**3GPP TSG-CT WG4 Meeting #98eC4-203**

**E-Meeting, 02nd – 12th June 2020 revision of C4-203125**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0383** | **rev** | **2** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | PEI | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc16 | | | | |  | ***Date:*** | | | 2020-06-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | When PEI is absent from AMF registration requests, this indicates that the PEI did not change and hence shall not result in deletion of the PEI from the UDM/UDR. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify that a stored PEI in the UDM/UDR shall be kept when a PEI-less AMF registration is receved. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | PEI is deleted from the UDM/UDR | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.6.2.2, 6.2.6.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | No change in OpenAPI | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 6.2.6.2.2 Type: Amf3GppAccessRegistration

Table 6.2.6.2.2-1: Definition of type Amf3GppAccessRegistration

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Attribute name | | | Data type | | | P | | | Cardinality | | | Description | | |
| amfInstanceId | | | NfInstanceId | | | M | | | 1 | | | The identity the AMF uses to register in the NRF. | | |
| deregCallbackUri | | | Uri | | | M | | | 1 | | | A URI provided by the AMF to receive (implicitly subscribed) notifications on deregistration.  The deregistration callback URI shall have unique information within AMF set to identify the UE to be deregistered. | | |
| guami | | | Guami | | | M | | | 1 | | | This IE shall contain the serving AMF's GUAMI. | | |
| ratType | | | RatType | | | M | | | 1 | | | This IE shall indicate the current RAT type of the UE. | | |
| supportedFeatures | | | SupportedFeatures | | | O | | | 0..1 | | | See clause 6.2.8 | | |
| purgeFlag | | | PurgeFlag | | | O | | | 0..1 | | | This flag indicates whether or not the AMF has deregistered. It shall not be included in the Registration service operation. | | |
| pei | | | Pei | | | O | | | 0..1 | | | Permanent Equipment Identifier.  Absence of PEI indicates that the PEI from the previous registration did not change and that the UDM/UDR shall keep the stored value. | | |
| imsVoPs | | | ImsVoPs | | | O | | | 0..1 | | | Indicates per UE if "IMS Voice over PS Sessions" is homogeneously supported in all TAs in the serving AMF, or homogeneously not supported, or if support is non-homogeneous/unknown. Absence of this attribute shall be interpreted as "non homogenous or unknown" support. | | |
| amfServiceNameDereg | | | ServiceName | | | O | | | 0..1 | | | When present, this IE shall contain the name of the AMF service to which the Deregistration Notification is to be sent (see clause 6.5.2.2 of 3GPP TS 29.500 [4]). | | |
| pcscfRestorationCallbackUri | | | Uri | | | O | | | 0..1 | | | A URI provided by the AMF to receive (implicitly subscribed) notifications on the need for P-CSCF Restoration. | | |
| amfServiceNamePcscfRest | | | ServiceName | | | O | | | 0..1 | | | When present, this IE shall contain the name of the AMF service to which P-CSCF Restoration Notifications are to be sent (see clause 6.5.2.2 of 3GPP TS 29.500 [4]). This IE may be included if pcscfRestorationCallbackUri is present. | | |
| initialRegistrationInd | | | boolean | | | C | | | 0..1 | | | This IE shall be included by the AMF and set to true if the UE performs an Initial Registration. If the UE does not perform initial registration it shall be absent or set ot false. When present and true, the UDM+HSS is requested to cancel previous registration in MME/SGSN, if any.  Not applicable for Nudr and Nudm\_UECM GET operation. | | |
| backupAmfInfo | | | array(BackupAmfInfo) | | | C | | | 1..N | | | This IE shall be included if the NF service consumer is an AMF and the AMF supports the AMF management without UDSF for the first interaction with UDM.  The UDM uses this attribute to do an NRF query in order to invoke later services in a backup AMF, e.g. Namf\_EventExposure. | | |
| drFlag | | | DualRegistrationFlag | | | O | | | 0..1 | | | Dual Registration flag. When present and true, this flag indicates that the UDM+HSS is requested not to send S6a-CLR to the registered MME (if any). Otherwise, the registered MME (if any) shall be cancelled.  Not applicable for Nudr and Nudm\_UECM GET operation. | | |
| urrpIndicator | | | boolean | | | O | | | 0..1 | | | This IE indicates whether "UE\_REACHABILITY\_FOR\_SMS" event for this user has been subscribed or not:  - true: the event has been subscribed  - false, or absence of this attribute: the event for this user is currently not subscribed | | |
| amfEeSubscriptionId | | | string | | | C | | | 0..1 | | | Shall be present if urrpIndicator is true and the UDM has subscribed to UE-reachability notification at the AMF. It contains the subscription Id allocated by the AMF as received by the UDM as part of the HTTP "Location" header of the Namf\_EventExposure\_Subscribe response. The UDM shall make use of the Nudr\_DataRepository Update service operation (see 3GPP TS 29.504 [9]) to store the amfEeSubscription Id in the UDR. | | |
| epsInterworkingInfo | | | EpsInterworkingInfo | | | C | | | 0..1 | | | This IE shall be included if the AMF has determined per APN/DNN which PGW-C+SMF is selected for EPS interworking with N26 and the AMF supports EPS interworking of non-3GPP access. For each APN/DNN, only one PGW-C+SMF shall be selected by the AMF for EPS interworking. | | |
| ueSrvccCapability | | | boolean | | | O | | | 0..1 | | | This IE indicates whether the UE supports 5G SRVCC:  - true: 5G SRVCC is supported by the UE and AMF;  - false, or absence of this attribute: 5G SRVCC is not supported. | | |
| nid | | | Nid | | | C | | | 0..1 | | | Network ID. Shall be present if the serving network is a SNPN. | | |
| registrationTime | | | DateTime | | | C | | | 0..1 | | | Time of Amf3GppAccessRegistration. Shall be present when used on Nudr. | | |
| vgmlcAddressIpv4 | | | Ipv4Addr | | | O | | | 0..1 | | | When present, indicates VGMLC IPv4 address. | | |
| vgmlcAddressIpv6 | | | Ipv6Addr | | | O | | | 0..1 | | | When present, indicates VGMLC IPv6 address. | | |
| vgmlcFqdn | | | Fqdn | | | O | | | 0..1 | | | When present, indicates FQDN of the VGMLC IPv6 address. | | |
| NOTE: The urrpIndicator attribute shall only be exposed over the Nudr SBI, and it shall not be included by the AMF. | | | | | | | | | | | | | | |

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

##### 6.2.6.2.3 Type: AmfNon3GppAccessRegistration

Table 6.2.6.2.3-1: Definition of type AmfNon3GppAccessRegistration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| amfInstanceId | NfInstanceId | M | 1 | The identity the AMF uses to register in the NRF. |
| deregCallbackUri | Uri | M | 1 | A URI provided by the AMF to receive (implicitly subscribed) notifications on deregistration.  The deregistration callback URI shall have unique information within AMF set to identify the UE to be deregistered. | |
| guami | Guami | M | 1 | This IE shall contain the serving AMF's GUAMI. | |
| ratType | RatType | M | 1 | This IE shall indicate the current RAT type of the UE. | |
| supportedFeatures | SupportedFeatures | O | 0..1 | See clause 6.2.8 |
| purgeFlag | PurgeFlag | O | 0..1 | This flag indicates whether or not the AMF has deregistered. It shall not be included in the Registration service operation. |
| pei | Pei | O | 0..1 | Permanent Equipment Identifier  Absence of PEI indicates that the PEI from the previous registration did not change and that the UDM/UDR shall keep the stored value. |
| imsVoPs | ImsVoPs | M | 1 | Indicates per UE if "IMS Voice over PS Sessions" is supported, or not supported.  The value NON\_HOMOGENEOUS\_OR\_UNKNOWN is not applicable. |
| amfServiceNameDereg | ServiceName | O | 0..1 | When present, this IE shall contain the name of the AMF service to which the Deregistration Notification is to be sent (see clause 6.5.2.2 of 3GPP TS 29.500 [4]). |
| pcscfRestorationCallbackUri | Uri | O | 0..1 | A URI provided by the AMF to receive (implicitly subscribed) notifications on the need for P-CSCF Restoration. |
| amfServiceNamePcscfRest | ServiceName | O | 0..1 | When present, this IE shall contain the name of the AMF service to which P-CSCF Restoration Notifications are to be sent (see clause 6.5.2.2 of 3GPP TS 29.500 [4]). This IE may be included if pcscfRestorationCallbackUri is present. |
| backupAmfInfo | array(BackupAmfInfo) | C | 1..N | This IE shall be included if the NF service consumer is an AMF and the AMF supports the AMF management without UDSF for the first interaction with UDM.  The UDM uses this attribute to do an NRF query in order to invoke later services in a backup AMF, e.g. Namf\_EventExposure. |
| urrpIndicator | boolean | O | 0..1 | This IE indicates whether "UE\_REACHABILITY\_FOR\_SMS" event for this user has been subscribed or not:  - true: the event has been subscribed  - false, or absence of this attribute: the event for this user is currently not subscribed |
| amfEeSubscriptionId | string | C | 0..1 | Shall be present if urrpIndicator is true and the UDM has subscribed to UE-reachability notification at the AMF. It contains the subscription Id allocated by the AMF as received by the UDM as part of the HTTP "Location" header of the Namf\_EventExposure\_Subscribe response.  The UDM shall make use of the Nudr\_DataRepository Update service operation (see 3GPP TS 29.504 [9]) to store the amfEeSubscription Id in the UDR. |
| nid | Nid | C | 0..1 | Network ID. Shall be present if the serving network is a SNPN. |
| registrationTime | DateTime | C | 0..1 | Time of AmfNon3GppAccessRegistration. Shall be present when used on Nudr. |
| vgmlcAddressIpv4 | Ipv4Addr | O | 0..1 | When present, indicates VGMLC IPv4 address. |
| vgmlcAddressIpv6 | Ipv6Addr | O | 0..1 | When present, indicates VGMLC IPv6 address. |
| vgmlcFqdn | Fqdn | O | 0..1 | When present, indicates FQDN of the VGMLC IPv6 address. |
| NOTE: The urrpIndicator attribute shall only be exposed over the Nudr SBI, and it shall not be included by the AMF. | | | | |

\* \* \* \* End Of Change \* \* \* \*