IEEE P802.11
Wireless LANs

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| 802.11bc LB 257 resolution for CIDs assigned to Abhi (part 2) |
| Date: January 10, 2022 |
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 Abstract

This submission proposes resolutions for the following 17 comments submitted during LB 257 for 11bc D2.0:

2200 2076 2077 2106 2107 2109 2058 2059 2252 2199 2153 2218 2210 2211 2148 2152 2188

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: updates made to clause 4.5.12.2 based on offline feedback from Antonio
* Rev 2: Minor updates based on offline feedback. Also updated baseline to D2.1
* Rev 3: Live updates when the doc was presented during the TGbc telco on January 19th 2022
	+ CID 2211 is deferred for further discussion
* Rev 4: Provides resolution for CID 2211

***TGbc Editor: The baseline for the proposed changes is 802.11bc D2.1***

* + - 1. **EBCS proxy operation**

***TGbc Editor: please update the 2nd and 3rd paragraphs in this subclause as shown below:***

[2058]An EBCS proxy, as part of providing the relaying service, evaluates certain criteria before relaying the HLP payload carried in an EBCS UL frame to the destination specified in the frame. Such criteria can include, but are not limited to, verifying the STA certificate, if present, to determine whether the STA transmitting the frame is authorized to send an HLP payload to the specified destination, performing replay checking, and limiting the [2059]per destination amount [2059](e.g., octets) or [2059]per destination frequency [2059](e.g., packets per second) of HLP payload that is relayed to the specified destination. The evaluation of the criteria can be based on local policies installed at the EBCS proxy and/or based on a relationship established with [2107]an entity at the specified destination. The establishment of such a relationship is out of scope of this standard.

[2107]An EBCS proxy can establish more than one relationship, each with entities residing at a different destination and potentially requiring different evaluation criteria. An EBCS proxy can establish more than one relationship with the same entity, each matching a different destination URI and requiring evaluation of different criteria.

***TGbc Editor: please add the following paragraph at the end of this subclause as shown below:***

[2106]For example, an AP vendor (or an operator), that has one or more APs deployed at a certain venue (such as an airport or a hotel) can establish a business relationship with one or more cloud providers (such as the one that specializes in baggage tracking or logging of sensor data). The AP vendor (or the operator) can configure (default) rules at an EBCS proxy (which is affiliated with the APs at the venue) for providing the relaying service while additional (destination specific) rules are setup based on the service agreement with the cloud provider. Based on these rules an EBCS proxy determines whether to relay the HLP payload carried in an EBCS UL frame that it receives. For example, if it receives an EBCS UL frame containing a destination URI that is not part of any agreement, then based on local policies, it will not relay the HLP payload carried in the frame. Similarly, if the authentication of the EBCS UL frame fails, then based on the relationship with the entity at the specified destination, it will not relay the HLP payload carried in the frame.

**4.5.12.3 Example configurations for EBCS proxy**

***TGbc Editor: please update the following NOTE in this subclause as shown below:***

NOTE—Where [2107]an entity at a destination has relationships with multiple EBCS proxies, it might, as part of the agreement with each proxy, set a relaying limit (e.g., amount or frequency of relaying per proxy) so that the aggregate from all the proxies is below a certain threshold. In addition, EBCS proxies might collaborate to limit the aggregate payload being relayed to the specified destination. Such mechanisms are out of scope of this standard.

***TGbc Editor: please update the following paragraph in this subclause as shown below:***

In another example, depicted in Figure 4-20b (Illustration of relaying when EBCS proxy is not collocated within an EBCS AP), the EBCS proxy (P) is not collocated with either EBCS AP1 or EBCS AP3, but resides on an entity [2252](such as a network controller) in the LAN that AP1 and AP3 belong to. EBCS AP1 and EBCS AP3 send the contents of the EBCS UL frame to P, which evaluates whether the criteria for relaying are met before it relays [2200]a single copy of the HLP payload to the specified destination.

**11.55.3.3 EBCS UL operation at an EBCS non-AP STA**

***TGbc Editor: please update the following paragraphs in this subclause as shown below:***

An EBCS non-AP STA [2153]may transmit an EBCS UL frame without receiving a Beacon frame or a Probe Response frame with the EBCS Relaying Supported field of the Extended Capabilities element set to 1. The Address 1 and Address 3 fields of the frame shall be set to the broadcast address.

**12.14.2.6 Authentication of an EBCS UL frame**

***TGbc Editor: please update the following bullet in this subclause as shown below:***

1. [2210]The Frame Signature Type subfield does not indicate HLSA, the verification of the signature of the frame using the STA’s certificate succeeds, the Frame Count field is present, and the value is less than or equal to the last seen Frame Count (if any) from the EBCS non-AP STA.

**6.3.127.2.4 Effect of receipt**

***TGbc Editor: please update the following paragraphs in this subclause as shown below:***

On receipt of this primitive, the MLME constructs an EBCS UL frame. The EBCS non-AP STA then attempts to broadcast this frame (also see 11.55.3.3 (EBCS UL operation at an EBCS non-AP STA)).[2188]

**11.55.3.1 General**

***TGbc Editor: please update the following paragraphs in this subclause as shown below:***

[2152]The EBCS UL procedure allows a non-AP STA to transmit an EBCS UL frame with the expectation that there exists at least one EBCS AP that would relay the HLP payload carried in the frame to a destination specified in the frame.

**12.14.2.6 Authentication of an EBCS UL frame**

***TGbc Editor: please add a NOTE after the following paragraph this subclause as shown below:***

An EBCS proxy shall save the value in the most recently received Frame Count field of an EBCS UL frame, as *last seen Frame Count*, for a certain transmitter only if the EBCS UL frame was not discarded based on the conditions above. In addition, an EBCS proxy may have an expiration time after which the *last seen Frame Count* value for a certain transmitter is discarded.

[2211]NOTE – A large expiration time reduces the scope for a replay attack