IEEE P802.11
Wireless LANs

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| Comment resolutions for Clause 6  |
| Date: 2019-1-7 |
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Abstract

This submission proposes resolutions for multiple comments related to TGba D1.0 with the following CIDs (6 CIDs):

* 340, 503, 586, 636, 770, 1009

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGba Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGba Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGba Editor: Editing instructions preceded by “TGba Editor” are instructions to the TGba editor to modify existing material in the TGba draft. As a result of adopting the changes, the TGba editor will execute the instructions rather than copy them to the TGba Draft.***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 340 | Jae Seung Lee | 6 | 23 | 1 | MLME SAP interface related to 802.11ba is missed from the draft. | Add MLME SAP interface related to 802.11ba to Clause 6 Layer management. | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |
| 503 | Kazuyuki Sakoda | 6 | 23 | 1 | Layer management is entirely missing. (Clause 6) | Add proper additions to primitives. | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |
| 586 | Mark Hamilton |  | 23 | 1 | Missing clause 6. | Clause 6 enhancements are needed to support both the the WUR AP operation (as directed by the MLME/SME) and for the non-AP WUR STA. In particular, for the non-AP WUR STA, the cooperating entity(ies) are critical to understand. | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |
| 636 | Michael Fischer | 31.1 | 49 | 11 | There is no interface defined by which the management entity can start, end, suspend, or end suspension of WUR operation. | The service primitives by which the management entity causes entry to, exit from, suspension of, and unsupension of WUR mode need to be defined. The proper place would be as additional material for Clause 6.3 (which does not appear at all in this draft, so I have cited the begining of clause 31). My preference would be to extend the existing MLME-POWERMGT.request primitive, but it would also be possible to define a new MLME request/confirm pair, specific to WUR. | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |
| 770 | Osama Aboulmagd | 6 |  |  | The draft doesn't includes changes to Clause 6 on layer management | Add layer management | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |
| 1009 | Tomoko Adachi | 6 |  |  | Layer management should be considered. For example, how does a non-AP STA move to WUR mode. Doesn't an instruction come from SME? How does the WURx wake up the PCR? Through SME? Or should a new SAP need to be defined between the WURx and the PCR? | As in comment. | Revised.Agree with the commenter.TGba editor to make the changes proposed in doc.: IEEE 802.11-19/0022r1 to the next revision of the TGba draft. |

**TGba Editor: *Change the following subclauses below in TGba Draft 1.1 based on TGax Draft 3.0 as follows (#CID):***

**6. Layer management**

**6.1 Overview of management model**

**6.2 Generic management primitives**

**6.3 MLME SAP interface**

**6.3.3 Scan**

**6.3.3.3 MLME-SCAN.confirm**

**6.3.3.3.2 Semantics of the service primitive**

***Insert the following rows at the end of the BSSDescriptionSet table:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Valid range | Description | IBSS adoption |
| WUR Capabilities | As defined in frame format | As defined in 9.4.2.273 (WUR Capabilities element) | The value from WUR Capabilities element. The parameter is present if dot11WUROptionImplemented is true and a WUR Capabilities element was present in the Probe Response or Beacon frame from which the BSSDescription was determined. Otherwise, the parameter is not present. | Do not adopt |
| WUR Operation | As defined in frame format | As defined in 9.4.2.274 (WUR Operation element) | The value from WUR Operation element. The parameter is present if dot11WUROptionImplemented is true and a WUR Operation element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| WUR Discovery  | As defined in frame format | As defined in 9.4.2.276 (WUR Discovery element) | The value from WUR Discovery element. The parameter is present if dot11WUROptionImplemented is true and a WUR Discovery element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |

* Synchronization
* MLME-JOIN.request
* Semantics of the service primitive

***Change the primitive parameters as follows (not all existing parameters in the baseline are shown):***

The primitive parameters are as follows:

MLME-JOIN.request(

...,

WURCapabilities,

VendorSpecificInfo

)

***Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |

* Associate
* MLME-ASSOCIATE.confirm
* Semantics of the service primitive

(#11927)Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.confirm(

...,

WURCapabilities,

WUROperation,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

* MLME-ASSOCIATE.indication
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.indication(

...,

WURCapabilities,

VendorSpecificInfo

)

Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the peer STA. The parameter is present if it is present in the Association Request frame received from the STA; otherwise, this parameter is not present. |

* MLME-ASSOCIATE.response
* Semantics of the service primitive

(#11928)Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.response(

...,

WURCapabilities,

WUROperation,VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

* Reassociate
* MLME-REASSOCIATE.confirm
* Semantics of the service primitive

(#11930)Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.confirm(

...,

WURCapabilities,

WUROperation,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

* MLME-REASSOCIATE.indication
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.indication(

...,

WURCapabilities,VendorSpecificInfo

)

Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the peer STA. The parameter is present if it is present in the Association Request frame received from the STA; otherwise, this parameter is not present. |

* MLME-REASSOCIATE.response
* Semantics of the service primitive

(#11931)Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.response(

...,

WURCapabilities,

WUROperation,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

* Start
* MLME-START.request
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

MLME-START.request(

...,

WURCapabilities,

WUROperation,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| WUR Capabilities | As defined in WUR Capabilities element | As defined in 9.4.2.273 (WUR Capabilities element) | Specifies the parameters within the WUR Capabilities element that are supported by the STA. The parameter is present if dot11WUROptionImplemented is true; otherwise, this parameter is not present. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

Insert the following subclauses at the end of Clause 6:

* + 1. WUR Mode Setup

**6.3.118.1 General**

The following MLME primitives support the signaling of WUR Mode Setup procedure described in 31.6.2 (WUR Mode Setup).

**6.3.118.2 MLME-WURMODESETUP.request**

**6.3.118.2.1 Function**

This primitive requests that a WUR Mode Setup frame be sent as specified in 31.6.2 (WUR Mode Setup).

**6.3.118.2.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODESETUP.request(

PeerSTAAddress,

DialogToken,

WURMode)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address ofthe peer MAC entity withwhich to perform theWUR Mode Setup request/ response procedure. |
| DialogToken | Integer | 0–255 | The dialog token to identify the WUR Mode Setup request/response transaction. |
| WUR Mode | WUR Mode element | As defined in 9.4.2.275 (WUR Mode element) | Specifies the proposedservice parameters for theWUR Mode Setup request |

**6.3.118.2.3 When generated**

This primitive is generated by the SME to request that a WUR Mode Setup frame be sent.

**6.3.118.2.4 Effect of receipt**

On receipt of this primitive, the MLME constructs a WUR Mode Setup frame. The STA then attempts to transmit this WUR Mode Setup frame.

**6.3.118.3 MLME-WURMODESETUP.confirm**

**6.3.118.3.1 Function**

This primitive reports the result of a WUR Setup request/response procedure in 31.6.2 (WUR Mode Setup).

**6.3.118.3.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODESETUP.confirm(

PeerSTAAddress,

DialogToken,

WURMode,

WUROperation)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address ofthe peer MAC entity withwhich to perform theWUR Mode Setup request/ response procedure. |
| DialogToken | Integer | 0–255 | The dialog token toidentify the WUR Mode Setuprequest/response transaction. |
| WUR Mode | WUR Mode element | As defined in 9.4.2.275 (WUR Mode element) | Specifies the proposedservice parameters for theWUR Mode Setup response. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

**6.3.118.3.3 When generated**

This primitive is generated by the MLME as a result of an MLME-WURMODESETUP.request primitive and indicates the results of the request. This primitive is generated when the STA receives a WUR Mode Setup frame from another STA.

**6.3.118.3.4 Effect of receipt**

On receipt of this primitive, the SME should operate according to the procedure in 31.6.2 (WUR Mode Setup).

**6.3.118.4 MLME-WURMODESETUP.indication**

**6.3.118.4.1 Function**

This primitive indicates that a WUR Mode Setup frame was received from another STA.

**6.3.118.4.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODESETUP.indication(

PeerSTAAddress,

DialogToken,

WURMode)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address of the peer MAC entity from which a WUR Mode Setup frame was received. |
| DialogToken | Integer | 0–255 | The dialog token to identify the WUR Mode Setup request/response transaction. |
| WUR Mode | WUR Mode element | As defined in 9.4.2.275 (WUR Mode element) | Specifies the proposedservice parameters for theWUR Mode Setup request. |

**6.3.118.4.3 When generated**

This primitive is generated by the MLME when a WUR Mode Setup frame is received.

**6.3.118.4.4 Effect of receipt**

On receipt of this primitive, the SME should operate according to the procedure in 31.6.2 (WUR Mode Setup).

**6.3.118.5 MLME-WURMODESETUP.response**

**6.3.118.5.1 Function**

This primitive is used to send a WUR Mode Setup frame, in response to a received WUR Mode Setup frame or as an unsolicited WUR Mode Setup frame.

**6.3.118.5.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODESETUP.response(

PeerSTAAddress,

DialogToken,

WURMode,

WUROperation)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address of the peer MAC entity from which a WUR Mode Setup frame was received. |
| DialogToken | Integer | 0–255 | The dialog token to identify the WUR Mode Setup request/response transaction. |
| WUR Mode | WUR Mode element | As defined in 9.4.2.275 (WUR Mode element) | Specifies the proposedservice parameters for theWUR Mode Setup response. |
| WUR Operation | As defined in WUR Operation element | As defined in 9.4.2.274 (WUR Operation element) | Provides additional information for operating the WUR BSS. The parameter is present if dot11WUROptionImplemented is true; otherwise not present. |

**6.3.118.5.3 When generated**

This primitive is generated by the SME to request that a WUR Mode Setup frame be sent to a peer entity to convey the WUR parameter informaiton.

**6.3.118.5.4 Effect of receipt**

On receipt of this primitive, the MLME constructs a WUR Mode Setup frame. The STA then attempts to transmit this frame to the non-AP STA indicated by the PeerSTAAddress parameter in 31.6.2 (WUR Mode Setup).

* + 1. WUR Mode Teardown

**6.3.119.1 General**

The following MLME primitives support the signaling of WUR Mode Teardown procedure described in 31.6.2 (WUR Mode Setup).

**6.3.119.2 MLME-WURMODETEARDOWN.request**

**6.3.119.2.1 Function**

This primitive requests that a WUR Mode Teardown frame be sent as specified in 31.6.2 (WUR Mode Setup).

**6.3.119.2.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODETEARDOWN.request(

PeerSTAAddress

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address ofthe peer MAC entity withwhich to perform theWUR Mode Teardown procedure. |

**6.3.119.2.3 When generated**

This primitive is generated by the SME to request that a WUR Mode Teardown frame be sent to the peer entity.

**6.3.119.2.4 Effect of receipt**

On receipt of this primitive, the MLME constructs a WUR Mode Teardown frame. The STA then attempts to transmit this frame to the peer entity with which it performed the WUR Mode Setup request/response procedure.

**6.3.119.3 MLME-WURMODETEARDOWN.indication**

**6.3.119.3.1 Function**

This primitive indicates that a WUR Mode Teardown frame was received.

**6.3.119.3.2 Semantics of the service primitive**

The primitive parameters are as follows:

MLME-WURMODETEARDOWN.indication(

PeerSTAAddress

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individualMAC Address | Specifies the address ofthe peer MAC entity withwhich to perform theWUR Mode Teardown procedure. |

**6.3.119.3.3 When generated**

This primitive is generated by the MLME when a WUR Mode Teardown frame is received.

**6.3.119.3.4 Effect of receipt**

On receipt of this primitive, the SME should operate according to the procedure in 31.6.2 (WUR Mode Setup).