IEEE P802.11
Wireless LANs

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| Priority Code Point to UP to AC Comments Resolution |
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Abstract

This document proposes resolutions of two CC17 comments related to Priority Code Point to UP and UP to AC mappings in 802.11ak D0.03.

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# Background

IEEE 802.1Q and IEEE 802.1D by default interpret priority code points in a slightly different way. For example, by default in 802.1D priority 2 is lower than priority zero while in 802.1Q it is higher. Prior to 802.11ak, 802.11 has used the 802.1D interpretation.

P802.11ak drafts D0.01 thru D0.03 propose to handle this for GLK associations, which must be usable as transit links in an 802.1Q conformant network, by adjusting the default UP (User Priority) to AC (Access Category) mappings so as to work better with 802.1Q priorities and by providing that this mapping be configurable. There is an implicit assumption in D0.01 thru D0.03 that the Priority Code Point of MSDUs is used as the UP.

To resolve the comments listed below, this document proposes that the current 802.11ak Draft, D0.03, be changed so that the UP to AC mappings are untouched. Instead, where there is an association with an 11ak STA, the capability of bridge ports to configurably map the PCP of a frame to a different media priority is used. The UP to AC mapping provisions are left as is.

# Comments

## CID 7

Comment: There seem to be three voice categories in Table 9-1

Commenter’s Suggested Remedy: Make GLK priority 2 'Background' rather than 'Voice if that is correct.

New Response: Revise – remove all changes to Table 9-1.

## CID 67

Comment: Some HW may have assumptions of UP to AC mapping. Sniffers and wIDS systems may again not know roles, and some products may be detecting and reacting to the presence of Voice from co-channel AP.

Commenter’s Suggested Remedy: Rather than changing UP, a simple mapping table can be employed for PCP to UP on transmission and should be explicitly called out. The option remains to carry VLAN tagged frame using existing PCP definitions.

New Response: Revise – as in 11-14/0767r3.

# Draft Changes:

***Editorial Note: These are written as changes to P802.11ak D0.03.***

# Introduction

***Change text in Introduction Point 3:***

1. Priority Code Points in 802.1Q have a different default meaning that they do in IEEE Std 802.1D. For example, in 802.1Q, priority 2 is, by default, higher priority than priority 1 while in 802.1D it is lower. Thus it is suggested in Annex V that GLK ~~STAs~~ associations use a ~~different UP to AC~~ Priority Code Point to media priority mapping in their corresponding 802.1Q bridge port ~~by default and that mapping may be configured~~.

# 5. MAC service definition

## 5.1 Overview of MAC services

### 5.1.1 Data service

#### 5.1.1.2 Determination of UP

***Revise the text change to Clause 5.1.1.2, Determination of UP:***

The QoS facility supports eight priority values, referred to as *UPs*. The values a UP may take are the integer values from 0 to 7 and are identical to the IEEE Std 802.1D priority tags. An MSDU with a particular UP is said to belong to a traffic category (TC) with that UP. The UP is provided with each MSDU at the medium access control service access point (MAC\_SAP) either directly, in the UP parameter, or indirectly, in a TSPEC or SCS Descriptor element designated by the UP parameter. For an MSDU received on a GLK MAC\_SAP, there will be a media priority determined by the attached 802.1Q bridge port. (See Annex V.)

# 9. MAC sublayer functional description

***Delete from the Draft all changes to Clause 9.2.4.2, HCF contention based channel access (EDCA).***

***Remove all changes to Table 9-1.***

# Annex V, Interworking with external networks

***Delete from the draft all current changes to Annex V.3.3, Example of QoS mapping from different networks.***

***Insert a new clause as follows:***

### V.3.4 QoS mapping and GLK

GLK associations connect through a STA to an IEEE 802.1Q bridge port. Note that 802.11 UPs are 802.1D priorities that differ from 802.1Q priorities. For example, in 802.1D priority 2 is lower than priority zero while in 802.1Q it is higher.

The media priority provided by the 802.1Q bridge port is commonly used as the UP in an 802.11 association. As provided in IEEE Std. 802.1Q, the sending 802.1Q bridge port derives this media priority from the Priority Code Point associated with the frame inside the 802.1Q bridge. A suggested default Priority Code Point to Media Priority mapping is given in Table V-3a. The 802.1Q bridge port may be configured to provide other mappings.

**Table V-3a – Suggested default Priority Code Point to Media Priority mapping**

|  |  |
| --- | --- |
| Priority Code Point | Media Priority |
| 7 | 7 |
| 6 | 6 |
| 5 | 5 |
| 4 | 4 |
| 3 | 3 |
| 2 | 3 |
| 0 | 0 |
| 1 | 1 |

When an MSDU received over a GLK association is passed up to the corresponding IEEE 802.1Q bridge port, its Priority Code Point is determined by the tag present in the MSDU or, in the absence of such a tag, by the default value for which the bridge port is configured. Loss of priority information for 802.11 MSDUs with non-default prority is avoided by tagging those MSDUs.