**3GPP TSG- Meeting #**

**, , - Revision of S1-244036**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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 can be 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | At SA1 #107, location services user plane protocol (LCS-UPP) was defined as one of the 3GPP PS data off exempt services (S1-242492). A note was added to state that the exempt service for LCS-UPP in roaming is subject to operator’s agreement (NOTE 1c). Those changes remains technical incorrectness in accordance with Stage-2/3 functionalities and requires improvement. The ratonale is;   1. LCS-UPP as captured is a “protocol”, not a “service”. PS data off exemption is applied for a service, not a protocol. 2. The necessity of operator’s agreement on the PS data off exempt service in PLMN is not specific to LCS over U-plane, but valid for any other existing services that can be exempted from PS data off. Namely, two sets of PS data off exemt services; one is for HPLMN and the other for VPLMN, can be configured according to operator’s agreement. Hence, there is no need to emphasize the existing assumption specifically for LCS over U-plane. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * LCS-UPP is rephrased as a service. * Text in NOTE 1c is removed as it is not specific to LCS-UPP, but also for any other PS data off exempt services when UE is roaming. New text in NOTE 1c adds reference to TS 24.572. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | U-plane LCS as a PS data off exempt service in stage-1 spec remains misaligned with stage-2/3 specs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

# 10 3GPP PS Data Off

## 10.1 Description

3GPP PS Data Off is a feature which, when configured by the HPLMN and activated by the user, prevents transport via PDN connections in 3GPP access networks of all data packets except IP packets required by 3GPP PS Data Off Exempt Services.

## 10.2 Requirements

The 3GPP system shall provide a mechanism by which an operator can configure which operator services are defined as 3GPP PS Data Off Exempt Services for their own subscribers.

When 3GPP PS Data Off is activated in the UE, in order to preserve charging consistency:

- the UE shall inform the network that 3GPP PS Data Off is activated;

- the UE shall cease the sending of uplink IP Packets of all services that are not 3GPP PS Data Off Exempt Services via PDN connections in 3GPP access networks;

- the network shall cease the sending of downlink IP Packets to the UE for all services that are not 3GPP PS Data Off Exempt Services via PDN connections in 3GPP access networks;

- the UE shall cease the sending of uplink traffic over non-IP PDN types via PDN connections in 3GPP access networks; and

- the network shall cease the sending of downlink traffic over non-IP PDN types via PDN connections in 3GPP access networks.

NOTE 1: Disabling of traffic on both the uplink and downlink is needed in order to provide consistency of charging between HPLMN and VPLMN, as well as consistency between what the user expects and what the user may be billed for.

Each of the following operator services shall be configurable by the HPLMN operator to be part of the 3GPP PS Data Off Exempt Services:

- MMTel Voice;

- SMS over IMS;

- USSD over IMS (USSI);

- MMTel Video;

- Services over IMS Data Channel;

- Particular IMS services not defined by 3GPP, where each such IMS service is identified by an IMS communication service identifier;

- Device Management over PS;

- Management of USIM files over PS (e.g. via Bearer Independent Protocol); and

- IMS Supplementary Service configuration via the Ut interface using XCAP.

- LCS over User Plane (LCS-UP).

NOTE 1a: IMS Data Channel is defined in 3GPP TS 26.114[20].

NOTE 1b: Services over IMS Data Channel are treated as a whole to be exempt or not to be exempt. Usage of individual applications on the data channel can be controlled by operators when the PS Data Off Exempt of services over IMS Data Channel is on.

NOTE 1c: 3GPP PS Data Off Exempt for LCS-UP is defined in TS.24.572.

3GPP PS Data Off may be activated based on roaming status, and the HPLMN may configure up to two sets of 3GPP PS Data Off Exempt Services for its subscribers: one is used when in HPLMN and another when roaming.

NOTE 2: The updating to the sets of configured 3GPP Data Off Exempt Services in the VPLMNs and HPLMN is not guaranteed to take effect in real time. The updating to the sets of configured 3GPP Data Off Exempt Services in the UEs is not guaranteed take effect in real time.

The user should be made aware of the operator services that are 3GPP PS Data Off Exempt Services.

NOTE 3: The system can support falling back to operate over the CS domain in case an operator service is not configured to be a 3GPP PS Data Off Exempt Service and an equivalent CS domain operator service exists for the operator service.