IEEE P802.21.1
Media Independent Services

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| Proposed Remedy for Comment #155 of the WG LB9 on IEEE P802.21.1/D01 draft |
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Abstract

This document contains proposed remedy for comment #155 of the WG LB9 on IEEE P802.21.1/D01 draft based on the LB9 comments file (DCN: 21-16-0008-05-SAUC).

**Proposed Remedy for Comment #155 of the WG LB9 on IEEE P802.21.1/D01 draft**

**Comment #155** (Clause 9.3.1, Page 172, Line 7) From protocol design point of view, it is better to add D2D-specific parameters to the existing MIS\_Registration primitives instead of defining new MIS\_D2D\_Registration primitives. Consider to use MIS\_Registration primitives for D2D registration.

* Response: We accept this comment, and agree to add D2D-specific parameters to the existing MIS\_Register primitives and messages. If MIS\_Register primitives or messages include the following parameters, the primitives or messages can be used for registering D2D devices.

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| **Name** | **Data type** | **Description** |
| D2D\_Techlist | LIST(D2D\_TECH) | List of available D2D technologies |
| Config\_Info | LIST(LOCATION, FREQ\_ID) | Configuration information for making a D2D connection |

* Remedy: Modify sub-clauses 9.2.1.4.1, 9.3.1, 9.4 and Tables C.1, G.1 as follows.
	+ - 1. Signaling flows and primitives/messages

9.2.1.4.1 Stage 1: registration of D2D devices

Information Server collects configuration information, which includes list of D2D communication technologies used by MN, for MNs’ registrations to Information Server. Signaling flows shown in Figure 43 are as follows.

1. MN’s MIS user sends MIS\_Register.request primitive to MN’s MISF.
2. MN’s MISF requests registration to Information Server by sending MIS\_Register request message with its configuration information including its available D2D communication technologies (i.e., D2D\_Techlist).
3. Information Server’s MISF sends MIS\_Register.indication primitive to MIS user for registering MN as a D2D device.
4. After Information Server’s MIS User registers the MN as a D2D device, the Information Server’s MIS user sends MIS\_Register.response to Information Server’s MISF for responding the registration request.
5. Information Server’s MISF responds with MIS\_Register response message.
6. MN’s MISF reports that the MN is registered to Information Server as a D2D device by sending MIS\_Register.confirm primitive to MN’s MIS user.



1. —Registration of D2D devices with list of D2D technologies.

The primitives used for registration of D2D devices are described in Table 25.

1. —MIS\_SAP primitives

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| **Primitives** | **Servicecategory** | **Description** | **Definedin** |
| MIS\_Register | Service management | Register the local MISF with a remote MISF | 7.4.2 of IEEE 802.21-XXXX |

Following parameters specific for D2D registration needs to be added to MIS\_Register primitive defined in 7.4.2 of IEEE 802.21-XXXX.

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| **Parameter** | **Data type** | **Description** |
| D2D\_Techlist | LIST(D2D\_TECH) | List of available D2D technologies that can be used by an MN |
| Config\_Info | LIST(LOCATION, FREQ\_ID) | Configuration information for making a D2D connectionthat includes location information and network connection information (e.g., radio frequency and network identification) of communication devices |

MIS\_Register

MIS\_Register is used for MN to request registration to Information Server by sending MIS\_Register request message with its configuration information including its available D2D communication technologies.This primitive is defined in 7.4.2 of IEEE 802.21-XXXX. Following additional parameters are needed while using this primitive for D2D registration.

Use case specific Parameters:

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| **Name** | **Data type** | **Description** |
|  |  |  |
| D2D\_Techlist | LIST(D2D\_TECH) | List of available D2D technologies |
| Config\_Info | LIST(LOCATION, FREQ\_ID) | Configuration information for making a D2D connection |

D2D\_Techlist and Config\_Info parameters need to be added to MIS\_Register.request and MIS\_Register.indication that are specified in 7.4.2 of IEEE 802.21-XXXX.

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* 1. D2D service specific MIS protocol messages
		1. MIS\_Register
			1. MIS\_ D2D\_Registration request

The corresponding MIS primitive of this message is defined in 9.3.1.1. The MN’ MISF sends this message to the MISF of Information Server to request registration with its configuration information including its available D2D communication technologies. D2D\_Techlist and Config\_Info TLVs need to be added to MIS\_Register request message that is specified in 8.6.1.3 of IEEE 802.21-XXXX.

Use case specific TLVs

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| D2D\_Techlist(D2D technology list for D2D registration TLV) |
| Config\_Info(Configuration information for D2D registration TLV) |

* + - 1. MIS\_Register response

The corresponding MIS primitive of this message is defined in 9.3.1.3. This message specified in 8.6.1.4 of IEEE 802.21-XXXX returns the result of MIS\_Register request.

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* + 1. MIS\_D2D\_Connection
			1. MIS\_D2D\_Connection request

The corresponding MIS primitive of this message is defined in 9.3.2.1. An MISF sends this message to request the establishment of a D2D connection with its configuration information including its available D2D communication technologies.

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| **MIS Header Fields (SID=3, Opcode=1, AID=20)** |
| **Source Identifier =** sending MISF ID(Source MISF ID TLV) |
| **Destination Identifier =** receiving MISF ID(Destination MISF ID TLV) |
| D2D\_PeerID(MSIF ID TLV) |
| D2D\_Tech(D2D technology for D2D connection TLV) |
| D2D\_Config(Configuration information for D2D connection TLV) |

* + - 1. MIS\_D2D\_Connection response

The corresponding MIS primitive of this message is defined in 9.3.2.3. This message returns the result of MIS\_ D2D\_Connection request.

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| **MIS Header Fields (SID=3, Opcode=2, AID=20)** |
| **Source Identifier =** sending MISF ID(Source MISF ID TLV) |
| **Destination Identifier =** receiving MISF ID(Destination MISF ID TLV) |
| Status(Status TLV) |

Table C.1—Mapping MIS messages to reference points

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| **MIS message name** | **Reference point** |
| MIS \_Link \_Handover \_Imminent | RP1, RP3, RP2 |
| MIS \_Link \_Handover \_Complete | RP1, RP3 |
|  |  |
| MIS\_Net\_HO\_Candidate\_Query | RP1, RP3 |
| MIS \_MN \_HO \_Candidate \_Query | RP1, RP3 |
| MIS\_N2N\_HO\_Query\_Resources | RP5 |
| MIS\_MN\_HO\_Commit | RP1, RP3 |
| MIS\_Net\_HO\_Commit | RP1, RP3 |
| MIS\_N2N\_HO \_Commit | RP5 |
| MIS\_MN\_HO\_Complete | RP1, RP2, RP3 |
| MIS\_N2N\_HO\_Complete | RP5 |
|  |  |
| MIS\_NET\_HO\_Bcst\_Commit | RP1, RP3 |
| MIS\_Prereg\_Xfer | RP2, RP3, RP4 |
| MIS\_N2N\_Prereg\_Xfer | RP5 |
| MIS\_Prereg\_Ready | RP1 |
| MIS\_CTRL\_Transfer | RP1, RP4, RP5 |
|  |  |
| MIS\_Resource\_Allocation |  RP5 |
| MIS\_Resource\_Report | RP5 |
| MIS\_Link\_Preparation | RP1, RP3 |
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| MIS\_D2D\_Connection | RP3 |

Table G.1—AID assignments

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| **MIS messages** | **AID**a |
| *MIS messages for Event Service* |
| MIS \_Link \_Handover \_Imminent | 7 |
| MIS\_Link\_Handover\_Complete | 8 |
| *MIS messages for Command Service* |
| MIS\_Net\_HO\_Candidate\_Query | 4 |
| MIS\_MN\_HO\_Candidate\_Query | 5 |
| MIS\_N2N\_HO\_Query\_Resources | 6 |
| MIS\_MN\_HO\_Commit | 7 |
| MIS\_Net\_HO\_Commit | 8 |
| MIS\_N2N\_HO\_Commit | 9 |
| MIS\_MN\_HO\_Complete | 10 |
| MIS\_N2N\_HO\_Complete | 11 |
| MIS\_Net\_HO\_Bcst\_Commit | 12 |
| MIS\_Prereg\_Xfer | 13 |
| MIS\_N2N\_Prereg\_Xfer | 14 |
| MIS\_Prereg\_Ready | 15 |
| MIS\_CTRL\_Transfer | 16 |
| MIS\_Resource\_Allocation | 17 |
| MIS\_Resource\_Report | 18 |
| MIS\_Link\_Preparation | 19 |
|  |  |
| MIS\_D2D\_Connection | 20 |

aFor all other AID Assignments see IEEE Std 802.21-XXXX