IEEE 1722.1 New Work - Feb 2014

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Acquire Entity Command

- Needs descriptive text and/or a state machine for how to handle receiving an ACQUIRE_ENTITY command while waiting for the CONTROLLER_AVAILABLE response or timeout

Unsolicited Responses

- Need a (timeout) mechanism to remove a registered Controller when it is lost or killed without deregistering.

Max Transit Time

- Although the max transit time setting can be calculated and set via the SET_STREAM_INFO command (msrp_accumulated_latency field) there has been expressed a desire for explicit commands so…

- Add SET_MAX_TRANSIT_TIME and GET_MAX_TRANSIT_TIME commands which will act on a STREAM_INPUT or STREAM_OUTPUT object

Controller Request

- Add cr (controller request) bit to all commands which allows the entity to request the controller perform an action to set the appropriate thing

    - e.g. user changes a front panel know for the sample rate, entity sends SET_SAMPLING_RATE with u and rq set, controller can then call STOP_STREAMING on all of the connected entities, SET_SAMPLE_RATE on all of the entities that are connected to the streams for the entity that requested, and then START_STREAMING on all of the entities.

ACMP Status Codes

- Need to add

  - ACMP_LISTENER_INVALID_CONNECTION, 18, "The AVDECC Listener is being asked to connect to something that it cannot listen to, e.g. it is being asked to listen to it's own AVDECC Talker stream."

- Some listeners are incapable of listening to the same stream multiple time, may need a new status code for this

  - ACMP_LISTENER_CAN_ONLY_LISTEN_ONCE?

ACMP Controller Commands

- Add new command or allow Controller to send command to disconnect the TX when a listener is not present.

OPERATION_STATUS

- Clarify how the sequence_id for these messages is generated/used

Authentication

- Clarify that if authentication is being used (that is before doing any AECP based action the AUTHENTICATE command must be sent) then this also applies to ACMP. If we feel this should be an option then may need to add a flag and error code.

Memory Object Download Protocol

- We have a Memory Object Upload Protocol, we should be consistent and define the opposite direction as well

GET_AVB_INFO

- Add flag which indicates link status (up/down)

- Add flags which indicate link mode? (100/1G/ 10G/etc?)

New control types

- Add barometric pressure control

- Link Status

- Port Media Speed (both status and setting)

- Vendor URL

- Product URL

- Other URL

New Control Types (cont)

- Fault

- Controller Target

  - A way to configure simple controllers (such as the button on the wall) with where the control values should be sent

- Latency Compensation

  - Like a Delay control but used specifically for correcting for internal latency differences between entities

  - Delay is then purely for effects

AECP AEM Bridge Controls

- Add controls for bridge configuration?

  - SRP Bandwidth availability

    - deltaBandwidth(N) and adminIdleSlope

  - gPTP

    - clock class, accuracy, priority 1, priority 2, GM capable, UTC Offset (and valid)?

    - neighborPropDelayThresh, neighborRateRatio, log announce interval, log sync interval, log Pdelay req interval

- These may also be useful for end stations

AVB_INTERFACE Descriptor

- Add controls as children

    - Need this as a home for the link status, port media settings, etc.

Redundancy

- Need a way to specify that two streams are used as redundant backups for the other on a different link

  - We can already specify that streams are on different ethernet ports

  - Need to specify that they are the same stream

Flash Programming

- Need a standard binary AEM format that is suitable for programming directly into flash and being used to configure the device at boot

Miscellaneous

- Need a way of showing that an Entity can connect to it's own streams

  - That is that the stream inputs can listen to it's own stream outputs

- Need a command for setting the AES-GCM Initialization Vector?

- Dynamic Entity Models

  - Do we want to support these officially

6.2, 7.4, 8.2 and 9.2 PDU Diagrams

- Need to replace all of the PDU diagrams with diagrams which include the full PDU format. To match what we have done in 1722a

Sampling Rate Ranges

- Need to add Sampling Rate Ranges
  - Needed so that Video Clusters can represent a dynamic frame rate device

Video Cluster

- Add the new sampling rate ranges to the VIDEO_CLUSTER descriptor

  - current_sampling_rate_range, supported_sampling_rate_ranges_count and supported_sampling_rate_ranges_offset will be added at offset 121

  - supported_sampling_rate_ranges will be added to the end

  - Cluster shall use either sampling rate or sampling rate ranges (i.e. either supported_sampling_rates_count or supported_sampling_rate_ranges_count shall be 0)

GET_PATH_LATENCY Command

- Add GET_PATH_LATENCY command which will get the path latency for a cluster (as is reported by the path_latency field)

- Unsolicited response is sent when something causes this value to change (e.g. a signal selector changes it to a shorter or longer path)

SET/GET_SAMPLING_RATE_RANGE

- Need to add new command for the new sampling rate ranges which are the equivalent of SET_SAMPLING_RATE and GET_SAMPLING_RATE

SET/GET_MULTIPLE_CONTROLS

- Add a command that lets you set and get the values of multiple controls in the same command

CHANGE_*_ENCRYPTION

- Add command to enable the changing of stream or transport encryption without disabling and re-enabling encryption

- Specifies a gPTP time at when the change will take effect (e.g. a stream frame with a presentation time after this time will use the new key or IV info)

GET_MSRP_* Commands

- Add new commands targeting an AVB_INTERFACE descriptor to get the MSRP attributes for a port (egress)

  - GET_MSRP_TALKER_ATTRIBUTES

    - Talker attributes being advertised on the port

  - GET_MSRP_LISTENER_ATTRIBUTE

    - Listener attributes being advertised on the port

  - GET_MSRP_BANDWIDTH

    - The amount of bandwidth reserved on the port

AVDECC Proxy Protocol

- Add JOIN_MULTICAST and LEAVE_MULTICAST to enable the APC to tell APS to join or leave a multicast address

Your New Work Here

- If you have more new work for the new version of IEEE 1722.1 please email the reflector

  - AVBTP-DECC@LISTSERV.IEEE.ORG