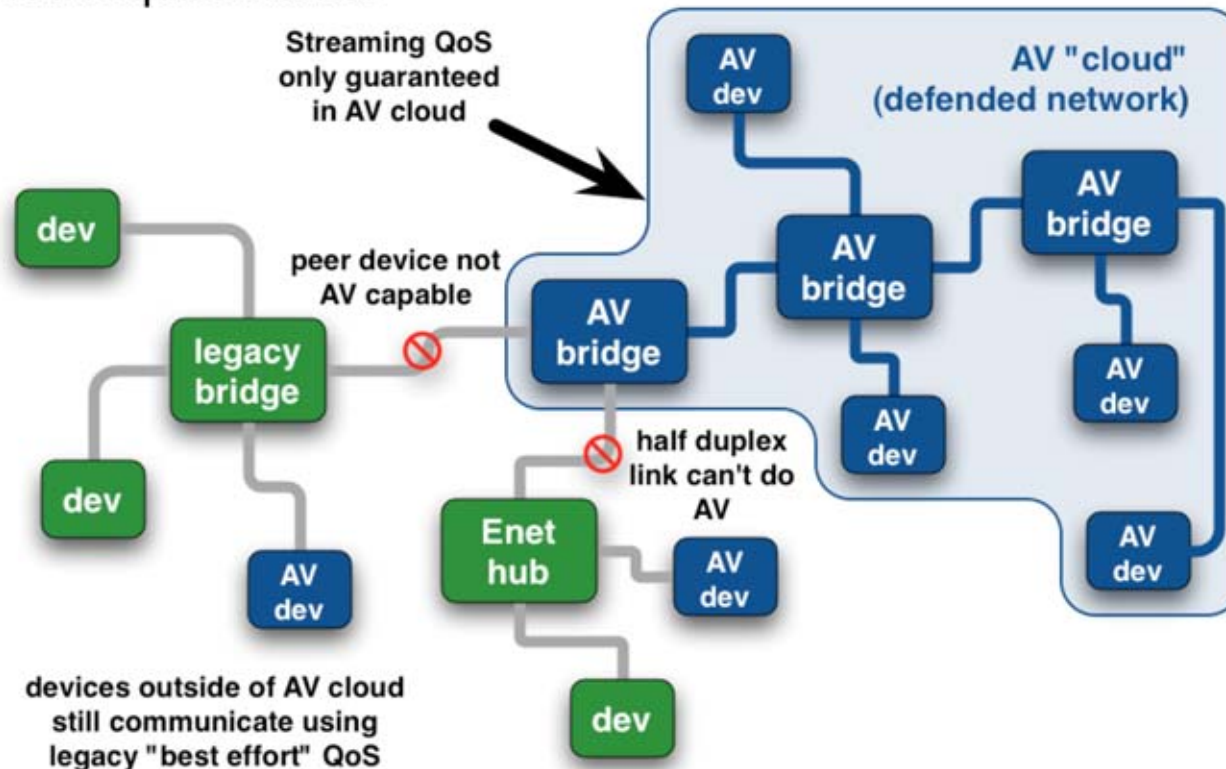

Residential Bridges Architectural Outline (or: *where does all this fit?*)

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A proposed definition

- What was previously called a “ResE cloud” be redefined as an “AV cloud”
 - Set of “802.1 AV profile” devices that are directly connected to each other
- 802.1 AV profile devices must perform specified services with specified performance requirements.

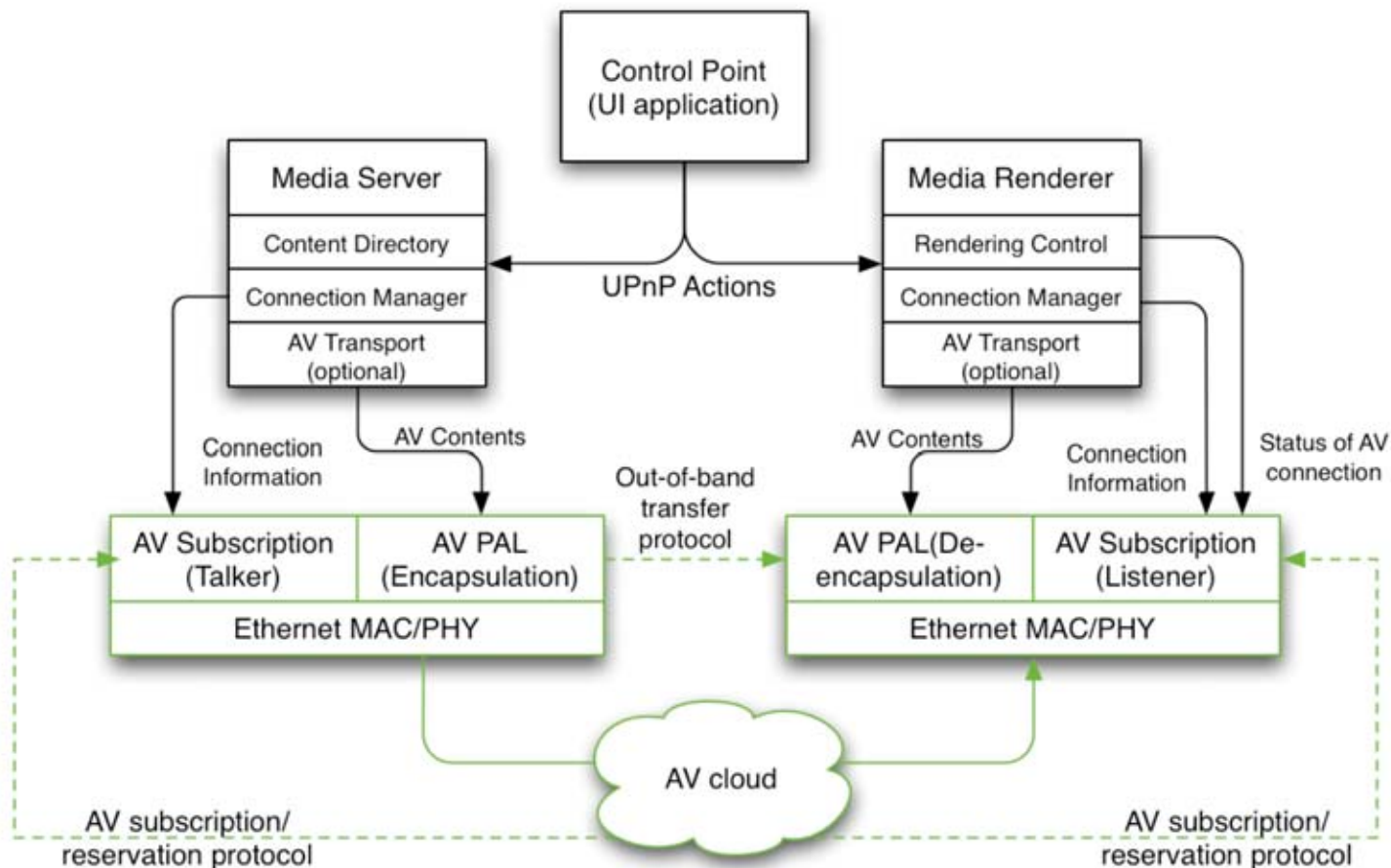


Services required by 802.1 AV profile

- Precise synchronization
 - Network provides well synchronized “epoch” clock with adequate quality for worst-case CE applications
 - Timing information also used for network services
- Well-defined and interoperable queuing and forwarding rules for traffic classes (using 802.1 priority tags)
 - Traffic shaping requirements for transmission of tagged frames
 - Rules for retagging of frames at AV cloud boundaries
- Admission control system for usage of priority tags
 - Stream registration and preliminary reservation using MRP application
 - End-to-end confirmation of reservation using separate “reservation confirmation” frame

Example interaction with UPnP (1)

- Establish reservation at AV connect



Example interaction with UPnP (2)

- Establish reservation indirectly via QoS manager

Likely mapping to Ethernet

- 802.1 (and layer 2 1588) will provide all QoS features, except ...
- Need to know when frame is sent/received within a small timing variation (perhaps 40ns)

Possible mapping to 802.11/WiFi

- Use of 1588 over 802.11 needs study
 - Timing services may already be available as a byproduct of 802.11 protocols
- Different queuing rules to match time-varying bandwidth available
 - Same priority tagging!
 - Very low latency traffic class(s) (e.g., 2 ms) may not make sense
 - Single “modest latency” traffic class (e.g., 32 ms) may be best
 - Expectation of success must be lower (momentary changes in RF environment)
- Same admission control protocol must be used

Possible mapping to DLNA

- Tbd -- support for both http and rtp streaming, or rtp only?
- DRM considerations/interaction with 802.1 security
- ...