**3GPP TSG- Meeting # *S6-245177***

**Orlando, USA** **,**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **180** | **CR** |  | **rev** | 1 | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **x** |

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|  |
| ***Title:***  | Enable connectivity for selective users in IOPS through limited backhaul  |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** | SA6 |
|  |  |
| ***Work item code:*** | Generic IOPS |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | KI #2 of the Generic IOPS study focuses providing limited backhaul through NTN for IOPS scenarios. In this case selective users in the IOPS cell(s) could benefit from having connectivity to the main MC service servers and drawing services from them. Architectural enablers for allowing these selective users to initiate communication with the MC service server(s) are proposed in this CR.  |
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| ***Summary of change:*** | Adds a new signalling reference point and the use of MC ID’s in IOPS.  |
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| ***Consequences if not approved:*** | The selective users inside IOPS cell(s) can not make critical communications with the MC service servers, using the limited backhaul. |
|  |  |
| ***Clauses affected:*** | 7.3.2, 7.5.2, 8.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* First Change \* \* \* \*

7.3.2 Functional model for the signalling control plane in the IOPS mode of operation

Figure 7.3.2-1 shows the common functional model for the signalling control plane in the IOPS mode of operation.



**Figure 7.3.2-1 Functional model for the signalling control plane in the IOPS mode of operation**

NOTE: The functional model for the signalling plane in the IOPS mode of operation is described as a common functional model across MC services.

\* \* \* Next Change \* \* \* \*

### 7.5.2 Signalling control plane

#### 7.5.2.1 Reference point MC-IOPS-X1 (between the signalling application server and the signalling user agent client)

The MC-IOPS-X1 reference point, which exists between the signalling application server and the signalling user agent client, is used to support the IOPS related application signalling (e.g. registration, publication, subscription and notification events).

The MC-IOPS-X2 reference point, which exists between the signalling application server and the IOPS EPS, is used to indicate the presence of selective users who are requesting MC services through the use of limited backhaul.

NOTE 1: The IOPS related signalling supporting, e.g., the IOPS discovery, subscription and notification events can be SIP-based. In such a case, the signalling application server acts as a SIP application server (AS) and the signalling user agent client acts as the SIP user agent for all SIP related transactions.

 NOTE 2: The MC-IOPS-X2 reference point is intended to be used in limited backhaul provision, when selective users are pre-defined and when they initiate access towards the MC service servers. How to utilize the limited backhaul in other scenraios where the selective users are not pre-defined, is FFS.

\* \* \* Next Change \* \* \* \*

8 Identities

8.1 Application plane

8.1.1 IOPS MC user identity (IOPS MC ID)

8.1.1.1 General

The IOPS MC ID is used for identifying an MC user in the IOPS mode of operation. The IOPS MC ID uniquely identifies an MC user on the IOPS MC system.

The IOPS MC ID can be used for the user authentication with the IOPS MC system.

NOTE: The specific security and authentication mechanisms required in order to use the IOPS MC user identity need to be specified by SA3.

Editor's Note: Adding reference to the IOPS user authentication procedure in SA3 TS is FFS.

8.1.2 IOPS MC service user identity (IOPS MC service ID)

8.1.2.1 General

The IOPS MC service ID is a unique identifier within the MC service that represents the MC service user in the IOPS mode of operation. The IOPS MC service ID is the IOPS MCPTT ID for the MCPTT service as defined in 3GPP TS 23.379 [5], and is the IOPS MCData ID for the MCData service as defined in 3GPP TS 23.282 [6].

NOTE: MCVideo service as defined in 3GPP TS 23.281 [10] is not supported in the current release.

8.1.3 IOPS MC service group identity (IOPS MC service group ID)

8.1.3.1 General

An IOPS MC service group ID is used for identifying an MC service group in the IOPS mode of operation. The MC service UE is able to make one or more MC service communications (as per the group configuration) with other member UEs whose users are within the same IOPS MC service group ID.

The general description of an MC service group ID is provided in 3GPP TS 23.280 [3].

8.1.3.2 IOPS MC service group ID management (IP connectivity functionality)

Figure 8.1.3.2-1 illustrates how the IOPS MC service group ID and the IOPS group IP multicast address are mapped to each other for the support of the IP connectivity functionality. The IOPS group IP multicast address is pre-configured in the MC service UEs supporting the IOPS mode of operation in accordance with the IOPS MC service group ID.

NOTE: The association between the IOPS MC service group ID and the IOPS group IP multicast address may be pre-defined in the MC services UEs.

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**Figure 8.1.3.2-1: IOPS MC service group ID management (IP connectivity functionality)**

8.1.4 Mission Critical user identity (MC ID)

The selective user(s) within the IOPS cell(s) may use the MC ID to gain access to the MC system through limited backhaul, which the selective user authentication to access.

8.1.5 MC service user identity (MC service ID)

The selective user(s) within the IOPS cell(s) may use the MC ID to gain access to the relevant MC service server(s) through limited backhaul, to request or receive MC services.

8.1.6 MC service group identity (MC service group ID)

The selective user(s) within the IOPS cell(s) may use the MC service group ID to gain access to the relevant MC service groups through limited backhaul, to request or receive MC group services.

NOTE: The MC-ID, MC service ID and MC service group ID are intended to be used in limited backhaul provision, when selective users are pre-defined and when they initiate access towards the MC service servers. How to utilize the limited backhaul in other scenraios where the selective users are not pre-defined, is FFS.

\* \* \* End of Changes \* \* \* \*