**3GPP TSG- Meeting #**

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

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|  |
| ***Title:***  | Addition of ExternalASNType |
|  |  |
| ***Source to WG:*** | SA3-LI (OTD\_US, Softel Systems) |
| ***Source to TSG:*** |  |
|  |  |
| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | In some cases, it is useful to send information in the original encoding instead of mapping the information into specific ASN.1 parameters. This concept is used already with the SBIType and XMLType structures. There have been multiple cases when a similar structure for sending encoded payloads that use externally defined ASN.1. This concept is also used by RAN between their various specifications. This CR proposes a solution to allow the sending of payloads encoded using external ASN.1. Additionally, in order to prevent any ambiguity and allow for the proper decoding, it is proposed to include information about the schema used to encode the data with the encoded data. |
|  |  |
| ***Summary of change:*** | Addition of an ExternalASNType |
|  |  |
| ***Consequences if not approved:*** | It will continue to be required to map parameters, messages or fields defined within other groups to proprietary ASN.1 and in some cases information may be lost or pulled out of context. |
|  |  |
| ***Clauses affected:*** | M.1.1, M.1.2.1, M.1.2.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 ...  |
|  |  |
| ***Other comments:*** | TS 33.128 CR 0568 (s3i230505) defines clause D.5 referenced by this CR.This CR is associated with the following changes in the Forge:Merge request: [!224](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/224)Commit hash: [630cf8d8f906854309ee1313c162f7470f5ae363](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/224/diffs?commit_id=630cf8d8f906854309ee1313c162f7470f5ae363)  |
|  |  |
| ***This CR's revision history:*** | s3i230566 |

## \*\*\*\* START OF FIRST CHANGE (MAIN DOCUMENT) \*\*\*\*

## M.1.1 General

The subclauses below define LI structures to allow for the reuse of externally defined structures and schemas.

The current version of this specification the following specific encapsulated information types are defined:

- SBIType for carrying messages or parameters defined by 3GPP for use over the Service Based Interfaces (SBIs).

- XMLTypes for carrying messages or parameters in XML.

- MIMEEntity for carrying MIME Entities.

- MSRPMessage for sending information formated in an MSRP Message.

- ExternalASNType for sending information encoded using an externally defined ASN.1 schema.

The encapsulated information type of the outermost layer of the encapsulated payload shall be used to report the payload.

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*\*

### M.1.2.1 Simple Types for encapsulate information reporting

Table M.1.2.1-1: Simple Types for LI reporting of encapsulated information

|  |  |  |
| --- | --- | --- |
| Type name | Type definition | Description |
| EncapsulatedMSRP | UTF8String | Shall contain the entire MSRP Message in the original encoding. |
| SBIReference | UTF8String | JSON pointer that indicates the schema definition for the reported SBIValue. Shall be sent in the form of a JSON string value (see RFC 6901 [117], clause 5). When using the SBIType as a parameter within a record, the value of the SBI Reference shall be clearly indicated in the associated description field of the table describing the record. |
| SBIValue | UTF8String | Shall contain the entire value of the SBI Message or parameter being reported. |
| XMLNamespace | UTF8String | XML namespace that indicates the schema definition for the reported XMLValue. When using the XMLType as a parameter within a record, the value of the XML namespace shall be clearly indicated if known in the associated description field of the table describing the record. |
| XMLValue | UTF8String | The contents of the XML document being reported. Shall be sent as an XML document that matches the schema indicated by the xMLNamespace. |
| EncapsulatedMIMEEntity | UTF8String | Shall contain the entire MIME entity (see RFC 2045 [114] clause 2.4) in the original encoding. |
| MIMEContentType | UTF8String | Shall contain the MIME Content Type of the entity being described. |
| ExternalASNReference | UTF8String | The formal reference notation (as described in clause D.5) for the ASN.1 component used to encode the parameter or message reported in the EncodedASNValue. When using the ExternalASNType as a parameter within a record, the value of the ASNReference shall be clearly indicated if known in the associated description field of the table describing the record. |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*\*

### M.1.2.6 Type: MIMEPartIdentifier

Table M.1.2.6-1: Structure of the MIMEPartIdentifier type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| index | INTEGER | 1 | Indicates a MIME Body Part of a multipart MIME Message. When referring to the MIME Body Parts, the index starts at one. | M |

### M.1.2.X Type: ExternalASNValue

Table M.1.2.X-1: Structure of the ExternalASNType type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| moduleIdentifier | OBJECT IDENTIFIER | 0..1 | The Object Identifier of the ASN.1 module used to encode the parameter or message reported in the EncodedASNValue. When using the ExternalASNType as a parameter within a record, the value of the Object Identifier for the ASN.1 Module shall be clearly indicated if known in the associated description field of the table describing the record. Shall be present unless otherwise specified in the table describing the record using the ExternalASNType. | C |
| aSNReference | ExternalASNReference | 0..1 | The formal reference notation (as described in clause D.5) for the ASN.1 component used to encode the parameter or message reported in the EncodedASNValue. When using the ExternalASNType as a parameter within a record, the value of the ExternalASNReference shall be clearly indicated if known in the associated description field of the table describing the record. Shall be present if the OBJECT IDENTIFIER is not enough to unambiguously decode the EncodedASNValue. | C |
| encodedASNValue | ExternalASNValue | 1 | The contents of the encoded message or parameter being reported. | M |

### M.1.2.Y Type: ExternalASNValue

Table M.1.2.Y-1: Choices for the ExternalASNValue type

|  |  |  |
| --- | --- | --- |
| **Field name** | **Type** | **Description** |
| ber | OCTET STRING | Shall be used if the reported value is a BER, DER or CER encoded ASN.1 value. Shall be populated with the entire BER encoded payload. |
| alignedPER | OCTET STRING | Shall be used if the reported value is an aligned PER encoded ASN.1 value. Shall be populated with the entire PER encoded payload. |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*\*

## \*\*\*\* END OF MAIN DOCUMENT CHANGES \*\*\*\*

## \*\*\*\* START OF FIRST CHANGE (ATTACHMENTS) \*\*\*\*

---a/33128/r18/TS33128Payloads.asn
+++b/33128/r18/TS33128Payloads.asn

@@ -7053,4 +7053,23 @@ MIMEBody ::= CHOICE

7053 7053 bodyPart [2] MIMEPartIdentifier

7054 7054 }

7055 7055

 7056 + -- =======================================================

 7057 + -- Externally Defined Structures - External ASN Parameters

 7058 + -- =======================================================

 7059 + ExternalASNType ::= SEQUENCE

 7060 + {

 7061 + moduleIdentifier [1] OBJECT IDENTIFIER OPTIONAL,

 7062 + aSNReference [2] ExternalASNReference OPTIONAL,

 7063 + encodedASNValue [3] ExternalASNValue

 7064 + }

 7065 +

 7066 + ExternalASNReference ::= UTF8String

 7067 +

 7068 + ExternalASNValue ::= CHOICE

 7069 + {

 7070 + ber [1] OCTET STRING,

 7071 + alignedPer [2] OCTET STRING

 7072 + }

 7073 +

 7074 +

7056 7075 END

## \*\*\*\* START OF NEXT CHANGE (ATTACHMENTS) \*\*\*\*

## \*\*\*\* END OF ALL CHANGES \*\*\*\*