



CE streams Addressing in AV Bridged 802 Networks

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What is the problem

How do we map/address A/V streams into 802

How to bridge A/V endpoints via an 802 cloud

- A/V applications are multipoint in nature
- Multiple A/V streams are sourced at an end-point, and destined to various destinations

Objectives

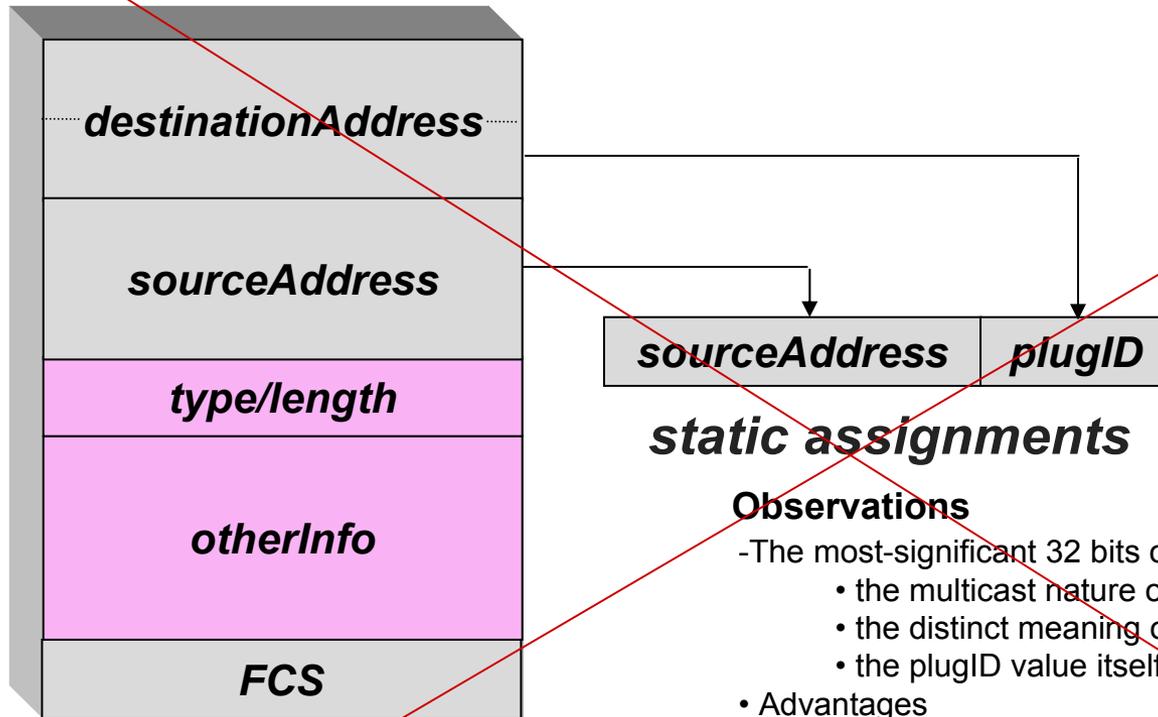
- Support large number of streams
- Support heterogeneous (various makers) talker/listener applications
- Support multicast streams as well as unicast streams
- Support dynamic join/leave of end-points

Considered options

- ~~MAC address plus “plug” identifier~~
- MAC address plus VLAN tag
- Per stream group MAC address
 - Without priorities, without tags
 - With priorities, without tags
 - With priorities and tags

CE MAC includes plugID

Frame

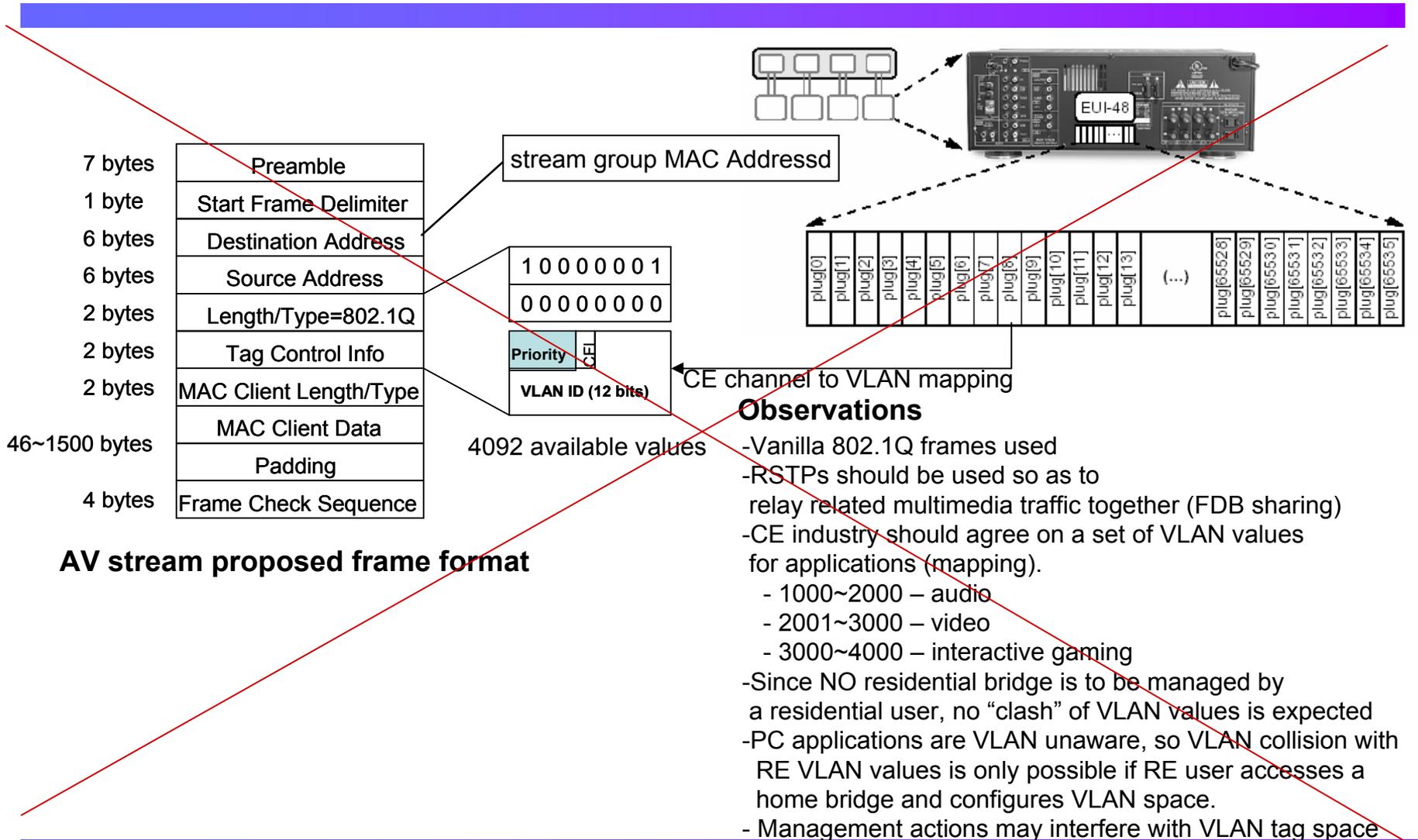


AV stream proposed frame format

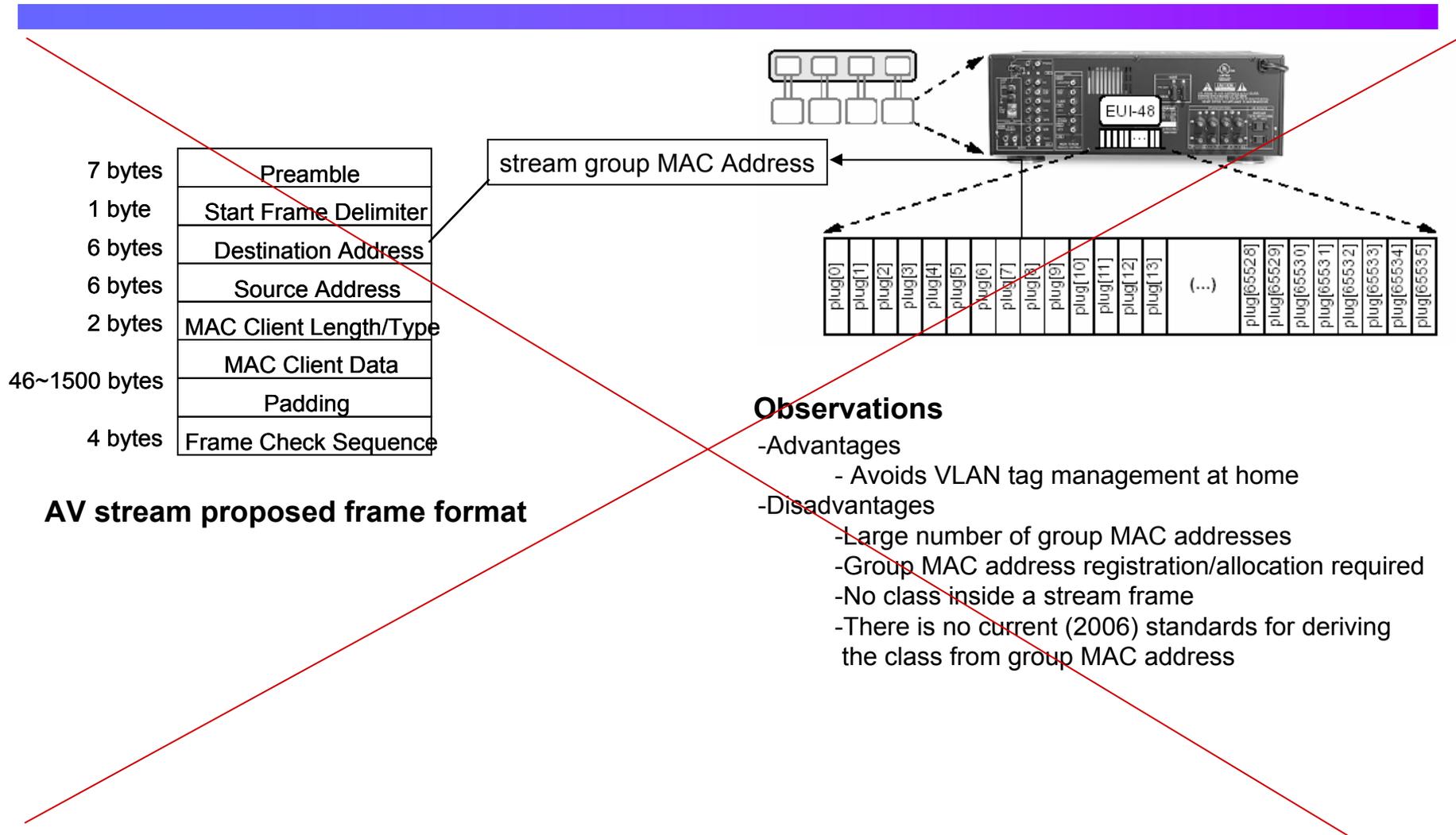
Observations

- The most-significant 32 bits of the destinationAddress explicitly identify:
 - the multicast nature of this frame
 - the distinct meaning of this frame (an AV stream frame)
 - the plugID value itself (the 16 LSBs)
- Advantages
 - there is no need for a multicast-address server
 - the number of associative bridge-resident tables is reduced
- Disadvantages
 - Not compatible with 802.1 frame forwarding

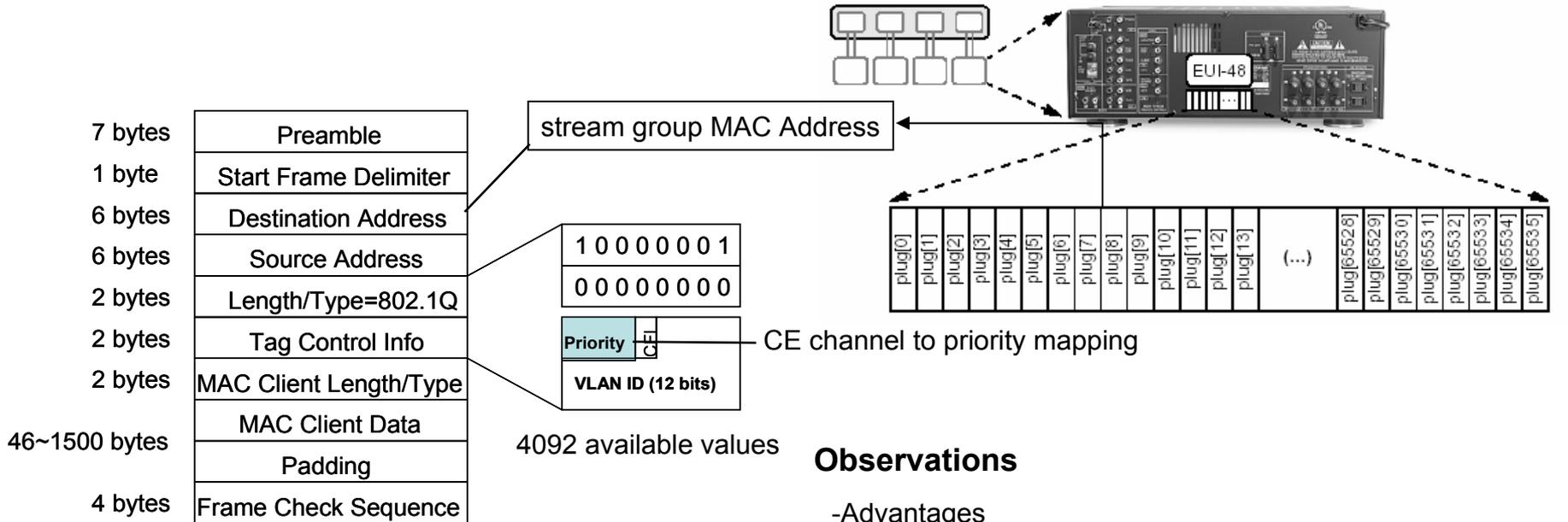
CE MAC + VLAN Addressing Scheme



Group MAC Address – no priority



Group MAC Address – with priority, no VID



AV stream proposed frame format

Observations

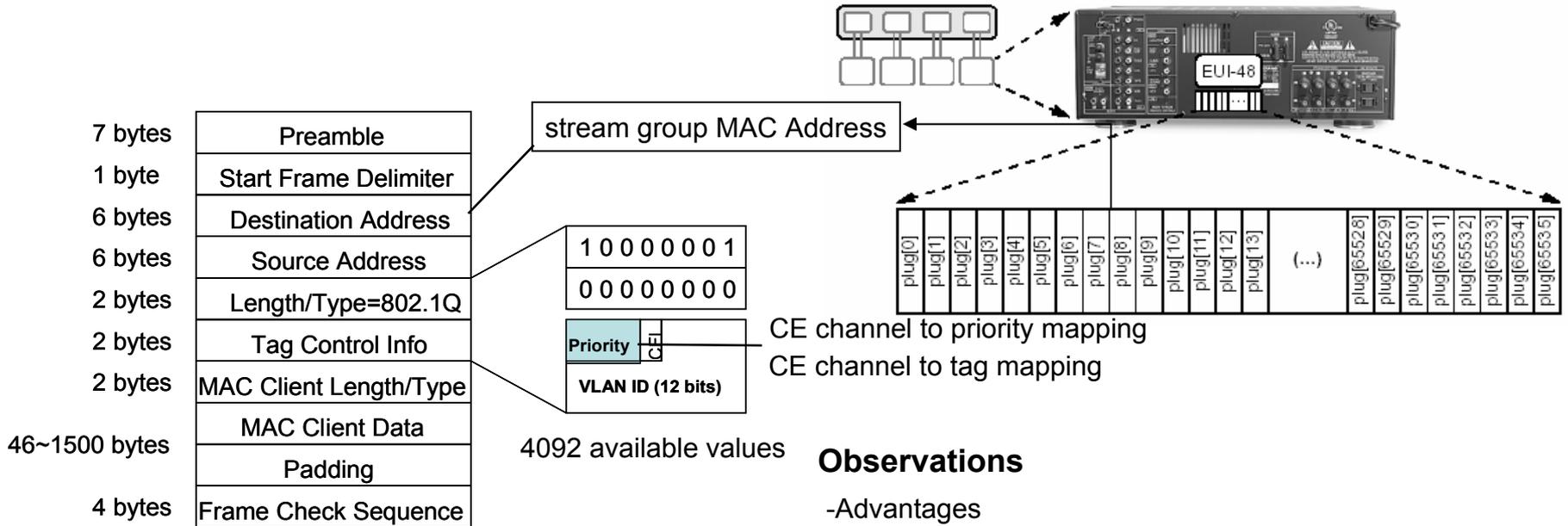
-Advantages

- Avoids VLAN tag management at home
- Allows better networking of QoS stringent traffic

-Disadvantages

- Large number of group MAC addresses
- Group MAC address registration/allocation required
- No standard that support bridge transmission of priority ONLY frames, VIDs MUST be assigned.

Group MAC Address – with priority, with VID



AV stream proposed frame format

Observations

- Advantages
 - Allows better networking of QoS stringent traffic
- Disadvantages
 - Group MAC address registration/allocation required
 - VLAN tag management required



Thank You!