

Hello,

We hope you and your family and colleagues are staying safe and healthy during this challenging time.

The trying conditions that so many of us find ourselves in nevertheless provide a reminder of the importance of AOM's mission and of the key work that our community continues to do even in the midst of the pandemic. We use PC-based, video-conferencing applications to work from home and allow our kids to engage with their classrooms and classmates. We blow off steam during our downtime by watching streaming video and video chatting with family and friends. AV1 and earlier generations of open-source video, audio, and communications technologies already power many of those experiences. More AV1-based solutions come online every day.

Despite the circumstances, we're continuing to make progress in our mission. We're helped, of course, by the fact that AOM working groups have always used video-conferencing to collaborate. As much of the tech world has shifted to remote working, AOM hasn't missed a step.

I'm pleased to share the addition of encoding solution provider, <u>Synamedia</u>, as our newest member. Synamedia's real-time encoding expertise will help bring AV1 to the live, multiformat, video ecosystem.

Even in the last few weeks, there have been a number of AV1 encoding and decoding advancements. AWS Elemental's MediaConvert now offers the ability to encode video using AV1. Google Duo is using AV1 for low-bandwidth video calls. Allegro now offers a Complete set of AV1 IPs for real-time encoding and decoding up to 8K resolutions. VideoLAN's Dav1d open-source AV1 video decoder is now optimized to be even faster on x86 64 hardware.

Regards,

Matt Frost,
AOMedia VP of Communications and Membership

Welcome To Our Newest Member



Please help us welcome Synamedia, as our newest member:

"We're thrilled to join AOMedia. As customers make more intelligent use of virtualization and cloud, we see the adoption of AV1 as a way to further our own goals of enhancing online video streaming experiences for OTT at scale. We look forward to working alongside AOMedia members to open up new possibilities to use AV1 for royalty-free, cross-platform, online video across a wide range of applications," said Julien Signes, Senior Vice President and General Manager, Video Network at Synamedia.

Read the full release here.

AOMedia Member Spotlights



AOMedia Member Spotlight: Netflix

Jeff Watts, Netflix's Manager of Android Player Infrastructure, discusses AV1 highlights:

"In February, we released support for AV1 in our Android mobile app. As mentioned in our announcement, we focused this first implementation on lowering the data usage for those customers who use our Save Data feature. Getting AV1 supported in our Android mobile app also allowed us to update our encoding and delivery infrastructure to support AV1 at scale. With this foundation in place, we plan to expand to gaming consoles next, with PS4 likely being our first AV1-capable console."

- Jeff Watts

Read Netflix's Member Spotlight on AOMedia's website here.



AOMedia Member Spotlight: Samsung

Bill Mandel, Samsung's VP of Industry Relations at Samsung Research America, discusses AV1 highlights:

"We have a big AV1 effort underway right now. Since the AV1 specification is complete, we introduced <u>support for HDR10+ technology</u> and <u>announced at CES</u> that we have implemented AV1 into our 2020 televisions. We showed 8K running with AV1 and HDR10+ at CES. We are pushing the envelope of all compliant technologies, showing how they are immediately available."

- Bill Mandel

Read Samsung's Member Spotlight on AOMedia's website here.



AOMedia Member Spotlight: Twitch

Yueshi Shen, Twitch's Principal Research Engineer of Video, discusses AV1 highlights:

"Twitch believes that the most critical factor for AV1 to gain wide adoption is its ability to enable a new user experience for the OTT live streaming use case. We have established a cross-industry R&D collaboration to prototype a solution -- based on the AV1 Switch Frame feature -- that combines ultra-low (<1.5s) glass-to-glass latency with a higher QoS (i.e., lower buffering rate), which will provide an unprecedented interactive user experience for Esports and social media content. In addition, we are working with other partners to demonstrate 1440p120, which is a new viewing experience that our gamer community cares more about than 4K30 or 4K60 for the content they enjoy and the display devices they typically use to consume video." - Yueshi Shen

Read Twitch's Member Spotlight on AOMedia's website here.



Spotlight: AV1 Member Updates

- AWS Elemental MediaConvert now offers the ability to encode video in the AV1 format. With AV1, you can deliver high-quality SD and HD video to mobile and other devices over congested or bandwidth-constrained networks at bitrates unachievable with traditional codecs.
- ATEME's Remi Beaudouin published a guest post in Video Net titled <u>The evolution of video codecs</u>: "As the demand for high-resolution video increases, the need to advance video compression techniques is becoming unavoidable. Currently, AV1 is seen as the 'codec of choice' for streaming media distribution and is supported by the likes of Amazon, Google and Netflix."
- Ittiam's Mukund Srinivasan reports that "Ittiam's AV1 encoder has seen significant
 breakthrough improvements in speed and quality, over the past couple of months,
 facilitating the faster adoption of AV1. Given the bandwidth savings and support for
 4k/8k HDR in high-end mobile phones and Smart TVs, we expect rapid adoption of
 AV1 and entry barriers lowered now, due to the advantages that a standard like AV1
 can offer."
- Cosmo's Dr. Alex Gouillard published a timely update on the Google sponsored project to implement and create a test framework for AV1 in WebRTC, titled AV1 in lib #webrtc DONE: "Lots of work being done to make AV1 available in libwebrtc in an easy way. It is very clear from the messages on discuss-webrtc that the compilation process behind chrome, electron and libwebrtc is more often than not too hard to understand, some extra time was spent to make it easier for people to enable it and use it. CoSMo has also prepared a separate GitHub repository with, wait for it, documentation! Pre-compiled examples, an AV1-ready webrtc SFU, and KITE tests are also provided for people to adopt AV1 faster."

 Google has announced that <u>Duo will start using AV1</u> for low bitrate calls, improving reliability and call quality for bandwidth constrained users who would otherwise be limited to audio-only calls. AV1 will be used more widely at higher resolutions as software encoders are further optimized and hardware encoders become available on mobile devices.



AOM and AV1 In The News

- Digital Journal, <u>MacX Video Converter Pro Upgraded with Fast 4K/8K AV1</u> <u>Downloading & Decoding Capabilities</u>
- ZDNet, Netflix: JPEG needs replacing and AV1 Image File Format is our best option
- Medium, Designing a phone for movie watching
- Phoronix, <u>Dav1d 0.6 AV1 Video Decoder Delivering Healthy Improvements For Intel</u>
 + AMD Processors
- Kim Komando, Binge Netflix without eating up all your data
- Video Net, <u>The evolution of video codecs</u>
- Tech Nadu, <u>The EU Asking Netflix to Limit Services to "Standard Definition"</u> <u>Streaming</u>
- Phoronix, Netflix Talks Up SVT-AV1 Video Encode/Decode Effort
- Rethink Research, AV1 adoption to skyrocket via Netflix's Android rollout
- CSI Magazine, Altibox rolling out 4K Android TV boxes with AV1 decoding
- Rethink Research, Global bandwidth constraints could accelerate AV1 uptake
- HD Guru, LG Announces 2020 8K, 4K OLED TV Prices, Availability
- Yahoo Finance, <u>AV1 Encoder and Decoder Hardware IPs Available From Allegro DVT and Embedded in Products by End of 2020</u>
- SoyaCincau, <u>Samsung's latest 8K QLED TVs and Lifestyle TVs are coming to Malaysia soon</u>
- VideoProc, <u>VideoProc V3.6 Released and Given Away! New Support for AV1</u>
 Decoder
- Verge, Google Duo video calls are about to look a whole lot better

AOMedia Member AV1 News

The following is the latest member news:

- Allegro, Allegro DVT AV1 Encoder and Decoder Hardware IPs Embedded in Products by End of 2020
- AWS Elemental, AV1 Encoding Now Available with AWS Elemental MediaConvert
- Bitmovin, <u>Bitmovin NAB Edition 2020</u>
- Cosmo, AV1 in lib #webrtc DONE
- Google, Duo is using AV1 for low bandwidth video calls
- Netflix Blog, Current Status: SVT-AV1: an open-source AV1 encoder and decoder
- Netflix Blog, AVIF for Next-Generation Image Coding
- VideoLAN, <u>VideoLAN's dav1d 0.6 Released With More AVX2 + AVX-512</u> <u>Optimizations</u>

AV1 Resources

The following is AOMedia member AV1 dedicated resource pages:

- Bitmovin: https://bitmovin.com/av1/
- Intel: https://github.com/OpenVisualCloud/SVT-AV1
- Mozilla: https://research.mozilla.org/av1-media-codecs/

- Visionular: https://www.visionular.com/#portfolio
- Vimeo Staff Picks channel will be delivered using the AV1 codec on supported platforms (including the recent versions of Chrome and Firefox). Check out <u>David Jervidal</u>'s Staff Picked film "Capture the North", which is just one example of one of the many videos that will be leveraging AV1.

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