CORPORATE PARTICIPANTS

Lilian Veras
Moderator

Marine Sorin
MediaKind – Senior Product Manager

PRESENTATION

Lilian Veras

Welcome everyone to the Intel Network Builders webinar program. Thank you for taking the time to join us today for our presentation titled Powering Increased Media Delivery Efficiency.

Before we get started, I want to point out some of the features of the BrightTALK tool that may improve your experience. There's a Questions tab below your viewer. I encourage our live audience to please ask questions at any time. Our presenter will hold answering them until the end of the presentation. Below your viewing screen, you will also find an Attachments tab with additional documentation and reference materials, including a number of websites and documents mentioned in this presentation. Finally, at the end of the presentation, please take the time to provide feedback using the Rating tab. We value your thoughts and we will use the information to improve our future webinars.

Intel Network Builders Webinar Series takes place live twice a month, so check the channel to see what's upcoming and access our growing library of recorded content. In addition to the resources you see here from our partners, we also offer a comprehensive NFV and SDN training program through Intel Network Builders University. You can find the link to this program in the Attachments tab, as well as a link to the Intel Network Builders newsletter.

Intel Network Builders partners have been working to accelerate network innovation by optimizing their solutions on Intel technologies. These industry leaders are recognized in our Winners' Circle program and MediaKind is a Titanium partner. Learn more about our INB Winners' Circle program by clicking on the link in the Attachments tab.

Today, we are pleased to welcome Marine Sorin from MediaKind. Marine started her career as a video compression engineer at Envivio, and transitioned to product management some years ago, initially managing and maintaining responsibility for software encoding. She is currently working as a Senior Product Manager at MediaKind, and Heads up the Lifecycle Management of the Live Processing and Streaming Components and Solutions within the MediaKind portfolio.

Welcome, Marine, and thank you again for joining us today. Over to you to start off. Thank you.

Marine Sorin

Thanks, Lilian. Hi everyone. I'm Marine. So, I'm here to speak about the media delivery and the challenges associated to it.

I will present the solution we offer at MediaKind and how we leverage Intel technologies for performance and cost optimization.

First, who we are at MediaKind. We are a company who offers media platforms, video decoding, processing, storage, management, moderation, and control service. We have a number of key end-to-end solutions and services for our customers, namely content, content owners, broadcasters, operators, and telcos. We have products for the acquisition, the processing, the monetization, the personalization, and the delivery of any live or on-demand content.

For our customers, each of this is designed to enable cost efficiency, to drive up fan and consumer engagement, and enhance the viewing experience for all.

Most of the solutions within the portfolio have won numerous industry awards and are driven by media innovations and technology. We have more than 1,000 engineers. Not the biggest company but just big enough to achieve transformation to continuously build a

better media universe. The perfect size to get the right expertise to be able to build cloud-native, cloud-agnostic architecture and be an industry leader in the media, technology, and services.

All our solutions are software-based and can run on bare metal as well as cloud. We will see that later.

We have multiple models, but the same software code, the exact same runs in a managed cloud application, or offered as-a-service or in any COTS server.

Now, the heart of the matter. We are in the age of video consumption, as you know. Video has become an essential part of our lives and in this consumption, there is a wave of market and technology shifts affecting both broadcaster and over-the-top, OTT, video service providers, which is making a significant impact on the video production infrastructure. And the first shift is a growing number of devices used to consume video. Viewers are continuing to watch video on their primary device, televisions, but also on their mobile phones, tablet, computers, game consoles, anywhere.

Many viewers are also embracing over-the-air television as well, pressuring broadcasters to make content available on streaming platforms while continuing to maintain their traditional broadcast channels. A further trend that challenges video delivery infrastructure is the addition of ultra-high-definition, UHD resolution or 4K. Even with the lack of certain content, UHD is taking off with sales of 4K televisions increasing with record sales of 4K TV sets sold in 2020. So, it's coming.

Broadcasters must support the full range of viewing devices when they roll out UHD programs. And so far, they have moved slowly. Partly due to standards because they are not finalized for all devices, but also for the cost.

So, for the consumer, the video is more important than ever before. More content from multiple providers. More resolutions for a better experience. More devices for video anytime/anywhere. And this multiplication of choices is a challenge for the media industry because it has a cost-- a little, but cost.

All the content delivery pipe implies multiple processing. From the acquisition of the source to the delivery for the consumer, we have multiple steps of encoding, packaging, and caching for OTT delivery, multiplexing in the case of broadcast delivery. And the more content that's delivered, the more processing is required for each standard, for each channel, each resolution. Obviously, it has a cost. Cost of hardware for the infrastructure. And cost of power to run the hardware.

So, what do we offer at MediaKind in this picture?

This is our current view of the workflows and where our solution fits within our customer ecosystem. I will not go through everything. This is typically the supply chain that live content has always run through. There is a live event, which is still the bigger driver of linear consumption globally. Then you have the license holder. The people would take care of the end consumer delivery. And the personalization and advertising to monetize the content.

So, this graphic outlines the overall workflow of content. And the mechanism for how they are delivered by each of the media personnel in the industry, ranging from content owners, broadcasters, and operators or telcos.

We see that the content takes a different path dependent on how the content is ultimately delivered to an end consumer device. MediaKind has media technology solutions for every pathway along this content journey, ranging from live content contribution to enabling end consumer experiences and monetization.

In this big picture, MediaKind Aquila is a product for the video headend applications. Aquila is a software for live video headend applications. That includes video encoding, combined with multiplexing technology for broadcast applications or packaging for streaming applications. It is designed for an environment that values operational excellence with high availability, ease of operation, and simplified methods. The consumer expectation has vastly increased, we have seen with the number of choices, but not only. Also, on the video quality, which is still a big challenge to achieve, and with the addition of things like low latency, broadcast quality. The speed is also important. To quickly deploy a service with the latest standards and specific requirement, Aquila is flexible enough to address each use case.

In addition, for the customer, for our customers, the reliability is key, especially with World Cup Football, Premier League, and most popular sports, any kind of outage can mean massive customer loss and/or massive reputation loss as well, moreover in a world of social media. So, the pressure is on the entire ecosystem to get reliability.

And last, the security. All our customers pay attention to this aspect, of course, and to prevent any security breach the code must be continuously updated.

Speaking on the code, a last quick slide on MediaKind software before talking about Intel technology, but this is important to mention.

Aquila has a cloud-native architecture, which provides the freedom to deploy either on a dedicated data center, on cloud hardware, public cloud, or MediaKind Reference hardware, the same software for each deployment. The same piece of code is using public cloud or in a COTS server.

And this is our Reference Server. Working with Intel, MediaKind has designed its Reference Server with performance, cost, space, and power in mind. Cost, space, power, all the challenges of the media infrastructure. Based on Intel's Xeon Scalable processor, the server offers the perfect balance between cost and performance. And with Aquila's software running on this Intel server, several live channels from SD to UHD are deployed in one rack unit.

To complete the reliability of the software, the server offers redundant power supply and redundant network interfaces.

This server also offers the option for hardware acceleration with the option of an Intel GPU card. The GPU acceleration option is delivered by a standard PCI card supplied by Kontron. And each card embeds two Intel GPUs. We have two available PCI slots in our Reference Server, so at the end, it's up to four GPUs in one rack unit server. The standard form factor of the card allows to be flexible with the quantity of the GPU and to efficiently match each customer's use case for better scalability.

With SG1 and by combining video compression experience on top of the dedicated media processing capabilities of Intel, of Intel graphic technologies, the GPU, so with video compression experience and SG1 we provide a high-quality, cost-effective transcoding solution.

For instance, one perfect example with UHD. UHD over-the-top is very expensive with software only. In addition to the HD, sub-HD, and SD profiles, the UHD resolution must be processed. It requires high-performance CPU to run one channel in one 1RU server. With the hardware acceleration provided by the GPU, we run four high-quality UHD channels including eight profiles from HD, sub-HD, to SD, so four ABR UHD channels in one rack unit server. So, this density reduces the cost of the hardware, the space used in the rack, and of course, the power consumption.

To give some data, depending on the configuration because we can have different codecs, different resolutions, different profiles, so we measure an average gain of 30% in hardware costs, and 40% in power consumption, up to 50% on certain configurations.

Other users, the quality is there because it is Aquila software with MediaKind's experience, that leverages the core function of the GPU. And for the operators, this is an efficient solution for deploying UHD channels, and this solution is available now.

It's not only UHD. Here's another example of what we can deliver with the SG1 technology from Intel. With a converged HD headend and we're seeing IPTV channels and OTT channels. We use just 11 servers to deliver 80 streaming and 80 IPTV broadcast channels, so 160 channels including the redundancy. This is a significant change to a pure software solution, saving space, power, and money, with two Kontron cards in a dual Intel Xeon Core server. So, a dual Intel CPU server with four Intel SG1 GPUs, 160 channels. It's 50% gain in watts compared to the software-only transcoding solution.

To sum up, it's much more dense, lower cost per channel, lower power. And still the high quality expected by the customer.

Aquila software has been helping broadcasters deliver video content for decades and has been awarded the Technical Emmy for its high quality. Broadcasters and OTT players demand the highest video quality, but also need their consumer delivery platform to support fewer subscribers that are consuming more and more video. More video in new ways and at higher resolutions. By utilizing the latest

Intel Xeon Scalable processor, combined with Intel GPU cards, the MediaKind Reference Server can provide a high-performance compute platform. Video providers have the performance and flexibility they need to manage a new video consumption landscape.

To conclude, the growing consumption of video is a challenge for the infrastructure in terms of cost, power, space. And by leveraging Intel technology, MediaKind with its Aquila software builds immediate delivery in an efficient and reliable way.

Thanks to everyone. I will now hand over to Lilian. You are on mute, sorry, I can't hear you.

Lilian Veras

Sorry, I was on mute. Thank you so much for sharing such great information with us. We do have a couple of questions that have come in while you were presenting, so let's get started on those.

The first question asks, "Who is the solution targeted towards?"

Marine Sorin

So, this solution targets any satellite and terrestrial TV broadcaster who wants to minimize transmission costs, maintain video quality. And also, operators and multichannel video programming distributors, and VPD. For the same reason, we seek for high quality, high video quality, cost optimization, and fast time to market.

Lilian Veras

All right, thank you. Question number two, "Has this solution been deployed anywhere? If so, where and what was the use case?"

Marine Sorin

Yes, it is available. So, it has been deployed. For instance, I can give two major deployments as an example with SG1, one in Europe with a UHD delivery scenario. And another one in LatAm for live streaming channels, SD resolution, and HD resolution for live streaming.

Lilian Veras

Awesome, that's great. Those were all the questions we got. I would like to thank you again, Marine, for sharing this great information with us, for such a great presentation.

I would like to thank our live audience for joining us and ask them to please do not forget to give our team a rating for the live recording so that we may continuously improve the quality of our webinars.

Thank you again, Marine, and this concludes our webcast.

Marine Sorin

Thanks.

Lilian Veras

Bye for now.