IEEE P802.11
Wireless LANs

|  |
| --- |
| EDP Epoch operation normative text for 11bi |
| Date: 2024-01-18 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Stéphane Baron | Canon Research centre France |  |  | Stephane.baron@crf.canon.fr |
| Julien Sevin |  |  |  |
| Patrice Nezou |  |  |  |
|  |  |  |  |

Abstract

We propose the draft specification for the following requirements in contribution “11-23-0892-03-00bi-requirements-and-issues-tracking” for TGbi draft D0.1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Requirement** | **Issue**  | **Status** | **Information** |
| 7 | 11bi shall define a mechanism for a CPE Client to initiate changing its own OTA MAC Address used with a CPE AP in Associate STA State 4 without any loss of connection. | MAC address change while associated |  |  |
| 9 | Edited to: 11bi shall define a mechanism for a CPE Client and CPE AP to change the transmitted SN and the scrambler seed on downlink and uplink to uncorrelated new values in Associate STA State 4, without any loss of connection when the OTA MAC address of the CPE Client is changed. | MAC address change while associated |  |  |
| 10 | Edited to: 11bi shall define a mechanism for a CPE Client and CPE AP to change the transmitted PN on downlink and uplink to uncorrelated new values in Associate STA State 4, without any loss of connection when the OTA MAC address of the CPE Client is changed. | MAC address change while associated |  |  |

*Notes: this document handles the Epoch operation (definition, negotiation, initiation) to be used as a framework to handle change of CPE and BPE parameters.*

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: modified document after first presentation reflecting online modification and received comments.
* Rev 2: figure 9-[DDD] updated (addition of a legend and removal of the transition period at the beginning of the first EDP Epoch). Editorial enhancements.

**Proposed spec text:**

The baseline for this text is 802.11 REVme D4.1.

***TGbi editor: Add new definition to clause 3.2 (Definitions specific to IEEE Std 802.11):***

Active EDP Epoch: EDP Epoch, for a given non-AP MLD, having the latest expired EDP Epoch start time.

**EDP Epoch:** time window in which a set of EDP parameters remain constant.

EDP Epoch Interval: Fixed reference duration between two successive EDP Epochs start time of an EDP Epoch sequence.

**EDP Epoch parameters:** set of parameters characterizing an EDP Epoch.

**EDP Parameter**: CPE or BPE parameter.

EDP Epoch sequence: one or more successive EDP Epochs characterized by a starting time determined using same EDP Epoch parameters.

**Group EDP Epoch**: time window in which each non-AP MLD of a set of non-AP MLDs applies a set of EDP parameters that is valid for the duration of that Group EDP Epoch.

**Individual EDP Epoch:** time window in which a single non-AP MLD applies a set of EDP parameters that is valid for the duration of that individual EDP Epoch.

**Retiring EDP Epoch:** EDP Epoch which was active immediately prior to the current active EDP Epoch.

***TGbi editor: Add new subclause of 10.y (EDP Epoch operation) under clause 10 (MAC sublayer functional description) as follows:***

# 10.y EDP Epoch operation

## 10.y.1 Introduction

An EDP Epoch is a time window in which a set of EDP parameters remain constant. EDP Epoch operation is an EDP feature that is valid when MLO is supported. For a STA affiliated to an MLD, its active EDP Epoch ends when next Active EDP Epoch starts.



1. Figure 9-[DDD] — Example of EDP Epoch timeline

An EDP Epoch is either an Individual EDP Epoch or a Group EDP Epoch:

* An Individual EDP Epoch sequence request is initiated by a non-AP MLD and associated AP MLD shall send a response. The EDP Epoch parameters of an individual EDP Epoch are negotiated by a non-AP MLD with its associated AP MLD as defined in the subclause 10.y.3.1 individual EDP Epoch negotiation. The non-AP MLD applies the negotiated EDP Epoch parameters, of the Individual EDP Epoch, to determine corresponding EDP Epoch sequence of one or more EDP Epoch start times.
* A Group EDP Epoch sequence is initiated by an AP MLD by advertising the EDP Epoch parameters to a set of non-AP MLDs as defined in the subclause 10.y.3.2 Group EDP Epoch advertisement. Each non-AP MLD of the set of non-AP MLDs applies the advertised EDP Epoch parameters of the Group EDP Epoch to determine the same EDP Epoch sequence of one or more EDP Epoch start times.

## 10.y.2 Active and Retiring EDP Epochs determination

An AP MLD has one active EDP Epoch associated with a given non-AP MLD.

A non-AP MLD has one active EDP Epoch.

An EDP Epoch becomes active for a given non-AP MLD when the EDP Epoch start time occurs, and ends when another EDP Epoch becomes active for the same non-AP MLD

Upon the starting time of a new Active EDP Epoch, the immediately preceding EDP Epoch becomes the retiring EDP Epoch for a given time window called EDP transition period. During this EDP transition period, the FA parameters applied during the retiring EDP Epoch remain valid.

## 10.y.3 EDP Epoch setup

### 10.Y.3.1 Group EDP Epoch advertisement

TBD: This section describes the mechanism, for an AP MLD to provide same EDP Epoch parameter set to one or more of its associated non-AP STA.

### 10.y.3.2 Individual EDP Epoch negotiation

TBD: This section describes the usage of dedicated protected Action frames during an individual EDP Epoch negotiation process, to negotiate the EDP Epoch parameter set between a non-AP MLD and its associated AP MLD.

## 10.y.4 Determination of EDP Epoch parameters value

EDP Epoch parameters correspond to a set of parameters used to determine the start time of an EDP Epoch based on a fixed Epoch Interval with a limited pseudo random variation.

The process to setup the EDP parameters value is TBD.