**3GPP TSG-CT WG3 Meeting #130 *C3-234325***

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-233139)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.222** | **CR** | **0301** | **rev** | **3** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** | CAPIF ServiceApiDescription securityMethods extensibility requirements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, AT&T, Interdigital, Apple, Intel, Huawei, China Unicom, China Telecom, China Mobile, SIA, Verizon, ZTE | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NBI18 | | | | |  | ***Date:*** | | | 2023-09-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per the LS received from ETSI MEC in C3-225017 on CAPIF extensibility requirements, item a, CAPIF is requested to support the extensibility of the security methods enumeration. These extensions are however not applicable to AEFs defined by 3GPP (i.e. NEF, SCEF).  In CT3#128 meeting, a compromise for enum extensibility was approved for protocols and data formats, see C3-232625.  Externally-defined protocols, in particular non-HTTP ones, also require security methods that differ from those defined in 33.122 for HTTP/REST. Note that these methods would be defined outside 3GPP scope as confirmed by SA3 and would only be applicable to AEFs outside 3GPP scope.  Still there is the need to signal appropriately the fact that security methods outside the scope of 3GPP are used, for protocols defined externally, following the same pattern as approved in C3#128. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | An extension point for securityMethods in AefProfile and InterfaceDescription is proposed, aligned with the approved approach for data formats and protocols extensibility. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage 2 requirements not fully captured in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.2.4.2.3, 8.2.4.2.4, 8.2.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact the OpenAPI descriptions defined in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 8.2.4.2.3 Type: InterfaceDescription

Table 8.2.4.2.3-1: Definition of type InterfaceDescription

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ipv4Addr | Ipv4Addr | C | 0..1 | String identifying an IPv4 address (NOTE 1) |  |
| ipv6Addr | Ipv6Addr | C | 0..1 | String identifying an IPv6 address (NOTE 1) |  |
| fqdn | Fqdn | C | 0..1 | String containing a Fully Qualified Domain Name. (NOTE 1) | ExtendedIntfDesc |
| port | Port | O | 0..1 | Port |  |
| apiPrefix | string | O | 0..1 | A string representing an optional deployment-specific string (API prefix) in the form of a sequence of path segments that starts with a "/" character. | ExtendedIntfDesc |
| securityMethods | array(SecurityMethod) | C | 1..N | Security methods supported by the interface. It takes precedence over the security methods provided in AefProfile, for this specific interface. (NOTE 3) | VendorExt |
| NOTE 1: Exactly one of the attributes "ipv4Addr", "ipv6Addr" and "fqdn" shall be included.  NOTE 2: When the contents of this data type are used to construct the apiRoot of an API, they are used as described in clause 4.4.1 of 3GPP TS 29.501 [18].  NOTE 3: For AEFs defined by 3GPP, this attribute shall be present. For AEFs defined outside 3GPP (e.g. by other SDOs), the security methods to be used may alternatively be indicated via vendor-specific extensions to the InterfaceDescription data structure using the mechanism defined in clause 7.11. | | | | | |

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

##### 8.2.4.2.4 Type: AefProfile

Table 8.2.4.2.4-1: Definition of type AefProfile

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| aefId | string | M | 1 | AEF identifier |  |
| versions | array(Version) | M | 1..N | API version |  |
| protocol | Protocol | O | 0..1 | Protocol used by the API.  (NOTE 3) |  |
| dataFormat | DataFormat | O | 0..1 | Data format used by the API  (NOTE 3) |  |
| securityMethods | array(SecurityMethod) | O | 1..N | Security methods supported by the AEF for all interfaces. Certain interfaces may have different security methods supported in the attribute interfaceDescriptions. (NOTE 3) | VendorExt |
| domainName | string | O | 0..1 | Domain to which API belongs to  (NOTE 1) |  |
| interfaceDescriptions | array(InterfaceDescription) | O | 1..N | Interface details  (NOTE 1) |  |
| aefLocation | AefLocation | O | 0..1 | The location information (e.g. civic address, GPS coordinates, data center ID) where the AEF providing the service API is located. |  |
| NOTE 1: Only one of the attributes "domainName" or "interfaceDescriptions" shall be included.  NOTE 2: Notification or callback type of resource is not included.  NOTE 3: The protocol and/or data format and/or security methods to be used for AEFs defined outside 3GPP (e.g. by other SDOs) may alternatively be indicated via vendor-specific extensions to the AefProfile data structure using the mechanism defined in clause 7.11. | | | | | |

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

### 8.2.6 Feature negotiation

General feature negotiation procedures are defined in clause 7.8.

Table 8.2.6-1: Supported Features

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Feature number** | | **Feature Name** | | **Description** | |
| 1 | | ApiSupportedFeaturePublishing | | Indicates the support of publishing with supported feature for a service API. | |
| 2 | | PatchUpdate | | Indicates the support of the PATCH method for updating an APF published API resource. | |
| 3 | | ExtendedIntfDesc | | Indicates the support of extended interface descriptions. | |
| 4 | | MultipleCustomOperations | | Indicates the support of modelling multiple custom operations associated with a resource. | |
| 5 | | ProtocDataFormats\_Ext1 | | Indicates the support of additional protocols and data formats with standardized values.  (NOTE) | |
| 6 | | VendorExt | | Indicates the support for CAPIF vendor specific extensions | |
| NOTE: In this release of the specification, this feature is only applicable for AEFs defined outside 3GPP (e.g. by other SDOs). It does not apply to AEFs defined by 3GPP (e.g. SCEF, NEF). | | | | | |

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