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AMM OPEN DAYS

# EAVB C&C use cases

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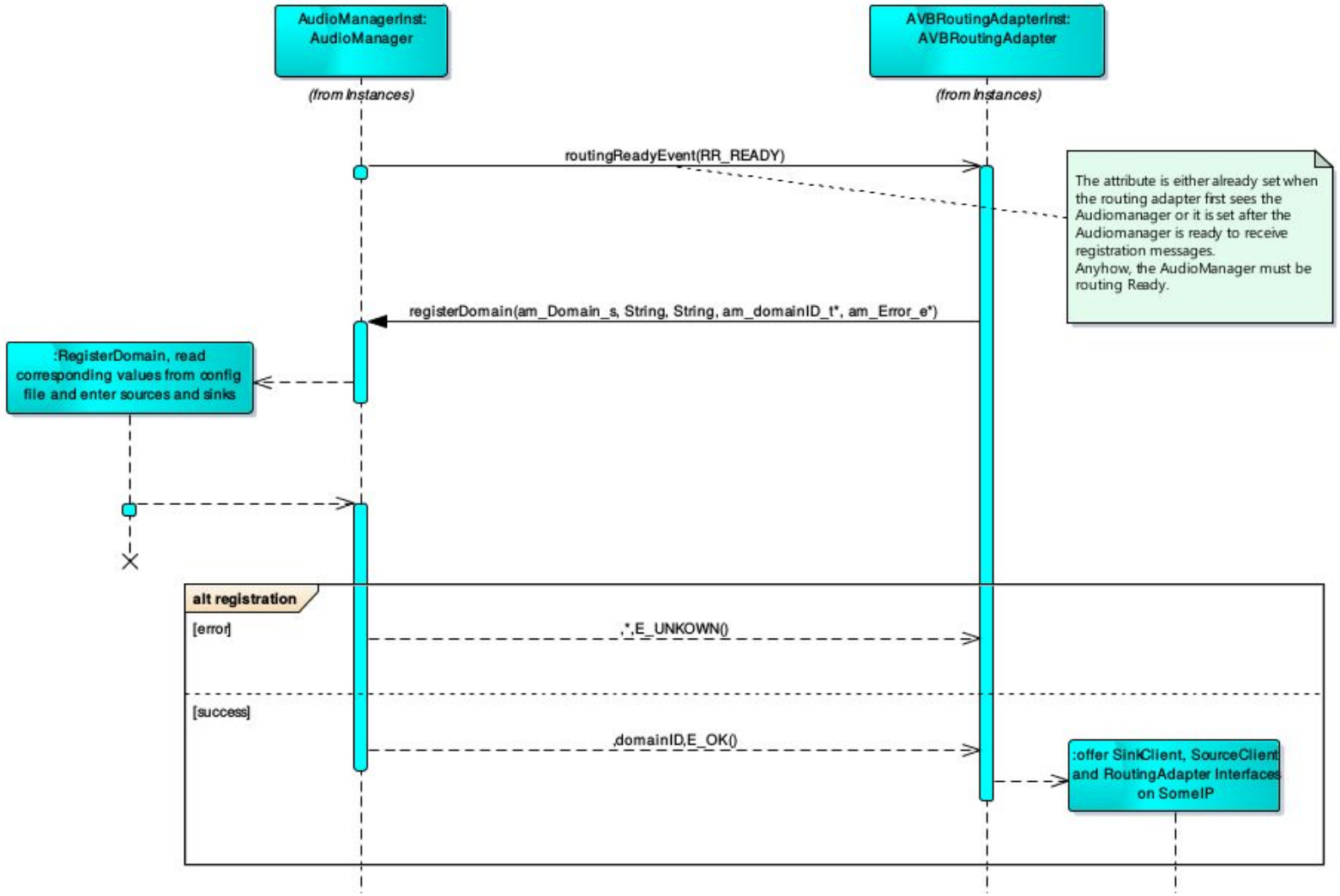
# Agenda

- BMW’s sequences overview
- Proposed use cases
- Protocols analysis

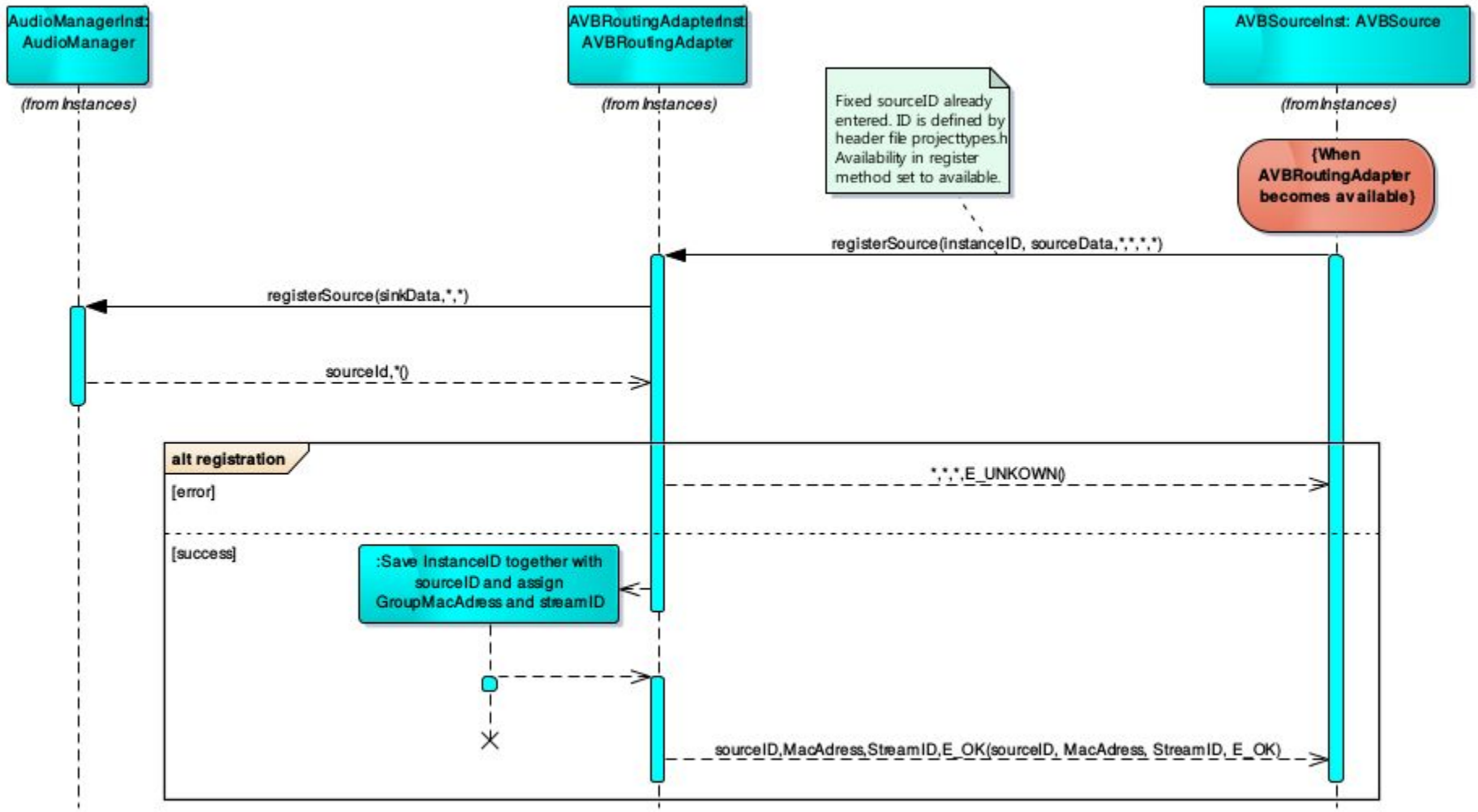
# BMW Sequences

- Register domain
- Register source
- Register sink
- Connect
- Set stream format
- Connect source to sink
- Disconnect sink

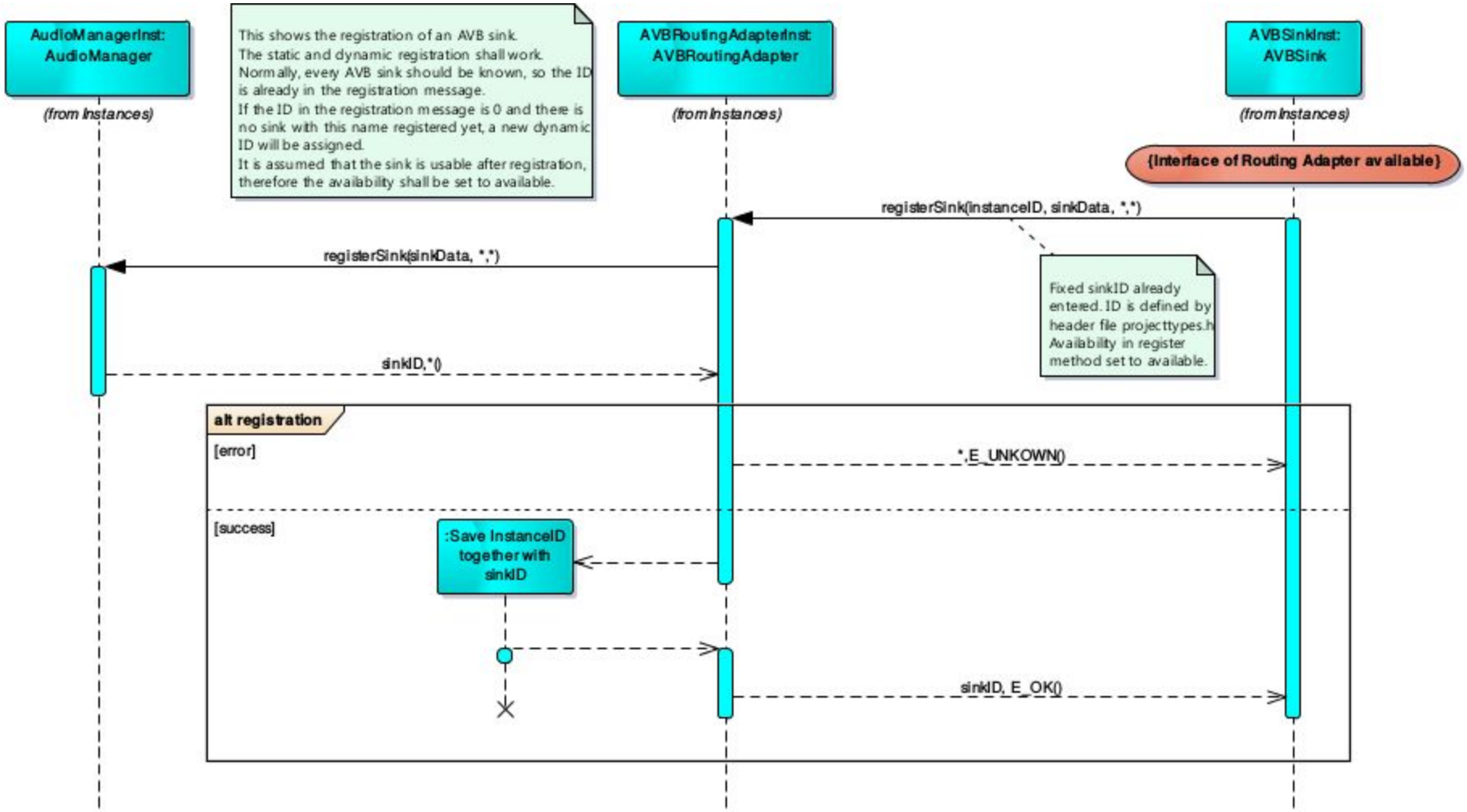
# Register domain



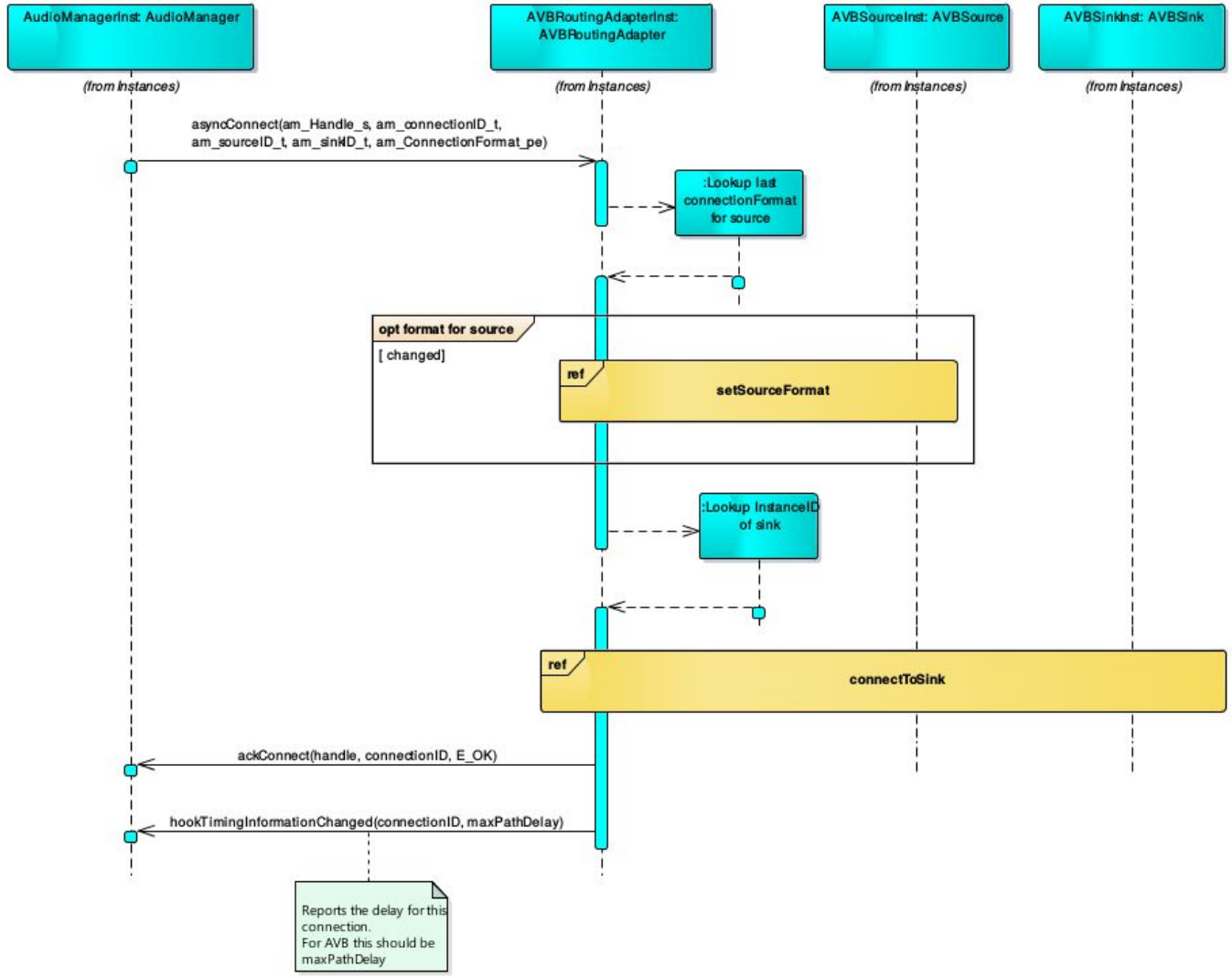
# Register source



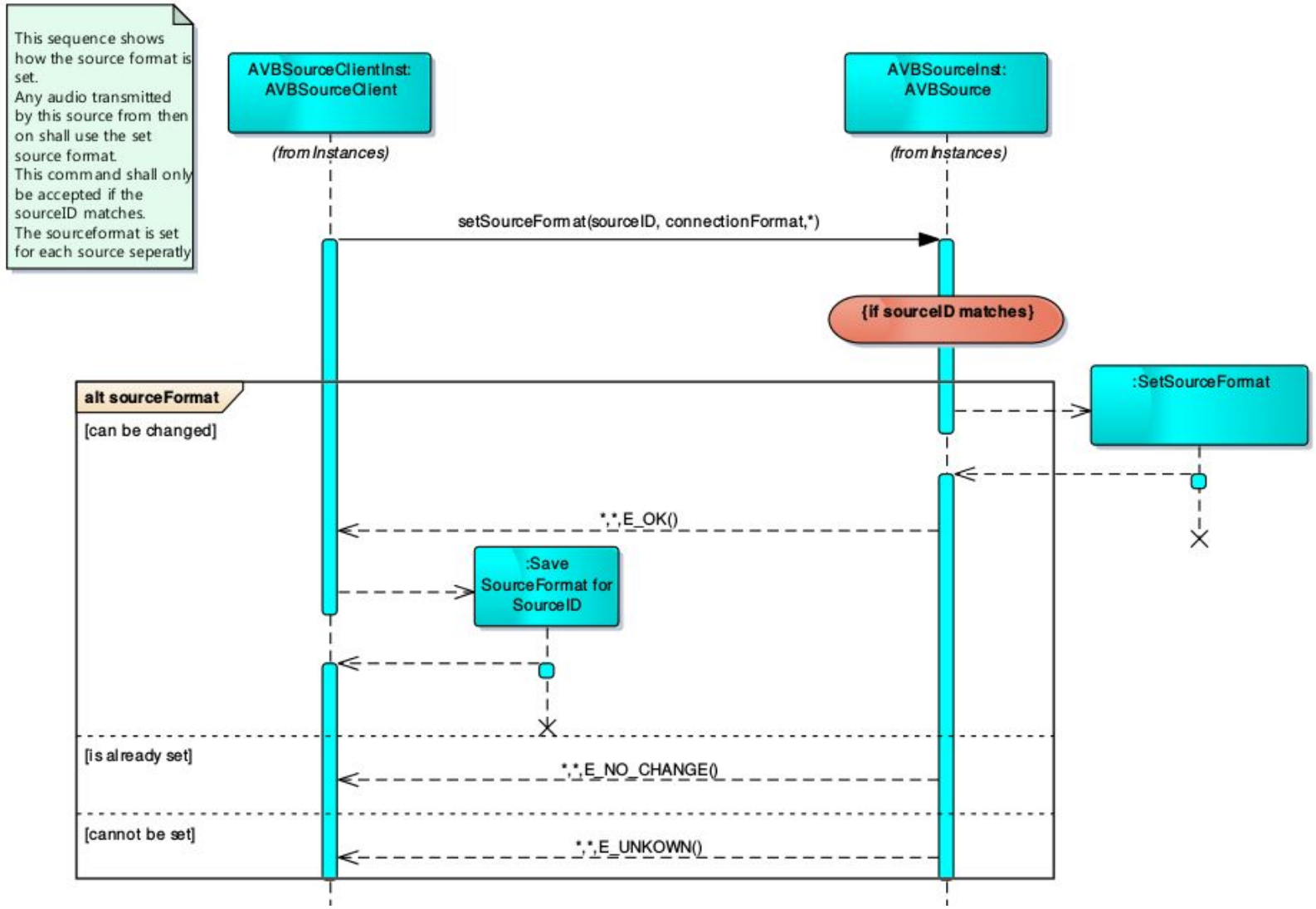
# Register sink



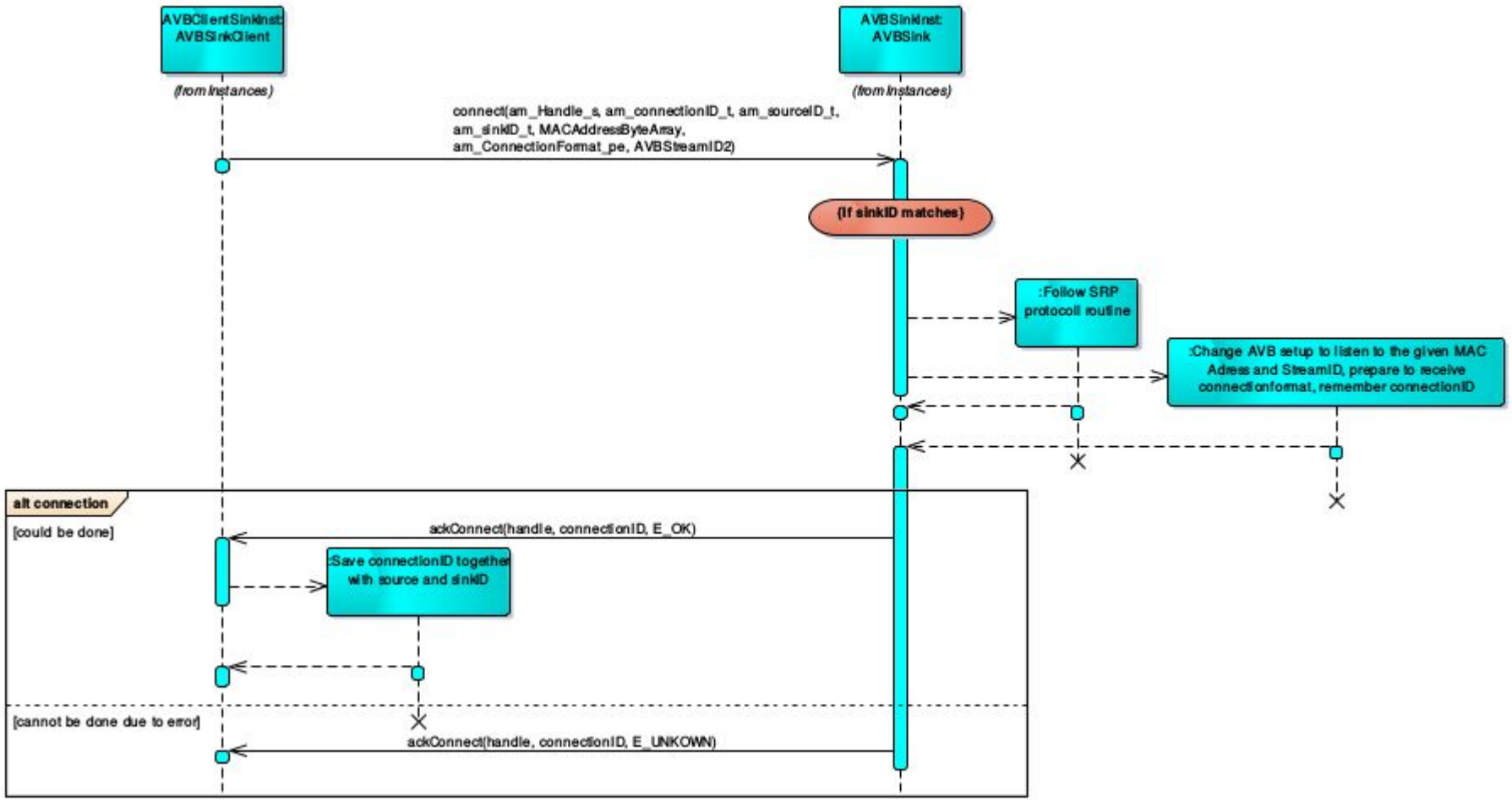
# Connect


AudioManagerInst: AudioManager
AVBRoutingAdapterInst: AVBRoutingAdapter
AVBSourceInst: AVBSource
AVBSinkInst: AVBSink
(from Instances)
(from Instances)
(from Instances)
(from Instances)
asyncConnect(am_Handle_s, am_connectionID_t, am_sourceID_t, am_sinkID_t, am_ConnectionFormat_pe)
:Lookup last connectionFormat for source
opt format for source
[ changed]
ref
setSourceFormat
:Lookup InstanceID of sink
ref
connectToSink
ackConnect(handle, connectionID, E_OK)
hookTimingInformationChanged(connectionID, maxPathDelay)
Reports the delay for this connection.
For AVB this should be maxPathDelay

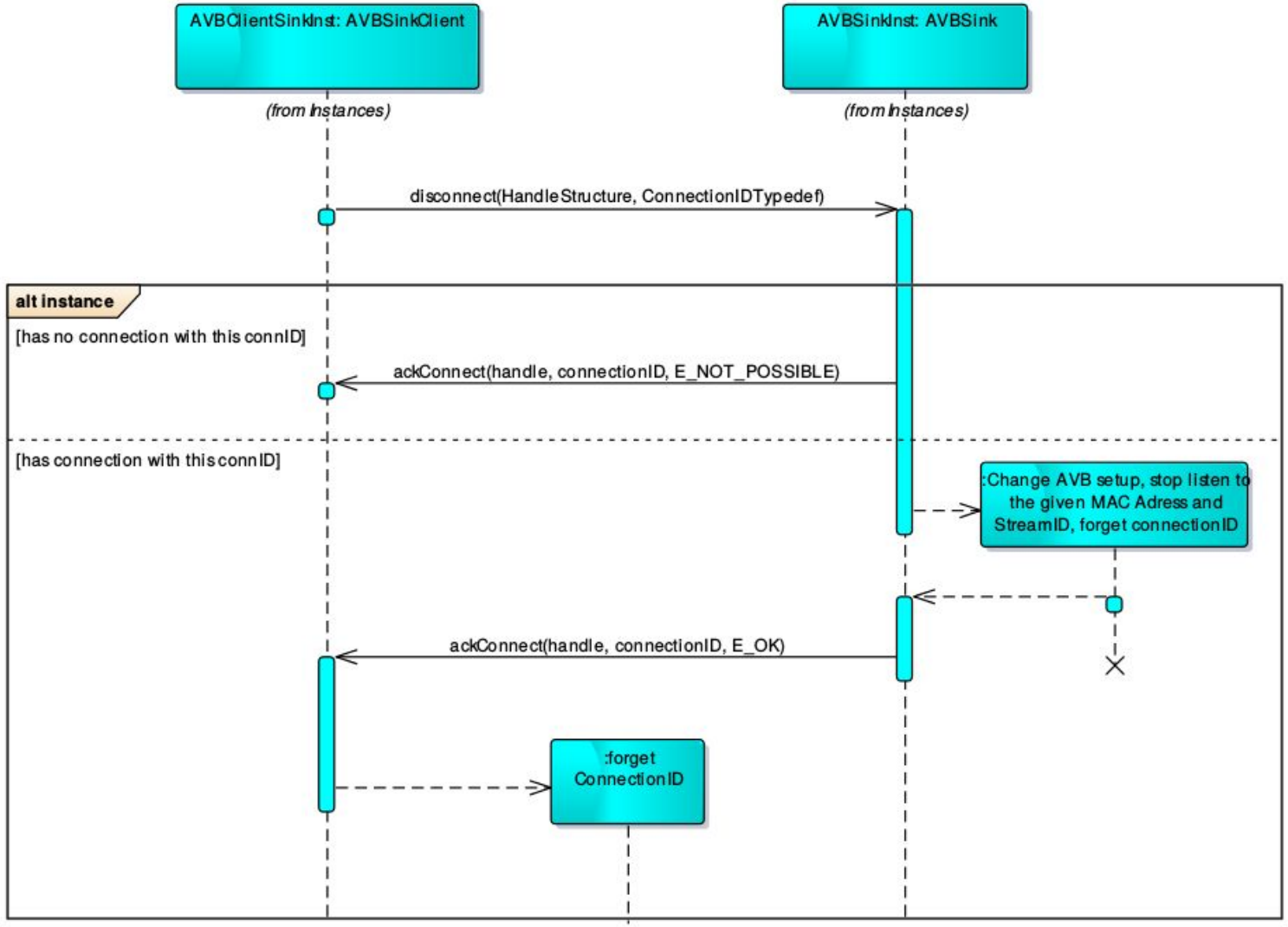
# Set stream format



# Connect to sink

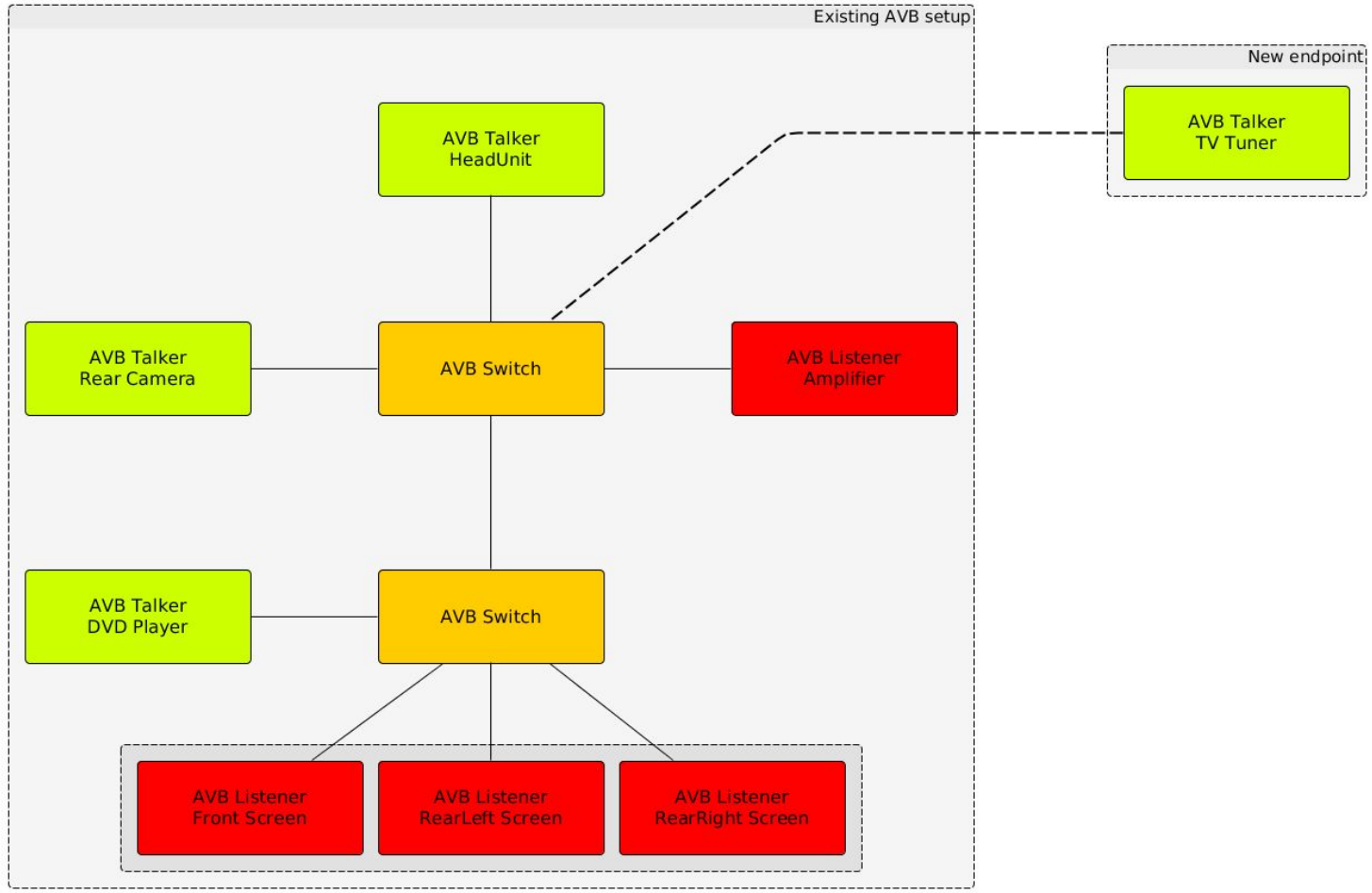


# Disconnect sink



# Proposed use cases

# Exemplary architecture



# Use cases - controller

Controller discovers new devices

Controller configures device

Controller retrieves configuration from a device

# Use cases - stream configuration

- Listener gets a list of streams (with all parameters)
- Listener initiates listening to a stream
- Controller gets information on device's current stream config

# Use cases - statistics and debugging

- Controller detects a failure/error of a device
- Device reports a failure/error of a stream or device
- Controller resets a non-responsive device
- Controller collects stats on Ethernet traffic and stream health

# Use cases - media control

- Listener retrieves list of available media for talker of current stream
- Listener initiates streaming of media from talker on current stream.
- Listener executes trick play on media of the current stream
- Endpoint controls volume and channel configuration at amplifier

# Discussion

# Considered protocols

- 1722.1 AVDECC
- SomeIP

# 1722.1 AVDECC analysis

| | | |
|---|---|---|
| 1.1 | Register domain | Yes |
| 1.2 | Register source | Yes |
| 1.3 | Register sink | Yes |
| 1.4 | Connect source to sink | Yes |
| 1.5 | Set stream format | Yes |
| 1.6 | Disconnect sink | Yes |

# 1722.1 AVDECC analysis

| | | |
|---|---|---|
| 2.1 | Controller discovers new devices | Yes |
| 2.2 | Controller configures device | Yes |
| 2.3 | Controller retrieves configuration from a device | Yes |
| 2.4 | Controller detects a failure/error of a device | No |
| 2.5 | Device reports a failure/error of a stream or device | No |
| 2.6 | Controller resets a non-responsive device | No/Yes |
| 2.7 | Controller collects stats on Ethernet traffic and stream health | Yes |
| 3.1 | Listener gets a list of streams (with all parameters) | Yes |
| 3.2 | Listener initiates listening to a stream | Yes |
| 3.3 | Controller gets information on device's current stream config | Yes |
| 4.1 | Listener retrieves list of available media for talker of current stream | Yes |
| 4.2 | Listener initiates streaming of media from talker on current stream. | Yes |
| 4.3 | Listener executes trick play on media of the current stream | Yes |
| 4.4 | Endpoint controls volume and channel configuration at amp | Yes |

Thank you