**SA WG2 Meeting #165S2-24xxxxx**

**Hyderabad, India, October 14 – 18, 2024 (revision of S2-24xxxxx)**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **23.228** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **19.0.0** |  |
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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:***  | PS Data Off Exemption for Services over IMS DC |
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| ***Source to WG:*** | ZTE  |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | NG\_RTC\_Ph2 |  | ***Date:*** | 2024-10-04 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | Rel-19 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | Based on conclusion for KI of handling of PS Data Off exemption for services over IMS DC in TR 23.700-13, the following changes are proposed in TS 23.228:- List services over IMS DC as 3GPP PS Data Off Exempted Services.- Describe UE behaviour for handling PS Data Off exemption for services over IMS DC.- Describe IMS AS behaviour for handling PS Data Off exemption for services over IMS DC. |
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| ***Summary of change:*** | Update Annex X to support handling of PS Data Off exemption for services over IMS DC. |
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| ***Consequences if not approved:*** | PS Data Off exemption for services over IMS DC will not be supported. |
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| ***Clauses affected:*** | Annex X |
|  |  |
|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*FIRST CHANGE*

Annex X (normative):
IMS 3GPP PS Data Off Service Accessibility

# X.1 General

3GPP PS Data Off is an optional feature. When activated by the user and when the network supports the feature, this feature allows control of the IMS services and more broadly SIP based services using the IMS framework that the user is allowed to access, for both originating and terminating sessions.

The list of 3GPP PS Data Off Exempted Services is configured by the HPLMN in the UE and in the network for enforcement. The list of SIP based service can include any one or any combination of the following services:

- MMTel Voice;

- SMS over IMS;

- MMTel Video;

- USSI;

- 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.

NOTE: "Services over IMS Data Channel" is configured as a whole service in the list of 3GPP PS Data Off Exempted Services.

# X.2 UE Behaviour

## X.2.1 UE 3GPP PS Data Off Status Reporting

The UE shall include an indication that depicts the 3GPP PS Data Off status (active/inactive) at initial IMS registration, and subsequent to that, any time the end user changes the 3GPP PS Data Off status in a (re-)REGISTER request. In all these registration requests the UE shall register the SIP based services that are configured in the UE.

NOTE: When the 3GPP PS Data Off status is reported, the configured SIP based services in UE are registered as defined in clause B.3.1.0 of TS 24.229 [10a].

The UE and the network shall ensure that the proper services are enforced in accordance with the 3GPP PS Data Off status.

## X.2.2 UE Provisioning

The UE may be provisoned by HPLMN with up to two enumerated lists of SIP-based services that are 3GPP PS Data Off exempted either via Device Management or in the UICC, one list is valid for the UEs camping in the home PLMN and the other list is valid for any VPLMN the UE is roaming in. When the UE is configured only with a single list, without an indication to which PLMNs the list is applicable, then this list is valid for the home PLMN and any PLMN the UE is roaming in.

A UE provisioned with an updated list shall enforce the updated list immediately.

## X.2.3 UE Enforcement of 3GPP SIP-Based 3GPP PS Data Off Exempt Services

When the UE changes its 3GPP PS Data Off status from inactive to active, the UE shall ensure that only the 3GPP PS Data Off Exempted Services in the provisioned list are allowed to be transported, and the corresponding IP uplink packets shall be sent accordingly as follows:

- The UE shall prevent sending of UE-originating SIP requests which are for services other than the 3GPP PS Data Off Exempted Services configured in the UE via device management or in the UICC.

- The UE shall prevent sending of SDP offers and SDP answers with media streams for the media types other than those related to the 3GPP PS Data Off Exempted Services configured via device management or in the UICC.

- A UE shall immediately stop sending any media packets and shall terminate all ongoing sessions for all SIP-based services that are not 3GPP PS Data Off Exempt.

- A UE provisioned with an updated list shall enforce the updated list immediately. To that effect, the UE shall immediately stop sending any media packets and terminate all ongoing SIP-based sessions handling the 3GPP PS Data Off Exempt Service(s) removed from the list.

- A UE shall terminate all bootstrap and application data channels if Services over IMS DC is not configured as an exempted service and PS Data Off is activated in the UE. If there is IMS DC session including audio/video media while audio and/or video media is exempted, the UE shall keep only exempted audio and/or video media and release IMS DC.

# X.3 Network Behaviour

## X.3.1 Network Update to 3GPP PS Data Off Exempted Services

The HPLMN network shall provision in the UE either via Device Management or in the UICC the lists of 3GPP PS Data Off Exempt Services. Up to two lists are provisioned in the UE for that purpose: one list is used when the UE is at home, while the second list is used when the UE is roaming in any visited PLMN.

The information shall be provisioned in the UE prior to enabling the 3GPP PS Data Off Service. Any change to either one or both lists shall immediately be sent to the UE for enforcement.

## X.3.2 Network Enforcement of SIP-Based 3GPP PS Data Off Exempted Services

Application Servers implementing the SIP-based services shall enforce the SIP based 3GPP PS Data Off Exempted services for all UEs.

Each Application Server shall be configured with up to two lists of 3GPP PS Data Off Exempt Services, one list for non-roaming users, and the other list for users roaming in the various VPLMNs with whom roaming agreements exist.

The AS shall become aware of the UE 3GPP Data Off status (active/inactive) at IMS (re-)Registration through third party registration. If the UE has changed its 3GPP PS Data Off status from inactive to active, the AS shall ensure that only SIP-based services which are part of the SIP-based 3GPP PS Data Off Exempt Services are permitted.

If the UE has changed its 3GPP PS Data Off status from active to inactive, the AS shall also let through the terminating requests to the UE for services that were not Data Off exempt.

NOTE 1: The AS could be implemented in an existing AS e.g. SCC AS or distributed across other AS's.

The IMS AS shall terminate all bootstrap and application data channels, if Services over IMS DC is not configured as an exempted service and PS Data Off is activated in the UE. If there is IMS DC session with audio/video media while audio and/or video media is exempted, the IMS AS shall ensure that only exempted audio and/or video media is permitted.

The IMS AS may further notify the DCSF about the PS Data Off status for Services over IMS Data Channel.

NOTE 2: The operator needs to ensure coordinated lists of 3GPP Data Off Exempt services provisioned in the UE and configured the network.

*END OF CHANGES*