport.

“Ramadan is also a busy time for sports broadcast locally with several indoor and outdoor championships taking place during the holy month.

“We have most of the non-soccer games after beIN Sports that carries 80% of soccer coverage.

“The sports arena is very competitive. With the cost of sports rights rising constantly, it is not easy to stay free-to-air. The cost of the Gulf Cup in six countries, for
DMI’s sports studio has been completely refurbished with new cameras and the entire studio equipment.
instance, rose from $600,000 in 2006 to $45m in 2014,” he adds.

With more money riding on sports programming, technologically too companies are pushing the envelope to give viewers the best in both content as well as quality.

“Any investment in sports is worth its while because it is such a popular genre and as a state broadcaster rather than fulfilling commercial goals, we have a mandate to offer our viewers the best and generate more interest in sports,” Amiri comments.

DMI’s studio F meets this objective by offering in-house production of programmes, analysis, after-match sessions, highlights and replays of the game to add more value to sports coverage by the state broadcaster.

**Studio F**

According to Saleh Lootah, Head of TV & Radio Engineering at DMI, the Studio F project was a part of the larger goal of Dubai Media Inc. to go completely tapeless by 2016.

The eight-camera control room, with its associated production facility for Studio F, is dedicated to DMI’s sports channels and is the hub for all sports coverage that the broadcaster undertakes in order to meet the growing challenges and needs of day-to-day operations.

The studio, which is located at the DMI headquarters in Dubai, was re-equipped completely with major components such as cameras, vision mixers, lighting and also basic accessories, which contribute to studio production.

“We want to achieve a complete file-based workflow with the latest technologies and systems across all of our production hubs and channels. The objective is to make content accessible across a variety of DMI’s islands and systems, as well as simplifying its distribution and archiving by moving from linear to file-based workflow.

“The move from SD to HD also adds value to our programmes in addition to the significant reduction in our physical infrastructure mainly from the video tape recorder and its related systems and infrastructure.

“The workflow of the sports news studio is integrated with the sports arena is very competitive. With the cost of sports rights rising constantly, it is not easy to stay free-to-air. The cost of the Gulf Cup rose from $600,000 in 2006 to $45m in 2014”

Rashed Amiri, General Manager, Dubai Sports
the existing Avid post-production workflow that forms the core of our broadcast infrastructure.

“We thought it was easier to have the same vendor for this as well to facilitate homogeneous workflow. Avid ISIS servers have been deployed for convenience,” comments Lootah.

The entire Avid infrastructure at DMI was upgraded with new hardware and software solutions from the vendor. Avid ISIS storage was expanded from four 32TB chassis to seven 64TB ISIS 7500 chassis giving the system 6,000 hours of storage capacity in XDCAM HD format.

In addition to these, the new Avid clients together with Airspeed AS5000 help quicker turnaround of stories as editors can now work on production while ingesting and the playout of content is faster.

Avid Interplay is the main media management system at the facility. The single existing server has now been upgraded to a cluster setup with two servers offering complete redundancy and a backup system offering zero downtime, thereby, supporting continuous working on critical production.

Lootah adds that Studio F is one of the largest studios that DMI has. “Everything is new including all the equipment, workflow, and the control rooms. It’s a complete transformation from SD to HD and file-based system with a state-of-the-art technology.

“With the sports part done, we are closer to completely achieving a tapeless workflow and now hope to complete the picture with a revamp of our censorship system,” he adds.

The studio and channel upgrade was carried out over a period of five months. The entire Studio F is a 1080p production facility offering a complete file-based workflow integrated and incorporated into the DMI system for recording and playback of sports channel news and programmes.

The systems can detect if the content is in HD and play it. If the ingested content is in SD, it’s automatically sensed and upconverted to HD and vice-versa. The content for all the channels comes in a unified format and transmits through DMI’s central transmission hub.

“The sports channel project is one step forward in realising DMI’s vision of interconnecting all the production islands. It’s a multi-

“We want to achieve a complete file-based workflow with the latest technologies and systems across all of our production hubs and channels. The objective is to make content accessible across a variety of DMI’s islands and systems, as well as simplifying its distribution and archiving by moving from linear to file-based workflow”

Saleh Lootah, Head of TV & Radio Engineering, DMI
Kit list
Some of the key equipment and systems featured in Studio F include:
- Eight Sony HDC 2400
- Sony 3G/HD/SD vision mixer
- Evertz 3G/HD/SD video router and multiviewer system
- SSL Digital audio console
- EVS slow motion system
- Vizrt graphics
- Avid end-to-end file-based news solution including Interplay production asset management and ISIS media storage
- iNEWS NRCS
- Interplay capture for baseband ingest control of Avid Airspeed servers
- iNEWS command for playout control of Airspeed servers
- Craft editing for sports programmes and news
- Interplay central and Interplay archive

“The sports channel project is one step forward in realising DMI’s vision of interconnecting all the production islands. It’s a multi-format, multi-vendor professional setup with an efficient file-based workflow”

Omar Alzoubi, Senior Manager – Engineering Systems, DMI
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With growing demand for content in war-torn Libya, TV channels are looking at producing content in neighbouring Egypt and Turkey. Libyan media house Alwasat Media Group recently completed the construction and integration of an HD production studio in Cairo to meet that demand.

Last month, UAE-headquartered Broadcast Systems Arabia (BSA) completed the installation of a three-camera HD studio in Cairo for Alwasat Media Group, a Libyan media group with interests in TV channels, radio and newspapers. The current volatile situation in Libya means TV channels can’t operate there, which is why the media house has set up shop in Egypt.

There is a dearth of content in Libya, and the production studio is a step towards meeting the growing need for quality content. Muhammad Irfan Gondal, CEO at BSA, says most channels in Libya transmit from Jordan, Bahrain or Cairo; none of them uplink from Libya except for the government channels, owing to security issues.

More than 24 Libyan satellite channels have been launched in the last three years, he adds. “There is a massive content deficit there. The rising demand for content in the Libyan market cannot be met by the existing facilities. Three new channels will be launching from Jordan in the next couple of months to cater to the Libyan market, but there is not enough content to fill the screens.”

Alwasat Media contracted BSA to build an HD studio in Cairo, to feed content to Libyan TV channels. BSA worked with local partners and deployed seven engineers from the company on-site to integrate the studio, which aims to cater specifically to viewers in Libya. The producers, directors and editors of the shows to be produced in the studio are all Libyan.

“Alwasat Media Group is the same company for which we recently launched a radio station in Libya. We also installed three transmitters for it and built the main and backup radio studio in Cairo. We have also been working to build one backup radio studio for it in Cairo. In addition to that, BSA integrated its newspaper automation system at its Cairo...
headquarters,” says Gondal. This studio will create programmes, both recorded and live, for broadcast for Libyan TV channels. With an area of 250sqm, the studio houses three Sony HXC-100 cameras and is fitted with 26 ARRI lights. It also features a virtual set from Monarch and a chroma screen with removable panels.

“We have built two editing suites that work on Final Cut Pro. A dubbing studio has also been designed to repurpose Indian and Pakistani films and drama content for Libyan viewers. It will be built soon,” says Gondal.

BSA also supplied the studio with three ENG kits, complete with Sony PMW-100 camcorders, and two FCP editing suites. An FM radio kit was also supplied to the media house to feed FM radio station transmitting in Libya. 32GB SxS memory cards from Sony designed to work with the vendor’s XDCAM EX camcorders and decks are used for recording on outdoor cameras and transferring the content for editing. The PCI Express interface of the memory cards provides workflow efficiency, with seamless transition from acquisition to PC for editing and archiving.

With the studio up and running, Alwasat Media Group now plans to set up a playout and MCR for its future needs.

“We will be building the MCR and playout for Alwasat soon. Our relationship with Alwasat has strengthened since we deployed three Elenos radio transmitters for the media house in Al Bayda, Benghazi and Tubruk. We have been awarded the contract to install three more transmitters in Libya,” confirms Gondal.

Kit list

- 3x Sony camera chain (HXC-100/U Sony HD colour cameras) + HXC-U-100/U camera control systems
- 3x Fujinon lenses
- 2x Vinten tripods
- 1x Autoscript prompter system
- 4x Sony monitors
- 1x EVERTZ glue and the SPG
- 1x Ross Crossover video production switcher 12 SD / HD 1ME
- 2x Magicsoft CG and playout
- 1x Yamaha O1V96VCM audio mixer
- 7x Shure microphones
- 1x 2XH dual hybrid analogue from Telos
- 4x Genelac speakers
- Neutrik connectors
- 2x FCP editing machines
- 3x PMW-100 cameras for production
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smart IP live production infrastructure.
Straight out of the box, the AJA Cion 4K camera looks cool!

The brown suede shoulder pad and the wooden finish top handle give it an instant contemporary fashionable aesthetic.

The camera is built in a traditional ergonomic way with a design that seems friendly to the camera operator. What’s more, it weighs only 3.4kg.

As standard, it comes with a PL mount setting, straight off the bat setting itself up as a real digital camera. You can also get third-party EF, B4 and G-mounts, should you need them.

An AV lock plate fits on the back of the camera, so it’s easy to power and has all the professional BNC inputs/

Does AJA’s first camera offering, the Cion, combine good design with functionality? Our resident cinematographer, Harvey Glen, gives us his verdict

TESTING THE CION

outputs you would expect from a professional digital cine camera. It also comes with 4x 3G-SDI outputs for 4K, Ultra HD, 2K, HD and HDMI. Also present is AJA RAW HFR output of up to 120fps. The camera supports an Ethernet connection for real-time video preview and two balanced XLR inputs, which can run at line/mic/48V for our friends in the sound department.

The AJA Cion also has the option of a bottom bracket so you can mount bars for your matte box. AJA manufactures a set of purpose-built bull bars for hand-held operation. These bull bars are well designed and very comfortable to operate, and avoid ‘Frankensteining’ the camera.

The AJA Pak media, available in 256GB and 512GB, mounts at the top of the camera near the battery.
plate and is secure and nearly impossible to knock. This camera’s physicality has been well thought-out. It even has a sliding bracket for a viewfinder, which can be set at your desired increments for best viewing angle and position.

However, AJA doesn’t manufacture a viewfinder for the camera so a third-party one is required. I’ve heard of people using the TV Logics Alphatron, which retails for around $700. Personally, I used my Atomos Shogun monitor for my test shoot, which I mounted via a Manfrotto magic arm in one of the many screw threads on the handle.

Anyone who has read my reviews knows how much I love a viewfinder...but for the camera price of $4,995, reduced from $8,995, something has got to give, and I guess it is now 2015... so using a monitor is acceptable these days.

The menu is controllable from a small screen on the inside/ operator’s side of the camera. This does also provide a low-quality picture, but it’s certainly not designed to shoot from. It does allow you to know that your camera is functioning correctly, so it’s a confidence checker really. Maybe you’ll need to troubleshoot your external viewfinder/monitor to be sure the camera is functioning correctly. It is also a reference for playback, although not ideal picture quality.

Accessing the menu or the user interface from the same screen is chunky and could be improved. Once you’ve changed settings a few times, you do get used to it, but for me, it’s certainly the weakest point of the camera.

Now let’s get down to the tech specs:

- The highest in-camera recording resolution is 4K (4096x2160) progressive
- 4K (4096x2160) progressive up to 120fps Ultra HD
- Ultra HD (3840x2160) progressive
- 2K (2048x1080) progressive
- 1080 HD (1920x1080) progressive, interlaced 25/29.97/30

The camera records ProRes 444 up to 30fps; over that, it drops to ProRes 422.

As it stands, straight out of the box, it doesn’t shoot RAW, but what can you expect for the low price tag? It certainly is a lot of camera for the dollar. For many

“As it stands, straight out of the box, it doesn’t shoot RAW, but what can you expect for the low price tag? It certainly is a lot of camera for the dollar”

Harvey Glen, Cinematographer

An editor at Optix Digital in Dubai grades the footage shot on the Cion.
“AJA doesn’t manufacture a viewfinder for the camera, so a third-party one is required. I’ve heard of people using the TV Logics Alphatron, which retails for around $700; personally, I used my Atomos Shogun monitor for my test shoot”

Harvey Glen, Cinematographer

projects, to be completely honest, shooting RAW can be a pain and too time-consuming in post.

However, if RAW is what you’re after and on a budget, then you can output 4K up to 120fps using the additional AJA Ki Pro Quad solid state recorder. This has just been reduced to $2,995. So, certainly an option worth considering to future-proof your investment.

ProRes is a decent format and compatible with almost everything and very easy to work with. There are Gamma options, including Flat, if you want to have more control over the grading. The native ISO is 320, and with a recent firmware update, it can push all the way to 1000.

However, for today’s standards, a native 320 is quite low and not ideal in low-light situations. The higher ISOs are quite clean, so they can be used when you don’t have the light. Lighting for the base is definitely preferred, for the best image quality.

For my test shoot, I shot fitness model Marissa working out at the Smart Fitness Gym. I chose to shoot late afternoon around 3-4pm, when natural sunlight floods into the workout area. I kept the ISO at the native 320 and used Xeen PL mount prime lenses. This was a perfect combination for the camera. I believe. When launched, they will be $2,500 per lens.

These lenses open to T1.5, which is very impressive and makes an ISO 320 not so bad, quite functional. As I was shooting during the day in abundant light, I used a 1.5ND filter to reduce the amount of light and depth of field.

The Cion AJA camera has an APS C-sized (CMOS) – 22.5mm x 11.9mm. A 35mm sensor with a global shutter is present, so no issues of picture skewing (reminiscent of the 5D days).

It also has an Optical Low Pass Filter (OLPF) and combined IR Cut Filter built-in. This is a very clever move, as this reduces artifacts like moire, aliasing and infrared contamination that many digital sensors experience.

In my test filming, I wanted to see how the camera deals with highlights, over-exposing, shadows, underexposing, skin tone and detail. The camera claims 12 stops of dynamic range; in reality, I think 10 stops is more realistic.

If you are not using the external RAW recorder and shooting in ProRes, you have to protect your highlights, otherwise they will blow out – and once they are gone, they are gone.

Optix Digital, Dubai kindly came on board to cut and grade the footage for the test. Colourist Jasper Taylor graded the footage and noted the highlights were quite pink in some shots, and we had lost a lot of detail in the whites, which were clipped. The mid tones were quite dense, but we could get enough detail out of the material.

Due to the material not being LOG, you’re more limited with what you can do, but there’s enough to play with, especially if shot well.

Take a look at the film here: https://vimeo.com/135966345.

There’s a mechanical back focus adjust on the Cion’s magnesium body,
which allows precise alignment of the lens to sensor, to ensure the lenses measure correctly to their marks.

Overall, the AJA Cion is a very decent camera. I enjoyed shooting on it. You just have to remember that it’s not a RED or an Alexa, and not priced like them either!

With the in-camera ProRes recording, you can’t push it as much as you would those cameras, but you certainly can do a lot.

The menu could certainly be improved, but for most applications, this is a very worthwhile piece of kit, especially for under $5K (without viewfinder or monitor).

AJA’s marketing slogan is “Science of the Beautiful” – is it beautiful?

Well, I think so, but you don’t have to take my word for it. In the Middle East, AJA has launched the TRYCION programme, where you can test it out for yourself for free. All you need to do is register at www.aja.com/trycion/mea/signup. Give it a go and judge for yourself, it’s worth a look!

**“Colourist Jasper Taylor from Optix Digital graded the footage and noted the highlights were quite pink in some shots and we had lost a lot of detail in the whites, which were clipped”**

Harvey Glen, Cinematographer
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A NEW RESOLVE

Post-production specialist Alistair Rankine tests the beta version of his favourite grading software, DaVinci Resolve 12, and declares that with some tweaking, it may become his favourite editing software too.
It has been quite a few years since Blackmagic Design acquired DaVinci Resolve, taking it from a USD 350,000 colour grading workstation to the $995 and free versions that are available now. This year will mark a significant change to the product, as Blackmagic has now decided to completely change the interface as we know it. It's not a complete makeover but it has changed significantly.

The first change is the name, which is now DaVinci Resolve 12 Studio. I am not sure of the significance of the addition of 'Studio'. I initially imagined that Blackmagic had incorporated its recently acquired compositing software Digital Fusion inside Resolve to make a full-on grading/compositing studio. My guess is that it's called Studio to distinguish it from the free version. If so, this is a good way for clients to know whether they are in a session with the full software or the free version.

On booting the software, there doesn't seem to be too much of a change in the user's login page, apart from the fact that they have changed the user setup icons from rectangular to circular. Not sure why they did this – looked fine before, purely aesthetics I imagine.

Once inside, the changes to the interface become very apparent. The high-contrast black interface has gone, replaced with a more stylish, modern and professional-looking mix of dark and light greys. Not only is this more pleasing to look at, but it is also easier on the eyes when looking at the screen for long periods of time. I have looked in the preferences to see if it is possible to modify the grey shading, but so far I haven't found a way to do this. I think what you see is what you get. I personally like it, but some people may want to change it to suit the lighting in their suite.

The overall layout of the product is still the same. It still follows the same four-panel left to right workflow, media, edit, colour, deliver.

However, the initial headache comes when you try to navigate the system. There are so many buttons in different places. The project manager and project settings button are now on the bottom right instead of the bottom left. The way project bins are organised has changed, and many of the buttons are in totally different places.

When I did my first grading job on version 12, I really didn't like the new interface. I was asking why? The reality of the situation is that I downloaded the software and just got stuck in it. I didn't take any time to step back and take it all in but when I did, something new unravelled before me.

Blackmagic has taken a fantastic piece of software and made it even better. The first thing I noticed was how much faster and smoother the interface is. The media panel seems less cluttered than it was before, making it much easier to navigate, with the option of adding smart bins which automatically update as you add and remove footage from Resolve. It is now much easier to organise your project inside Resolve, especially useful for long-format projects where organisation is key.

Moving to the edit panel, we see the master/bins at the top stacked on top of each other, giving a more ergonomic feel to the process of organising clips. Again, some button placement has changed within the timeline. The timeline effect library is now on the top left of the screen, as is the edit index menu. At first, this is a little confusing, but after a while it's a quick and easy way to turn menus on and off. It's just a matter of retraining your muscle memory.

The timeline zoom has also moved, and I still haven't got used to that. It now sits above the timeline. I feel this is an unusual place for it, as most NLEs have this underneath, where it
PROReview

makes sense. I have never really liked the timeline zoom tool. It seems very chunky, and I had real trouble with it being very sticky on a long-format project. That said, it is now possible to toggle zoom in and out of the timeline, which is much smoother.

On entering the colour menu, the first thing I noticed was that the colour curve editor has changed. I feel they have made more of a feature of this menu, as it is the first thing I saw when I entered the colour menu. I imagine this is to appeal to people moving over from other applications such as Photoshop, After Effects and other software with similar controls. The curves menu is now one large window with individually selectable luminance, red, green and blue values.

There are also bezier handles inside the curve menu, making it easier to obtain the exact colour you're looking for. In truth, I found myself using these menus a great deal more than I did on Resolve 11. Having worked on a lot of different platforms, I really enjoyed the new Curve Editor.

It took a while to find the saturation slider in my primaries, because a two-level menu has been added to the bottom left of the screen with High, ColBoost, Shad and Mix (previously in the colour match panel) placed in tab 2 and Contrast, Pivot and Saturation in tab 1. The menu automatically defaults to tab 2 when the software starts up. Not a big issue, but something to look out for.

Now let’s put my first impression aside and talk about the actual changes in Resolve.

First up, the media management for the software has been given an upgrade. It is now possible to archive and restore projects from Resolve with handles, making it easier to collaborate with other systems. Clip management has also been improved, making it easier to delete, copy and consolidate material.

Huge improvements have been made to the timeline, making editing a more pleasurable experience. Not that it was bad before, I just think it needed some tweaks.

Like the rest of the software, working in the timeline is now much faster and smoother. While on a few occasions it has frozen on me or become quite sticky, especially with the timeline zoom control, I am putting this down to the fact that this is a beta version and hope these issues will be ironed out in the final release.

A vast array of new features has been added to the timeline, including first clip automatic

“Blackmagic has taken a fantastic piece of software and made it even better. The first thing I noticed was how much faster and smoother the interface is”

Alistair Rankine, Post Production Supervisor, Muddville

The above footage was filmed for a Dubai Cares project in Africa and edited and graded at Muddville Dubai on the Resolve.
timeline creation, multi-camera editing – not something I use every day in my line of work, but something essential to many editors out there – and real-time audio playback for all playback speeds. This will certainly help Resolve move more into the editing market.

Working with audio in Resolve has always been an issue for me. As well as improved audio playback, it is now possible to pitch correct audio clips that have had speed changes applied. This is ideal when your voiceover is too long for your sequence. Support has been added for VST and AU audio plugins, as has the ability to cut and paste audio plugins, and it is now possible to control audio with JKL dynamic trimming. More importantly, Resolve now has an audio mixer, which is integral to any viable NLE.

The visual editing side of things has also been given an upgrade, with many new video editing features, including Slo Mo using the JKL keys, an expanded multi-selection trimming and the ability to nest a timeline inside another timeline.

A new feature here is the drop-down menu for retiming clips. With so many different video formats available, it is essential to be able to tweak retime options in order to create smoothly flawless retimed clips.

One of my favourite additions to the timeline is the smooth cut transitions function. This allows you to take an interview clip, cut out all the words you don’t need and then seamlessly morph the picture where you have made the cuts. This is perfect for those occasions when you are short on cutaways.

Another feature worth talking about is the multi-gesture trim...
tool, which automatically changes functionality based on where you are on the clip, without the need to constantly use hotkeys. It works very well and reminds me a lot of the timeline trim in the Nuke Studio.

I did, however, find slipping shots in the timeline a little tricky. It’s easy enough to slip a shot by the exact amount of frames, but when I move my cursor away, the shot moves off into a world of its own. On a few occasions, I have resorted to copying the clip to the layer above, slipping the image to where I want it and then dropping it back down. Not ideal, and not what I think of as editing; it certainly needs looking at before the actual release of Resolve 12.

Now, let’s move over to the colour tab, where everything seems familiar. As I mentioned earlier, the colour curves have been updated and now incorporate bezier handles for smoother manipulation.

A new keyer, 3D qualifier, has been added to complement the original HLS keyer. From what I understand from playing with it, the key is calculated by drawing vectors or lines on the area you want to key. Each line/vector calculates a different shade of the colour you are trying to pull the key from and combines them automatically. You can then use the clean black and clean white to perfect the matte. It works far better on skin tones than the previous qualifier and seems fairly easy to use.

Some work has been done to improve the tracker, which was already fairly impressive – a new 3D tracker has been added, which holds a shape even better than before. It is now easier to re-animate the tracker should it go off, as the animation curve now sits directly in the Tracker tab and now has the ability to animate individual points on a shape.

Changes have been also made to the colour management system RCM, in the master project settings tab inside the project setting window. This allows you to take individual camera clips and associate them with their own colour space in the final timeline, eliminating the need to constantly add LUTs to footage from different cameras.

Lastly, moving to the deliver tab, we can now export our audio on its own, which had been needed for a long time. We also have the ability to export to ProTools as any standard NLE should be able to, and the ability to render remotely.

As far as Blackmagic’s claim that

“In the new Resolve, changes have also been made to the RCM, in the master project settings tab.”

Alistair Rankine, Post Production Supervisor, Muddville
the world’s best colour corrector is now the world’s best editor – only time will tell. Personally, from working on the beta version, I think they still have a little way to go to make it the best – I found it a little buggy and sticky.

I do, however, love the new editing interface and find it much more user-friendly than either FCP or Premiere. It even looks nicer, and it’s more responsive. I can certainly imagine cutting a 45-second TVC on it with no problem at all. I would like to road test it a little more before I start editing anything in long form, just to make sure it can handle the large amount of media this takes. I’m sure there will be no issues, as there is now support for multiple GPUs that allow the user to build dedicated workstations depending on what they use Resolve for.

From what I’ve seen so far, I would definitely like to edit and grade in Resolve without the use of other software. I think it all depends on the job at hand. Resolve is still among my favourite grading software, and from what I have seen so far, I think it may become my favourite editing software too. Like many, I also need access to compositing and design software without moving from platform to platform. I can achieve this in Autodesk Flame, Nuke Studio and Premiere Dynamically Linked to After Effects. I imagine we will eventually see Digital Fusion tucked inside Resolve Studio one day.

I have no doubt that Blackmagic is dedicated to product development and is putting a great deal more effort into making Resolve one of the best products in the market. I wish other companies had the same vision. I also believe how good or bad a product is comes down to the person operating it. It all depends on what market you’re in and what you’re doing with it.

I do, however, wish Blackmagic would stop offering ‘free’ software as a means of selling hardware. I could understand offering training versions of software or non-commercial, but from what I have seen over the past five years, the industry is being saturated with freeware. Quality is suffering, and I think there are huge implications for a sustainable industry if this continues in the future. That said, I still believe DaVinci Resolve is leading the way with its commitment to the product line, and I don’t see any reason why Resolve won’t keep getting better and better.

Once again, well done Blackmagic!

Alistair Rankine is a Post Production Supervisor and multi-skilled artist at Muddville, Dubai.

Verdict
- **Good:** Streamlined interface, tracker, keyer
- **Bad:** Timeline zoom bar
- **Ugly:** Slip tool needs work
- **Wish List:** I hope some of the bugs I mentioned are fixed before the software is released
“Early this year, I almost spent $90k on a second-hand set of Ultra Primes. Now, after testing the new Xeens and knowing that they will only be about $2,500 per lens, I am glad I didn’t”

Harvey Glen, cinematographer
Xeen recently launched its 24mm, 50mm and 85mm PL mount cine lenses. I was one of the lucky cinematographers selected to give them a test.

Rokinon/Samyang has already made quite a splash in the DSLR filming world with its high quality and affordable glass. My initial observation of the Xeen lenses was their build quality. The casing is metal yet very lightweight.

The widest stop is T1.5, which is an impressive fast stop, very helpful in low-light situations and, of course, to achieve everyone's favourite, a shallow depth of field.

The 24mm has close focus of 10", 2" closer than the (considerably) more expensive Zeiss Ultra Prime 24mm, again impressive engineering.

When pulling focus, the physical lens barrel is smooth and easy to precisely find a start and stop position.

The Xeen lenses didn’t noticeably barrel/change frame size when pulling focus, which I think is remarkable! A sure sign of a cheaper lens is barrelling. The bocca is very clean, no odd weird shapes when defocused.

The fall-off is beautiful; they are sharp, but feel very natural. All the front elements are an identical size, 114mm, which is incredibly helpful and time-efficient when using a clip-on matte box.

So overall, I am incredibly impressed with these Xeen PL mount primes. Early this year, I almost spent $90k on a second-hand set of Ultra Primes. Now, after testing the new Xeens, and knowing that they will only be about $2,500 per lens, I am glad I didn’t.

The lenses were supplied by UAE retailer, Bidarian General Trading. The footage was shot on price-comparable camera CION AJA in 4K 25 and 50fps, and was cut and graded at Optix Digital Dubai. The footage can be viewed at https://vimeo.com/135966345.

I also tested these lenses on the RED EPIC. The 24mm, 50mm and 85mm cover the 6K full frame sensor, which is truly amazing!

These Xeen lenses are a game-changer. Xeen has brought an affordable high-quality lens to the PL mount market at a budget price. With cameras like the AJA CION, there is certainly a need for high-quality glass at an affordable price.

For me, these lenses blow the Zeiss CP2 out of the water in every respect! They are for the DSLR filmmaker who has moved on and is sourcing more quality, but still within a budget.

This is the answer!
When a radio station successfully uses social media to create and deliver a more personalised experience, it is sure to draw more audience and more revenue, says Alexandre Martinez.

Over the past decade, the content provided by radio stations has evolved from over-the-air transmission of linear programming and commercials to multiplatform delivery of audio, video, images and text in a way that gives audiences much greater choice in how, where and when they consume content. No longer focused solely on audio, radio broadcasts today are often complemented by video and enriched content that audiences can access from anywhere at any time, not only on a radio in the kitchen or car but also on connected mobile devices and computers.

No longer limited to traditional FM channels, radio stations have access to much richer possibilities. The emergence of non-linear content, on-demand radio and mobile access has transformed radio stations in terms of both business strategy and technical operations, and in turn opened up new opportunities for growth.

With respect to business strategy, radio stations increasingly are being challenged to extend their brands into the digital world. To this end, social engagement is essential to keeping listeners involved. By going social, a radio station can be where its audience is, and gather data about that audience.

To develop a dynamic dialogue among listeners, radio stations must develop their own social platforms. Establishing a presence on mainstream platforms such as Facebook or Twitter is essential, but this presence should complement the station’s primary social media presence, which is entirely under the station’s control. This way, the station gains visibility in key areas.
monitor the number of views and click-throughs on the content a radio station has published. This data not only helps the station evaluate its performance in the social realm, but also provides the accurate metrics necessary to demonstrate this performance level to advertisers.

The business gains made possible by effective use of social media are clear. When a radio station successfully uses social media to create and deliver a more personalised experience, it draws a larger audience. When the station demonstrates to advertisers that it has a growing and valuable audience, it brings in greater revenues. So what factors contribute to the successful use of social media?

Fundamentally, effective use of social media requires radio stations to take three key steps. The first is to establish a station-controlled social media platform that facilitates real-time communication and enables the broadcaster to interact with listeners across all social platforms with a minimum of clicks. Staff at the station must be able to manage the platform easily, with the speed necessary to be both efficient and responsive to the audience. As radio stations move into the realm of social media, they also must invest time and thought in developing creative ideas for promoting the station brand.

The second key to success is to make audio and video content easy for the audience to share. When users find it easy to share content on a station’s digital online platform, they are more likely to do so. As users share content, they promote the station in a relevant way that helps the station boost its base of followers.

The third key to success lies in making the most of the information supplied by the online audience. Every vote, comment and contest response generated by the station’s social media platform must be used to build user profiles. With a better understanding of its audience, the station can build a deeper connection with listeners, foster greater loyalty on the part of listeners and boost the time they spend engaging with its brand. All these gains contribute to higher ratings and, ultimately, advertising revenues.

In technical terms, the pursuit of a business strategy that involves social media requires integration of social media and interactivity into daily processes in a manner that preserves ease of use. This may mean using a Service Oriented Architecture (SOA) to plug solutions into an existing environment so that third-party applications can be called from a single interface that makes everything transparent for the end user. This model empowers the radio station to reduce the time and cost of configuration, and to move forward in managing its social media platform presence successfully.

Despite intense competition from new players such as online music services, traditional radio stations can prosper and grow if they use social media to leverage their uniquely rich content, including programming that boasts popular host talents, interesting shows and timely, localised news. The good news is that companies are providing tools that not only make this process simple but also support seamless integration into day-to-day production operations, parallel to the linear AM-FM broadcast.

Alexandre Martinez is Pre-Sales Manager for NETIA.
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A new animated short film spotlights the achievements of Arab scientist Ibn Al Haytham. The film is a special tribute to legendary actor Omar Sharif, showing yet again how technology and art have the innate capacity to transcend boundaries.

The UAE’s creative accomplishments were acknowledged globally, with the selection of a UAE co-produced animated character called Ibn Al Haytham as the mascot of China’s biggest science festival. Ibn Al Haytham is part of a larger global campaign and a series of media productions entitled 1001 Inventions and the World of Ibn Al Haytham, created by 1001 Inventions, a Middle East science and cultural heritage brand and a British educational organisation. A key element of the campaign is a 12-minute short film produced by Ahmed Salim, the man behind 1001 Inventions. The film is co-produced by Dubai-based Blink Studios and directed by the animation studio’s resident director, Hani Kichi.

The film brings to life Ibn Al Haytham’s quest to discover the nature of light and vision. The animated storyline is intertwined with a live-action film starring legendary actor Omar Sharif.

Sharif plays a grandfather who narrates the story of Ibn Haytham to his granddaughter and takes her back in time on the scientist’s journey. The plot revolves around the Arab scientist’s work in the field of light and vision. The film showcases Ibn Al Haytham’s research into the behaviour of light and his discovery of the camera obscura or the pinhole camera.

1001 Inventions and the World of Ibn Al Haytham stemmed from the success of the 2010 film 1001 Inventions and the Library of Secrets, starring Sir Ben Kingsley, also produced by Salim.

“The idea of a film on Ibn Al Haytham came back in 2011 when my team and I at 1001 Inventions in London were stunned by the massive viral success of our film 1001 Inventions and the Library of Secrets. We worked...
together conceiving different concepts for new films that would continue the journey of celebrating and raising awareness of the thousand-year golden age of science and technology in Muslim civilisation. The idea of a film on the 11th-century scientist was one of those ideas that we started presenting to potential sponsors and funders,” explains Salim.

The team zeroed in on a standalone short animation, and Salim started the script in early 2013. “I wrote the script and then had a team of writers review and help improve the story. I decided on having a modern setting filmed in London, and then a magical iPad transports audiences back in time to Ibn Al Haytham’s world,” says Salim.

“I wrote the script and then had a team of writers review and help improve the story. I decided on having a modern setting filmed in London, and then a magical iPad transports audiences back in time to Ibn Al Haytham’s world, which is the switch over to the animated part of the film. I decided on a set of characters that would represent the diversity of cultures within Muslim civilisation, men and women of different faiths and cultures from Spain in the west to China in the east,” he says.

Director Hani Kichi to ensure it retained a strong visual sequence. It went through a series of redrafts to deliver tightly knit characters, settings and events that represent the main hero’s era, while crossing over smoothly and naturally into the live-action modern world led by Omar Sharif.

Two main characters were developed – Ibn Al Haytham and a general, who guides him in his journey, along with four secondary characters. Sketch artists and designers worked on different backgrounds and environments, using 3DS Max, Adobe Photoshop, Adobe After Effects and Painter.

The animation was produced using both 2D and 3D pipelines, and it took the artists two months to develop the script and the storyboard. Developing and finalising the designs of the characters and the backgrounds took another two months. This was the pre-development stage; animation and post-production took about four months.

Ahmed Salim, Producer, 1001 Inventions and the World of Ibn Al Haytham
“We did a lot of sketching to create and modify the characters’ 3D models and textures. The sketches were made on paper, as well as digitally using Photoshop and Painter. We had around 15 different artists working on three pipelines – 3D animation pipeline, 2D cutout animation pipeline and the VFX pipeline.”

Kichi explains that the tricky part was not technical, but finding the right transition from a creative point of view that felt organic and natural to move from one type of media to another.

“Transitioning between both realms was challenging, as we didn’t want the audiences to feel disengaged due to time travel, but the tablet offered that smooth link between both worlds,” Kichi says.

3DS Max was the 3D animation pipeline, used with a cut-out 2D animation on After Effects. The 3D animation was used to depict the main hero, the characters and the environments he engages within the story. However, 2D cut-out animation was used to depict old historical paintings that play a part in the storytelling. Some of the characters from these paintings were also recreated in 3D animation, with a golden look and feel to symbolise the golden age.

“Transitioning between both realms was challenging, as we didn’t want the audiences to feel disengaged due to time travel”

Hani Kichi, Director, Blink Studios

The artists at Blink Studios used technologies in 3DS Max, motion capture, green screen filming, VFX, After Effects and a traditional 2D animation pipeline.

It was the first time the production crew and director had the opportunity to work with Omar Sharif, who came out of retirement specifically to do this film, as he strongly believed it would help educate children all over the world about the origins of the scientific method, light science and the camera obscura. The legendary star worked tirelessly, despite his failing memory, to honour Ibn Al Haytham.

“We have dedicated this film in his honour. Omar Sharif spent a lifetime in the movie industry, and we hope his final film will define his legacy by helping to educate and inspire young people,” says Salim.

For Kichi, mixing animation with
the talent of Omar Sharif was the most rewarding element of the film, the third short film from a director who has experimented with different styles of animation and believes it is a storytelling genre that brings out its characters very vividly, though it comes with its own set of challenges, especially when carrying “historical weight”.

Unlike a live-action film, an animation film requires more preset time to visually construct characters and settings, alongside developing a good engaging script. The creative assets built and the animation technique used determine the visual standards that audiences will finally experience on screen.

Kichi points out that the character of Ibn Al Haytham took time to develop and animate into its final look and feel, simply because he had to be genuine and believable.

Another element that animation films rely on strongly for their on-screen success is music, which is the driving force of events and actions that will make part of the film's storyline,” he says.

International artist and musician Sami Yusuf composed the music for the film. Salim approached Yusuf right after he completed a rough cut of the film. Yusuf believed strongly in supporting the film and first came up with a short melody that could be developed further into a theme. Then, for each scene he composed versions of the theme to suit the action.

Technically, the film was built on optimising the existing production facilities for live action with an animation film, explains Kichi. Post-production of the animation, the visual effects and compositing was done at Blink Studios using Final Cut Pro, while the UK post house worked on sound and colour grading for the finished film.

The release
The film is due for public release in November this year, and more than 100 million people are expected to see the film in the next two years. It will be released online and on television stations in many countries, and 1001 Inventions is going to make a special campaign to engage schools all around the world. The producers have also developed a full set of educational materials to support the film's use in schools and science festivals.

“Through the exciting story of Ibn Al Haytham’s life, we’re hoping to introduce audiences to the creative and innovative golden age of Muslim civilisation. There are so many stories to tell from that period that can inspire young people all over the world. Our journey continues,” Salim says.

More than 100 people were involved in developing the 1001 Inventions and the World of Ibn Al Haytham global campaign, exhibition, live show and short film. The people behind the film worked together to come up with different concepts for new films to continue the journey of celebrating and raising awareness of the thousand-year golden age of science and technology in Muslim civilisation.

“It took two years to create the campaign, and we launched it in partnership with UNESCO in January 2015. Our Ibn Al Haytham campaign is an official part of this year’s United Nations-proclaimed International Year of Light,” concludes Salim.
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CONTENT IN THE SPOTLIGHT AT CABSAT

Andrew Pert, Exhibitions Director at Dubai World Trade Centre, tells us what to look forward to at CABSAT 2016. We bring you some of the new features at the MENA’s largest broadcast show.

I hear you have a special feature coming up at CABSAT?
Yes, for CABSAT 2016, we intend to have a lot of focus on our Content Marketplace, a new feature aimed heavily at the buying, selling and exchange of all filmed entertainment content for the MENA region.

One of the reasons we have been planning this for CABSAT has been because the show has seen an increase in attendees looking for new content. Based on a survey we conducted, 32% of CABSAT’s 2015 visitors stated that buying new content would be critical to their business in the next 12-18 months. Launching the Content Marketplace with CABSAT allows us to deliver higher levels of ROI and customer experience to all the stakeholder communities involved in the creation, management, distribution and monetisation of all filmed and audio-entertainment content.

With the combined events, we are expecting 15,000+ visitors in 2016 to the show, supported by 1,000+ exhibitors. We will also have 30+ new exhibitors from the world’s and the region’s TV and film content creators and owners, production houses and studios, distributors of content, producers and advertising houses – all of these entities will be showcasing film, TV, serial drama, documentary and kids TV content that is up for sale.

Selected buyers from regional TV stations and channels, broadcasters, free-to-air and pay-tv operators, telcos and satellite operators will benefit from a package of tailored benefits to attend the Content Marketplace. This will include access to a dedicated two-day Content Congress, networking events, pre-arranged meeting programmes and lounges, plus they will be able to view content for sale in a dedicated screening theatre – where the focus will be on Ramadan content for sale.

There will also be competitions for the Content Marketplace event profile, including a live 24-hour hackathon meant for engaging professional developers in the immersive filmed entertainment formats, driving future-connected mobile viewing experiences and a HD short film competition.

The UAE is continuing to promote itself as the filming destination of choice across the region (supported heavily by Dubai Studio City, Dubai TV and Film Commission and twofour54) – and is continuing to see some of the world’s latest blockbusters such as Fast & Furious 7, Star Wars and Star Trek all being filmed here. We are looking to support the UAE as an innovation destination and filming hub for Hollywood studios, along with Arabic and Bollywood content.

The Content Marketplace will also deliver new specifiers and influencers to attend CABSAT for

“Launching the Content Marketplace with CABSAT allows us to deliver higher levels of ROI and customer experience to all the stakeholder communities involved in the creation, management, distribution and monetisation of all filmed and audio-entertainment content”

Andrew Pert, Show Director, CABSAT
the purchasing of related broadcast and satellite equipment for use in the electronic media industry, along with the demand for content delivery solutions focused on IPTV and OTT services.

**Any other plans for the next edition of the show?**

Besides the Content Marketplace, we intend to deliver an expanded conference programme under the newly formatted Content Congress. It will be presented by CABSAT and Content Marketplace in association with NAB Show. The congress will feature a two-day programme from global and regional strategists, innovators and futurists who will be relaying future insights, trends and growth opportunities for the MENA region’s electronic media, filmed and audio entertainment communities.

CABSAT 2016 will also be home to the region’s largest multi-screen, IPTV, VOD and OTT event under the Content Delivery sector of the event, which will see 100+ brands exhibiting and presenting within the dedicated content delivery seminar arena. We also intend to have a Video Marketing Hub, which is being added to share client case study examples of branded video content being produced in enterprise and key FMCG markets by leading international and regional brands. This will be presented to active marketing and digital professionals, who are increasingly incorporating video marketing and production into their planned digital marketing strategies.

Expanded production and post-production certified trainings will be running during the show, catering to both university-level students and technical/engineering professionals within the electronic and digital media space.

We will have the region’s largest aerial and robotics drone zone, incorporating ActionCam partners, all of who will be showcasing live hands-on demonstrations to broadcasters, TV channel and station operators, live TV and film entertainment content producers and agencies, on how content is being captured and created using these new filming technologies.

We will continue to retain the satellite hub, which is delivered with GVF. This again will return with an expanded seminar programme, covering technical satellite trends and innovations that will drive content distribution, and will present the opportunities for the sector linked to the mobile broadband growth across the region.

Our complementary meetings programme is also being expanded.

**We hear the venue is being revamped substantially for the next year. Can you elaborate?**

Yes, with the planned expansion of the Content Delivery profile and the launch of our Content Marketplace, CABSAT 2016 will be occupying the new purpose-built exhibition halls at DWTC, allowing us to continually connect all related show profile areas together for all future editions of the show. These are in the same venue, but the halls are new and will be ready by the time of the show.

**Any exclusives you can share with us?**

I’m pleased to announce that CABSAT will have its first West African pavilion. We’ve had considerable interest from that sector and next year, there will be enough exhibitors to merit a pavilion.

**How do you intend this exhibition to evolve over the next couple of years?**

CABSAT, through the development of the Content Delivery area and now the launch of the Content Marketplace, is making step changes to the long-term growth strategy of the event. Our aim is to not only position CABSAT as the region’s ace annual expo for the sourcing of all related products, services, solutions and content for the industry but also to be the industry’s leading knowledge platform that allows for topical ‘binge’ learning to take place for all industry stakeholders that are shaping the future opportunities available across the MENA.

CABSAT’s investments will be centred on creating new opportunities for all of our stakeholders during the event, to access new markets and to create unique connection opportunities for growth across the MENA region.
Transporting audio over IP is getting more attractive with falling IP bandwidth costs and more robust IP infrastructure, says Andy Rayner

There has been much debate in the industry surrounding video over IP; it is easy to forget that there is a continuing need for dedicated contribution audio circuits too. Audio signals may be inherently smaller in bandwidth, but they are equally critical in terms of many of the underlying network transport requirements. Voice over IP solutions have been in use for next-generation speech telephony for a long time, proving the basics of this technology.

Transporting audio over telco IP circuits means splitting the data stream up into packets. With appropriate buffering, the audio stream is then reassembled. Buffering means latency though, so there is a distinct trade-off between the level of buffering necessary to allow for network performance and time taken.

There is also a need to maintain perfect synchronisation between audio signals, for phase coherence in stereo and multi-channel sound. The latency in the system has to be managed and treated in the same way for all constituent flows.

The falling cost of IP bandwidth means it is becoming more and more attractive to work with uncompressed audio signals. A stereo pair has a bandwidth of around 2.5Mb/s without compression, and latency can be as low as the packetisation of the chosen encapsulation allows. Typically, aptX is widely regarded as the only professional choice where compression is required.

AptX involves a different kind of compression: rather than using psychoacoustic modelling to take out data, it uses time domain ADPCM – which in simple terms uses fewer bits per sample, so the files are smaller. It delivers 4:1 compression with very low latency, as low as 2ms with minimal quality impact. Multiple audio channels for multi-channel sound are carried in a single wrapper to keep a multi-channel feed in phase coherence.

The best way to manage real-time IP connectivity is to use RTP, the Real Time Protocol developed specifically for real-time data delivery such as audio (and video) by the Internet Engineering Task Force. This method provides both visibility and manageability of the IP layer.

With the fundamentals set, there still needs to be significant engineering in the end-to-end solution to achieve high performance audio delivery without errors, drop-outs or other impairments. Sending signals over long-haul IP fabric risks packet loss at and between the switches along the route. The smart solution includes ways of protecting...
the signal against these errors.

One of the basics of network connectivity is that it is often designed to be self-healing. If a problem occurs, the telco’s systems re-route the signal. Depending on the layer at which the protection is implemented, this automatic re-routing takes a minimum of 50ms, and potentially could be measured in tens of seconds for reconvergence at the IP layer. As we know the vulnerability of real-time media flows to packet loss, simply relying on the telco network is not enough.

Forward error correction (FEC) is the first step for protection. With FEC, extra packets are generated based on the payload packets. If a payload packet is lost or corrupted, it can be reconstructed from the packets either side of it, along with the relevant FEC packet. FEC also comes at a cost in terms of bandwidth utilisation, with the simplest adding around 5% to the payload, and comprehensive protection running as high as 50% additional data.

At Nevion, a technique called Seamless IP protection Switching (SIPS) has been developed for all key platforms. This technique receives dual flows into the receiver and on a packet-by-packet basis uses the feed from either flow depending on the integrity of the incoming packets, assessed using the aforementioned RTP layer.

The most obvious application of SIPS is when deploying two alternative routes between the sender and the receiver. If a problem arises on the primary route, it uses the data from the alternative without dropping a packet. This protection uses the RTP layer to be aware of the relative timing of the dual diverse flows and to merge the flows seamlessly, in spite of different arrival times.

Some network designs end up with low-layer (optical) protection that may affect two nominally diverse paths. The solution to these simultaneous events lies in putting a launch delay into one of the feeds in the sending device.

**“The best way to manage real-time IP connectivity is to use RTP, the Real Time Protocol developed specifically for real-time data delivery”**

Andy Rayner, Vice President of Engineering, Nevion

and effectively creating temporal diversity, using the buffering in the receiver to maintain synchronisation.

This technique adds latency, but is very useful in solutions where the latency is not a critical parameter. Programme distribution on non-two-way contribution could easily tolerate the additional 100ms that might typically be added to use this technique.

Having protected the circuit through diverse routes, the next logical step is to provide redundancy in the hardware: the encoder and send device, and the receiver. The challenge here is that the RTP timestamp is normally an autonomous part of the encapsulation process which sits inside the send device.

The solution is to synchronise the RTP stream in one encoder to the other. One device is nominally the master, and the other a slave to it. Should the master hardware fail for any reason, the slave takes over instantly, with the RTP layer in synchronisation. This gives full redundancy at the encode end of the circuit.

At the receive end of the circuit, the two streams are then identical, with some time offset because they have travelled different paths. The feeds are received by redundant receivers for standard SIPS switching and protection.

**Internet**

Given the level of protection available for IP circuits, the obvious question is whether the public internet can be used for professional grade audio contribution. This is definitely possible, but the non-deterministic and over-subscribed nature of most DSL connectivity can make this approach a high risk. The buffering needed to provide the best performance would result in significant latency on the end-to-end connection.

A number of telcos are now considering offering connectivity with some degree of Class of Service control for feeds. This offers a way to work around the over-subscription and contention.

Internet-based connectivity could certainly be planned as backup to a private IP circuit, although this would mean accepting greater latency than a private circuit delivers to allow a seamless merging of the two diverse circuits.

**Conclusion**

The provision of high bandwidth IP circuits means that low-latency, high-availability circuits can be established from a lot of venues to a broadcast centre. The limit on capacity and latency is likely to be the last mile to the venue. This is where the bandwidth will be lowest.

Provided that this last mile bandwidth is sufficient for a programme, then with intelligent routing control and signal management, there is no reason audio contribution over IP circuits should not deliver the quality and reliability broadcasters expect.
SGL manages assets in a flash

SGL will feature FlashPack at IBC 2015. A turnkey archiving system designed for use with all major media and production asset management systems, FlashPack provides an entry-level archive system with no extra hardware, no extra software and no hidden costs.

At the heart of FlashPack is SGL FlashNet, a content archive and storage management solution. FlashPack harnesses FlashNet’s power, resilience and scalability, in a compact entry-level solution. It is suitable for broadcasters, sports venues, post-production houses, corporate communications and other organisations that need to manage their media assets.

Implementation is simple and is completed remotely, linking FlashPack to the user’s MAM or PAM system. FlashPack is easily manageable by creative professionals, not requiring dedicated IT resources.

Lee Sheppard, SGL’s Director of Product Management explains: “The FlashPack complete storage archive addresses the need for a separate, self-contained system providing a price versus performance ratio that lowers the cost of entry while ensuring the key business criteria of future scalability and security.”

As well as FlashPack, SGL will be showcasing new technology and third-party integration projects for the first time in Europe at IBC 2015.

www.sgtbroadcast.com

Optical test for LumaCon

LumaCon is a new test instrument for cinematographic optics from Luma Tech.

Utilising a proprietary target-sensor and software, LumaCon uses the “peak contrast” principle to pinpoint optimum back focus and focus distance scale settings of lenses. The image of a knife-edge reference object is used to generate performance curves. The software then does the interpretation, automatically locating the point of peak image quality.

Applications include general maintenance and repair of motion picture optics, as well as in-depth analysis and comparison of optical resolution and assembly quality.

One of the design goals was to develop a system that is invaluable to trained optical engineers as well as maintenance personnel. The software-controlled solution removes vagueness from the job of judging back-focus and other routine tasks, but does not totally remove human judgement.

www.lumattechinc.com

Harmonic’s Electra X factor

Harmonic will showcase its new fully converged platform for broadcast and OTT delivery of SD, HD and Ultra HD/4K content.

Electra X is claimed to be the world’s first encoder family to support graphics, branding and playout functionalities, as well as video quality and full-frame UHD/4K live encoding.

Featuring real-time encoding of SD, HD and UHD/4K media, integrated branding and graphics and reliable transport stream playout, Electra X offers content and service providers video quality, function integration and operational flexibility in a cost-effective appliance.

www.harmonic.com

Sony’s Media Navigator

Sony has announced the launch of Media Navigator, an affordable and scalable solution to deliver flexible asset management.

The new platform supports a wide selection of modern media formats, including 4K, and is suitable for a range of professional customers, from production companies and regional broadcasters to corporations, government bodies and institutions.

Media Navigator orchestrates key phases of the content workflow – from ingest, catalogue and editing to review, approvals, distribution – including cloud – and archive. Its interface is centred on intuitive functionality.

www.sony.co.uk

www.broadcastprome.com | September 2015
Livewire casts its net wider

Livewire Digital will debut its NetCaster, designed to allow groups of untrained personnel to contribute to a broadcast or stream shows from an iPhone or iPad.

Key developments to the product’s functionality include event management and workflow functionality for full integration and contribution of both file-based media including video files, audio files, photographs and live footage over low bandwidth links using RazorLink technology. RazorLink technology benefits both live and file-based workflows, offering resilience and low-latency video and ensuring fast file delivery.

www.livewire.co.uk

Broadcast Solutions steers towards 4K

Broadcast Solutions will show the first 4K member of the Streamline OB van family.

The Streamline S8 4K is a compact self-driving and fully functioning OB van with up to eight cameras that is capable of working thoroughly in 4K.

The Streamline product family consists of pre-engineered OB vans that come in five different versions of four to 16 cameras.

www.broadcast-solutions.de

More fibre with Argosy

Argosy is launching a new fibre assembly of its own design and manufacture at IBC. The new multiple tactical fibre assemblies are designed for outside broadcast applications where cables are roughly handled on a regular basis.

The Argosy solution is to make up multiple fibres – as many as 24 – to suit the customers’ needs. The fibres are protected in a breakout, which prohibits them from rotating under use, and the entire end of the cable is protected with a captive heavy duty pulling sock. This solution together ensures that the load under deployment and recovery is transferred directly to the aramid in the tactical cable, and when laying on the floor protects against crushing of the breakout.

www.argosycable.com

MediaPower bridges the gap to IP

MediaPower will focus on IP workflows as it aims to help broadcasters and content providers bridge the gap to IP playout by supporting simultaneous SDI and IP ingest and playout on its AirGo video server.

AirGo is a turnkey solution for multi-channel broadcasting that combines automation, simultaneous SDI & IP ingest/ playout and interactive graphics overlay in a system provisioned with RAID-protected storage. This single, compact, fully integrated multitasking box reduces the cost and effort to maintain a system that continues to scale in size and complexity, while easing the transition to IP workflows.

In addition to supporting all major codecs and wrappers, and simultaneous SDI and IP ingest/playout, it provides built-in automation and master control tools alongside an advanced graphics and branding suite [powered by ClassX] that allows broadcasters and operators to better engage their audience and encourage brand recall. AirGo is also configurable as a channel-in-a-box solution.

www.media-power.it
Ikegami more compact with HDL-57
The Ikegami HDL-57 is a compact high-definition camera designed for use on remotely controlled pan/tilt heads in applications such as parliamentary television or robotic studios.

It can also be used wherever a high-grade fixed-position compact camera is required for intercutting with the output from full-size studio cameras.

Three 2.5 megapixel 2/3 inch CMOS sensors are employed to deliver wide dynamic range and, in principle, no smear.

Full digital processing within the HDL-57, from imagers to HD-SDI output, delivers high signal integrity and better picture quality as well as stable and reliable operations. Master gain is processed through a high-grade, low-noise amplifier with negative feedback.

The Ikegami HDL-57 operates on 12 volt DC power (11-16V), consuming 18 watts or less.

FileCatalyst goes Direct
FileCatalyst Direct 3.5 is now fully integrated with – and can save data directly to – Amazon S3, the popular online file storage offered by Amazon Web Services, making it easier for users to share their large media files in the cloud as opposed to having to store files on-premise.

FileCatalyst Direct 3.5 also offers extended support for dynamic files. The software compensates for potential file transfer errors, such as those that don’t grow sequentially or are inappropriately modified by certain file formats. It can substantially reduce the wait for file-transfer corrections, and can also retransfer portions of a file that have been modified once the primary transfer is complete.

Jünger Audio’s immersive 3D
Jünger Audio will show a prototype audio monitoring solution that will allow broadcasters to check the quality of all immersive audio transmissions, regardless of format.

It will also help maintain compliance with existing loudness regulations, while avoiding the known processing artifacts of traditional loudness control approaches. The hardware-based product will offer a future platform to host all the emerging immersive 3D audio encoding formats from different vendors, including MPEG-H TV audio system and Dolby’s immersive audio system.

Comprising a combination of hardware containing I/O, decoding stage, monitoring functionality, audio control software and an advanced user interface, the unit allows monitoring and auditioning of up to 16 channels of audio and controls all metadata.

FileCatalyst will launch its MGW Ace appliance, claimed to be the industry’s first 100% hardware-based HEVC portable device for encoding and streaming video.

The compact device features HEVC (H.265) bandwidth-efficient compression, as well as legacy H.264 capabilities – supporting today’s diverse and demanding field-based content requirements within settings such as live news broadcasts, sports venues and secure applications within military environments. Equipped with a wide selection of I/Os and offering low power consumption using VITEC’s HEVC compression chip, the flexible device is suitable for any high-quality audio or video streaming, as well as KLV metadata requirements, whether in the field or on the move.

Also being shown for the first time at IBC is the all-new MGW D265 portable H.265 & H.264 IP decoder.
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Amagi plays out from the cloud

Amagi is launching a new managed playout service designed to simplify video content preparation, management and delivery for broadcasters, by leveraging cloud capabilities.

Based on a hybrid architecture consisting of cloud-management and edge-playout solutions, Amagi’s approach enables content owners to move assets through fast file-transfer on the internet, or transport content into the cloud infrastructure via portable storage methods. The assets are then automatically ingested and transcoded on the cloud into required formats, archiving the content as needed. The service features an automated content ingest workflow with built-in heuristics to automatically prioritise assets scheduled for earlier playout.

www.amagi.com

Riedel signals MicroN arrival

Riedel will showcase the newest addition to the MediorNet line of real-time signal networks, the MicroN.

MicroN is an 80G media distribution network device for the company’s MediorNet line of media transport and management solutions. Working seamlessly with the MediorNet MetroN core fibre router, MicroN is a high-density signal interface with a complete array of audio, video, and data inputs and outputs, including 24 SD/HD/3G-SDI I/Os, two MADI optical digital audio ports, a Gigabit Ethernet port, two sync reference I/Os, and eight 10G SFP+ high-speed ports at a very competitive price point. MicroN offers routing and processing capabilities that can be tailored economically for the productions of all sizes and complexity. A single unit serves as a standalone point-to-point router and processor while multiple interconnected units support scalable decentralised video routing.

www.riedel.net

A new vision from Qligent

Qligent has developed a new multi-channel visualisation application for its Vision platform.

The new application extends the depth of Qligent’s flexible multi-site monitoring and analysis capability, offering a dense and intuitive way to monitor the health and status of many channels on a single screen.

Qligent’s spin on multi-channel visualisation helps engineers connect the dots when problems arise, through a simple three-step workflow. Using Qligent’s customised video widgets, users can combine any monitoring parameters to quickly visualise performance. It correlates a variety of data with quality and performance issues allowing operators to quickly filter, sort and collect evidence.

www.qligent.com

Vualto simplifies delivery

The latest version of the Vualto vudrm system includes a much richer administration portal, giving users access to comprehensive statistics as well as token generation and key provision.

Vudrm now integrates with Amazon, Azure and Wowza, as well as the unified streaming platform, and Vualto has also launched a new trial offering, available for 30 days with a rapid set-up feature to maximise simplicity.

The multi-vendor DRM solution hides this complexity from the content provider and makes use of both traditional DRM and CENC (common encryption) to provide content protection across devices. The Vualto vuplay product now includes a full set of DRM-enabled SDKs to cover all the current popular devices. This gives users the ability to create their own players for each device. The system also integrates with THEOPlayer for non-DRM, HLS playback.

www.vualto.com
A New Premiere

An event focused on buying, selling and exchange of all filmed entertainment and audio content for the MEASA region.

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Glensound goes on an Expedition

Glensound will launch its 4G HD Voice Broadcasters’ Production Phone with the addition of 4G LTE network compatibility.

The new Expedition adds some important new features to the current Glensound HD Voice phones. The Expedition can make 3.4kHz narrowband calls on 2G GSM, 3G UMTS and 4G LTE, or 7kHz wideband HD Voice calls on 3G UMTS and 4G LTE.

Linear Acoustic launches AERO.10

Linear Acoustic is launching its AERO.10 DTV audio processor. The AERO.10 provides the same highest quality processing found in the entire AERO range, but at a significantly lower price point.

AERO.10 is a fully-featured audio processor supporting up to ten channels of PCM audio via AES, SDI or stereo analog I/O. The AERO.10 comes equipped with a processing engine identical to those in the established AERO.100/1000/2000 products. Tools such as AEROMAX loudness and dynamics control, UPMAX II automatic upmixing and downmixing algorithms, and ITU and EBU compliant loudness metering and logging make the AERO.10 a powerful solution for nearly any application. Downloadable 7.5 day rolling and event-based logs include multiple ITU-R BS.1770-3 loudness measurements as well as True Peak values.

Linear Acoustic has announced the integration of the AERO platform into VersioCloud, the integrated playout in the cloud platform from Imagine Communications. Via the Linear Acoustic AERO platform, VersioCloud includes integrated loudness control and processing, further reducing costs associated with linear channel playout.

The AERO platform enables fast integration of real-time and file-based audio tools into third-party systems via simple, hassle-free licensing.

Make.TV debuts ACQUIRE

At this year’s IBC, make.tv will introduce make.tv ACQUIRE. make.tv ACQUIRE is a new plug-in that enables third-party solution providers to integrate the functions of the make.tv live video cloud into their own applications. As part of this development, make.tv has also announced integration with Avid within the Avid MediaCentral Platform ecosystem, using the Avid Connectivity Toolkit.

With make.tv ACQUIRE, Avid MediaCentral Platform users can enjoy complete access to the make.tv Live Video Cloud and all its features. News productions can be enriched with live feeds from smartphones and tablets.

Its compatibility with other make.tv tools means that the content generated can be selected, managed and distributed with flexibility.
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"Technology is moving faster than the planners. The audience is experimenting. Their expectations of what and when and where and how they can consume content are changing. The advertiser has noticed, and budgets are shifting."

The big five of digital

If you’re a traditional free-to-air broadcaster in the Middle East, you most likely belong to one of five camps when it comes to the impact of technology and OTT services on your business and on your audience. Only one of these groups has a chance of surviving the shifting content consumption landscape.

**Group 1: The Unaware ("What’s OTT?")**

This group includes quite a few household names, as well as several privately-owned standalone channels across the Middle East. The prominent members of the group are the state-owned broadcasters who have only applied cosmetic changes ("Let’s change the logo!") to their channels. Their management teams are neither digital natives nor digital immigrants. They are preoccupied with managing the historical baggage that has accumulated in their organisation over decades. They are the captain of the Titanic standing on the bridge but not seeing any icebergs. This group will be swept aside, and they won’t notice until it’s too late.

**Group 2: The In Denial ("It won’t happen here!")**

This group has an often-heard chant: “Linear TV is forever. Viewers are lazy and passive. Our markets are different. The internet is too slow. The mobile screen is too small. The kids will want linear TV when they grow up.” Oblivious by choice, they believe their market is somehow isolated from the impact of technology and operates under different rules. They make incremental changes to their channels (new grid here, new sports rights there) and see no need to change how they go about their business. This group will also be swept aside, but not before realising their error in judgement and attempting a futile last-minute attempt at reinventing themselves.

**Group 3: The Wait-and-See ("I’ll jump in when it’s worth it")**

This group has it figured out. They have crunched the numbers. They have forecast the audience shares. They have built business cases with multiple scenarios at various degrees of sensitivity. They have evaluated the technology: They go to all the cool conferences. They know what it takes and will wait until the market is right and the revenues are worth going after.

This group will get a surprise. Just as they decide to jump in, they will discover that the others are already there. They will find that new previously unheard-of companies and brands ‘suddenly’ command a significant market share. Then they will crunch their numbers again, and find out that they need to significantly increase their planned investment to catch up. Those who can afford it may remain relevant.

**Group 4: The Easy-Does-It ("Here’s a pretty catch-up website, and maybe an app or two!")**

This group is confident they’re taking the right steps. You can watch their channels live on your TV, your computer, your tablet and your phone. You can download the app. You can catch up with almost any programme broadcast over the past six months. They played with Periscope and Snapchat to show the world they’re cool with tech. Except they wrongly assume the answer solely lies in deploying technology, while the content, the consumer and the business model remain unchanged. Digital is something a few young people on one of the floors of the building take care of, while for everyone else it’s business as usual.

**Group 5: The Paranoid ("They’re coming after my audience!")**

They cannot sleep. They know their time is finite. They disagree on how long they can maintain the same unsustainable business model before making the transition to the new one. They worry about losses in the transition period. Meanwhile, the audience is fragmenting. The consumer is distracted across multiple screens. Technology is moving faster than the planners. The audience is experimenting. Their expectations of what and when and where and how they can consume content are changing. The advertiser has noticed, and budgets are shifting.

TV is wrenching itself from its linearity and being redefined by ever-changing technology in the hands of the consumer.

Which group are you in?

Karim Sarkis is CEO at Sync Media FZ LLC
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