

**3GPP TSG CN Plenary Meeting #19
12- 14 March 2003, Birmingham, UK**

NP-030027

Source: CN5 (OSA)
Title: Rel-5 CRs 29.198-02 OSA API Part 2: Common data
Agenda item: 8.2
Document for: APPROVAL

Doc-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
NP-030027	29.198-02	030	-	Rel-5	Addition of Numbered List of Data Elements definition	F	5.1.1	N5-030081	OSA2
NP-030027	29.198-02	031	-	Rel-5	Correction of Exception Hierarchy to align with Java Realisation	F	5.1.1	N5-030066	OSA2
NP-030027	29.198-02	032	-	Rel-5	Promotion of TpDataSessionQosClass datatype definition to the Common Data Types	F	5.1.1	N5-030055	OSA2

CHANGE REQUEST

⌘ **29.198-02 CR 030** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Addition of Numbered List of Data Elements definition		
Source:	⌘ N5		
Work item code:	⌘ OSA2	Date:	⌘ 31/01/2003
Category:	⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction 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 .	Release:	⌘ REL-5 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ The specification does not include a definition of the referenced type "Numbered List of Data Elements"
Summary of change:	⌘ Addition of definition of the referenced type "Numbered List of Data Elements"
Consequences if not approved:	⌘ Inconsistent specification, lots of interoperability issues

Clauses affected:	⌘ 5.2.5														
Other specs affected:	<table border="1"><thead><tr><th>Y</th><th>N</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>Other core specifications</td><td>⌘</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>Test specifications</td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>O&M Specifications</td><td></td></tr></tbody></table>	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications	
Y	N														
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Other comments:	⌘														

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under [ftp://ftp.3gpp.org/specs/](http://ftp.3gpp.org/specs/) For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.2.5 Numbered List of Data Elements

This describes a data type which comprises an integer which indicates the total number of data elements in the set (the *number* part), and an **ordered** set of data elements (the *data* part). *List* data types can contain duplicate data elements.

EXAMPLE: The TpStringList data type may be defined in C++ as:

```
typedef struct {  
    TpInt32 Number;  
    TpString List[Number];  
} TpStringList;
```

CHANGE REQUEST

⌘ **29.198-02 CR 032** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Promotion of TpDataSessionQosClass dat type definition to the Common Data Types		
Source:	⌘ N5		
Work item code:	⌘ OSA2	Date:	⌘ 31/01/2003
Category:	⌘	Release:	⌘ REL-5
Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:	
F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)		2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)	
Detailed explanations of the above categories can be found in 3GPP TR 21.900 .			

Reason for change:	⌘ QoS class reporting functionality has been included in Multi Media Call Control, reusing a data type from Data Session Control. This has now become a common data type.		
Summary of change:	⌘ Propote data type definition of TpDataSessionQosClass to the Common Data Types		
Consequences if not approved:	⌘ Duplication of data types, giving rise to maintenance problems.		

Clauses affected:	⌘ 5.8										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	X	X	X	X	Other core specifications Test specifications O&M Specifications	⌘
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Other comments:	⌘										

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5.7 Price-related Data definitions

5.7.1 TpPrice

This data type is identical to a [TpString](#). It specifies price information. This is defined as a string of characters (digits) in the following format:

DDDDDD.DD

5.7.2 TpAoCInfo

Defines the Sequence of Data Elements that specify the Advice Of Charge information to be sent to the terminal.

Sequence Element Name	Sequence Element Type	Description
ChargeOrder	TpAoCOrder	Charge order
Currency	TpString	Currency unit according to ISO-4217:1995 [8]

5.7.3 TpAoCOrder

Defines the Tagged Choice of Data Elements that specify the charge plan for the call.

Tag Element Type
TpCallAoCOrderCategory

Tag Element Value	Choice Element Type	Choice Element Name
P_CHARGE_ADVICE_INFO	TpChargeAdviceInfo	ChargeAdviceInfo
P_CHARGE_PER_TIME	TpChargePerTime	ChargePerTime
P_CHARGE_NETWORK	TpString	NetworkCharge

5.7.4 TpCallAoCOrderCategory

Name	Value	Description
P_CHARGE_ADVICE_INFO	0	Set of GSM Charge Advice Information elements according to 3GPP TS 22.024 [5]
P_CHARGE_PER_TIME	1	Charge per time
P_CHARGE_NETWORK	2	Operator specific charge plan specification, e.g. charging table name / charging table entry

5.7.5 TpChargeAdviceInfo

Defines the Sequence of Data Elements that specify the two sets of Advice of Charge parameters. The first set defines the current tariff. The second set may be used in case of a tariff switch in the network.

Sequence Element Name	Sequence Element Type	Description
CurrentCAI	TpCAIElements	Current tariff
NextCAI	TpCAIElements	Next tariff after tariff switch

5.7.6 TpCAIElements

Defines the Sequence of Data Elements that specify the Charging Advice Information elements according to 3GPP TS 22.024 [5].

Sequence Element Name	Sequence Element Type	Description
UnitsPerInterval	TpInt32	Units per interval
SecondsPerTimeInterval	TpInt32	Seconds per time interval
ScalingFactor	TpInt32	Scaling factor
UnitIncrement	TpInt32	Unit increment
UnitsPerDataInterval	TpInt32	Units per data interval
SegmentsPerDataInterval	TpInt32	Segments per data interval
InitialSecsPerTimeInterval	TpInt32	Initial secs per time interval

5.7.7 TpChargePerTime

Defines the Sequence of Data Elements that specify the time based charging information.

Sequence Element Name	Sequence Element Type	Description
InitialCharge	TpInt32	Initial charge amount (in currency units * 0.0001)
CurrentChargePerMinute	TpInt32	Current tariff (in currency units * 0.0001)
NextChargePerMinute	TpInt32	Next tariff (in currency units * 0.0001) after tariff switch Only used in setAdviceOfCharge()

5.7.8 TpLanguage

This data type is identical to a TpString, and defines the language. In case an indication for the language is not needed an empty string shall be used. In other cases valid language strings are defined in ISO 639 [11].

[5.8 Data Types Common Across Call Control and Data Session Control](#)

[5.8.1 TpDataSessionQoSClass](#)

[Defines the Quality of Service \(QoS\) classes. This could be for a data session or multi media call session, for example.](#)

<u>Name</u>	<u>Value</u>	<u>Description</u>
<u>P_DATA_SESSION_QOS_CLASS_CONVERSATIONAL</u>	<u>0</u>	<u>Specifies the Conversational QoS class, as specified in 3G TS 23.107.</u>
<u>P_DATA_SESSION_QOS_CLASS_STREAMING</u>	<u>1</u>	<u>Specifies the Streaming QoS class, as specified in 3G TS 23.107.</u>
<u>P_DATA_SESSION_QOS_CLASS_INTERACTIVE</u>	<u>2</u>	<u>Specifies the Interactive QoS class, as specified in 3G TS 23.107.</u>
<u>P_DATA_SESSION_QOS_CLASS_BACKGROUND</u>	<u>3</u>	<u>Specifies the Background QoS class, as specified in 3G TS 23.107.</u>

[Note: Because of commonality across multiple interface specifications, this data type is promoted from Data Session Control Data Types to Common Data Types. For backward compatibility reasons, the naming of the data type remains unmodified, and hence continues to refer to Data Session Control.](#)

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CHANGE REQUEST

⌘ **29.198-02 CR 031** ⌘ rev **-** ⌘ Current version: **5.1.1** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correction of Exception Hierarchy to align with Java Realisation		
Source:	⌘ N5		
Work item code:	⌘ OSA2	Date:	⌘ 31/01/2003
Category:	⌘ F	Release:	⌘ REL-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction 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 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Correct the specification to state that the new exception hierarchy is independent of the exceptions defined by method signatures.
Summary of change:	⌘ This contribution changes the explanatory text around use of exceptions when invoking upon a Parlay object clarifying that detailed exceptions rather than abstract exceptions will be thrown by methods. Note, a similar correction has already been accepted into the Parlay Java Realisation Rulebook. In addition, the sentence stating that the new abstract exceptions should be packaged in the "org.csapi " namespace has been deleted - they instead should be in the package to which they are most relevant.
Consequences if not approved:	⌘ Base Parlay API and Java Realisation rulebook provide conflicting recommendations.

Clauses affected:	⌘ Annex D										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">✓</td> </tr> </table>	Y	N		✓		✓		✓	Other core specifications	⌘
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Annex D (normative): Exception Hierarchy

This clause arranges the OSA exceptions as a set of hierarchies that, depending upon the technology realisation, may or may not be utilised to simplify ~~method signatures and~~ software developers' code.

If the exception hierarchy is used in a particular realisation, the following lists all the OSA abstract exceptions:

- TpCommonExceptions
- TpInvalidArgumentException
- TpDataSessionException
- TpAccountException
- TpConnectivityException
- TpFrameworkException
- TpMobilityException
- TpMessagingException
- TpPamException
- TpPolicyException

If the exception hierarchy is being used in a particular realisation, [a software developer will have the option to catch these abstract exceptions and/or the detailed exceptions which extend them.](#) ~~are the only types of exceptions that may be raised by the OSA methods. All abstract exceptions should be packaged in the org.esapi namespace.~~

The following diagrams show all the OSA detailed exceptions, and how they relate to the abstract exceptions shown previously.

~~If the exception hierarchy is being used in a particular realisation, the detailed exceptions should not be part of any of the OSA method signatures. If an OSA method needs to raise a detailed exception, it is done so by raising the corresponding abstract exception.~~ It should be noted that for those OSA methods that raise TpCommonExceptions, the P_RESOURCES_UNAVAILABLE, P_TASK_CANCELLED, P_TASK_REFUSED, P_METHOD_NOT_SUPPORTED, P_INVALID_STATE and P_NO_CALLBACK_ADDRESS_SET detailed exceptions should be raised [individually in the method signature.](#) ~~The software developer will thus have the option of catching them individually or catching the~~ [by raising the](#) TpCommonExceptions abstract exception.