

IEEE 1722

AVB L2 Transport Protocol

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IEEE 1722 Purpose

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- IEEE 1722 will facilitate interoperability between stations that stream time-sensitive audio and/or video across Ethernet AVB networks.
- IEEE 1722 will provide time synchronization and latency/bandwidth services by defining the packet format and stream setup, control, and teardown protocols

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- IEEE 1722 will leverage concepts from IEC 61883-1 through IEC 61883-7
 - 61883-2 (SD-DVCR)
 - 61883-4 (MPEG2 Compressed Audio/Video)
 - 61883-6 (Uncompressed Audio/Music)
 - 61883-7 (Satellite TV MPEG)
 - BT.601 (*to become 61883-8*) (Uncompressed Video)
 - IIDC (Uncompressed Industrial Cameras)

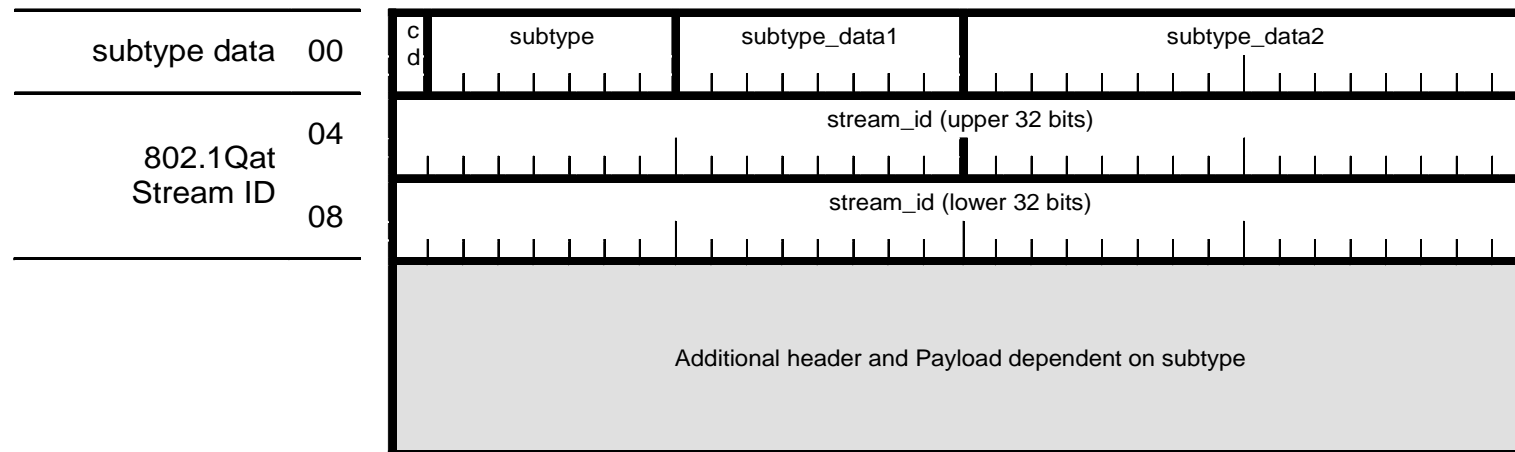
Overview

- Encapsulation
- Timing and Synchronization
- Session Management

IEEE 1722 Encapsulation

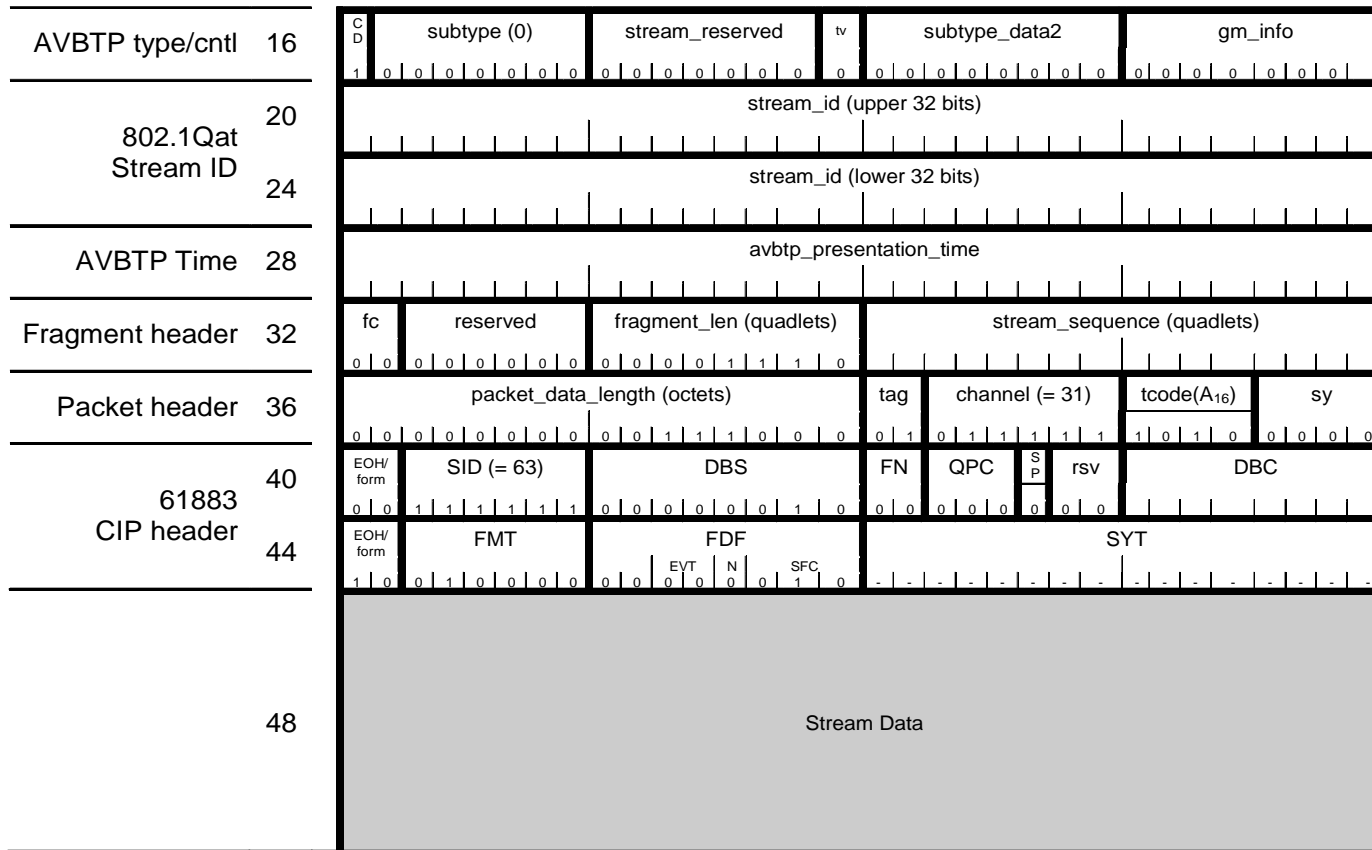
Encapsulation

1722 Header



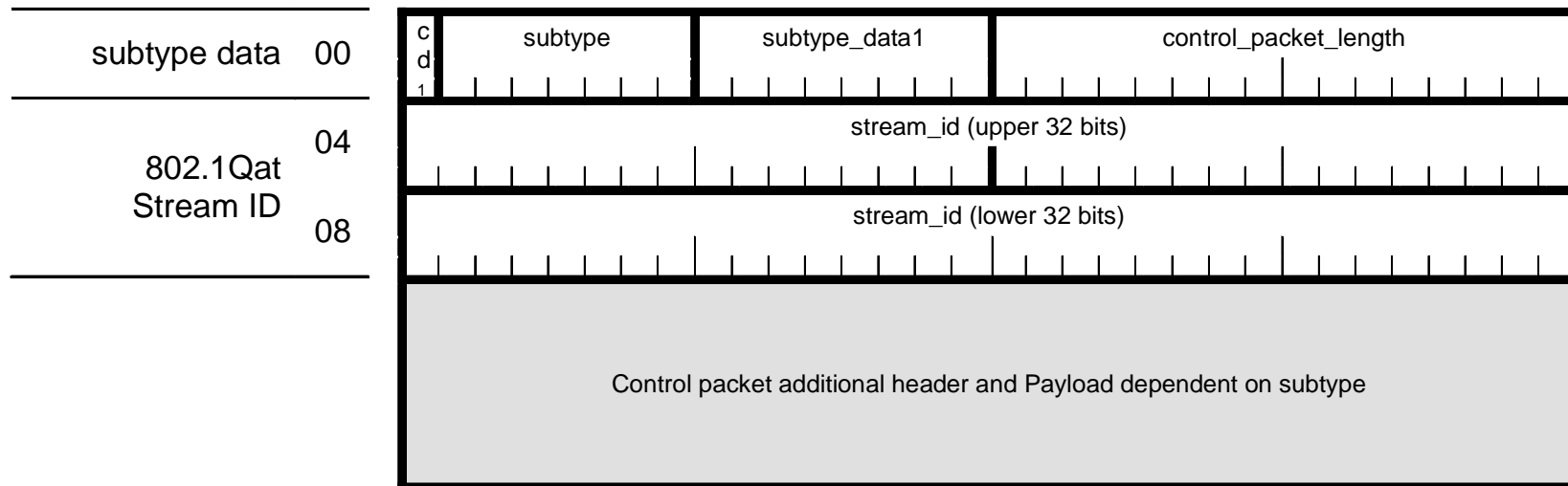
Encapsulation

1722 Stream Data



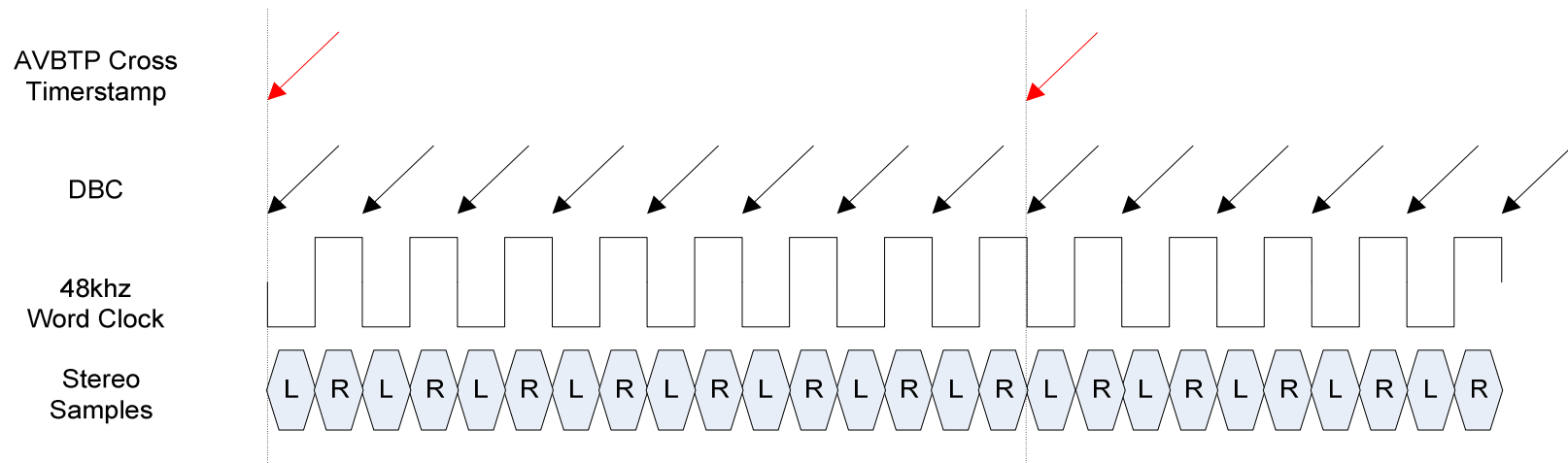
Encapsulation

1722 Command/Control Header



IEEE 1722 Timing and Synchronization

Timing and Synchronization



Timing and Synchronization

- AVBTP cross timestamps based on 802.1AS clock
- Frequency of timestamps based on the SYT_Interval
- Timestamps will be offset to allow for a synchronized presentation time
- Default offset of 2ms

Timing and Synchronization

- DBC count is based on the media clock
- DBC must increase in a continuous and monotonic fashion

Timing and Synchronization

- 802.1AS Issues
 - Discontinuity in time without a Grand Master change
 - Time required to achieve a Grand Master change

IEEE 1722 Session Management

Session Management

- Connection Management
 - Stream set up and teardown
- Stream ID Assignment
- Stream Discovery
- Command Transport
 - 1394 AV/C

How can I get involved?

Working Group Overview

- IEEE 1722
 - Sponsored by IEEE Microcomputer Standards Committee
 - <http://www.avbtp.org>
- Chair: Robert Boatright
 - rboatright@ieee.org
 - +1.801.568.7566
- Editor: Alan Bartky
 - alan@bartky.net

Meeting information

- Weekly phone conferences
 - Mondays @ 2 pm/Pacific
 - Primary Dial-In 1 (866) 888-5021
 - Alternate Dial-In 1 (630) 693-2119
 - Enter Passcode 8451103#
- Next face-to-face meeting
 - December 6, 2007
MARGI Systems
39465 Paseo Padre Parkway
Suite 3400
Fremont, CA
 - Please RSVP to rboatright@ieee.org

Email Reflector

- To subscribe to the AVB Transport Protocol Working Group reflector, send an email to ListServ@ieee.org containing:
 - “subscribe avbtp” in the body of the message
- <http://grouper.ieee.org/groups/avbtp/private/email/index1.html>
 - Login: msc-avb
 - Password: aud/vid

What about Layer 3?

AVB over layer 3

- PAR submitted and approved by IEEE
MSC awaiting approval by NesCom

“This standard will facilitate interoperability between stations that stream time sensitive audio and/or video across bridged and routed LANs providing time synchronization and latency/ bandwidth services by defining the packet format and stream setup, control, synchronization and teardown protocols by leveraging Real-time Transport Protocol (RTP) family of protocols and IEEE 802.1 AVB protocols.”

AVB over layer 3

- For more information:
 - Suman Sharma – Intel Corporation
 - Kevin Stanton – Intel Corporation