IEEE P802.11
Wireless LANs

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| LB 200 MAC MLME SAP comment resolution |
| Date: 2014-05-01 |
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Abstract

This submission proposes comment resolutions of MAC MLME SAP comments from TGah Draft 1.0.

* CIDs: 2658, 2659, 1025, 1026, 1027, 2031, 2032, 2033, 2802, 1029, 1030, 1669, 2331, 2034, 2716, 2035, 2036, 2037, 2038, 2666, 1031, 2039, 1963, 2042, 2040 (25 CIDs)

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 TGah Draft. This introduction is not part of the adopted material.

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

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

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 2658 | 7 | 6.3 | Since a non-TIM station may transmit PS-Poll frame any time and it is not tied to the TIM element in a Beacon frame, MLME Primitive to trigger the transmission of PS-Poll for non-TIM device is required. | Provide Primitive to trigger the transmission of PS-Poll for non-TIM device. | Rejected-The transmission of PS-Poll frame is triggered by the MAC sub-layer. There is no interaction with MLME. |
| 2659 | 7 | 6.3 | A non-AP STA may switch from TIM to non-TIM mode and vice versa but MLME Primitive to switch TIM mode is missing. | Provide primitive to switch TIM mode. | Revised-Agree in principle. TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 2659. |
| 1025 | 8 | 6.3.3.2.2 | "ProbeResponseOption" is a misleading parameter name. It applies specifically to the short probe response, and not the regular probe response. | "ShortProbeResponseOption" | Revised-Agree in principle. TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 1025. |
| 1026 | 9 | 6.3.3.3.2 | In this table we have two styles for the "Type" column for an element. One is "as defined in frame format" and the other is "Segment Count element". I find the latter more useful, particularly when the captions of the referenced subclauses in "Valid Range" go away on publication. | Change "Type" column to reference the name of the element, where this is the case. | Rejected-The current base specification (i.e., REVmc D2.5) of TGah Draft 1.3 has the same issue. It is recommended to discuss this comment in REVmc. And, the TGah Draft will update the issue accordingly.  |
| 1027 | 9 | 6.3.3.3.2 | What does it mean to adopt a compressed SSID. This is surely a representation of the full SSID. Surely the STA joining a BSS with this SSID discovers the full SSID at some point, from which a compressed SSID could be derived.A similar problem exists with Next TBTT. A STA adopts the Beacon Interval and TSF values. The next TBTT can be derived from those. | Add a table note indicating what adoption of a derived value means. | Revised-Agree in principle.The field description is wrong.In 6.3.3.3.2, replace “32-bit CRC calculated as defined in 8.2.4.8 FCS field, wherein the calculation fields is the SSID field in the Probe Response frame or Beacon frame.” with “The Compressed SSID of the received frame (Short Probe Response or S1G Beacon) from the found BSS.”TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 1027. |
| 2031 | 9 | 6.3.3.3.2 | RPS element can also be included in the short beacon or short probe response | change "if such element was present in the Beacon or Probe Response" to "if such element was present in the (short) Beacon or (short) Probe Response" | Revised-Agree in principle. Change "if such element was present in the Beacon or Probe Response" to "if such element was present in the S1G Beacon or (Short) Probe Response" |
| 2032 | 10 | 6.3.3.3.2 | Segment Count element can also be included in the short beacon or short probe response | change "if such element was present in the Beacon or Probe Response" to "if such element was present in the (short) Beacon or (short) Probe Response" | Revised- Agree in principle.change "if such element was present in the Beacon or Probe Response" to "if such element was present in the S1G Beacon or (Short) Probe Response" |
| 2033 | 10 | 6.3.3.3.2 | S1G Capabilities element can also be included in the short beacon or short probe response | change "was present in the Probe Response or Beacon frame" to "was present in the (short) Probe Response or (short) Beacon frame" | Revised- Agree in principle.Change "was present in the Probe Response or Beacon frame" to "was present in the S1G Beacon or (Short) Probe Response" |
| 2802 | 9 | 6.3.3.3.2 | This implies that the SSID in a beacon be changed for a BSS. Doesn't this then exclude legacy non-AP STAs from attaching to the AP? It should read 'wherein the calculation fields "used" is the SSID ...' | Change the text 'wherein the calculation fields "used" is the SSID ...' | Revised-Agree in principle.The field description is wrong. See the proposed change of CID 1027. |
| 1029 | 11 | 6.3.7.2.2 | The editorial instructions are a bit wayward. You can't have "change .. by inserting" | Change the instruction at 31 to "Change the primitive parameters as follows:"Add a new instruction at 12.02: "Insert the following four rows (excluding heading) before the VendorSpecificInfo row of the table in 6.3.7.2.2:"Repeat these changes for all insertions into 6.x tables. | Accepted-Agree in principle. |
| 1030 | 11 | 6.3.7.2.2 | The baseline of .11ah includes .11ac, .11af, .11ad. That means that quoted text needs to include the effect of all these amendments. But the associate request shows only .11-2012. | Review all of the changes made by .11ad, .11ac and .11af in the primitive parameter lists and reflect them in your draft as quoted baseline. Do this throughout clause 6.Alternatively (and your voters may not let you get away with this) include a "..." in the parameter list before the first parameter inserted. Modify the instruction to include "not that not all of the existing parameters are shown". | Revised-Agree in principle.TGah editor includes a "..." in the parameter list before the first parameter inserted throughout clause 6. |
| 1669 | 12 | 6.3.7.2.2 | Per the Style Guide "set to" is used only when the value of a field is being set, not when the field simply holds the relevant value or is being read. | Delete "set to". But this statement also is saying that the value of the TWT Request field is 1, period. Aren't there any conditions on this field having this value? If so, they need to be stated here. Same on page.line combinations: 13.59, 15.34, 17.29, 18.40, 20.31, 21.52, and 23.59. | Revised-Agree in principle. TGah editor removes the below sentence from P12 L28, P13 L59,P15 L34, P17.L29,P18 L40, P20 L31,P21 L52 and P23.L59. “The TWT Request field is set to 1, and the TWT Command field has a value of Request TWT, Suggest TWT or Demand TWT.” |
| 2331 | 12 | 6.3.7.2.2 | AID Request is only for S1G operaton | Add "This parameter is optionally present if dot11S1GOptionImplemented is true" to the Description entry for AID Request. Same thing in 6.3.8.2.2. | Accepted-Agree in principle. |
| 2034 | 13 | 6.3.7.3.2 | Typo | Remove "(" | Accepted-Agree in principle. |
| 2716 | 13 | 6.3.7.3.2 | 11ah can support more than 2007 STAs. "1-2007 inclusive" should be changed. Similar observations on P16L23, P19L39, P23L5. | Change to "1-2007 inclusive for non-S1G BSS, and 0-8191 for S1G BSS". | Rejected- Since AID field is not present in an (re)-assoication response frame carried in S1G PPDU, it is not necessary to modify the valid range of the AID field.  |
| 2035 | 17 | 6.3.7.5.2 | Typo | Remove "(" | Accepted-Agree in principle. |
| 2036 | 20 | 6.3.8.3.2 | Typo | Remove "(" | Accepted-Agree in principle. |
| 2037 | 23 | 6.3.8.5.2 | Typo | Remove "(" | Accepted-Agree in principle. |
| 2038 | 25 | 6.3.96a.1.2 | RPS element can also be included in the short beacon or short probe response | change "if such element was present in the Beacon or Probe Response" to "if such element was present in the (short) Beacon or (short) Probe Response" | Revised- RPS element is dynamically controlled by the MAC sub-layer. There is no interaction with MLME.TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 2038. |
| 2666 | 25 | 6.3.96a.1.4 | From the current description it is not clear how long is the RAW valid for and how many consecutive BIs is the RPS IE to be included in the Beacon and Probe Response frames. Is it just for one BI immediately following the receipt of the MLME-RPS.request or does it persist till another MLME-RPS.request is received? If the RAW is persistent, does the MLME need to update/remove the PRAW information in the RPS IE? | Please clarify. | Revised- RPS element is dynamically controlled by the MAC sub-layer. There is no interaction with MLME.TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 2038. |
| 1031 | 25 | 6.3.96b.1 | The heading should reflect properly the name of the primitive. | Uppercase everything before ".request" | Revised- Segment Count element is dynamically controlled by the MAC sub-layer. There is no interaction with MLME.TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 1031. |
| 2039 | 25 | 6.3.96b.1.2 | Segment Count element can also be included in the short beacon or short probe response | change "if such element was present in the Beacon or Probe Response" to "if such element was present in the (short) Beacon or (short) Probe Response" | Revised- Segment Count element is dynamically controlled by the MAC sub-layer. There is no interaction with MLME.TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 1031. |
| 1963 | 26 | 6.3.96c | A primitive for Authentication Control shall be defined so that SME can turn on/off the capabilities of Authentication Control | 6.3.96c Authentication Control6.3.96c.1 IntroductionThe following primitives describe how an S1G STA manages its authentication control operation.6.3.96c.2 MLME-AuthenticationControl.request6.3.96c.2.1 FunctionThis primitive requests a change in the Authentication Control mode of an S1G STA.6.3.96c.2.2 Semantics of the service primitiveThe primitive parameters are as follows:MLME-AuthenticationControl.request(dot11S1GCentralizedAuthenticationControlActivated,dot11S1GDistributedAuthenticationControlActivated,)6.3.96c.2.3 When generatedThis primitive is generated by the SME to enable/disable the capabilities of centralized/distributed Authentication Control.6.3.96c.2.4 Effect of receiptThis request sets the STA's Authentication Control parameters. The MLME subsequently issues a MLME-AuthenticationControl.confirm primitive that reflects the results of the Authentication Control change request.6.3.96c.3 MLME-AuthenticationControl.confirm6.3.96c.3.1 FunctionThis primitive confirms the change in Authentication Control mode.6.3.96c.3.2 Semantics of the service primitiveThe primitive parameters are as follows:MLME-AuthenticationControl.confirm(ResultCode)6.3.96c.3.3 When generatedThis primitive is generated by the MLME as a result of an MLME-AuthetnicationControl.request primitive to establish a new power management mode.6.3.96c.3.4 Effect of receiptThe SME is notified of the change of Authentication Control mode. | Revised- Authentication Control element is dynamically controlled by the MAC sub-layer. There is no interaction with MLME.TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 1963. |
| 2042 | 17 | 8.3.3.10 | S1G Operation" is not described in 6.3.3.3 MLME-SCAN.confirm | Add 'S1G Operation' in MLME-SCAN.confirm (in Clause 6.3.3.3) | Revised- Agree in principle. TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 2042. |
| 2040 | 44 | 8.3.3.6 | "Group ID List" is not included in MLME-ASSOCIATE (in Clause 6.3.7) | Add 'Group ID List' in MLME-ASSOCIATE related service primitives (in Clause 6.3.7) | Revised- Agree in principle. TGah editor to make changes shown in 11-14-0518r1 under the heading for CID 2040. |

**Propose:**

Revised for CID 2659, 1025, 1027, 2038, 1031, 1963, 2042, 2040, per discussion and editing instructions in 11-14/0518r1.

***TGah editor: Modify the sub-clause 6.3.2 as the following:***

* Power management
* Introduction

This mechanism supports the process of establishment and maintenance of the power management mode of a STA.

* MLME-POWERMGT.request
* Function

This primitive requests a change in the power management mode.

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-POWERMGT.request(

PowerManagementMode,(#1563)

ReceiveDTIMs,

ReceiveTIMs

 )

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PowerManagementMode | Enumeration | ACTIVE,POWER\_SAVE | An enumerated type that describes the desired power management mode of the STA. |
| ReceiveDTIMs | Boolean | true, false | When true, this parameter causes the STA to awaken to receive all DTIM frames. When false, the STA is not required to awaken for every DTIM Beacon(#1504) frame. |
| ReceiveTIMs | Boolean | true, false | For an S1G STA, when true, this parameter causes the S1G STA to awaken to receive Beacon frame as determined by the STA’s ListenInterval and the ReceiveDTIMs parameter. When false, this parameter causes the S1G STA to transmit at least one frame every listen interval without receiving a Beacon frame as determined by the STA’s ListenInterval parameter. |

***TGah editor: Modify the sub-clause 6.3.3 as the following:***

* Scan
* Introduction

This mechanism supports the process of determining the characteristics of the available BSSs.

* MLME-SCAN.request
* Function

This primitive requests a survey of potential BSSs that the STA can later elect to try to join.

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-SCAN.request(

…

RelayDiscovery,

ProbeResponseOption,

S1GCapabilities,

ChangeSequence,

ActivitySpecification,

Relay,

VendorSpecificInfo (11ad)

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| ChangeSequence | As defined in 8.4.2.170i (Change Sequence element) | As defined in 8.4.2.170i (Change Sequence element) | Specifies the parameters within the Change Sequence element that are supported by the MAC entity.The parameter is optionally present if dot11S1GOptionImplemented is true and is absent otherwise. |
| ActivitySpecification | As defined in 8.4.2.170u (Activity Specification element) | As defined in 8.4.2.170u (Activity Specification element) | Specifies the parameters within the Activity Specification element that are supported by the MAC entity.The parameter is present if dot11S1GActivityEnabled is true and is absent otherwise. |
| Relay | As defined in 8.4.2.170o (Relay element) | As defined in 8.4.2.170o (Relay element) | Specifies the parameters within the Relay element that are supported by the MAC entity.The parameter is present if dot11RelaySTACapable is true and is absent otherwise. |
| VendorSpecificInfo | A set of elements | As defined in 8.4.2.25 (Vendor Specific element) | Zero or more elements. |

* When generated

This primitive is generated by the SME for a STA to determine if there are other BSSs that it can join.

* Effect of receipt

This request initiates the scan process when the current frame exchange sequence is completed.

* MLME-SCAN.confirm
* Function

This primitive returns the descriptions of the set of BSSs detected by the scan process.

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-SCAN.confirm(

BSSDescriptionSet,

BSSDescriptionFromMeasurementPilotSet,

ResultCode,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| BSSDescriptionSet | Set of BSSDescriptions | N/A | The BSSDescriptionSet is returned to indicate the results of the scan request. It is a set containing zero or more instances of a BSSDescription. |
| BSSDescriptionFromMeasurementPilotSet  | Set of BSSDescriptionFromMeasurementPilots | N/A | The BSSDescriptionFromMeasurementPilotSet is returned to indicate the results of the scan request derived from measurement pilots. It is a set containing zero or more instances of a BSSDescriptionFrom-MeasurementPilot. Present if the value of dot11RMMeasurementPilotActivated is nonzero; otherwise not present(#28). |
| ResultCode | Enumeration | SUCCESS,NOT\_SUPPORTED | Indicates the result of the MLME-SCAN.confirm primitive. |
| VendorSpecificInfo | A set of elements | As defined in 8.4.2.25 (Vendor Specific element) | Zero or more elements. |

Each BSSDescription consists of the elements shown in the following table, in which the term *peer STA* refers to the STA transmitting the (S1G) Beacon frame or (Short) Probe Response frame from which the BSSDescription was determined and the term *local STA* refers to the STA performing the scan, and in which the “IBSS adoption” column indicates whether

* This parameter is adopted by a STA that is joining an IBSS.
* This parameter is adopted by a STA that is a member of an IBSS that receives a (short) beacon from a STA that is a member of the same IBSS and that has a timestamp value that is greater than the local TSF value (see 10.1.5 (Adjusting STA timers)).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Valid range | Description | IBSS adoption  |
| Compressed SSID | Integer | N/A | ~~32-bit CRC calculated as defined in 8.2.4.8 FCS field, wherein the calculation fields is the SSID field in the Probe Response frame or Beacon frame.~~ The Compressed SSID of the received frame (Short Probe Response or S1G Beacon) from the found BSS. This parameter is optionally present if dot11S1GOptionImplemented is true. | Adopt |
| … | … | … | … | … |
| S1GCapabilities | As defined in frame format | As defined in 8.4.2.170k (S1G Capabilities element) | The values from the S1G Capabilities element. The parameter is present if dot11S1GOptionImplemented is true and an S1G Capabilities element was present in the Probe Response or Beaconframe from which the BSSDescription was determined, and not present otherwise. | Adopt |
| S1GOperation | As defined in frame format | As defined in 8.4.2.170w (S1G Operation element) | The values from the S1G Operation element if such an element was present in the Probe Response or S1G Beacon frame, else null.The parameter is optionally present only if dot11S1GOptionImplemented is true. | Adopt |
| ShortBeaconPeriod | As defined in frame format | As defined in 8.4.2.170h (Short Beacon Interval element) | The short beacon period (in TU) of the found BSS if the Short Beacon Interval element was present in the Probe Response or S1G Beacon frame, else null.The parameter is optionally present only if dot11S1GOptionImplemented is true. | Adopt |
| ShortBeaconDTIMPeriod | As defined in frame format | As defined in 8.4.2.6(TIM element) | The values from the TIM element if such an element was present in the S1G Beacon frame, else null.The parameter is optionally present only if dot11S1GOptionImplemented is true. | Adopt |

***TGah editor: Modify the sub-clause 6.3.3 as the following:***

* Synchronization
* Introduction

This mechanism supports the process of selection of a peer in the authentication process.

* MLME-JOIN.request
* Function

This primitive requests synchronization with a BSS, of which type is infrastructure or independent.

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-JOIN.request(

S1GCapabilities,(#26)

OperationalS1GMCS\_NSSSet, (#26)

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| S1GCapabilities(#26) | As defined in frame format S1G Capabilities element | As defined in 8.4.2.170k (S1G Capabilities element) | The values from the S1G Capabilities element. The parameter is present if dot11S1GOptionImplemented is true and a S1G Capabilities element was present in the Probe Response or S1G Beacon frame from which the BSSDescription was determined. The parameter is not present otherwise. |
| OperationalS1GMCS\_NSSSet | As defined in 8.4.2.170k.3 (Supported S1G-MCS and NSS Set field) | As defined in 8.4.2.170k.3 (Supported S1G-MCS and NSS Set field) | The set of S1G-MCS values for each number of spatial streams that the STA desires to use for communication within the BSS. This set is a superset of the <S1GMCS, NSS> tuples in the BSS basic S1GMCS and NSS set (see 10.47.6).The parameter is present if dot11S1GOptionImplemented is true and not present otherwise. |
| VendorSpecificInfo | A set of elements | As defined in 8.4.2.25 (Vendor Specific element) | Zero or more elements. |

* Effect of receipt

***TGah editor: Insert the following paragraph at the end of 6.3.4.2.4:***

If the MLME of a S1G STA receives an MLME-JOIN.request primitive with a SelectedBSS parameter containing a BSSDescription with a Basic S1G-MCS and NSS Set field in the S1G Operation element that contains any unsupported <S1G-MCS, NSS> tuple, the MLME response in the resulting MLMEJOIN.confirm primitive shall contain a ResultCode parameter that is not set to the value SUCCESS.

***TGah editor: Modify the sub-clause 6.3.11 as the following:***

* Start
* Introduction

This mechanism supports the process of creating a new BSS or becoming a member of an MBSS.

* MLME-START.request
* Function

This primitive requests that the MAC entity start a new BSS or become a member of an MBSS.

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-START.request(

S1GCapabilities,

S1GOperation,

ShortBeaconPeriod,

ShortBeaconDTIMPeriod,

 (11ad)VendorSpecificInfo
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| S1GOperation | As defined in frame format | As defined in 8.4.2.170w (S1G Operation element) | Provides additional information for operating the S1G BSS. The parameter is present if dot11S1GOptionImplemented is true and not present otherwise. |
| ShortBeaconPeriod | As defined in frame format | As defined in 8.4.2.170h (Short Beacon Interval element) | Provides the short beacon period of the S1G BSS. The parameter is present if dot11ShortBeaconInterval is true and not present otherwise. |
| ShortBeaconDTIMPeriod | As defined in frame format | As defined in 8.4.2.6(TIM element) | Provides the DTIM period (in short beacon periods) of the S1G BSS. The parameter is present if dot11ShortBeaconInterval is true and not present otherwise. |
| VendorSpecificInfo | A set of elements | As defined in 8.4.2.25 (Vendor Specific element) | Zero or more elements. |

* Effect of receipt

***TGah editor: Insert the following paragraph at the end of 6.3.4.2.4:***

If the MLME of a S1G STA receives an MLME-START.request primitive with a Basic S1G-MCS and NSS Set field in the S1G Operation parameter containing any unsupported <S1G-MCS, NSS> tuple, the MLME response in the resulting MLME-START.confirm primitive shall contain a ResultCode parameter that is not set to the value SUCCESS.

***TGah editor: Remove the sub-clause “6.3.96a RAW Parameter Set distribution” and “6.3.96b Page Slice distribution” from TGah Draft 1.3***

***TGah editor: Insert the following sub-clauses after 6.3.100:***

6.3.101 Dynamic AID Assingment operation

6.3.101.1 General

The following MLME primitives support the signaling of AID switch request/response procedure (#1234).

6.3.101.2 MLME-AIDSWITCH.request

6.3.101.2.1 Function

This primitive requests that an AID Switch Request frame be sent to the AP with which the non-AP STA is associated.

6.3.101.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-AIDSWITCH.request(

PeerSTAAddress,
DialogToken,
AIDRequest(#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the AID switch request/response procedure.  |
| Dialog Token | Integer | 1–255 | The dialog token to identify the AID switch request/response transaction. |
| AIDRequest | AID Request element | As defined in 8.4.2.170d (AID Request element) | Specifies the proposed service parameters for the AID Request. |

6.3.101.2.3 When generated

This primitive is generated by the SME to request that an AID Request frame be sent to the AP with which the non-AP STA is associated.

6.3.101.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs an AID Request (#100)frame. The STA then attempts to transmit this to the AP with which it is associated.

6.3.101.3 MLME-AIDSWITCH.confirm

6.3.101.3.1 Function

This primitive reports the result of an AID switch request/response procedure.

6.3.101.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-AIDSWITCH.confirm(

PeerMACAddress,
DialogToken,
AIDResponse(#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Peer MAC Address | MACAddress | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the AID switch request/response procedure. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the AID switch request/response transaction. |
| AIDResponse | AID Response element | As defined in 8.4.2.170e (AID Response element) | Specifies service parameters for the AID Response. |

6.3.101.3.3 When generated

This primitive is generated by the MLME as a result of an MLME-AIDSWITCH.request and indicates the results of the request. This primitive is generated(#1413) when the STA receives an AID Switch Response frame from the AP.

6.3.101.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 10.45 (Dynamic AID assignment operation).

6.3.101.4 MLME-AIDSWITCH.indication

6.3.101.4.1 Function

This primitive indicates that an AID Switch Request frame was received from a non-AP STA.

6.3.101.4.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-AIDSWITCH.indication(

PeerSTAAddress,
DialogToken,
AIDRequest(#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which an AID Request frame was received. |
| Dialog Token | Integer | 1–255 | The dialog token to identify the AID switch request/response transaction. |
| AIDRequest | AID Request element | As defined in 8.4.2.170d (AID Request element) | Specifies the proposed service parameters for the AID Request. |

6.3.101.4.3 When generated

This primitive is generated by the MLME when a valid AID Switch Request frame is received.

6.3.101.4.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 10.45 (Dynamic AID assignment operation).

6.3.101.5 MLME-AIDSWITCH.response

6.3.101.5.1 Function

This primitive is either generated in response to a received AID Switch Request frame or autonomously by the AP and requests the transmission of an AID Switch Response frame.

6.3.101.5.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-AIDSWITCH.response(

PeerSTAAddress,
DialogToken,
AIDResponse(#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which an AID Request frame was received. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the AID switch request/response transaction. Set to 0 for an autonomous AID Switch Response frame. |
| AIDResponse | AID Response element | As defined in 8.4.2.170e (AID Response element) | Specifies service parameters for the AID Response. |

6.3.101.5.3 When generated

This primitive is generated by the SME to request that an AID Response frame be sent to a peer entity to convey AID assignment information.

6.3.101.5.4 Effect of receipt

On receipt of this primitive, the MLME constructs an AID Switch Response frame. The STA then attempts to transmit this to the non-AP STA indicated by the PeerSTAAddress parameter.

6.3.102 Synch Control

6.3.102.1 General

The following MLME primitives support the signaling of a synch control procedure (#1234).

6.3.102.2 MLME-SYNCHCONTROL.request

6.3.102.2.1 Function

This primitive requests that a Synch Conrol frame be sent to the AP with which the non-AP STA is associated.

6.3.102.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-SYNCHCONTROL.request(

PeerSTAAddress,
SynchControl (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the synch control procedure.  |
| SynchControl | Sequence of octets | As defined in 8.4.1.53 (Synch Control field) | Specifies the proposed service parameters for the Synch Control. |

6.3.102.2.3 When generated

This primitive is generated by the SME to request that a Synch Control frame be sent to the AP with which the non-AP STA is associated.

6.3.102.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Synch Control (#100)frame. The STA then attempts to transmit this to the AP with which it is associated.

6.3.102.3 MLME-SYNCHCONTROL.indication

6.3.102.3.1 Function

This primitive indicates that a Synch Control frame was received from a non-AP STA.

6.3.102.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-SYNCHCONTROL.indication(

PeerSTAAddress,
SynchControl (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Synch Control frame was received. |
| SynchControl | Sequence of octets | As defined in 8.4.1.53 (Synch Control field) | Specifies the proposed service parameters for the Synch Control. |

6.3.102.3.3 When generated

This primitive is generated by the MLME when a valid Synch Control frame is received.

6.3.102.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.43 (Synchronization Frame Operation).

6.3.103 STA Information Announcement

6.3.103.1 General

The following MLME primitives support the signaling of a STA information announcement procedure.

6.3.103.2 MLME-STAINFORMATION.request

6.3.103.2.1 Function

This primitive requests that a STA Information Announcement frame be sent to the AP with which the non-AP STA is associated.

6.3.103.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-STAINFORMATION.request(

PeerSTAAddress,
AIDAnnouncement (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the STA information announcement procedure. |
| AIDAnnouncement | AID Announcement element | As defined in 8.4.2.170r (AID Announcement element) | Specifies service parameters for the AID Announcement. |

6.3.103.2.3 When generated

This primitive is generated by the SME to request that a STA Information Announcement frame be sent to the AP with which the non-AP STA is associated.

6.3.103.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a STA Information Announcement frame(#100). The STA then attempts to transmit this to the AP with which it is associated.

6.3.103.3 MLME-STAINFORMATION.indication

6.3.103.3.1 Function

This primitive indicates that a STA Information Announcement frame was received from a non-AP STA.

6.3.103.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-STAINFORMATION.indication(

PeerSTAAddress,
AIDAnnouncement (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Synch Control frame was received. |
| AIDAnnouncement | AID Announcement element | As defined in 8.4.2.170r (AID Announcement element) | Specifies service parameters for the AID Announcement. |

6.3.103.3.3 When generated

This primitive is generated by the MLME when a valid STA Information Announcement frame is received.

6.3.103.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.48.3.2 (Implicit ACK procedure) and 10.45 (Dynamic AID assignment operation).

6.3.104 EDCA Parameter Set update

6.3.104.1 General

The following MLME primitives support the signaling of an EDCA Parameter Set update procedure.

6.3.104.2 MLME-EDCAPARAMETERSET.request

6.3.104.2.1 Function

This primitive requests that an EDCA Parameter Set frame be sent to the non-AP STA.

6.3.104.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-EDCAPARAMETERSET.request(

PeerSTAAddress,
EDCAParameterSet (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the EDCA Parameter Set update. |
| EDCAParameterSet | EDCA Parameter Set element | As defined in 8.4.2.28 (EDCA Parameter Set element) | Specifies service parameters for the updated EDCA Parameter Set.  |

6.3.104.2.3 When generated

This primitive is generated by the SME to request that an EDCA Parameter Set frame be sent to the non-AP STA.

6.3.104.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs an EDCA Parameter Set frame. The AP then attempts to transmit this to the non-AP STA which is associated with it.

6.3.104.3 MLME-EDCAPARAMETERSET.indication

6.3.104.3.1 Function

This primitive indicates that an EDCA Parameter Set frame was received from an AP.

6.3.104.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-EDCAPARAMETERSET.indication(

PeerSTAAddress,
EDCAParameterSet (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | Specifies the address of the peer MAC entity with which to perform the EDCA Parameter Set update. |
| EDCAParameterSet | EDCA Parameter Set element | As defined in 8.4.2.28 (EDCA Parameter Set element) | Specifies service parameters for the updated EDCA Parameter Set.  |

6.3.104.3.3 When generated

This primitive is generated by the MLME when a valid EDCA Parameter Set frame is received.

6.3.104.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.2.4.2 (HCF contention-based channel access).

6.3.105 Activity Specification

6.3.105.1 General

The following MLME primitives support the signaling of an activity specification procedure (#1234).

6.3.105.2 MLME-ACTIVITYSPECIFICATION.request

6.3.105.2.1 Function

This primitive requests that an Activity Specification frame be sent to the AP with which the non-AP STA is associated.

6.3.105.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-ACTIVITYSPECIFICATION.request(

PeerSTAAddress,
ActivitySpecification (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the activity specification procedure.  |
| ActivitySpecification | Activity Specification element | As defined in 8.4.2.170u (Activity Specification element) | Specifies the proposed service parameters for the Activity Specification. |

6.3.105.2.3 When generated

This primitive is generated by the SME to request that an Activity Specification frame be sent to the AP with which the non-AP STA is associated.

6.3.105.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs an Activity Specification frame(#100). The STA then attempts to transmit this to the AP with which it is associated.

6.3.105.3 MLME-ACTIVITYSPECIFICATION.indication

6.3.105.3.1 Function

This primitive indicates that an Activity Specification frame was received from a non-AP STA.

6.3.105.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-ACTIVITYSPECIFICATION.indication(

PeerSTAAddress,
ActivitySpecification (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Synch Control frame was received. |
| ActivitySpecification | Activity Specification element | As defined in 8.4.2.170u (Activity Specification element) | Specifies the proposed service parameters for the Activity Specification. |

6.3.105.3.3 When generated

This primitive is generated by the MLME when a valid Activity Specification frame is received.

6.3.105.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.50 (Support for energy limited STAs).

6.3.106 TWT Setup

6.3.106.1 General

The following MLME primitives support the signaling of TWT Setup procedure (#1234).

6.3.106.2 MLME-TWTSETUP.request

6.3.106.2.1 Function

This primitive requests that a TWT Setup frame be sent to the AP with which the non-AP STA is associated.

6.3.106.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTSETUP.request(

PeerSTAAddress,
DialogToken,
TWT (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the TWT Setup request/response procedure.  |
| Dialog Token | Integer | 0–255 | The dialog token to identify the TWT Setup request/response transaction. |
| TWT | TWT element | As defined in 8.4.2.170j (TWT element) | Specifies the proposed service parameters for the TWT Setup request. |

6.3.106.2.3 When generated

This primitive is generated by the SME to request that a TWT Setup frame be sent to the AP with which the non-AP STA is associated.

6.3.106.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a TWT Setup (#100)frame. The STA then attempts to transmit this to the AP with which it is associated.

6.3.106.3 MLME-TWTSETUP.confirm

6.3.106.3.1 Function

This primitive reports the result of a TWT Setup request/response procedure.

6.3.106.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTSETUP.confirm(

PeerMACAddress,
DialogToken,
TWT (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Peer MAC Address | MACAddress | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the TWT Setup request/response procedure. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the TWT Setup request/response transaction. |
| TWT | TWT element | As defined in 8.4.2.170j (TWT element) | Specifies the proposed service parameters for the TWT Setup response. |

6.3.106.3.3 When generated

This primitive is generated by the MLME as a result of an MLME-TWTSETUP.request and indicates the results of the request. This primitive is generated(#1413) when the STA receives a TWT Setup frame from the AP.

6.3.106.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.41 (Target Wake Time).

6.3.106.4 MLME-TWTSETUP.indication

6.3.106.4.1 Function

This primitive indicates that a TWT Setup frame was received from a non-AP STA.

6.3.106.4.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTSETUP.indication(

PeerSTAAddress,
DialogToken,
TWT (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a TWT Setup frame was received. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the TWT Setup request/response transaction. |
| TWT | TWT element | As defined in 8.4.2.170j (TWT element) | Specifies the proposed service parameters for the TWT Setup request. |

6.3.106.4.3 When generated

This primitive is generated by the MLME when a valid TWT Setup frame is received.

6.3.106.4.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.41 (Target Wake Time).

6.3.106.5 MLME-TWTSETUP.response

6.3.106.5.1 Function

This primitive is generated in response to a received TWT Setup frame and requests the transmission of a TWT Setup frame.

6.3.106.5.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTSETUP.response(

PeerSTAAddress,
DialogToken,
TWT (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a TWT Setup frame was received. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the TWT Setup request/response transaction.  |
| TWT | TWT element | As defined in 8.4.2.170j (TWT element) | Specifies service parameters for the TWT Setup response. |

6.3.106.5.3 When generated

This primitive is generated by the SME to request that a TWT Setup frame be sent to a peer entity to convey TWT assignment information.

6.3.106.5.4 Effect of receipt

On receipt of this primitive, the MLME constructs a TWT Setup frame. The STA then attempts to transmit this to the non-AP STA indicated by the PeerSTAAddress parameter.

6.3.107 TWT Teardown

6.3.107.1 General

The following MLME primitives support the signaling of a TWT Teardown procedure (#1234).

6.3.107.2 MLME-TWTTEARDOWN.request

6.3.107.2.1 Function

This primitive requests that a TWT Teardown frame be sent to the AP with which the non-AP STA is associated.

6.3.107.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTTEARDOWN.request(

PeerSTAAddress,
TWTFlow (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the TWT Teardown procedure.  |
| TWTFlow | As defined in8.6.24.9 (TWT Teardown frame format) | As defined in8.6.24.9 (TWT Teardown frame format) | Specifies the proposed service parameters for the TWT Teardown. |

6.3.107.2.3 When generated

This primitive is generated by the SME to request that a TWT Teardown frame be sent to the AP with which the non-AP STA is associated.

6.3.107.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a TWT Teardown frame(#100). The STA then attempts to transmit this to the AP with which it is associated.

6.3.107.3 MLME-TWTTEARDOWN.indication

6.3.107.3.1 Function

This primitive indicates that a TWT Teardown frame was received from a non-AP STA.

6.3.107.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-TWTTEARDOWN.indication(

PeerSTAAddress,
TWTFlow (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the TWT Teardown procedure.  |
| TWTFlow | As defined in8.6.24.9 (TWT Teardown frame format) | As defined in8.6.24.9 (TWT Teardown frame format) | Specifies the proposed service parameters for the TWT Teardown. |

6.3.107.3.3 When generated

This primitive is generated by the MLME when a valid TWT Teardown frame is received.

6.3.107.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.41.7 (TWT Teardown).

6.3.108 Sectorized Group ID List management

6.3.108.1 General

The following MLME primitives support the signaling of a Sectorized Group ID List management.

6.3.108.2 MLME-SECTORIZEDGROUPID.request

6.3.108.2.1 Function

This primitive requests that a Sectorized Group ID List frame be sent to the non-AP STA.

6.3.108.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-SECTORIZEDGROUPID.request(

PeerSTAAddress,
SectorizedGroupIDList (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Sectorized Group ID List management. |
| SectorizedGroupIDList | Sectorized Group ID List element | As defined in 8.4.2.170v (Sectorized Group ID List element) | Specifies service parameters for the updated Sectorized Group ID List.  |

6.3.108.2.3 When generated

This primitive is generated by the SME to request that a Sectorized Group ID List frame be sent to the non-AP STA.

6.3.108.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Sectorized Group ID List frame. The AP then attempts to transmit this to the non-AP STA which is associated with it.

6.3.108.3 MLME-SECTORIZEDGROUPID.indication

6.3.108.3.1 Function

This primitive indicates that a Sectorized Group ID List frame was received from an AP.

6.3.108.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-SECTORIZEDGROUPID.indication(

PeerSTAAddress,
SectorizedGroupIDList (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Sectorized Group ID List management. |
| SectorizedGroupIDList | Sectorized Group ID List element | As defined in 8.4.2.170v (Sectorized Group ID List element) | Specifies service parameters for the updated Sectorized Group ID List.  |

6.3.108.3.3 When generated

This primitive is generated by the MLME when a valid Sectorized Group ID List frame is received.

6.3.108.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.47 (Sectorized beam operation).

6.3.109 Header Compression procedure

6.3.109.1 General

The following MLME primitives support the signaling of Header Compression procedure (#1234).

6.3.109.2 MLME-HEADERCOMPRESSION.request

6.3.109.2.1 Function

This primitive requests that a Header Compression frame be sent to the AP with which the non-AP STA is associated.

6.3.109.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-HEADERCOMPRESSION.request(

PeerSTAAddress,
DialogToken,
HeaderCompression (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Header Compression request/response procedure.  |
| Dialog Token | Integer | 0–255 | The dialog token to identify the Header Compression request/response transaction. |
| HeaderCompression | Header Compression element | As defined in 8.4.2.170x (Header Compression element) | Specifies the proposed service parameters for the Header Compression request. |

6.3.109.2.3 When generated

This primitive is generated by the SME to request that a Header Compresison frame be sent to the AP with which the non-AP STA is associated.

6.3.109.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Header Compression (#100)frame. The STA then attempts to transmit this to the AP with which it is associated.

6.3.109.3 MLME-HEADERCOMPRESSION.confirm

6.3.109.3.1 Function

This primitive reports the result of a Header Compression request/response procedure.

6.3.109.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-HEADERCOMPRESSION.confirm(

PeerMACAddress,
DialogToken,
HeaderCompression (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Peer MAC Address | MACAddress | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Header Compression request/response procedure. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the Header Compression request/response transaction. |
| HeaderCompression | Header Compression element | As defined in 8.4.2.170x (Header Compression element) | Specifies the proposed service parameters for the Header Compression response. |

6.3.109.3.3 When generated

This primitive is generated by the MLME as a result of an MLME-HEADERCOMPRESSION.request and indicates the results of the request. This primitive is generated(#1413) when the STA receives a Header Compression frame from the AP.

6.3.109.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.54 (Header Compression procedure).

6.3.109.4 MLME-HEADERCOMPRESSION.indication

6.3.109.4.1 Function

This primitive indicates that a Header Compression frame was received from a non-AP STA.

6.3.109.4.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-HEADERCOMPRESSION.indication(

PeerSTAAddress,
DialogToken,
HeaderCompression (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Header Compression frame was received. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the Header Compression request/response transaction. |
| HeaderCompression | Header Compression element | As defined in 8.4.2.170x (Header Compression element) | Specifies the proposed service parameters for the Header Compression request. |

6.3.109.4.3 When generated

This primitive is generated by the MLME when a valid Header Compression frame is received.

6.3.109.4.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.54 (Header Compression procedure).

6.3.109.5 MLME-HEADERCOMPRESSION.response

6.3.109.5.1 Function

This primitive is generated in response to a received Header Compression frame and requests the transmission of a Header Compression frame.

6.3.109.5.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-HEADERCOMPRESSION.response(

PeerSTAAddress,
DialogToken,
HeaderCompression (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Header Compression frame was received. |
| Dialog Token | Integer | 0–255 | The dialog token to identify the Header Compression request/response transaction.  |
| HeaderCompression | Header Complression element  | As defined in 8.4.2.170x (Header Compression element) | Specifies service parameters for the Header Compression response. |

6.3.109.5.3 When generated

This primitive is generated by the SME to request that a Header Compression frame be sent to a peer entity to convey Header Compression information.

6.3.109.5.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Header Compression frame. The STA then attempts to transmit this to the non-AP STA indicated by the PeerSTAAddress parameter.

6.3.110 Reachable Address Update

6.3.110.1 General

The following MLME primitives support the signaling of a reachable address update procedure (#1234).

6.3.110.2 MLME-REACHABLEADDRESSUPDATE.request

6.3.110.2.1 Function

This primitive requests that a Reachable Address Update frame be sent to the AP with which the non-AP STA is associated.

6.3.110.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-ACTIVITYSPECIFICATION.request(

PeerSTAAddress,
ReachableAddress (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the reachable address update procedure.  |
| ReachableAddress | Reachable Address element | As defined in 8.4.2.170p (Reachable Address element) | Specifies the proposed service parameters for the Reachable Address Update. |

6.3.110.2.3 When generated

This primitive is generated by the SME to request that a Reachable Address Update frame be sent to the AP with which the non-AP STA is associated.

6.3.110.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Reachable Address Update frame(#100). The STA then attempts to transmit this to the AP with which it is associated.

6.3.110.3 MLME-REACHABLEADDRESSUPDATE.indication

6.3.110.3.1 Function

This primitive indicates that a Reachable Address Update frame was received from a non-AP STA.

6.3.110.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-REACHABLEADDRESSUPDATE.indication(

PeerSTAAddress,
ReachableAddress (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which a Reachable Address Update frame was received. |
| ReachableAddress | Reachable Address element | As defined in 8.4.2.170p (Reachable Address element) | Specifies the proposed service parameters for the Reachable Address Update. |

6.3.110.3.3 When generated

This primitive is generated by the MLME when a valid Reachable Address Update frame is received.

6.3.110.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.48 (Relay operation).

6.3.111 Flow Suspend operation

6.3.111.1 General

The following MLME primitives support the signaling of a flow suspend operation.

6.3.111.2 MLME-FLOWSUSPEND.request

6.3.111.2.1 Function

This primitive requests that a Flow Suspend frame be sent to a peer entity.

6.3.111.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-FLOWSUSPEND.request(

PeerSTAAddress,
SuspendDuration (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the flow suspend operation.  |
| SuspendDuration | As defined in8.6.26.2 (Flow Suspend frame) | As defined in8.6.26.2 (Flow Suspend frame) | Specifies the proposed service parameters for the Flow Suspend operation. |

6.3.111.2.3 When generated

This primitive is generated by the SME to request that a Flow Suspend frame be sent to the peer entity.

6.3.111.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Flow Suspend frame(#100). The STA then attempts to transmit this to the peer entity.

6.3.111.3 MLME-FLOWSUSPEND.indication

6.3.111.3.1 Function

This primitive indicates that a Flow Suspend frame was received from a peer entity.

6.3.111.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-FLOWSUSPEND.indication(

PeerSTAAddress,
SuspendDuration (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the peer MAC entity from which a Flow Suspend frame was received. |
| SuspendDuration | As defined in8.6.26.2 (Flow Suspend frame) | As defined in8.6.26.2 (Flow Suspend frame) | Specifies the proposed service parameters for the Flow Suspend operation. |

6.3.111.3.3 When generated

This primitive is generated by the MLME when a valid Flow Suspend frame is received.

6.3.111.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.48.4 (Flow control).

6.3.112 Flow Resume operation

6.3.112.1 General

The following MLME primitives support the signaling of a flow resume operation.

6.3.112.2 MLME-FLOWRESUME.request

6.3.112.2.1 Function

This primitive requests that a Flow Resume frame be sent to a peer entity.

6.3.112.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-FLOWRESUME.request(

PeerSTAAddress (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the flow resume operation.  |

6.3.112.2.3 When generated

This primitive is generated by the SME to request that a Flow Resume frame be sent to the peer entity.

6.3.112.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Flow Resume frame(#100). The STA then attempts to transmit this to the peer entity.

6.3.112.3 MLME-FLOWRESUME.indication

6.3.112.3.1 Function

This primitive indicates that a Flow Resume frame was received from a peer entity.

6.3.112.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-FLOWRESUME.indication(

PeerSTAAddress (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the peer MAC entity from which a Flow Resume frame was received. |

6.3.112.3.3 When generated

This primitive is generated by the MLME when a valid Flow Resume frame is received.

6.3.112.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.48.4 (Flow control).

6.3.113 Control Response MCS Negotiation operation

6.3.113.1 General

The following MLME primitives support the signaling of Control Response MCS Negotiation procedure (#1234).

6.3.113.2 MLME-CONTROLRESPONSEMCS.request

6.3.113.2.1 Function

This primitive requests that a Control Response MCS Negotiation Request frame be sent to a peer entity.

6.3.113.2.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-CONTROLRESPONSEMCS.request(

PeerSTAAddress,
MCSDifference (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MAC Address | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Control Response MCS Negotiation procedure.  |
| MCSDifference | As defined in8.6.27.2 (Control Response MCS Negotiation Request frame format) | As defined in8.6.27.2 (Control Response MCS Negotiation Request frame format) | Specifies the proposed service parameters for the Control Response MCS Negotiation Request. |

6.3.113.2.3 When generated

This primitive is generated by the SME to request that a Control Response MCS Negotiation Request frame be sent to the peer entity.

6.3.113.2.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Control Response MCS Negotiation Request (#100)frame. The STA then attempts to transmit this to the peer entity.

6.3.113.3 MLME-CONTROLRESPONSEMCS.confirm

6.3.113.3.1 Function

This primitive reports the result of an Control Response MCS Negotiation request/response procedure.

6.3.113.3.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-CONTROLRESPONSEMCS.confirm(

PeerMACAddress,
Command (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Peer MAC Address | MACAddress | Any valid individual MAC Address | Specifies the address of the peer MAC entity with which to perform the Control Response MCS Negotiation request/response procedure. |
| Command | As defined in8.6.27.3 (Control Response MCS Negotiation Response frame format) | As defined in8.6.27.3 (Control Response MCS Negotiation Response frame format) | Specifies service parameters for the Control Response MCS Negotiation Response. |

6.3.113.3.3 When generated

This primitive is generated by the MLME as a result of an MLME-CONTROLRESPONSEMCS.request and indicates the results of the request. This primitive is generated(#1413) when the STA receives a Control Response MCS Negotiation Response frame from the peer entity.

6.3.113.3.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.7.6.5.4b (Control Response MCS Negotiation).

6.3.113.4 MLME-CONTROLRESPONSEMCS.indication

6.3.113.4.1 Function

This primitive indicates that a Control Response MCS Negotiation Request frame was received from a peer entity.

6.3.113.4.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-CONTROLRESPONSEMCS.indication(

PeerSTAAddress,
MCSDifference (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the peer MAC entity from which a Control Response MCS Negotiation Request frame was received. |
| MCSDifference | As defined in8.6.27.2 (Control Response MCS Negotiation Request frame format) | As defined in8.6.27.2 (Control Response MCS Negotiation Request frame format) | Specifies the proposed service parameters for the Control Response MCS Negotiation Request. |

6.3.113.4.3 When generated

This primitive is generated by the MLME when a valid Control Response MCS Negotiation Request frame is received.

6.3.113.4.4 Effect of receipt

On receipt of this primitive, the SME should operate according to the procedure in 9.7.6.5.4b (Control Response MCS Negotiation).

6.3.113.5 MLME-CONTROLRESPONSEMCS.response

6.3.113.5.1 Function

This primitive is generated in response to a received Control Response MCS Negotiation Request frame and requests the transmission of a Control Response MCS Negotiation Response frame.

6.3.113.5.2 Semantics of the service primitive

The primitive parameters are as follows:

MLME-CONTROLRESPONSEMCS.response(

PeerSTAAddress,
Command (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| PeerSTAAddress | MACAddress | Any valid individual MAC Address  | The address of the non-AP STA MAC entity from which an AID Request frame was received. |
| Command | As defined in8.6.27.3 (Control Response MCS Negotiation Response frame format) | As defined in8.6.27.3 (Control Response MCS Negotiation Response frame format) | Specifies service parameters for the Control Response MCS Negotiation Response. |

6.3.113.5.3 When generated

This primitive is generated by the SME to request that a Control Response MCS Negotiation Response frame be sent to a peer entity to convey Control Response MCS Negotitation information.

6.3.113.5.4 Effect of receipt

On receipt of this primitive, the MLME constructs a Control Response MCS Negotitation Response frame. The STA then attempts to transmit this to the peer entity indicated by the PeerSTAAddress parameter.

***TGah editor: Replace “ProbeResponseOption” with “ShortProbeResponseOption” throughout all clauses.***

***TGah editor: Replace “Probe Response Option element”with “Short Probe Response Option element” throughout all clauses.***

***TGah editor: Modify Table 8-55 (Element IDs) as the following:***

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Element ID | Length of indicate element (in octets) | Extensible  |
| … | … | … | … |
| Short Probe Response Option | <ANA> | 3 to 11 |  |
| … | … | …. | … |
| ~~Probe Response Option~~ | ~~<ANA>~~ | ~~0-255~~ |  |

***TGah editor: Insert the following entries before the VendorSpecificInfo row of the table in 6.3.7.3.2, 6.3.7.5.2, 6.8.3.2, 6.3.8.5.2:***

…

Sectorized Group ID List,

VendorSpecificInfo (#1018)
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| … | … | … | … |
| Sectorized Group ID List | Sectorized Group ID List element | As defined in 8.4.2.170v (Sectorized Group ID List element) | Specifies the parameters in the Sectorized Group ID List element.This parameter is optionally present if dot11S1GSectorizationActivated is true. |

***TGah editor: Modify the sub-clause 8.4.2.6 (TIM element) as the following:***

8.4.2.6 TIM element

The DTIM Period field indicates the number of beacon intervals between successive DTIMs. If all TIMs are DTIMs, the DTIM Period field has the value 1. The DTIM Period value 0 is reserved. The DTIM period field is a single octet. If dot11ShortBeaconInterval is equal to true, the DTIM Period field is set to dot11ShortBeaconDTIMPeriod. If dot11ShortBeaconInterval is equal to false, the DTIM Period field is set to dot11DTIMPeriod.

***TGah editor: Modify Table 8-27 (Beacon frame body) as the following:***

|  |  |  |
| --- | --- | --- |
| Oder | Information | Notes |
| … | … | … |
| 80 | Short Beacon Interval | The Short Beacon Interval element is ~~optionally~~ present if dot11ShortBeaconInterval is true. |

***TGah editor: Modify the sub-clause 10.1.2 (TSF for infrastructure and PBSS networks) as the following:***

10.1.2 TSF for infrastructure and PBSS networks

***…***

In a BSS that is neither ~~non-~~DMG nor S1G~~BSS~~, Beacon frames shall be generated for transmission by the AP once every dot11BeaconPeriod TUs. In an S1G BSS, the S1G AP shall generate S1G Beacon frames every dot11BeaconPeriod TUs and ~~may~~ if dot11ShortBeaconInterval is true it shall additionally generate S1G(#2519) Beacon frames every dot11ShortBeaconPeriod TUs as described in 10.1.3.10.1 (General).

***TGah editor: Modify the sub-clause 10.1.3.10.2 (Generation of S1G Beacon) as the following:***

10.1.3.10.2 Generation of S1G Beacon

S1G(#2519) Beacon frames shall be transmitted in an S1G BSS and S1G IBSS. The use of a S1G Beacon frames in an MBSS is beyond scope. An AP may further define the timing for the BSS by sending S1G Beacon frames according to the dot11ShortBeaconPeriod. The value for the dot11ShortBeaconPeriod shall be such that dot11BeaconPeriod = ndot11ShortBeaconPeriod, where n is a positive integer. This defines a series of TSBTTs exactly dot11ShortBeaconPeriod TUs apart. If n is greater than 1, the Next TBTT Present field shall be set to 1 and the Next TBTT field shall be present in S1G Beacon frames. Time 0 is defined to be a TBTT or TSBTT with the S1G Beacon frame being a DTIM. At each TBTT or TSBTT, the AP shall schedule an S1G Beacon frame as the next frame for transmission. At each TBTT or TSBTT the AP should suspend the decrementing of the backoff timer for any pending non-beacon transmission and transmit the S1G Beacon frame according to the medium access rules specified in Clause 9 (MAC sublayer functional description). The beacon period is included in S1G Beacon and (Short) Probe Response frames, and a STA shall adopt that beacon period when joining the S1G BSS and S1G IBSS, i.e., the STA shall set its dot11BeaconPeriod variable to that beacon period. If dot11ShortBeaconInterval is equal to true, the Short Beacon Interval element is included in an S1G Beacon and (Short) Probe Response frames, and a STA shall adopt that short beacon period when joining the S1G BSS or S1G IBSS, i.e., the STA shall set its dot11ShortBeaconPeriod variable to that short beacon period.

***TGah editor: Modify the sub-clause 10.2.2.4 (TIM types) as the following:***

10.2.2.4 TIM types

***…***

The AP shall transmit a TIM with every Beacon frame except when the frame is scheduled for transmission in a TSBTT that is not a TBTT. Every dot11DTIMPeriod, a TIM of type *DTIM* is transmitted within a Beacon frame, rather than an ordinary TIM. An S1G AP with dot11ShortBeaconInterval equal to true, may include a TIM in a Beacon frame that is scheduled for transmission in a TSBTT that is not a TBTT.(#14/0324r1) An S1G AP with dot11ShortBeaconInterval equal to true may transmit a TIM of type *DTIM* in an S1G Beacon frame every dot11ShortBeaconDTIMPeriod.

***TGah editor: Modify the sub-clause 10.1.4.4.1 as the following:***

10.1.4.4.1 General

…

Upon receipt of an MLME-START.request primitive, an S1G STA with dot11ShortBeaconInterval equal to true ~~may~~shall additionally select a short beacon period, and begin transmitting S1G Beacon frames.(#14/0324r1)