

LivePremier:

The SDVoE input and output cards

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1. What is SDVoE?

SDVoE is an initialism for “Software Defined Video over Ethernet”. SDVoE technology high-performance, software-based AV-over-IP platform for control and distribution of audio-visual systems on 10G Ethernet networks with zero latency. The development of this technology is driven by the SDVoE Alliance, a nonprofit consortium of technology providers member (52 total members as of March 2021).

2. Is Analog Way part of the SDVoE alliance?

Yes, Analog Way is a member of the SDVoE alliance as an adopting member.

3. How many ports are available on the SDVoE I/O cards for Aquilon?

SDVoE input and output cards for Aquilon support offer 4 independent SDVoE ports per card.

4. How are AV signals transported over the network using SDVoE products?

AV signals are transported over a 10GbE network.

5. What connector is used to transport video using SDVoE I/O cards for Aquilon?

SDVoE I/O cards for Aquilon offer copper RJ45 connector (10GbE), compatible with CAT6A ethernet cables.

6. Can an SDVoE endpoint be powered by Power over Ethernet (PoE) if it is connected directly to one of the ports of an SDVoE input or output card for Aquilon?

No, neither SDVoE inputs nor SDVoE outputs of Aquilon can power an SDVoE endpoint by PoE.

7. Is there any plan for the SDVoE I/O cards to provide SFP+ ports (for fiber transmission)?

There is not enough room on these cards to replace RJ45 connectors by SFP+ cages (for fiber transmission).

8. What is the maximum resolution supported by SDVoE I/O cards for Aquilon?

SDVoE input and output cards for Aquilon support 4K@60Hz content. The maximum resolution is 4096 x 2160 at 60Hz.

9. How does 4K@60Hz video fit onto a 10GbE network connection without compromising the content?

The data rate required to carry 4K@60Hz content is only slightly higher than 10 Gigabits/second. In this case, a lightweight video compression is applied to the video. All the original data is reproduced at the destination, artifact-free meaning that the end result is visually identical to uncompressed content.

10. Which formats require lightweight video compression?

The SDVoE lightweight video compression is applied to the following video profiles:

- 4K 50/60Hz 8-bit YCbCr 4:4:4 and RGB
- 4K 50/60Hz 10-bit YCbCr 4:2:2
- 4K 50/60Hz 12-bit YCbCr 4:2:2
- 4K 50/60Hz 12-bit YCbCr 4:2:0
- 4K 25/30Hz 12-bit YCbCr 4:4:4 and RGB

11. Do the SDVoE I/O cards for Aquilon support custom formats?

SDVoE input and output cards for Aquilon support custom formats within the limit of 4096 x 2160 at 60Hz (or 2160 x 4096 at 60Hz). Please note that maximum supported width is 4096 pixels, therefore extra-wide custom formats are not supported.

12. How is HDR and deep color video supported by SDVoE I/O cards for Aquilon?

HDR and deep color information is passed on from the transmitter to the SDVoE input card or from the SDVoE output card to the receiver. They can preserve these advanced video formats from Transmitters to Receivers.

13. Do the SDVoE I/O cards for Aquilon support High Frame Rate formats?

SDVoE input and output cards for Aquilon support High Frame Rate formats up to 144Hz (within the HDMI 2.0 bandwidth).

14. What audio formats are supported using the SDVoE I/O cards for Aquilon?

SDVoE I/O cards for Aquilon support HDMI multi-channel audio PCM. They do not support audio formats such as Dolby True HD and DTS-HD Master Audio.

15. What type of audio processing is supported using SDVoE I/O cards for Aquilon?

SDVoE input cards for Aquilon support PCM multi-channel audio de-embedding (8 channels per SDVoE input). SDVoE output cards for Aquilon support PCM multi-channel audio embedding (8 channels per SDVoE output).

16. What is the minimum latency when using SDVoE I/O cards for Aquilon?

SDVoE I/O cards for Aquilon can receive or transmit 60Hz video across a 10GbE network in only 100 microseconds. This is two orders of magnitude (x100) smaller than a 60Hz video frame (16.67 milliseconds). When the lightweight SDVoE compression is enabled, this adds five lines of latency (at 4K/UHD, 60Hz that represents 7.5 microseconds).

17. Do SDVoE I/O cards for Aquilon support HDCP 2.2 encryption?

Yes, SDVoE I/O cards for Aquilon support the most recent HDCP 2.2 encryption. The SDVoE I/O cards for Aquilon are HDCP 2.2 compliant and will manage any mix of sources that are unencrypted or must comply with HDCP 2.2 and HDCP 1.x specifications.

18. Are SDVoE I/O cards for Aquilon interoperable with other SDVoE Alliance products?

Yes, SDVoE I/O cards for Aquilon are interoperable with SDVoE products from different manufacturers. Typically, each port of the SDVoE I/O cards for Aquilon can be connected to any SDVoE endpoint and will be properly detected and controlled by any SDVoE control solution.

19. How are the SDVoE I/O ports detected and displayed in the SDVoE control interface?

When paired with a 10GbE switch, the SDVoE ports are automatically detected by the SDVoE controller. By default, each port is identified by its IP address and MAC address (this information is conveniently visible in the Web RCS). The SDVoE controller interface allows each detected endpoint to be renamed for example "Aquilon#1 Input3" or "Aquilon#1 Out3".

20. Does Analog Way also provide SDVoE compatible extenders and a control solution?

No, Analog Way doesn't provide SDVoE compatible extenders or control solutions.

21. What applications can be supported using SDVoE I/O cards for Aquilon?

The SDVoE I/O cards for Aquilon have been designed for the transport of video and audio over the network. They do not support other SDVoE features such as image composing, multiviewing, USB switching, or the transport of USB, IR, RS232 and utility 1GbE.

22. Does Aquilon support SDVoE routing from presets?

No, it doesn't. SDVoE routing must be achieved using an external SDVoE controller.

23. Does the SDVoE implementation on Aquilon support point-to-point operation (without a switch)?

Yes. Each port on Aquilon's SDVoE I/O cards (ACC-AQL-IN-SDVoE / ACC-AQL-OUT-SDVoE) is interoperable either with a compliant third-party SDVoE 10GbE network extender (which requires a third-party 10GbE switch and an SDVoE control solution), or directly with any compliant SDVoE point-to-point extender, with no switch in between.