

**3GPP TSG CN Plenary Meeting #17  
4 - 6 September 2002, Biarritz, FRANCE**

**NP-020432**

**Source:** CN5 (OSA)  
**Title:** Rel-5 CRs 29.198-05 OSA API Part 5: Generic user interaction  
**Agenda item:** 8.2  
**Document for:** APPROVAL

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Doc-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
NP-020432	29.198-05	018	-	Rel-5	Add text to clarify requirements on support of methods	F	5.0.0	N5-020718	OSA2
NP-020432	29.198-05	019	-	Rel-5	Correction on use of NULL in User Interaction API	A	5.0.0	N5-020748	OSA2
NP-020432	29.198-05	020	-	Rel-5	Correction to TpUIInfo data type to support binary data for SMS services	A	5.0.0	N5-020750	OSA2

## CHANGE REQUEST

⌘ **29.198-05 CR 018** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ Add text to clarify requirements on support of methods				
<b>Source:</b>	⌘ CN5				
<b>Work item code:</b>	⌘ OSA2	<b>Date:</b>	⌘ 12/07/2002		
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ REL-5		
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:		
	<b>F</b> (correction)		2	(GSM Phase 2)	
	<b>A</b> (corresponds to a correction in an earlier release)		R96	(Release 1996)	
	<b>B</b> (addition of feature),		R97	(Release 1997)	
	<b>C</b> (functional modification of feature)		R98	(Release 1998)	
	<b>D</b> (editorial modification)		R99	(Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		REL-4	(Release 4)	
			REL-5	(Release 5)	

<b>Reason for change:</b>	⌘	It is not clear in the OSA Specifications what exactly is meant by support of a method: is it sufficient to include such code as to respond correctly to a method invocation with the exception P_METHOD_NOT_SUPPORTED, or is it required to support the functionality described and defined by the method?
<b>Summary of change:</b>	⌘	Add text to clause 4 to indicate that support or implementation of a method requires that the functionality of the method be supported or implemented.
<b>Consequences if not approved:</b>	⌘	Different vendors and application developers will each build equipment and applications which they claim to be conformant, but which will never interwork.

<b>Clauses affected:</b>	⌘	4
<b>Other specs affected:</b>	⌘	Other core specifications ⌘
	<input type="checkbox"/>	Test specifications
	<input type="checkbox"/>	O&M Specifications
<b>Other comments:</b>	⌘	

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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/> 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.

## 4 Generic and Call User Interaction SCF

The Generic User Interaction service capability feature is used by applications to interact with end users. It consists of two interfaces:

- 1) User Interaction Manager, containing management functions for User Interaction related issues;
- 2) Generic User Interaction, containing methods to interact with an end-user.

The Generic User Interaction service capability feature is described in terms of the methods in the Generic User Interaction interfaces.

The following table gives an overview of the Generic User Interaction methods and to which interfaces these methods belong.

**Table 1: Overview of Generic User Interaction interfaces and their methods**

User Interaction Manager	Generic User Interaction
createUI	sendInfoReq
createUICall	sendInfoRes
createNotification	sendInfoErr
destroyUINotification	sendInfoAndCollectReq
reportNotification	sendInfoAndCollectRes
userInteractionAborted	sendInfoAndCollectErr
userInteractionNotificationInterrupted	release
userInteractionNotificationContinued	UserInteractionFaultDetected
changeNotification	
getNotification	
enableNotifications	
disableNotifications	

The following table gives an overview of the Call User Interaction methods and to which interfaces these methods belong.

**Table 2: Overview of Call User Interaction interfaces and their methods**

User Interaction Manager	Call User Interaction
As defined for the Generic User Interaction SCF	Inherits from Generic User Interaction and adds:
	recordMessageReq
	recordMessageRes
	recordMessageErr
	deleteMessageReq
	deleteMessageRes
	deleteMessageErr
	abortActionReq
	abortActionRes
	abortActionErr

The IpUI Interface provides functions to send information to, or gather information from the user, i.e. this interface allows applications to send SMS and USSD messages. An application can use this interface independently of other SCFs. The IpUICall Interface provides functions to send information to, or gather information from the user (or call party) attached to a call.

The following clauses describe each aspect of the Generic User Interaction Service Capability Feature (SCF).

The order is as follows:

- The Sequence diagrams give the reader a practical idea of how each of the SCFs is implemented.
- The Class relationships clause show how each of the interfaces applicable to the SCF, relate to one another

- The Interface specification clause describes in detail each of the interfaces shown within the Class diagram part. This clause also includes Call User interaction.
- The State Transition Diagrams (STD) show the transition between states in the SCF. The states and transitions are well-defined; either methods specified in the Interface specification or events occurring in the underlying networks cause state transitions.
- The Data Definitions clause show a detailed expansion of each of the data types associated with the methods within the classes. Note that some data types are used in other methods and classes and are therefore defined within the Common Data types part of this specification. .

An implementation of this API which supports or implements a method described in the present document, shall support or implement the functionality described for that method, for at least one valid set of values for the parameters of that method. Where a method is not supported by an implementation of a Service interface, the exception P METHOD NOT SUPPORTED shall be returned to any call of that method.

## CHANGE REQUEST

⌘ **29.198-05 CR 019** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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Proposed change affects: ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ Correction on use of NULL in User Interaction API		
<b>Source:</b>	⌘ CN5		
<b>Work item code:</b>	⌘ OSA2	<b>Date:</b>	⌘ 12/07/2002
<b>Category:</b>	⌘ <b>A</b> Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	<b>Release:</b>	⌘ <b>REL-5</b> 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)

<b>Reason for change:</b>	⌘ OMG IDL does not support NULL as a valid value for a data type; attempts to send a null value result in a marshalling exception and a gateway can never receive the call.
<b>Summary of change:</b>	⌘ TpUICollectCriteria data definition corrected to use an empty string rather than NULL, in description for field, EndSequence
<b>Consequences if not approved:</b>	⌘ Failure to correct the API shall result in vendor specific interpretation and interoperability issues.

<b>Clauses affected:</b>	⌘ 11.9;
<b>Other specs affected:</b>	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
<b>Other comments:</b>	⌘ Mirror CR of Rel-4 CR 29.198-05 (N5-020616)

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\*\*\*\*\* START OF FIRST CHANGE \*\*\*\*\*

## 11.9 TpUICollectCriteria

Defines the Sequence of Data Elements that specify the additional properties for the collection of information, such as the end character, first character timeout, inter-character timeout, and maximum interaction time.

Structure Element Name	Structure Element Type
MinLength	TpInt32
MaxLength	TpInt32
EndSequence	TpString
StartTimeout	TpDuration
InterCharTimeout	TpDuration

The structure elements specify the following criteria:

**MinLength:** Defines the minimum number of characters (e.g. digits) to collect.

**MaxLength:** Defines the maximum number of characters (e.g. digits) to collect.

**EndSequence:** Defines the character or characters which terminate an input of variable length, e.g. phone numbers.

**StartTimeout:** specifies the value for the first character time-out timer. The timer is started when the announcement has been completed or has been interrupted. The user should enter the start of the response (e.g. first digit) before the timer expires. If the start of the response is not entered before the timer expires, the input is regarded to be erroneous. After receipt of the start of the response, which may be valid or invalid, the timer is stopped.

**InterCharTimeOut:** specifies the value for the inter-character time-out timer. The timer is started when a response (e.g. digit) is received, and is reset and restarted when a subsequent response is received. The responses may be valid or invalid. the announcement has been completed or has been interrupted.

Input is considered successful if the following applies:

If the EndSequence is not present (i.e. ~~NULL~~an empty string):

- when the InterCharTimeOut timer expires; or
- when the number of valid digits received equals the MaxLength.

If the EndSequence is present:

- when the InterCharTimeOut timer expires; or
- when the EndSequence is received; or
- when the number of valid digits received equals the MaxLength.

In the case the number of valid characters received is less than the MinLength when the InterCharTimeOut timer expires or when the EndSequence is received, the input is considered erroneous.

The collected characters (including the EndSequence) are sent to the client application when input has been successful.

\*\*\*\*\* END OF FIRST CHANGE \*\*\*\*\*

## CHANGE REQUEST

⌘ **29.198-05 CR 020** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ Correction to TpUIInfo data type to support binary data for SMS services		
<b>Source:</b>	⌘ CN5		
<b>Work item code:</b>	⌘ OSA2	<b>Date:</b>	⌘ 12/07/2002
<b>Category:</b>	⌘ <b>A</b> Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	<b>Release:</b>	⌘ <b>REL-5</b> 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)

<b>Reason for change:</b>	⌘ The User Interaction is currently supported with mappings to MAP/CAP, including support for SMS delivery. Current SMS can support binary mode, whereas the existing API cannot be used to supply this data.
<b>Summary of change:</b>	⌘ Correct the definition of TpUIInfo to include support for binary data.
<b>Consequences if not approved:</b>	⌘ API is unable to support current network capabilities

<b>Clauses affected:</b>	⌘ 11.17; 11.18
<b>Other specs affected:</b>	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
<b>Other comments:</b>	⌘ Mirror CR of Rel-4 CR 29.198-05 (N5-020619)

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\*\*\*\*\* START OF FIRST CHANGE \*\*\*\*\*

### 11.17 TpUIInfo

Defines the Tagged Choice of Data Elements that specify the information to send to the user.

Tag Element Type
TpUIInfoType

Tag Element Value	Choice Element Type	Choice Element Name
P_UI_INFO_ID	TpInt32	InfoId
P_UI_INFO_DATA	TpString	InfoData
P_UI_INFO_ADDRESS	TpURL	InfoAddress
P_UI_INFO_BIN_DATA	TpOctetSet	InfoBinData

The choice elements represent the following:

**InfoID:** defines the ID of the user information script or stream to send to an end-user. The values of this data type are operator specific.

**InfoData:** defines the data to be sent to an end-user’s terminal. The data is free-format and the encoding is depending on the resources being used..

**InfoAddress:** defines the URL of the text or stream to be sent to an end-user’s terminal.

**InfoBinData:** defines the binary data to be sent to an end-user’s terminal. The data is a free-format, 8-bit quantity that is guaranteed not to undergo any conversion when transmitted.

### 11.18 TpUIInfoType

Defines the type of the information to be sendt to the user.

Name	Value	Description
P_UI_INFO_ID	0	The information to be send to an end-user consists of an ID
P_UI_INFO_DATA	1	The information to be send to an end-user consists of a data string
P_UI_INFO_ADDRESS	2	The information to be send to an end-user consists of a URL.
P_UI_INFO_BIN_DATA	3	The information to be sent to an end-user consists of a 8 bit binary data set

\*\*\*\*\* END OF FIRST CHANGE \*\*\*\*\*