**3GPP TSG-CT WG1 Meeting #134-eC1-221796**

**E-Meeting, 17th – 25th February 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.391** | **CR** | **0006** | **rev** | **1** | **Current version:** | **16.0.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | SNPN configuration for USSI | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNPN | | | | |  | ***Date:*** | | | 2022-02-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The USSI MO needs to be extended to accommodate SNPN configuration | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Added SNPN configuration in the MO. Modified figures and DDF accordingly.  Changed possition of a <Get/> element in the DTD to make the schema valid. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing functionality | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.2, 4, 5.x1 (new), 5.x2 (new), 5.x3 (new), 5.x4 (new), 5.x5 (new), 5.x6 (new), 5.x7 (new), Annex A. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Rev1: Removed the leaf USSD\_using\_CS\_domain\_only (fig change, subclause removed, DDF modified). | | | | | | | | |

**\*\*\*\*\*\*\***

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

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] OMA-ERELD-DM-V1\_2-20070209-A: "Enabler Release Definition for OMA Device Management, Version 1.2".

[3] 3GPP TS 24.390: "Unstructured Supplementary Service Data (USSD) using IP Multimedia (IM) Core Network (CN) subsystem IMS; Stage 3".

[4] 3GPP TS 23.221: "Architectural requirements".

[5] 3GPP TS 24.090: "Unstructured Supplementary Service Data (USSD); Stage 3".

[6] 3GPP TS 23.003: "Numbering, addressing and identification".

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

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

CN Core Network

DDF Device Description Framework

DM Device Management

EHPLMN Equivalent Home Public Land Mobile Network

HPLMN Home Public Land Mobile Network

IM IP Multimedia

IMS IP Multimedia core network Subsystem

IP Internet Protocol

MO Management Object

OMA Open Mobile Alliance

SIP Session Initiation Protocol

SNPN Stand-alone Non-Public Network

UE User Equipment

USSD Unstructured Supplementary Service Data

USSI USSD using IMS

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

# 4 USSI MO

The USSI MO is used to manage settings of the UE for USSI. The USSI MO covers configuration parameters for a UE that supports the USSI capabilities specified in 3GPP TS 24.390 [3].

The MO identifier is: urn:oma:mo:ext-3gpp-ussi:1.0.

Protocol compatibility: This MO is compatible with OMA DM 1.2.



Figure 4.1: USSI MO

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

## 5.x1 /*<X>*/SNPN\_Configuration

This interior node contains configuration parameters regarding a UE operating in SNPN access operation mode.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get, Replace

- Values: N/A

## 5.x2 /*<X>*/SNPN\_Configuration/<X>

This interior node acts as a placeholder for a list of:

a) SNPN identity; and

b) configuration parameters.

NOTE: For each of the elements in the list, a) must be present and at least one parameter of b) needs to appear.

A configuration parameter in an /<X>/SNPN\_Configuration/<X> node other than the SNPN\_identifier, is applicable when the UE selects an entry of "list of subscriber data":

a) with the SNPN identity of the subscribed SNPN which is the same as the SNPN identity in the SNPN\_identifier leaf.

- Occurrence: OneOrMore

- Format: node

- Access Types: Get, Replace

- Values: N/A

## 5.x3 /*<X>*/SNPN\_Configuration/<X>/SNPN\_identifier

This leaf indicates the SNPN identity of the subscribed SNPN for which the list of configuration parameters are applicable.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: <PLMN><NID>

The PLMN and NID are in the format defined by 3GPP TS 23.003 [6], with each digit of the MCC and MNC of the PLMN and each digit of the assignment mode and NID value of the NID encoded as an ASCII character.

## 5.x4 /*<X>*/SNPN\_Configuration/<X>/3GPP\_PS\_data\_off

The interior node contains configuration parameters for 3GPP PS data off.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get, Replace

- Values: N/A

## 5.x5 /*<X>*/SNPN\_Configuration/<X>/3GPP\_PS\_data\_off/ USSI\_exempt

The leaf indicates whether the USSI is a 3GPP PS data off exempt service.

- Occurrence: One

- Format: bool

- Access Types: Get, Replace

- Values: 0, 1

0 - Indicates that the USSI is not a 3GPP PS data off exempt service.

1 - Indicates that the USSI is a 3GPP PS data off exempt service.

NOTE: This MO is used when the UE is in the subscribed SNPN, or the UE is in the non-subscribed SNPN and the USSI\_non-subscribed\_exempt node is not configured.

## 5.x6 /*<X>*/SNPN\_Configuration/<X>/3GPP\_PS\_data\_off/ USSI\_non-subscribed\_exempt

The leaf indicates whether the USSI is a 3GPP PS data off exempt service when the UE is in the non-subscribed SNPN.

- Occurrence: ZeroOrOne

- Format: bool

- Access Types: Get, Replace

- Values: 0, 1

0 - Indicates that the USSI is not a 3GPP PS data off non-subscribed exempt service.

1 - Indicates that the USSI is a 3GPP PS data off non-subscribed exempt service.

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

Annex A (informative):  
USSI MO DDF

This DDF is the standardized minimal set. A vendor can define its own DDF for the complete device. This DDF can include more features than this minimal standardized version.

<?xml version="1.0" encoding="UTF-8"?>

<!DOCTYPE MgmtTree PUBLIC "-//OMA//DTD-DM-DDF 1.2//EN"

"http://www.openmobilealliance.org/tech/DTD/DM\_DDF-V1\_2.dtd">

<MgmtTree>

<VerDTD>1.2</VerDTD>

<Man>--The device manufacturer--</Man>

<Mod>--The device model--</Mod>

<Node>

<NodeName/>

<DFProperties>

<AccessType>

<Get/>

</AccessType>

<Description>USSI configuration parameters</Description>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<OneOrMore/>

</Occurrence>

<Scope>

<Permanent/>

</Scope>

<DFTitle>The Unstructured Supplementary Service Data (USSD) using IP Multimedia (IM) Core Network (CN) subsystem (IMS) Management Object (MO).</DFTitle>

<DFType>

<DDFName>urn:oma:mo:ext-3gpp-ussi:1.0</DDFName>

</DFType>

</DFProperties>

<Node>

<NodeName>Name</NodeName>

<DFProperties>

<AccessType>

<Get/>

</AccessType>

<DFFormat>

<chr/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>The name for the USSI setting.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

<Node>

<NodeName>USSD\_using\_CS\_domain\_only</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<null/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>The HPLMN operator preference for invocation of originating USSD requests.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

<Node>

<NodeName>3GPP\_PS\_data\_off</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Configuration parameters for 3GPP PS data off.</DFTitle>

<DFType>

<DDFName/>

</DFType>

</DFProperties>

<Node>

<NodeName>USSI\_exempt</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<bool/>

</DFFormat>

<Occurrence>

<One/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Whether the USSI is a 3GPP PS data off exempt service.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

<Node>

<NodeName>USSI\_roaming\_exempt</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<bool/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Whether the USSI is a 3GPP PS data off roaming exempt service.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

</Node>

<Node>

<NodeName>SNPN\_Configuration</NodeName>

<!-- The SNPN\_Configuration node starts here. -->

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Permanent/>

</Scope>

<DFTitle>SNPN configuration parameters</DFTitle>

<DFType>

<DDFName/>

</DFType>

</DFProperties>

<Node>

<NodeName/>

<DFProperties>

<AccessType>

<Get/>

</AccessType>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<OneOrMore/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Configuration parameters for an SNPN.</DFTitle>

<DFType>

<DDFName/>

</DFType>

</DFProperties>

<Node>

<NodeName>SNPN\_identifier</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<chr/>

</DFFormat>

<Occurrence>

<One/>

</Occurrence>

<Scope>

<Permanent/>

</Scope>

<DFTitle>The SNPN identifier.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

<Node>

<NodeName>3GPP\_PS\_data\_off</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Configuration parameters for 3GPP PS data off.</DFTitle>

<DFType>

<DDFName/>

</DFType>

</DFProperties>

<Node>

<NodeName>USSI\_exempt</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<bool/>

</DFFormat>

<Occurrence>

<One/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Whether the USSI is a 3GPP PS data off exempt service.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

<Node>

<NodeName>USSI\_non-subscibed\_exempt</NodeName>

<DFProperties>

<AccessType>

<Get/>

<Replace/>

</AccessType>

<DFFormat>

<bool/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>Whether the USSI is a 3GPP PS data off non-subscribed exempt service.</DFTitle>

<DFType>

<MIME>text/plain</MIME>

</DFType>

</DFProperties>

</Node>

</Node>

</Node>

</Node>

<Node>

<NodeName>Ext</NodeName>

<!-- The Extension node starts here. -->

<DFProperties>

<AccessType>

<Get/>

</AccessType>

<DFFormat>

<node/>

</DFFormat>

<Occurrence>

<ZeroOrOne/>

</Occurrence>

<Scope>

<Dynamic/>

</Scope>

<DFTitle>A collection of all Extension objects.</DFTitle>

<DFType>

<DDFName/>

</DFType>

</DFProperties>

</Node>

</Node>

</MgmtTree>

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