HOW **AV-OVER-IP** IS REVOLUTIONISING MODERN AUDIOVISUAL SYSTEMS & IMPORTANCE OF AV & IT CONVERGENCE

AV-ICN Expo session elaborates on AV-over-IP as a new-age technology with insights from panellists - Abdul Waheed, Farhan Walele, Ashish Bajaj, Rohan Tadke, and Rajesh Patkar (L to R)

*The insightful session, moderated by **Abdul Waheed**, Managing Director, **EYTE Technologies Pvt. Ltd.** (CTS-I) at **AV-ICN Expo 2024** along with the panellists - **Rajesh Patkar**, Country Manager, **ZeeVee INC.**, **Rohan Tadke**, Managing Director, **RTAV**, **Farhan Walele**, Area Sales Director West, **Crestron India**, and **Ashish Bajaj**, Director, Enterprise Sales, **HARMAN Professional Solutions**, India & SAARC, discusses the key aspects on the rapidly transforming AV industry, **'AV-over-IP'** as a modern technology, and its adoption by AV manufacturers, systems integrators, and OEMs. With the aim to convey the message effectively, this excerpt highlights essential details from the session, acknowledging the relevance of using AV-over-IP in today's world.*

Keeping the session comprehensible for everyone to understand, Mr. **Waheed** opens the discussion with a question put forward for **Farhan Walele**, "What is AV-over-IP?" Walele responds, "To put it in a simple context, when we deploy any site for our customers, we can have two deployments – IT, which is the networking part and the AV, which is an evolving trend that includes displays, presentations, video distribution, etc. Earlier, AV was completely independent but as time changed, brands and customers realized that merging the two will bring in more fruitful results in terms of sending the

signals, or operating data and communications. Therefore, we are trying to utilize IT as the backbone to support AV."

Challenges of Using AV-over-IP

The moderator further asks Ashish Bajaj on how exactly AV is getting integrated with IT and what were the challenges with the conventional system? Bajaj states, "According to me, the network industry has evolved massively in the past years. Where network used to be a big thing, it is now a necessity and is available for everyone. However, I still believe traditional AV distribution finds opportunities in certain aspects. If we talk about the flexibility, I think the biggest thing is that the whole AV network allows the flexibility of expansion. In fact, the networks have also evolved over the past few years. So, I would say, traditional AV is still used in some places today, but it makes more sense to adapt to the convergence because of the infra development that we have across the venues."

Elaborating further on the flexibility offered by IP, Rohan Tadke comments, "If you look at it from the implementation perspective, today people would still like to keep it separate for various reasons. I think we have more scope of evolution in the coming years. Also, I believe AV and IP have their set of challenges but still, there were no major issues with the traditional AV and can be managed conveniently."

To this, **Rajesh Patkar** adds, "Earlier, conventional methods of AV posed some challenges, however, if original AV methods had a problem, it wouldn't have survived for so long. AV makes it easier for the customer because, in my many years of experience, I have found that the customers are reluctant when it comes to AV. In fact, the IT guys do not give permissions to install AV, especially in the BFSI segment. However, with AV-over-IP, you're talking their language. So, they are more comfortable and can understand it easily."

Advantages of Using AV-over-IP

The session further reveals many aspects of using AV-over-IP with regards to flexibility. For instance, Walele addresses, "When using traditional systems, we had a limit on the switcher size. In terms of scalability also, it is great. As users want an encoder/decoder or input/output, they just keep adding boxes. Therefore, size or flexibility are not the issues. Moreover, redundancy is also great because users are no longer dependent on that one box or the one product which can fail." Furthermore, adding to the traditional v/s AV-over-IP discussion, Walele states, "We as AV guys are used to a certain quality of audio-video and speed since probably 30 years where, as soon as we connect an HDMI cable, we get the high-quality video as good as the source. Therefore, the challenge for any AV-over-IP manufacturer was not about encoding the video, it was how efficiently and quickly it can be done." This turned the tables for the users where AV-over-IP now not only provides the same features as traditional AV but has also become more flexible providing enhanced quality.

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"With length comes the subject of delay", states Waheed. So, how is AV-over-IP addressing such challenges? Patkar comments, "When talking about AV-over-IP, bandwidth is an important factor. A standard office network is merely a database network where the bandwidth requirement is low whereas when we put AV into it, we are sending video or doing conferencing. So, the bandwidth requirement goes up as and when it has been used. Therefore, people prefer having a separate network for standard office network. It really depends on what kind of network or switching solution end-users choose."

AV Ready Manufacturers and Systems Integrators

AMX, as a brand, has participated in a lot of developments in terms of technologies that are configurable by any other product. Elaborating the benefits of AV-over-IP with regards to AMX's advancing technologies, Bajaj addresses, "It's essential to adopt an open platform these days. Everybody in the industry is going towards Dante AV-H right now, making it more interoperable to send streams between the boxes across the brands, product categories, or across any other platform." He adds, "I think the concept of open platform can provide the flexibility and growth opportunity in the future for us to really develop more technologies."

Tadke further adds to Ashish's words, "NDI technology today, is something that gives users the flexibility to have a direct NDI port on the displays and it works phenomenally. In fact, there's no need for an encoder around the users' laptops to transmit the signal to a display. It's just one CAT-6 cable and as long as it's on same network, it works flawlessly."

Crestron also being one of the leading innovation manufacturers, is driving the shift from HDBaseT to AV-over-IP. Explaining the outgrowing phenomenon with the audience and the panellists, Walele agreed to the lesser need for encoders and decoders these days. He commented, "Crestron launched software NVX where users could decode directly onto a display without the availability of a decoder/encoder.

Apart from the complexities of managing bandwidth, Patkar also points out the mistake on the calculation of bandwidth that major systems integrators make while delivering larger AV projects. However, to keep the blunders away, AV manufacturers play a major role in such cases. In fact, Ashish also shares, "AV manufacturers also have the responsibility to educate the entire market and keep the partners up to speed with regards to deployment."

Adding to the discussion on how ZeeVee is addressing the delay issues with these technologies, Patkar responds, "ZeeVee has its self-founded technology to address the loss of signal restricting the bandwidth or the software driven codex but when it comes to larger videos there could be a loss of signal at some juncture. Therefore, we must look at what kind of network we are using. There are two kinds of networks that AV industry uses today – 1-Gig Network and 10-Gig Network. The 10-GbE gives users the possibility of having better bandwidth and ease of sharing videos." He adds, "As some brands use AV-H as a backbone, ZeeVee uses SDVoE (Software Driven Video over Ethernet) as a backbone allowing us-

ers to send 4K without any loss."

Making the equipment easy-to-use and flexible for the industry, not only are the AV manufacturers future-ready with advancing technologies, but systems integrators are also evolving. They have become accustomed to AV on the network. Many systems integrators are taking control on the network themselves. Keeping his remarkable point forward, Walele continues, "Slowly and steadily, with brands like NetGear investing heavily on training the AV industry and other players contributing to the fast-pacing technologies and its adoption, we should be able to evolve in a full-fledged AV-over-IP industry."

Conclusion

The discussions during the entire session elaborated on the key aspects of AV-over-IP adoption in today's world, how bandwidth calculation and proper communication with IT can be worked on, and how better infrastructure or other AV requirements convey a significant step towards AV modernisation.

The discussion also dove into significant insights acknowledging what kind of security measures IT guys expect from the AV technologies, certifications required from the AV manufacturers, cost effectiveness of using AV-over-IP v/s traditional AV, how is remote management evolving with AV-over-IP technology, and more. The insightful session also motivated the panellists to respond to some of the questions by the curious audience.

Recognising the much-needed transformation in AV industry, the discussions concluded with a key message that it is now time for all AV manufacturers, partners, and end users to shift towards AV-over-IP.

To view the entire session, visit PALM and AV-ICN Expo's YouTube link: ***https://www.youtube.com/watch?v=gg7FeTnSbwQ&t=200***