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| Project | **IEEE 802.21.1 Media Independent Services**  **<**[**http://www.ieee802.org/21/**](http://www.ieee802.org/21/)**>** |
| Title | **Suggested remedy for Cmt #162 and #163 of LB9** |
| DCN | **21-16-00-00XX-00-REVP** |
| Date Submitted | **January 21, 2016** |
| Source(s) | Yoshikazu Hanatani (Toshiba) |
| Re: | Session #71, Atlanta |
| Abstract | MBBHandoverSupport and MobilityManagementSupport are handover specific parameter. So, MBBHandoverSupport parameter in MIS\_Capability\_Discovery primitives and messages, and MobilityManagementSupport parameter in MIS\_Link\_Up primitive and message should be moved from 802.21m to 802.21.1. |
| Purpose | Suggested remedy for Cmt #162 and 163 in LB9. |
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Suggested remedy:

Change as follows.

*Add following rows to Table 10*

2. —MIS\_SAP primitives

|  |  |  |  |
| --- | --- | --- | --- |
| **Primitives** | **Service category** | **Description** | **Defined in** |
| MIS Capability\_Discover | Service management | Discover list of Events and Command supported by MISF | 7.4.1 in IEEE 802.21m,  5.11.X |
| MIS\_Link\_Up | Event | L2 connection has been established | 7.4.9 in IEEE 802.21m,  5.11.Y |

*Add following rows to Table G.2*

**Table G.2—Type values for TLV encoding**

|  |  |  |
| --- | --- | --- |
| **TLV type name** | **TLV type value**a | **Data type** |
| MBB handover support | 10 | LIST(MBB\_HO\_SUPP) |
| Mobility management support | 18 | IP\_MOB\_MGMT |

*Add following rows to Table E.6*

Table E.6—Data type for MIS capabilities

|  |  |  |
| --- | --- | --- |
| **Data type name** | **Derived from** | **Definition** |
| MBB\_HO\_SUPP | SEQUENCE(  NETWORK\_TYPE, NETWORK\_TYPE, BOOLEAN  ) | Indicates if make before break is supported FROM the first network type TO the second net­work type.  The BOOLEAN value assignment:  True: Make before break is supported. False: Make before break is not supported. |

*Add following new subclause E.Z and new table*

* + 1. **Data types for IP configuration**

**Table E.12—Data types for IP configuration**

|  |  |  |
| --- | --- | --- |
| **Data type name** | **Derived from** | **Definition** |
| IP\_MOB\_MGMT | BITMAP(16) | Indicates the supported mobility management protocols.  Bit 0: Mobile IPv4 (IETF RFC 5944)  Bit 1: Mobile IPv4 Regional Registration (IETF RFC 4857)  Bit 2: Mobile IPv6 (IETF RFC 6275)  Bit 3: Hierarchical Mobile IPv6 (IETF RFC 4140)  Bit 4: Low Latency Handoffs (IETF RFC 4881)  Bit 5: Mobile IPv6 Fast Handovers (IETF RFC 5268)  Bit 6: IKEv2 Mobility and Multihoming Protocol (IETF RFC 4555)  Bit 7–15: (Reserved) |

*Add following sublcause as 5.11.X*

5.11 MIS\_SAP primitives

1. * 1. **MIS\_Capability\_Discover**
        1. **MIS Capability\_Discover.request**
           1. **Function**

This is an additional parameter for handover use cases.

* + - * 1. **Semantics of service primitive**

MIS\_Capability\_Discover.request (

MBBHandoverSupport,

)

Parameters:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Description** |
| MBBHandoverSupport | LIST(MBB\_HO\_SUPP) | (Optional) This is used to indicate if a make before break handover is supported on the local MISF. Break before make handover is always supported. |

* + - * 1. **When generated**

This primitive is generated by an MIS user to discover the capabilities of the local MISF or a remote MISF. In the case of remote discovery, this primitive contains and the MBBHandoverSupport parameters and other parameters as described in 7.4.1.1 of Draft IEEE 802.21m/D01 of the local MISF to enable mutual discovery of each other’s capabilities.

* + - * 1. **Effect on receipt**

If the destination of the request is the local MISF itself, the local MISF responds with MIS\_Capability\_Discover.confirm. If the destination of the request is a remote MISF, the local MISF shall generate a corresponding MIS\_Capability\_Discover request message to the remote MISF if it does not have the capability information of the remote MISF.

* + - 1. **MIS\_Capability\_Discovering.indication**
         1. **Function**

This is an additional parameter for handover use cases..

* + - * 1. **Semantics of service primitive**

MIS\_Capability\_Discover.indication (

MBBHandoverSupport,

)

Parameters:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Description** |
| MBBHandoverSupport | LIST(MBB\_HO\_SUPP) | (Optional) This is used to indicate if a make before break handover is supported on the remote MISF. Break before make handover is always supported. |

* + - * 1. **When generated**

This primitive is used by an MISF to notify an MIS user when an MIS\_Capability\_Discover request message is received. This primitive is optional since the MISF can immediately return an MIS\_Capability\_Discover response message without generating this primitive to the MIS user.

* + - * 1. **Effect on receipt**

The MIS user responds with an MIS\_Capability\_Discover.response primitive when an indication is received.

* + - 1. **MIS\_Capability\_Discovery.response**
         1. **Function**

This is an additional parameter for handover use cases. .

* + - * 1. **Semantics of Service primitive**

MIS\_Capability\_Discover.response (

MBBHandoverSupport,

)

Parameters:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Description** |
| MBBHandoverSupport | LIST(MBB\_HO\_SUPP) | (Optional) This is used to indicate if a make before break handover is supported on local MISF. Break before make handover is always supported. |

* + - * 1. **When generated**

This primitive is generated by an MIS user as a response to a received MIS\_Capability\_Discover.indication primitive.

* + - * 1. **Effect on receipt**

Upon receiving this primitive, the MISF shall generate and send the corresponding MIS\_Capability\_Discover response message to the destination MISF.

* + - 1. **MIS\_Capability\_Discover.confirm** 
         1. **Function**
         2. This is an additional parameter for handover use cases.**Semantics of service primitive**

MIS\_Capability\_Discover.confirm (

MBBHandoverSupport,

)

Parameters:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Description** |
| MBBHandoverSupport | LIST(MBB\_HO\_SUPP) | (Optional) This is used to indicate if a make before break handover is supported on the MISF identified by Source Identifier. Break before make handover is always supported. |

* + - * 1. **When generated**

This primitive is invoked by a local MISF to convey the results of a previous MIS\_Capability\_Discover.request primitive from an MIS user.

* + - * 1. **Effect on receipt**

Upon reception of this primitive the receiving entity becomes aware of the supported MIS capabilities. However, if Status does not indicate “Success,” the recipient ignores any other returned values and, instead, performs appropriate error handling.

*Add following sublcause as 5.11.Y*

* 1. **MIS\_LINK\_SAP primitives**



* + 1. **Link\_Up.indication**
       1. **Function**

This is an additional parameter for handover use cases.

* + - 1. **Semantics of service primitive**

Link\_Up.indication (

MobilityManagementSupport

)

Parameters:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Description** |
| MobilityManagementSupport | IP\_MOB\_MGMT | (Optional) Indicates the type of Mobility Manage­ment Protocol supported by the new PoA. |

* + - 1. **When generated**

This notification is generated when a layer 2 connection is established for the specific link interface.

* + - 1. **Effect on receipt**

The MISF shall pass this link notification to the MIS user(s) that has subscribed for this notification in an MIS\_Link\_Up event. The MIS user(s) takes different actions on this notification.

*Add following sublcause as 5.13.X*

* + - 1. **MIS\_Capability\_Discovery request**

This is an additional TLV for handover use cases. The corresponding MIS primitive of this message is defined in5.11.X.1.

|  |
| --- |
| **MIS Header Fields (SID=1, Opcode=1, AID=1)** |
| MBBHandoverSupport (optional) (MBB handover support TLV) |

* + - 1. **MIS\_Capability\_Discovery response**

This is an additional TLV for handover use cases. The corresponding MIS primitive of this message is defined in 5.11.X.3.

|  |
| --- |
| **MIS Header Fields (SID=1, Opcode=2, AID=1)** |
| MBBHandoverSupport (optional) (MBB handover support TLV) |

*Add following sublcause as 5.13.Y*

* + - 1. MIS\_Link\_Up indication

This is an additional TLV for handover use cases. The corresponding MIS primitive of this message is defined in 5.11.Y.

|  |
| --- |
| **MIS Header Fields (SID=2, Opcode=3, AID=2)** |
| MobilityManagementSupport (optional) (Mobility management support TLV) |