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SOARING HIGH WITH ASBU CLOUD

The Arab States Broadcasting Union rolls out new media exchange platform to facilitate collaboration between members

NEW ASBU CLOUD PLATFORM OFFERS SILVER LINING TO MEMBERS

The Arab States Broadcasting Union recently launched its biggest technical innovation since MENOS, with the roll-out of the ASBU Cloud platform earlier this year. In an exclusive interview with **Vijaya Cherian**, senior executives from ASBU and systems integrator Broadcast Solutions discuss how it will empower member organisations to harness technological advances and thrive in the times ahead

The Arab States Broadcasting Union (ASBU), headquartered in Tunisia, recently completed the development, integration, hosting and operational launch of its news and programme exchange network over a brand-new ASBU Cloud platform. Designed and developed by the ASBU engineering team, the project was completed in collaboration with systems integrator Broadcast Solutions, with the most important development in the platform rolled out in June.

ASBU works closely with its members, primarily public broadcasters across the Middle East and North Africa (MENA), to facilitate the exchange of news and broadcast programmes. All members contribute annually to the common kitty, and ASBU provides a service that enables everyone to benefit. The organisation developed MENOS, a special system for multimedia exchange and satellite services consisting of a central station in Algiers, radio and television terminals and data messaging. Launched back in 2009, the system, though still in use, is missing some of the new services required today. A new ASBU Cloud platform was required to complement the existing MENOS system and provide more sophisticated services in tune with today's technologies and needs.

Helming the whole operation are ASBU Director General Abdelrahim Suleiman and Director of Technology and Innovation Basil Zoubi.

"ASBU Cloud is not designed to supersede the existing MENOS+ satellite-based contribution and distribution network. Instead, it enhances it by streamlining the process of contributing files and live feeds from the field while offering a more extensive and diverse media library of on-demand content," says Suleiman, who has led the organisation for the last few years with several innovative ideas and strategies, including new training programmes and a hotel intended to make ASBU self-sustaining.

Zoubi adds that the upgrade has been part of the plan since 2020.

"We have been wanting to upgrade the cloud for the needs of our members and thought of various combinations and permutations. We looked at different options – a single server cloud location would not serve our members' purpose, as any local or international problems in that location could mean loss of service for a couple of hours. A private cloud was considered, but would have been expensive to maintain in terms of human resources and operations. We would have required people for networking, security, operating systems

and software applications, among other things, and so many overheads can be a burden for any private broadcaster. What's more, there was also the initial investment we would have had to consider in buying equipment for the same."

According to Zoubi, the most reliable solution that was economically sustainable was to opt for a platform hosted by a public cloud service provider. "A public cloud meant we would have to give up some of our sovereignty, but we felt the end result was worth it. In general, these public cloud services have a lot of servers and an army of experts to maintain them. As all our members are sharing the cost, a public cloud solution was easier. Moreover, we can scale as we go and need

"With this cloud solution in place, the scalability and the flexibility are immense"

Basil Zoubi, Director of Technology and Innovation, ASBU

to pay only for what we consume."

Five companies were invited to bid for the project when the tender was released in 2020. Two made it to the final bidding, and eventually Broadcast Solutions was awarded the project in March 2021.

"We were invited to bid for this content supply chain platform and submitted a proposal in late October 2020. Followed a series of detailed workshops, a contract was finalised in March 2021, and work started over the summer," explains Nicolas Hans, a partner at Broadcast Solutions.

ASBU's mandate was to provide a

▲ ASBU Cloud provides its users with advanced filter and search features.

managed service to the organisation. Broadcast Solutions was called in to serve as a one-stop shop, providing design, implementation and integration of the various components, as well as training, hosting, support services and monthly invoicing. The detailed ASBU tender document called for the custom development of a media exchange hub that supported file- and live-feed contribution and distribution over the public internet.

Broadcast Solutions harnessed existing software products to build a comprehensive ecosystem that could fulfil ASBU's requirements. The team felt that using proven building blocks minimised integration risks and lowered total cost of ownership in the long run.

The SI designed a solution around three key ideas. "The primary principle was to consider the variety among ASBU members, given that consistent high-speed internet connectivity across the Arab world is still a work in progress. Secondly, we aimed to exploit AI services to methodically catalogue all files and live feeds to enhance content discovery. Finally, we focused on making the user experience more seamless to encourage user adoption," explains Hans.

The end result was the ASBU Cloud platform, provided as a turnkey managed service by Broadcast Solutions to ASBU, which in turn offers it to its members. Most of the core components, including Auth0, Dalet Flex, Newsbridge, Signiant, Slack and TVU, are hosted on AWS.

As a public cloud provider, AWS brings at least two benefits, according to Hans. Services running on AWS-reserved instances are dimensioned based on the projected workloads. As a result, more costly on-demand, pay-as-you-go services are minimised. In addition, AWS global infrastructure seamlessly acts as the content distribution network (CDN) for the overall platform,

End users working on the ASBU Cloud platform at the Tunis office.
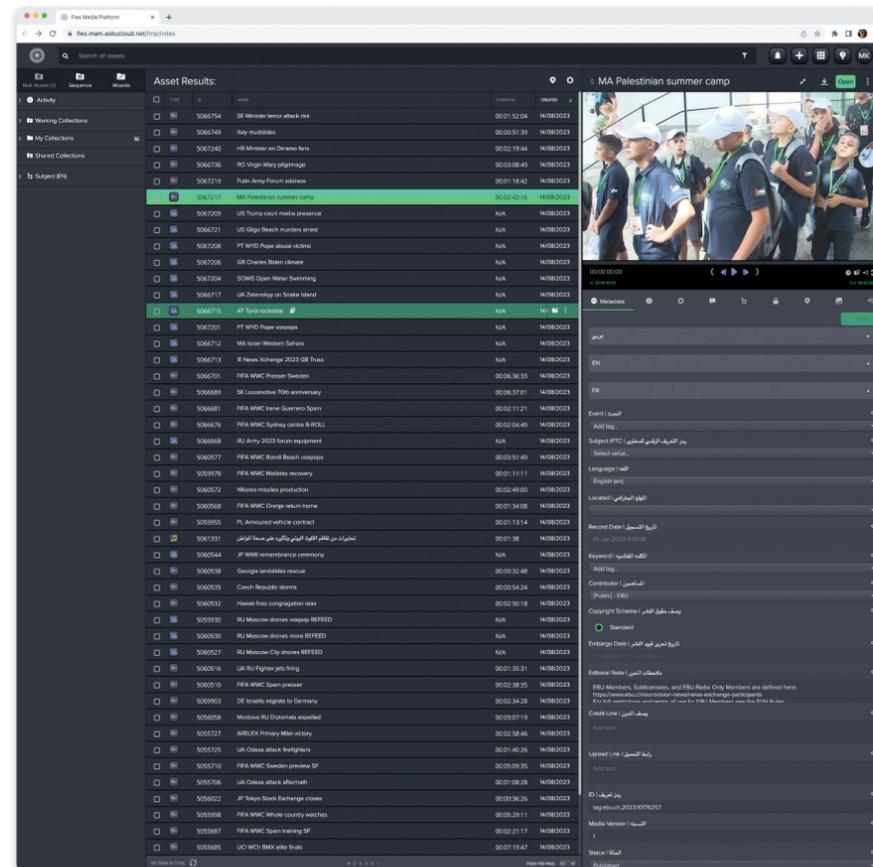
facilitating exchanges between member organisations, he explains.

"Providing the usage pattern remains within predefined limits, and costs for ASBU are predictable. Moving forward, AWS' infrastructure will provide the flexibility to scale as adoption increases and workflows intensify," he elaborates.

What makes this solution interesting for ASBU and its members is that it can be integrated with multiple applications, says Zoubi:

"ASBU Cloud is not designed to supersede the existing MENOS+ satellite-based contribution and distribution network. Instead, it enhances it by streamlining the process"

Abdelrahim Suleiman, Director General, ASBU

"Previously, we were limited to what the service provider gave us. We did not have the flexibility to introduce new services or applications. With this cloud solution in place, the scalability and the flexibility are immense. Also, as the public cloud infrastructure runs across multiple locations, the geolocation redundancy is there, which is an advantage for us. So if I store in Dubai, I could mirror the same content in Germany or France. And if for some reason one location is blocked, we can move seamlessly to another, enabling us to hop around with the same resources with the same data matching and so on. This does not mean all the data will be stored in the cloud. It will be for a time frame like three to six months, and there will be some protocol and rules to follow."

The service designed for ASBU leverages various software tools to address the specific workflow requirements of ASBU members.

Awad Eid, Head of Multimedia Exchange Networks at ASBU, discusses the platform with team members and partners at one of ASBU's cloud workshops.

Zoubi says three solutions stand out in this project. "We had three major providers – Dalet provided the MAM, TVU the streaming facility and Newsbridge the audio and AI capability."

For live contributions, the TVU Anywhere mobile app allows members to send video feeds using any iOS or Android mobile device. Reception is ensured by TVU transceivers running in the cloud and connected to the TVU grid, which distributes these live feeds across the media supply chain. File-based contributions leverage accelerated uploads thanks to Signiant Media Shuttle.

All received feeds and files – both audio and video – are automatically indexed by Newsbridge multimodal AI services. Descriptive metadata
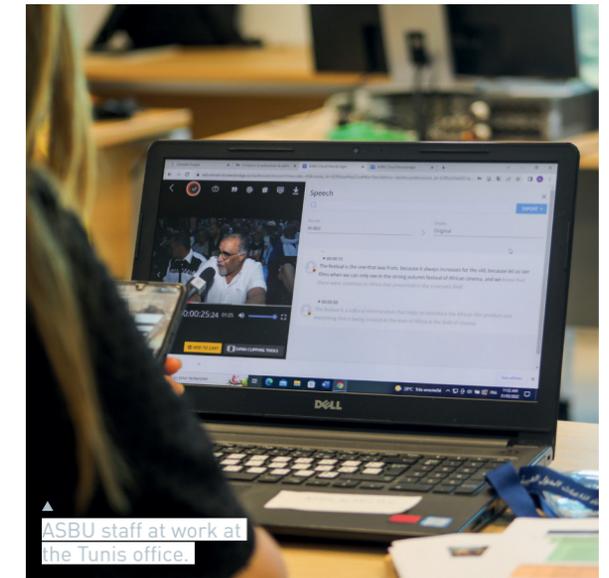
resulting from speech-to-text transcription and facial recognition is automatically generated and pushed to a Dalet Flex platform. This acts as the digital media supply chain backbone of ASBU Cloud. It is accessed by authorised users who can browse, select, download and exchange

> **"This cloud system ensures that our members are no longer confined** by the limitations of a physical facility but can access international services available to all players across the globe"
>
> Abdelrahim Suleiman,
> Director General, ASBU

news clips and programs. Auth0 streamlines user management and Slack provides notification, communication and collaboration services. Custom reporting tools – including live dashboards and periodic reports – are available to ASBU system administrators and facilitate the tracking of workloads and operating costs.

"We give our members all these resources, based on which they can start their own platform," says Zoubi. "We offer several new services with this new solution. For instance, our members can download a segment of a clip based on their selections. We have an AI element primarily for speech-to-text transcription. People can search for specific words within the text, and all the sentences which include those words will come up.

ASBU staff at work at the Tunis office.

The AI will then allow you to select that text or video.

"Likewise, we can undertake subtitling with ease with this. The audio transcription offers a facility to import or export the text with the associated time code of the video. This allows you to present the subtitle easily on any of this content. So we are providing our members with a platform where they can initiate the subtitling at a reasonable cost and they can provide a new service for, say, disabled people. We have been talking about it for a long time. With this new technology, subtitling is now possible. AI does all the audio transcription. You need an editor to supervise and make changes, especially where the AI fails to recognise proper words and sentences. With AI today, 80-90% of the time taken to produce something will be reduced, but human intervention is necessary."

Salah Ayoub, Head of Projects at Broadcast Solutions, says: "The project timeline was greatly affected by the Covid pandemic. Despite the disruption, tools like Zoom and Microsoft Teams made collaboration possible between ASBU members in Tunis and Algiers and our design and engineering teams in Geneva,

Paris and Dubai. However, remote collaboration presented additional complexities, especially given the novel concepts introduced by cloud-based architectures that needed comprehensive reviews and explanations. Despite these challenges, we persevered, and although delivery was a few months delayed from the original schedule, the system was successfully rolled out."

ASBU has a network operating centre (NOC) in Algiers and its HQs in Tunis and Algiers are both equipped with TVU transceivers, used to contribute or receive live feeds. These allow incoming contributions over ASBU Cloud to be forwarded to MENOS+ for satellite distribution.

Members, however, only require a public internet connection and proper credentials to access the platform. This makes it much easier for current and future member organisations to leverage the Arab States news and programme exchange programme.

The project was not without its challenges, explains Hans.

"The pandemic's effect on the project timeline was just one obstacle to overcome; three other significant hurdles

ASBU Director General Abdelrahim Suleiman addresses the gathering at the ASBU festival in Tunis.

Nicolas Hans, Partner, Broadcast Solutions.

Jean-Christophe Liechti, System Architect, Broadcast Solutions.

Salah Ayoub, Head of Projects, Broadcast Solutions.

existed. Firstly, the issue of design was critical. The range of broadband connectivity in the Arab world is wide and inconsistent, with neither public cloud providers nor content delivery networks maintaining a comprehensive Arab presence. Selecting a robust technology capable of facilitating live contributions via public internet links without compromising quality was crucial. That's where TVU proprietary Inverse StatMux Plus transmission technology proved instrumental.

"The second obstacle was related to integration. While the ASBU Cloud includes software components with application programming interfaces (APIs), connecting these elements is not as simple as assembling a bunch of Lego pieces!

"Lastly, implementing workflows posed an extra challenge due to the trilingual nature of ASBU, which operates in Arabic, French and English."

In terms of standards, ASBU chose to implement NewsML-G2 as a metadata schema and worked with IPTC to ensure it met its standard, so that it could be used by other international organisations like the European Broadcasting Union (EBU) and Asia-Pacific Broadcasting Union (ABU), explains Zoubi.

Broadcast Solutions System

Architect Jean-Christophe Liechti elaborates: "This XML-based standard for news exchange was developed and is maintained by the International Press Telecommunications Council (IPTC). It's a successor to the original NewsML format and it provides a comprehensive and flexible framework for distributing any type of media, including text, images, audio and video. This metadata standard is language-agnostic. You can use standard dictionaries or manage your own to structure your data. We reached out to IPTC to ensure that our implementation closely met the standard. ASBU exchanges are now available as a NewsML-G2 feed like partner organisations like the EBU or major news organisations like Reuters, AP or AFP."

The final piece of the jigsaw, according to Zoubi, is a minor issue related to monitoring.

"We are looking at how to ensure quality control for each element of each application of each service and pinpoint bottlenecks, if any. This is the only tool that is missing.

"Selecting a robust technology capable of facilitating live contributions via public internet links without compromising quality was crucial"

Nicolas Hans, Partner, Broadcast Solutions

Currently that is under design, but it is not part of the public interface."

The big challenge now, as the platform is rolled out, is to ensure members, editors and engineers are well trained to use these new technologies. "There is always a resistance to change when you introduce new technologies, but we are sure these things will be ironed out in time," says Zoubi.

Director General Abdelrahim Suleiman adds that ASBU has always led with innovation. "With the implementation of a cutting-edge cloud system, we have not just made a technological leap but also brought about a profound shift in how we empower our members. This cloud system ensures that our members are no longer confined by the limitations of a physical facility but can access international services available to all players across the globe." ASBU's dynamic transformation through the development of its ASBU Cloud platform will undoubtedly help bolster media exchange across the MENA region. Its approach has been to harmonise cloud technology, AI and diverse services, while also nurturing efficient collaboration between member organisations. The new solution will help achieve that goal. PRO