

IEEE P1722.1

Media Component Maps

v1.1

Media Component Map Properties

An IEEE 1722 time sensitive stream can contain multiple media components. In formats such as iec61883-6's AM824 MIDI, one "slot" may be TDM'd. In formats that contain a transport stream, the payload may contain multiple video/audio streams.

An AVTP end station may have any number of media sources and media sinks of various formats. Some media sources and sinks may contain multiple media components.

Stream Component Map ID

A stream component "stream-component-map-id" is addressed with a 32 bit value.

The 16 most significant bits are the slot within the stream packet.

The 16 least significant bits may be fff_{16} to specify the media encapsulated in the stream slot, or it may select media sub-components within the stream slot.

Media Source/Sink Map ID

A media source and media sink id "media-map-id" is addressed with a 32 bit value.

The 16 most significant bits are the media source or sink number in the end station.

The 16 least significant bits may be fff_{16} to specify the entire media encapsulated in the media source or sink. Any other value selects media sub-components within the media source or sink.

The Map

A "map-entry" is a 64 bit value. The most significant 32 bits is the "stream-component-map-id" and the least significant 32 bits is the "media-map-id" that it maps to or from.

Mapping Stream Sinks to Media Sinks ("sink-map") and mapping Media Sources to Stream Sources ("source-map") is accomplished via a list of "map-entry" values.

A map may be sparse. Any stream's media components that are not referenced by a "sink-map" are ignored. Any stream's media components that are not referenced by a "source-map" are to be null - ie: blank or silent media.

Examples

Example 1 - Sink SP/DIF and 2 MIDI streams

Incoming stream context:

- Incoming AM824 stream containing iec60958 data in slots 0 and 1
- MIDI data in slot 2.

Stream sink context:

- The stream is configured to be received into Stream Sink ID 0.

Device context:

- One SP/DIF output port as "Media Sink ID" 0
- Two MIDI Out ports "Media Sink ID" 1 and 2

The user wants:

- The iec60958 data to come out the SP/DIF port.
- The third MIDI stream in the AM824 stream to come out of the first MIDI port
- The fourth MIDI stream in the AM824 stream to come out of the second MIDI port

Therefore, the required sink-map would be:

```
0000ffff0000ffff16 ;iec60958 to spdif out
000200020001ffff16 ;MIDI data slot 2 stream 2 to midi out 1
000200030002ffff16 ;MIDI data slot 2 stream 3 to midi out 2
```

Example 2 - Source 4 channels of audio from 1 AES3 input and 2 Analog Inputs

Outgoing stream context:

- Outgoing AM824 stream contains 4 channels of 48Khz audio

Stream source context:

- Outgoing stream is configured to be transmitted from Stream Source ID 0.

Device Context:

- One AES3 input port as “Media Source ID” 0
- Two analog audio inputs @48Khz as “Media Source ID” 1 and 2 respectively

The user wants:

- Channel 0 of audio in AES3 input to be put in slot 0 of the stream packet
- Channel 1 of audio in AES3 input to be put in slot 1 of the stream packet
- The first analog audio input to be put into slot 2 of the stream packet
- The second analog audio input to be put into slot 3 of the stream packet

Therefore, the required source-map would be:

```
0000ffff0000000016 ;AES3 input 0 to packet slot 0
0001ffff0000000116 ;AES3 input 1 to packet slot 1
0002ffff0001ffff16 ;First analog in to packet slot 2
0003ffff0002ffff16 ;Second analog in to packet slot 2
```