**IEEE P802.11  
Wireless LANs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PDT Joint MLME SAP | | | | |
| **Date**: Dec. 12, 2024. | | | | |
| **Author(s):** | | | | |
| **Name** | **Affiliation** | **Address** | **Phone** | **email** |
| Yan Li | ZTE |  |  | Li.yan16@zte.com.cn |
| Alfred Asterjadhi | Qualcomm |  |  | aasterja@qti.qualcomm.com |
| Brian Hart | Cisco System |  |  | brianh@cisco.com |
| Binita Gupta |  |  | binitag@cisco.com |
| Lili Hervieu | CableLabs |  |  | l.hervieu@cablelabs.com |
| Pascal Viger | Canon |  |  | Pascal.Viger@CRF.CANON.FR |
| Osama Aboul-Magd | Huawei |  |  | oamagd@gmail.com |
| Ross Jian Yu |  |  | ross.yujian@huawei.com |
| Rubayet Shafin | Samsung |  |  | r.shafin@samsung.com |
| Liwen Chu | NXP |  |  | liwen.chu@NXP.COM |
| Jeongki Kim | Ofinno |  |  | jeongki.kim.ieee@GMAIL.COM |

**Abstract**

This document contains Proposed Draft Text (PDT) for MLME SAP of TGbn amendment to the 802.11 standard.

Revisions:

* Rev 0: Initial version of the document. Add **UHR capabilities and UHR operation** in the relevant MLME SAP(based on 24/1762 PDT-NPCA, 24/2016 PDT-Power Save) and create a new MLME SAP interface, ‘**UHR operating mode notification**’ in the Table 6-1 MLME SAP interface(based on 24/2040 PDT-Coexistence,24/2016 PDT-Power Save ).
* Rev 1: Remove the description about **beacon frame** for the entry of UHR capabilities and UHR operation in the table of MLME-SCAN.confirm, according to Matt’s clarification that whether adding such elements or just a bit signaling UHR capable in the beacon frame has not decided.
* Rev 2 : Add UHR capabilities and UHR operation in the MLME-START.request primitive and some editorial modifications.
* Rev 3: Remove the entry of ‘**UHR operating mode notification**’ in the Table 6-1 MLME SAP interface based on the comment by Mark
* Rev 4: some editorial changes

**6.5 MLME SAP primitive**

**6.5.3 Scan**

**6.5.3.2 MLME-SCAN.request**

**6.5.3.2.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-SCAN.request(

…,

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.3.3 MLME-SCAN.confirm**

**6.5.3.3.2 Semantics of the service primitive**

***TGbn editor: Insert the following rows to the end of the untitled IBSS adoption table:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Valid range | Description | IBSS adoption |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | The value from the UHR Capabilities element. The parameter is present if  dot11UHROptionImplemented  is true and an UHR Capabilities  element was present in the  Probe Response or Beacon  frame(TBD) from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | The value from the UHR Operation element. The parameter is present if dot11UHROptionImplemented is true and an UHR Operation element was present in the Probe Response or Beacon frame(TBD) from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Adopt |

**6.5.4 Synchronization**

**6.5.4.2 MLME-JOIN.request**

**6.5.4.2.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-JOIN.request(

…,

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.7 Associate**

**6.5.7.2 MLME-ASSOCIATE.request**

**6.5.7.2.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-ASSOCIATE.request(

...

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.7.3 MLME-ASSOCIATE.confirm**

**6.5.7.3.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-ASSOCIATE.confirm(

...

UHR Capabilities,

UHR Operation,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the peer STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | Provides additional information  for operating the UHR BSS. This  parameter is present if  dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.7.4 MLME-ASSOCIATE.indication**

**6.5.7.4.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-ASSOCIATE.indication(

...

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the peer STA. The parameter is present if dot11UHROptionImplemented is  true and the UHR Capabilities element is present in the Association Request frame received from the STA; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.7.5 MLME-ASSOCIATE.response**

**6.5.7.5.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-ASSOCIATE.response(

...

UHR Capabilities,

UHR Operation,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | Provides additional information  for operating the UHR BSS. This  parameter is present if  dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.8 Reassociate**

**6.5.8.2 MLME-REASSOCIATE.request**

**6.5.8.2.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-REASSOCIATE.request(

...

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.8.3 MLME-REASSOCIATE.confirm**

**6.5.8.3.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-REASSOCIATE.confirm(

...

UHR Capabilities,

UHR Operation,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the peer STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | Provides additional information  for operating the UHR BSS. This  parameter is present if  dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.8.4 MLME-REASSOCIATE.indication**

**6.5.8.4.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-REASSOCIATE.indication(

...

UHR Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the peer STA. The parameter is present if dot11UHROptionImplemented is  true and the UHR Capabilities element is present in the Reassociation Request frame received from the STA; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.8.5 MLME-REASSOCIATE.response**

**6.5.8.5.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-REASSOCIATE.response(

...

UHR Capabilities,

UHR Operation,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | Provides additional information  for operating the UHR BSS. This  parameter is present if  dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |

**6.5.11 Start**

**6.5.11.2 MLME-START.request**

**6.5.11.2.2 Semantics of the service primitive**

***TGbn editor: Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-START.request(

…,

UHR Capabilities,

UHR Operation,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … |  |  |  |
| UHR Capabilities | As defined in UHR Capabilities element | As defined in 9.4.2.xxx  (UHR Capabilities element) | Specifies the parameters in the  UHR Capabilities element that are supported by the STA. The parameter is present if dot11UHROptionImplemented is  true; otherwise, not present. |
| UHR Operation | As defined in UHR Operation element | As defined in 9.4.2.yyy  (UHR Operation element) | Provides additional information  for operating the UHR BSS. This  parameter is present if  dot11UHROptionImplemented is  true; otherwise, not present. |
| VendorSpecificInfo | A set of elements | As defined in 9.4.2.25  (Vendor Specific element) | Zero or more elements. |