IEEE 1722a Assumptions

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Green Text = Agreed to at a Face 2 Face (was Blue or Red)

Black Text = Not Decided

Changes Marked with Red from last version

Subtype Assignment

- # New subtypes
  - 0x02 AVTP Audio Format
  - 0x03 AVTP Video Format
  - 0x04 Control Streams (Automotive/TSCS)
  - 0x05 Possible TSCS subtype
  - 0x7a AVDECC Discovery
  - 0x7b AVDECC Enumeration and Control
  - 0x7c AVDECC Connection Management
  - 0x7d Media Clock Negotiation

- # Divide the subtype table between C and D to clarify that these are different subtype domains

Mac Address Assignment

- MCN needs MAC address (91:E0:F0:00:FF:01)

- 1722.1 has requested a block of 16k MAC addresses to by assigned by 1722a from the 1722 OUI (91:E0:F0:01:00:00 – 91:E0:F0:01:FF:FF)

Changes to current standard

- Redefine gateway info to only be valid for 61883 formats

- Gateway info field to be replaced by a protocol specific field that can be used in new protocols

- GV bit to also be redefined to be available for use in new protocol types or reserved where not used

AVTP Audio Format

- Support PCM audio
  - Support more channels
  - Simpler data parsing
- Event Markers
- DTCP Support
- HDCP Support

AVTP Audio Format LPCM Format

- Timestamp in every packet
- Define a base required default format, a talker must support one of the formats, a listener must support both of the following:
  - 48k, 6 samples/packet, 32-bit sample size, 8 channels
  - 44.1k, 6 samples/packet, 32-bit sample size, 8 channels
- We may want to split the defaults up by market

AVTP Video

- Support new native AVTP formats
  - Support RAW sensor data
    - Verify whether this can be done via new IIDC formats.

- Support RTP Payload formats
  - Support MJPEG (RFC 2435)
  - Support MJPEG2000 (RFC 5372)
  - Support H.264 (RFC 6184)
  - MPEG2 (RFC 2250) ?????

- Event Markers
  - M0 bit to be used for the RTP marker bit

- DTCP Support
- HDCP Support

Media Clock Negotiation

- Frequency multipliers to match 1722.1
  - 1.001, 1/1.001, 24/25, 25/24
- Clock Quality field(s) to be added between priority1 and priority2
  - Media Clock variance should be determined by PTPDEV (16 bit field)
  - gptp_clock_period field related to gPTP interval typically 8ns or 40ns (8 bit field)
- Required Crystal GUID to be added for informational purposes to MCN Advertise packet

Real Time Format Change (the HDMI problem)

- Include markers to indicate change
  - Prechange indication??
  - Format identifier??
  - Formats are prenegotiated
  - One bit could set to indicate a change is coming and then reset to indicate the change is here
- Required in AVTP audio/video formats
- Add bits to 61883 base formats
- Could this be used by the 802.1 multitalker problem??
- This feature relies on HDCP and so we should put this on hold until we solve the HDCP Problem

Diagnostics

- Diagnostic Counter to be included with 1722a
  - List of counter to be included in next draft
  - Preliminary list from Sandy 2/6/2012 F2F notes

1722/1722a PICS

- 1722/1722a only (no PICS derived from IEC 61883 specific standards)
- Need PICS for AVTP audio/video
- Need PICS for MCN

DTCP/HDCP

- Include bit fields to support DTCP/HDCP

- The DTCP spec uses the high order 2 bits of the sy field to support DTCP

- AVTP formats will provide 4 bits to be used by DTCP and HCDP

- Add 1 bit from a reserved field to support HDCP in the 61883 formats

- 1722 will not work with the DTLA to get approval

- 1722 will only provide what is needed such that someone else could get formats approved by the DTLA

Automotive Support

- Automotive base format
  - Flexray Protocol
  - CAN Protocol
  - LIN Protocol
  - TSCS Protocol (TSCS may need to move to a separate subtype)
- FlexRay synchronization ??

Low Latency Security/Encryption

- Informative Annex
- MacSec – per link encryption
- 802.1X – per LAN authentication
- DTCP – end to end AES 128 encryption
- How do I secure a live performance?
  - Class A Stream latency
- Need a volunteer or this will be dropped

Synchronization bits

- M0 used as RTP marker bit in AVTP Video
  - Conflicts with suggested us further down, do we need to allocate more marker bits?

- Need Synchronization Marker bits

- Currently M0 and M1

- Do we need more bits? Maybe 4 bits

- M0 used for format change

- M1 used to synchronize external events

- Can we add these same bits to the 61883 streaming formats?

New Sections

- 3-5 Changes as needed

- 6-7 No changes anticipated

- 8 AVTP Audio Format (Ashley)

- 9 AVTP Video Format (Dave)

- 10 Control Streams Format (Auto Subgroup)
    - 10.1 Flexray
    - 10.2 CAN
    - 10.3 LIN
    - 10.4 TSCS

New Annexes

- Annex D – MCN (normative) (Dave)

- Annex E – Diagnostics (informative) (Chris P)

- Annex F – PICS (normative) (Dave)

- Annex G – Marker Bits usage (informative)
  - HDMI Problem (synchronized format changes)
  - Needs contributions

- Annex H – Security (normative)
  - DRM Encryption (DTCP, HDCP)
  - Signed Packets (Jeff)

New Annexes

- Annex I – Other Security Issues (informative)
  - MacSec
  - 802.1X
  - Needs contributions
- Annex J – Video formats (informative) (Dave)
  - Bayer data over IIDC
- Annex K –

Other items?

- Need a marker to indicate signed packets?
  - Allocate from version?
  - Allocate from subtype?
  - Other?
  - Jeff K to follow up

Goals?

- First draft in February
  - MCN
  - Automotive Header
    - Flexray Payload
    - CAN Payload
  - AVTP Video Header
    - RTP Payload Type
  - AVTP Audio (Possibly)
  - Counters (Possibly)

- Decision on Security Versioning before next F2F