AES SWISS SECTION NEWSLETTER

118th Issue

INFORMATION ON NEXT MEETING

# *AVB - Audio Video Bridging*

*Location : Hotel Ador, Laupenstrasse 15, 3001 Bern*

Tuesday, 17th of March 2009, 1800h – 1930h

**SPEAKER:** Attila Karamustafaoglu, Studer Professional Audio GmbH

**ORGANIZER:** Attila Karamustafaoglu **LANGUAGE:** English or German

For over 10 years now, the Ethernet standard has been utilized to transport audio and video data. Although designed for non-streaming data, the Ethernet has always been tempting to be used for streaming data as well because of its unparalleled price/performance ratio.
Several mostly proprietary protocols (such as e.g. CobraNet® or Ethersound®) have emerged and found their markets, but all currently available standards have their drawbacks:

- Mostly streams can either be sent to one other node or to all other nodes leading to unnecessary network overhead and unwanted topology restrictions.
- The combination with non-audio data traffic needs careful management of the system in order to have guaranteed quality of service QOS.
- As soon as the networks have many switches involved, the clocks and latencies become indeterministic.
- The major standards are proprietary and bound to licenses.

Now, an initiative has started to develop a new audio and video networking technology which will be a public standard and which will address all the drawbacks just mentioned. It is called AVB (Audio video bridging) and will be defined as three substandards:

- IEEE802.1as time synchronization protocol
- IEEE802.1at stream reservation protocol
- IEEE802.1av forwarding and queuing of time sensitive streams

No products using AVB are on the market yet, but many companies are preparing for this standard.
The presentation will explain the standard technically and will show its advantages against the currently available protocols.

**Attila Karamustafaoglu** graduated in 1998 in Electrical Engineering at the ETH Zürich. Since 2003 he leads the Core Technologies department in R&D, developing DSP core, networking and I/O technology at Studer Professional Audio GmbH.

**Schedule:**

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| Doors open | 1745h |
| Start of the meeting | 1800h |
| Short Apéro break | 1835h-1855h |
| End of the meeting | 1930h |
| Optional dinner | 1945h |

**Subscription:**
Please subscribe in advance to the meeting at http://www.swissaes.org/programmehome.html

**REPORT ON PREVIOUS MEETING**

# *The New audio DSP: theory and applications*

Thursday, 4th of December 2008, 17h30-20h00

*Haute Ecole d'Ingénierie du canton de Vaud (HEIG-VD), 1400 Yverdon*

**SPEAKERS:** Prof. Jacques Hufschmid, HEIG-VD
Jérôme Kursner, Danielo Castelo da Silva, HEIG-VD

**REPORTER:** Véronique Adam

25 people gathered on this Thursday afternoon in the "Haute Ecole d'Ingénierie du Canton de Vaud" in Yverdon, in order to attend a meeting about new audio DSP technologies.

After a pleasant aperitif of welcome offered by the Professor Jacques Hufschmid, the latter started the presentations in describing the theory related to Digital Signal Processors used in the audio domain.

He explained the advantages and disadvantages of various internal structures and data formats and introduced the new specialized DSP for the treatment of digital audio signals, with or without AD and DA converters.
After describing some existing models, he showed us how to use them in a practical way to deal with audio streams in terms of hardware and software.

In a second time, two HEIG-VD students presented their practical diploma work, using DSP to process audio signals:

Jérôme Kursner spook first about the way to create from a stereo source, a 5.1 configuration in a motor vehicle with an audio DSP. Daniel Castelo da Silva showed then how to implement MPEG1 audio using a DSP, complying with the norm ISO/CEI 11172.

The meeting ended with a brief presentation of the School of Engineering, the Audio Laboratory and the audio diploma works in progress. Then the attendees were invited to make some practical experiments in the School audio laboratory, including the use of DSP to process audio signals.

After the meeting, the majority of the attendees continued the discussions around a delicious dinner at a restaurant nearby.

The Swiss AES wishes to thank warmly the HEIG audio laboratory, as well as the Prof. Hufschmid and his students for their welcome and their kind collaboration in the meeting organisation.