

3GPP TSG CN Plenary Meeting #22
10 - 12 December 2003, Maui, Hawaii, USA

NP-030545

Source: CN5 (OSA)
Title: Rel-4/5 CRs 29.198-05 OSA API Part 5: Generic user interaction
Agenda item: 7.10
Document for: APPROVAL

Doc-1st-Level	Spec	CR	R	Ph	Subject	Cat	Version-Current	Doc-2nd-Lev	WI
NP-030545	29.198-05	040	-	Rel-4	Correction to UI service responseRequested logic	F	4.7.0	N5-030396	OSA1
NP-030545	29.198-05	041	-	Rel-5	Correction to UI service responseRequested logic	A	5.4.0	N5-030397	OSA1

CHANGE REQUEST

⌘ **29.198-05 CR 040** ⌘ rev - ⌘ Current version: **4.7.0** ⌘

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

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

Title:	⌘ Correction to UI service responseRequested logic		
Source:	⌘ CN5 (AePONA – Eamonn Murray)		
Work item code:	⌘ OSA1	Date:	⌘ 18/07/2003
Category:	⌘ F	Release:	⌘ REL-4
	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:	⌘ The responseRequested paramater currently only has meaning for successful results and not errors in the case of the sendInfoReq method. In addition the same parameter may also be interpreted inappropriately when used with the sendInfoAndCollectReq method as the corresponding result method is the only mechanism for returning the collected information, and therefore must be generated in response to the request. The current lack of clarity in the specification may result in different functional implementations of the interface and model, from application and SCS perspective.
Summary of change:	⌘ Add clarification on intended behaviour of the sendInfoErr method with respect to the responseRequested parameter, and clarify that P_UI_RESPONSE_REQUIRED does not influence sendInfoAndCollectReq behaviour.
Consequences if not approved:	⌘ Specifications are open to differing interpretations, and interoperability problems shall occur.

Clauses affected:	⌘ 8.3, 8.4, 9.2, 9.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ Rel-5 29.198-05	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Rel-5 Mirror CR in N5-030397.										

How to create CRs using this form:

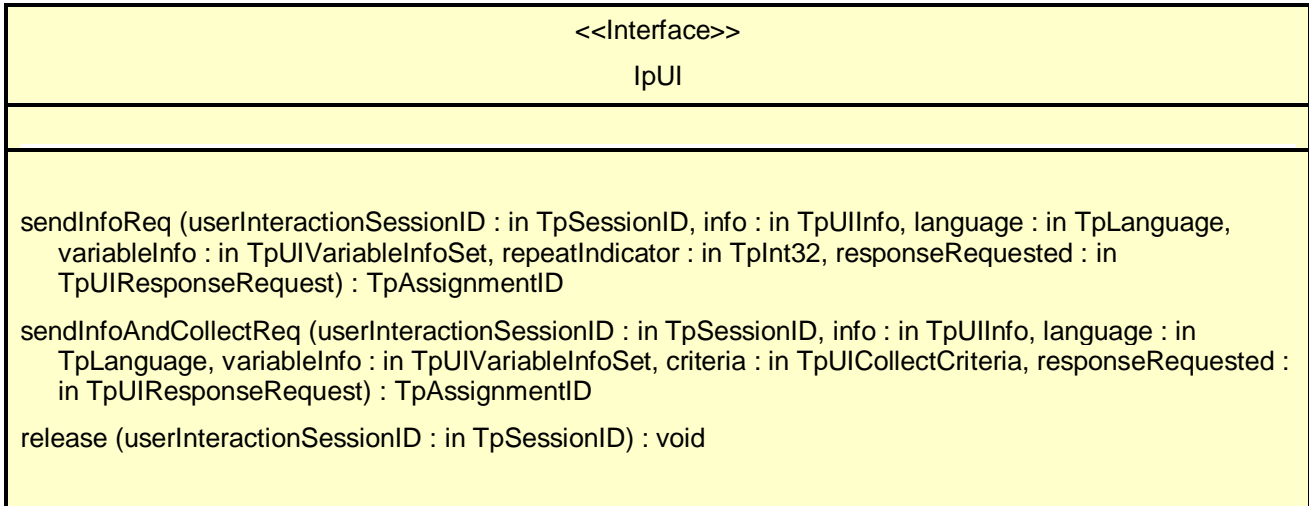
Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

***** Start of Change # 1 *****

8.3 Interface Class IpUI

Inherits from: IpService.

The User Interaction Service Interface provides functions to send information to, or gather information from the user. An application can use the User Interaction Service Interface independently of other services.



Method

sendInfoReq ()

This asynchronous method plays an announcement or sends other information to the user.

Returns: assignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

info : in TpUIInfo

Specifies the information to send to the user. This information can be:

- an infoID, identifying pre-defined information to be send (announcement and/or text);
- a string, defining the text to be sent;
- a URL , identifying pre-defined information or data to be sent to or downloaded into the terminal.

language : in TpLanguage

Specifies the Language of the information to be send to the user.

variableInfo : in TpUIVariableInfoSet

Defines the variable part of the information to send to the user.

repeatIndicator : in TpInt32

Defines how many times the information shall be sent to the end-user. A value of zero (0) indicates that the announcement shall be repeated until the call or call leg is released or an abortActionReq() is sent.

responseRequested : in TpUIResponseRequest

Specifies if a response is required from the call user interaction service, and any action the service should take.

Returns

TpAssignmentID

Raises

TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE, P_ILLEGAL_ID, P_ID_NOT_FOUND

*Method***sendInfoAndCollectReq()**

This asynchronous method plays an announcement or sends other information to the user and collects some information from the user. The announcement usually prompts for a number of characters (for example, these are digits or text strings such as "YES" if the user's terminal device is a phone).

Returns: assignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

info : in TpUIInfo

Specifies the ID of the information to send to the user. This information can be:

- an infoID, identifying pre-defined information to be send (announcement and/or text);
- a string, defining the text to be sent;
- a URL , identifying pre-defined information or data to be sent to or downloaded into the terminal

language : in TpLanguage

Specifies the Language of the information to be send to the user.

variableInfo : in TpUIVariableInfoSet

Defines the variable part of the information to send to the user.

criteria : in TpUICollectCriteria

Specifies additional properties for the collection of information, such as the maximum and minimum number of characters, end character, first character timeout and inter-character timeout.

responseRequested : in TpUIResponseRequest

Specifies if a response is required from the call user interaction service, and any action the service should take. For this case it can especially be used to indicate e.g. the final request. [If P UI RESPONSE REQUIRED is not enabled by the](#)

application request, the user interaction shall nevertheless return either a `sendInfoAndCollectRes` or `sendInfoAndCollectErr` method to the application in response to this method invocation.

Returns

TpAssignmentID

Raises

TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE, P_ILLEGAL_ID, P_ID_NOT_FOUND, P_INVALID_CRITERIA, P_ILLEGAL_RANGE, P_INVALID_COLLECTION_CRITERIA

Method

release()

This method requests that the relationship between the application and the user interaction object be released. It causes the release of the used user interaction resources and interrupts any ongoing user interaction.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction created.

Raises

TpCommonExceptions, P_INVALID_SESSION_ID

8.4 Interface Class IpAppUI

Inherits from: IpInterface.

The User Interaction Application Interface is implemented by the client application developer and is used to handle generic user interaction request responses and reports.

<<Interface>> IpAppUI
sendInfoRes (userInteractionSessionID : in TpSessionID, assignmentID : in TpAssignmentID, response : in TpUIReport) : void sendInfoErr (userInteractionSessionID : in TpSessionID, assignmentID : in TpAssignmentID, error : in TpUIError) : void sendInfoAndCollectRes (userInteractionSessionID : in TpSessionID, assignmentID : in TpAssignmentID, response : in TpUIReport, collectedInfo : in TpString) : void sendInfoAndCollectErr (userInteractionSessionID : in TpSessionID, assignmentID : in TpAssignmentID, error : in TpUIError) : void userInteractionFaultDetected (userInteractionSessionID : in TpSessionID, fault : in TpUIFault) : void

*Method***sendInfoRes ()**

This asynchronous method informs the application about the completion of a sendInfoReq(). This response is called only if the responseRequested parameter of the sendInfoReq() method was set to P_UI~~CALL~~_RESPONSE_REQUIRED.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

response : in TpUIReport

Specifies the type of response received from the user.

*Method***sendInfoErr ()**

This asynchronous method indicates that the request to send information was unsuccessful. This response is called only if the responseRequested parameter of the sendInfoReq() method was set to P_UI_RESPONSE_REQUIRED. In the event that a response was not requested and the user interaction was unsuccessful the implementation of the service capability must handle the network error, however the error shall not be reported to the application as it requested no response.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

error : in TpUIError

Specifies the error which led to the original request failing.

*Method***sendInfoAndCollectRes ()**

This asynchronous method returns the information collected to the application.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

response : in TpUIReport

Specifies the type of response received from the user.

collectedInfo : in TpString

Specifies the information collected from the user.

Method

sendInfoAndCollectErr()

This asynchronous method indicates that the request to send information and collect a response was unsuccessful.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

error : in TpUIError

Specifies the error which led to the original request failing.

Method

userInteractionFaultDetected()

This method indicates to the application that a fault has been detected in the user interaction.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the interface and sessionID of the user interaction service in which the fault has been detected.

fault : in TpUIFault

Specifies the fault that has been detected.

***** End of Change # 1 *****

***** Start of Change # 2 *****

9.2 State Transition Diagrams for IpUI

The state transition diagram shows the application view on the User Interaction object.

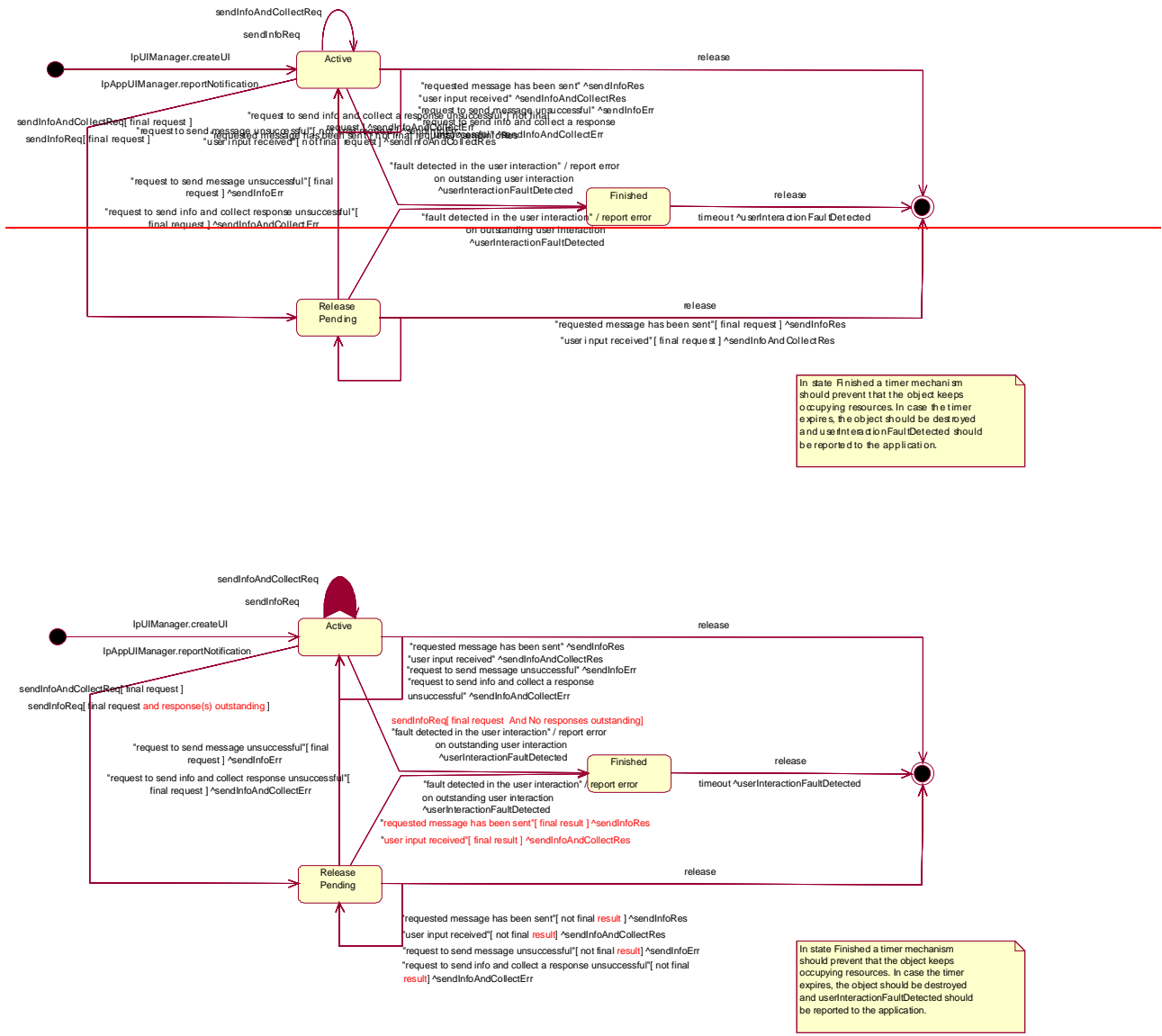


Figure : Application view on the UI object

***** End of Change # 2 *****

***** Start of Change # 3*****

9.3 State Transition Diagrams for IpUICall

The state transition diagram shows the application view on the Call User Interaction object.

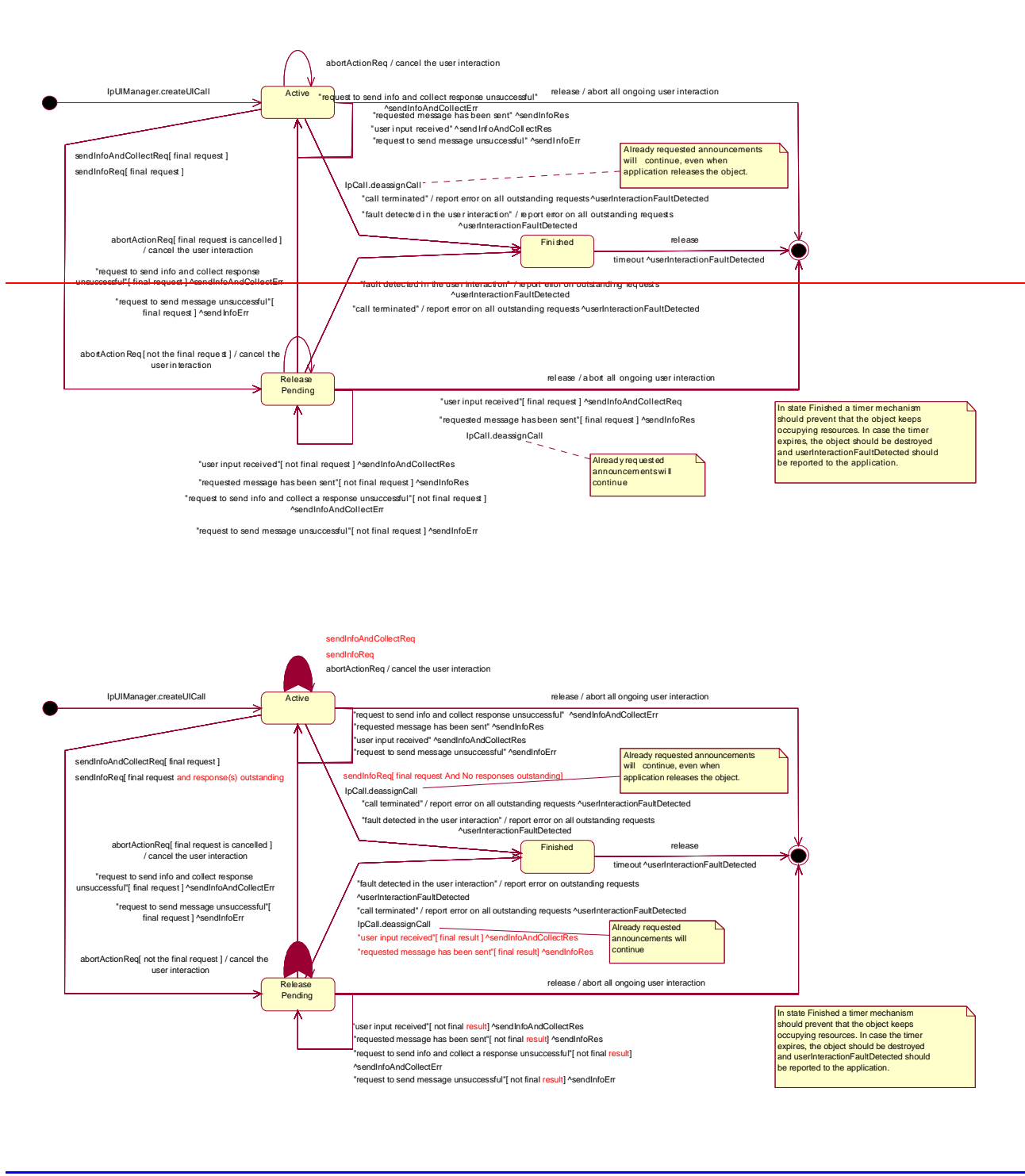


Figure : Application view on the UICall object

***** End of Change # 3*****

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Mar 2001	CN_11	NP-010134	047	--	CR 29.198: for moving TS 29.198 from R99 to Rel 4 (N5-010158)	3.2.0	4.0.0
Jun 2001	CN_12	NP-010330	001	--	Corrections to OSA API Rel4	4.0.0	4.1.0
Sep 2001	CN_13	NP-010468	002	--	Changing references to JAIN	4.1.0	4.2.0
Dec 2001	CN_14	NP-010598	003	--	Replace Out Parameters with Return Types	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	004	--	Correction of description of sendInfoRes()	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	005	--	Correction to handling of deassign on related object	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	006	--	Correction to Exceptions Raised in UI	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	007	--	Correction to values of TpUIInfoType	4.2.0	4.3.0
Mar 2002	CN_15	NP-020107	008	--	Add P_INVALID_INTERFACE_TYPE exception to IpService.setCallback() and IpService.setCallbackWithSessionID()	4.3.0	4.4.0
Sep 2002	CN_17	NP-020425	016	--	Correction on use of NULL in User Interaction API	4.4.0	4.5.0
Sep 2002	CN_17	NP-020425	017	--	Correction to TpUIInfo data type to support binary data for SMS services	4.4.0	4.5.0
Mar 2003	CN_19	NP-030021	022	--	Correction to User Interaction Prepaid Sequence Diagrams	4.5.0	4.6.0
Mar 2003	CN_19	NP-030021	024	--	Correction to getNotification to remove P_INVALID_CRITERIA exception	4.5.0	4.6.0
Mar 2003	CN_19	NP-030021	026	--	Inconsistent description of use of secondary callback	4.5.0	4.6.0
Mar 2003	CN_19	NP-030021	027	--	Correction of status of methods to User Interaction interfaces	4.5.0	4.6.0
Mar 2003	CN_19	NP-030021	030	--	Corrections to User Interaction	4.5.0	4.6.0
Mar 2003	CN_19	NP-030021	032	--	Correction of User Interaction Event Notification to support non text encodings	4.5.0	4.6.0
Jun 2003	CN_20	NP-030238	034		Correction of the description for callEventNotify & reportNotification	4.6.0	4.7.0

CHANGE REQUEST

⌘ **29.198-05 CR 041** ⌘ rev - ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘ Correction to UI service responseRequested logic		
Source:	⌘ CN5 (AePONA – Eamonn Murray)		
Work item code:	⌘ OSA1	Date:	⌘ 18/07/2003
Category:	⌘ A	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:	⌘ The responseRequested paramater currently only has meaning for successful results and not errors in the case of the sendInfoReq method. In addition the same parameter may also be interpreted inappropriately when used with the sendInfoAndCollectReq method as the corresponding result method is the only mechanism for returning the collected information, and therefore must be generated in response to the request. The current lack of clarity in the specification may result in different functional implementations of the interface and model, from application and SCS perspective.
Summary of change:	⌘ Add clarification on intended behaviour of the sendInfoErr method with respect to the responseRequested parameter, and clarify that P_UI_RESPONSE_REQUIRED does not influence sendInfoAndCollectReq behaviour.
Consequences if not approved:	⌘ Specifications are open to differing interpretations, and interoperability problems shall occur.

Clauses affected:	⌘ 8.3, 8.4, 9.2, 9.3						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
Other comments:	⌘ Rel-5 Mirror CR of N5-030396.						

How to create CRs using this form:

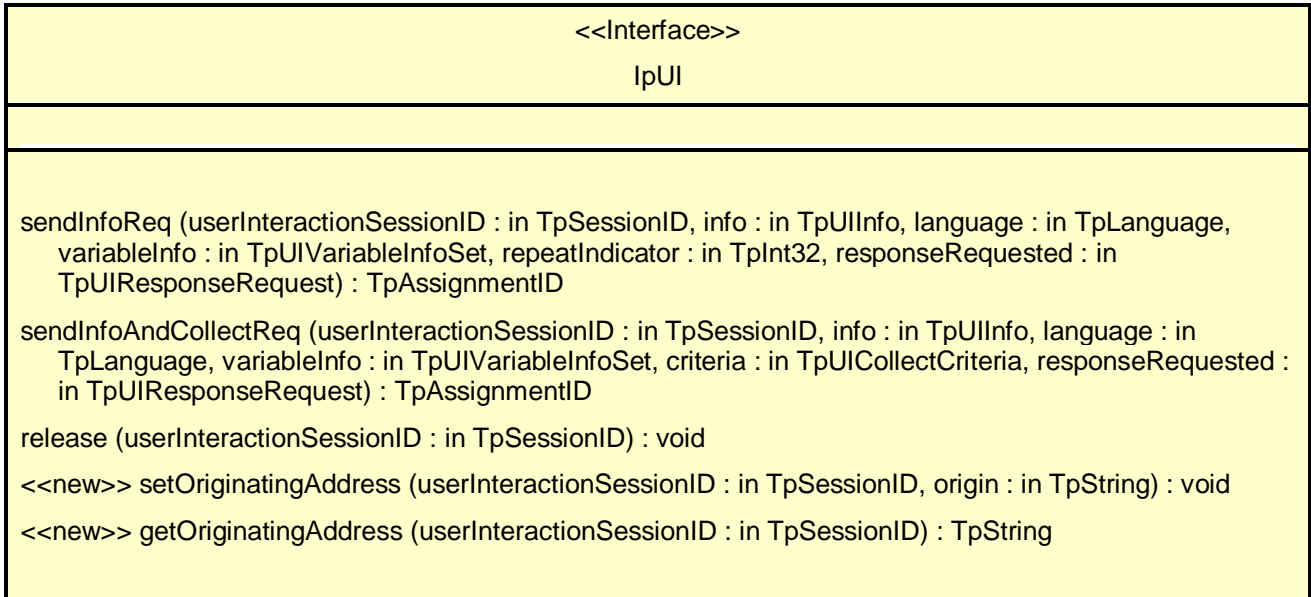
Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

***** Start of Change # 1 *****

8.3 Interface Class IpUI

Inherits from: IpService.

The User Interaction Service Interface provides functions to send information to, or gather information from the user. An application can use the User Interaction Service Interface independently of other services.



8.3.1 Method sendInfoReq()

This asynchronous method plays an announcement or sends other information to the user.

Returns: assignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

info : in TpUIInfo

Specifies the information to send to the user. This information can be:

- an infoID, identifying pre-defined information to be send (announcement and/or text);
- a string, defining the text to be sent;
- a URL , identifying pre-defined information or data to be sent to or downloaded into the terminal.

language : in TpLanguage

Specifies the Language of the information to be send to the user.

variableInfo : in TpUIVariableInfoSet

Defines the variable part of the information to send to the user.

repeatIndicator : in TpInt32

Defines how many times the information shall be sent to the end-user. A value of zero (0) indicates that the announcement shall be repeated until the call or call leg is released or an abortActionReq() is sent.

responseRequested : in TpUIResponseRequest

Specifies if a response is required from the call user interaction service, and any action the service should take.

Returns

TpAssignmentID

Raises

TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE, P_ILLEGAL_ID, P_ID_NOT_FOUND

8.3.2 Method sendInfoAndCollectReq()

This asynchronous method plays an announcement or sends other information to the user and collects some information from the user. The announcement usually prompts for a number of characters (for example, these are digits or text strings such as "YES" if the user's terminal device is a phone).

Returns: assignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

info : in TpUIInfo

Specifies the ID of the information to send to the user. This information can be:

- an infoID, identifying pre-defined information to be send (announcement and/or text);
- a string, defining the text to be sent;
- a URL , identifying pre-defined information or data to be sent to or downloaded into the terminal

language : in TpLanguage

Specifies the Language of the information to be send to the user.

variableInfo : in TpUIVariableInfoSet

Defines the variable part of the information to send to the user.

criteria : in TpUICollectCriteria

Specifies additional properties for the collection of information, such as the maximum and minimum number of characters, end character, first character timeout and inter-character timeout.

responseRequested : in TpUIResponseRequest

Specifies if a response is required from the call user interaction service, and any action the service should take. For this case it can especially be used to indicate e.g. the final request. [If P UI RESPONSE REQUIRED is not enabled by the application request, the user interaction shall nevertheless return either a sendInfoAndCollectRes or sendInfoAndCollectErr method to the application in response to this method invocation.](#)

*Returns***TpAssignmentID***Raises***TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE, P_ILLEGAL_ID, P_ID_NOT_FOUND, P_INVALID_CRITERIA, P_ILLEGAL_RANGE, P_INVALID_COLLECTION_CRITERIA**

8.3.3 Method release()

This method requests that the relationship between the application and the user interaction object be released. It causes the release of the used user interaction resources and interrupts any ongoing user interaction.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction created.

*Raises***TpCommonExceptions, P_INVALID_SESSION_ID**

8.3.4 Method <<new>> setOriginatingAddress()

This method sets the originating address property on the user interaction session to be used when sending information to the user.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

origin : in TpString

Specifies the originating address. The originating address description is sent as a TpString. However this field may contain E.164 addresses that the receiving terminal can use to reply to the message. The coding of such an E.164 address can either be local numbers or international numbers, according to the standard E.164. Examples for a local number is "0702106181" and for an international number "+46702106181".

*Raises***TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE, P_INVALID_ADDRESS**

8.3.5 Method <<new>> getOriginatingAddress()

This method gets the originating address property on the user interaction session to be used when sending information to the user. If not set with setOriginatingAddress(), the getOriginatingAddress() returns the description that would be displayed on the terminal device as the originating address when a message is sent with sendInfoReq() or sendInfoAndCollectReq().

Returns: TpString

The address that will be used for a `sendInfoReq()` or `sendInfoAndCollectReq()` for the originating address.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

Returns

TpString

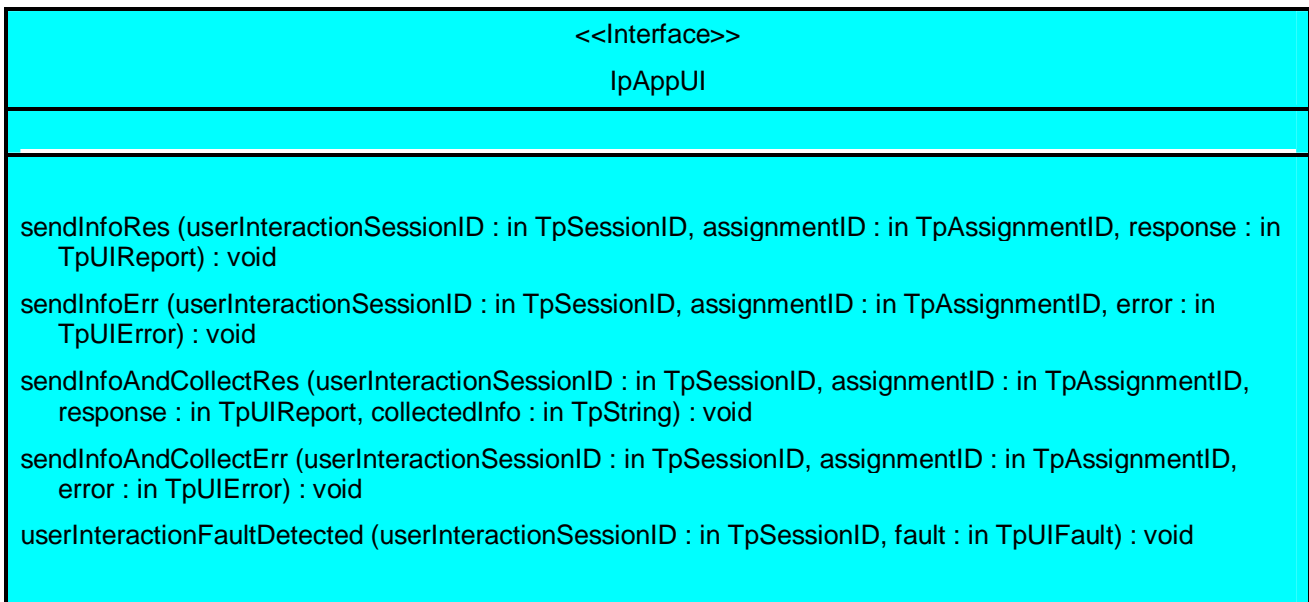
Raises

TpCommonExceptions, P_INVALID_SESSION_ID, P_INVALID_NETWORK_STATE

8.4 Interface Class IpAppUI

Inherits from: IpInterface.

The User Interaction Application Interface is implemented by the client application developer and is used to handle generic user interaction request responses and reports.



8.4.1 Method sendInfoRes()

This asynchronous method informs the application about the completion of a `sendInfoReq()`. This response is called only if the `responseRequested` parameter of the `sendInfoReq()` method was set to `P_UICALL_RESPONSE_REQUIRED`.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

response : in TpUIReport

Specifies the type of response received from the user.

8.4.2 Method sendInfoErr()

This asynchronous method indicates that the request to send information was unsuccessful. [This response is called only if the responseRequested parameter of the sendInfoReq\(\) method was set to P_UI_RESPONSE_REQUIRED. In the event that a response was not requested and the user interaction was unsuccessful the implementation of the service capability must handle the network error, however the error shall not be reported to the application as it requested no response.](#)

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

error : in TpUIError

Specifies the error which led to the original request failing.

8.4.3 Method sendInfoAndCollectRes()

This asynchronous method returns the information collected to the application.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

response : in TpUIReport

Specifies the type of response received from the user.

collectedInfo : in TpString

Specifies the information collected from the user.

8.4.4 Method sendInfoAndCollectErr()

This asynchronous method indicates that the request to send information and collect a response was unsuccessful.

*Parameters***userInteractionSessionID : in TpSessionID**

Specifies the user interaction session ID of the user interaction.

assignmentID : in TpAssignmentID

Specifies the ID assigned by the generic user interaction interface for a user interaction request.

error : in TpUIError

Specifies the error which led to the original request failing.

8.4.5 Method userInteractionFaultDetected()

This method indicates to the application that a fault has been detected in the user interaction.

Parameters

userInteractionSessionID : in TpSessionID

Specifies the interface and sessionID of the user interaction service in which the fault has been detected.

fault : in TpUIFault

Specifies the fault that has been detected.

***** End of Change # 1 *****

***** Start of Change # 2 *****

9.2 State Transition Diagrams for IpUI

The state transition diagram shows the application view on the User Interaction object.

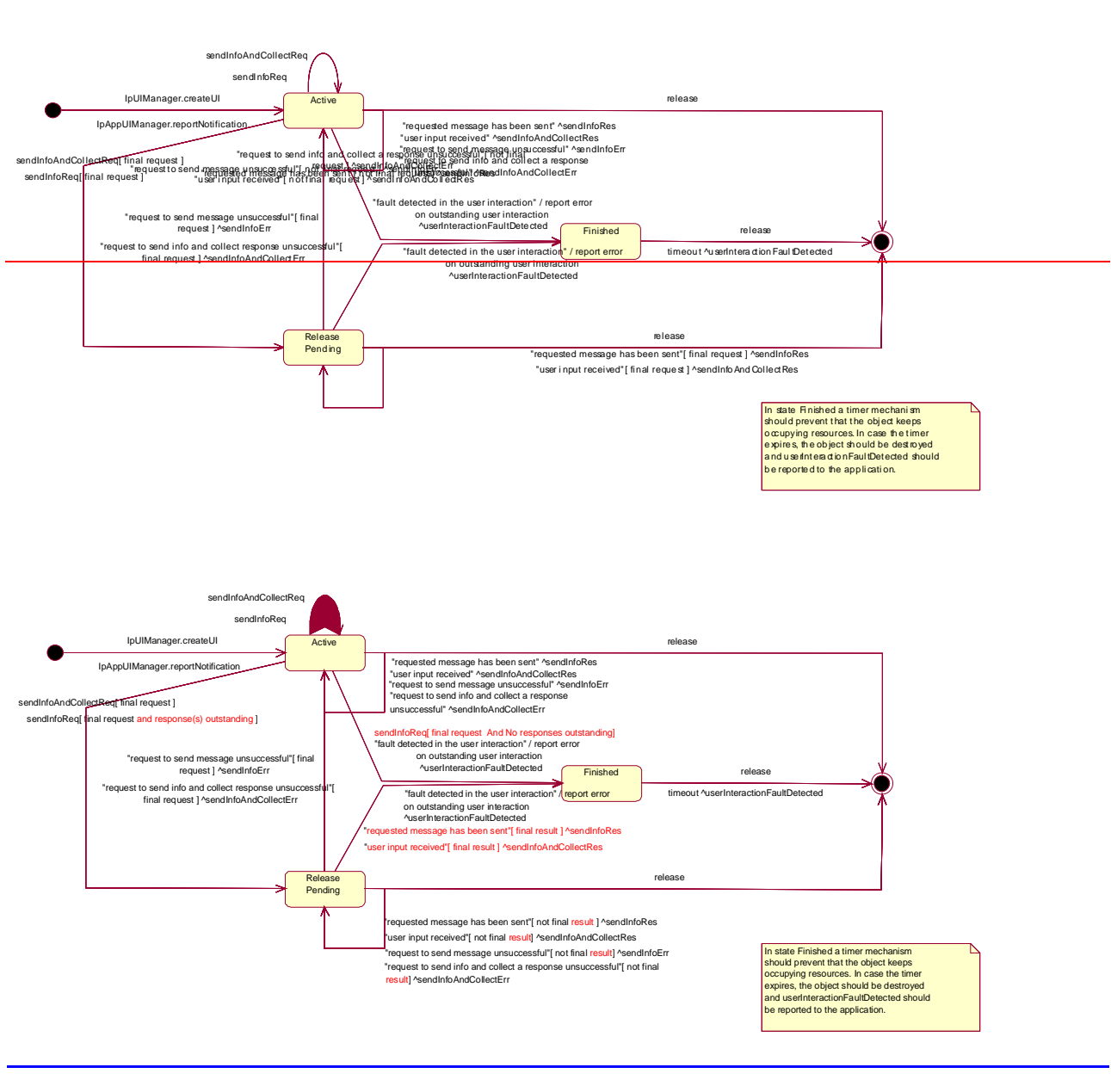


Figure : Application view on the UI object

***** End of Change # 2 *****

***** Start of Change # 3*****

9.3 State Transition Diagrams for IpUICall

The state transition diagram shows the application view on the Call User Interaction object.

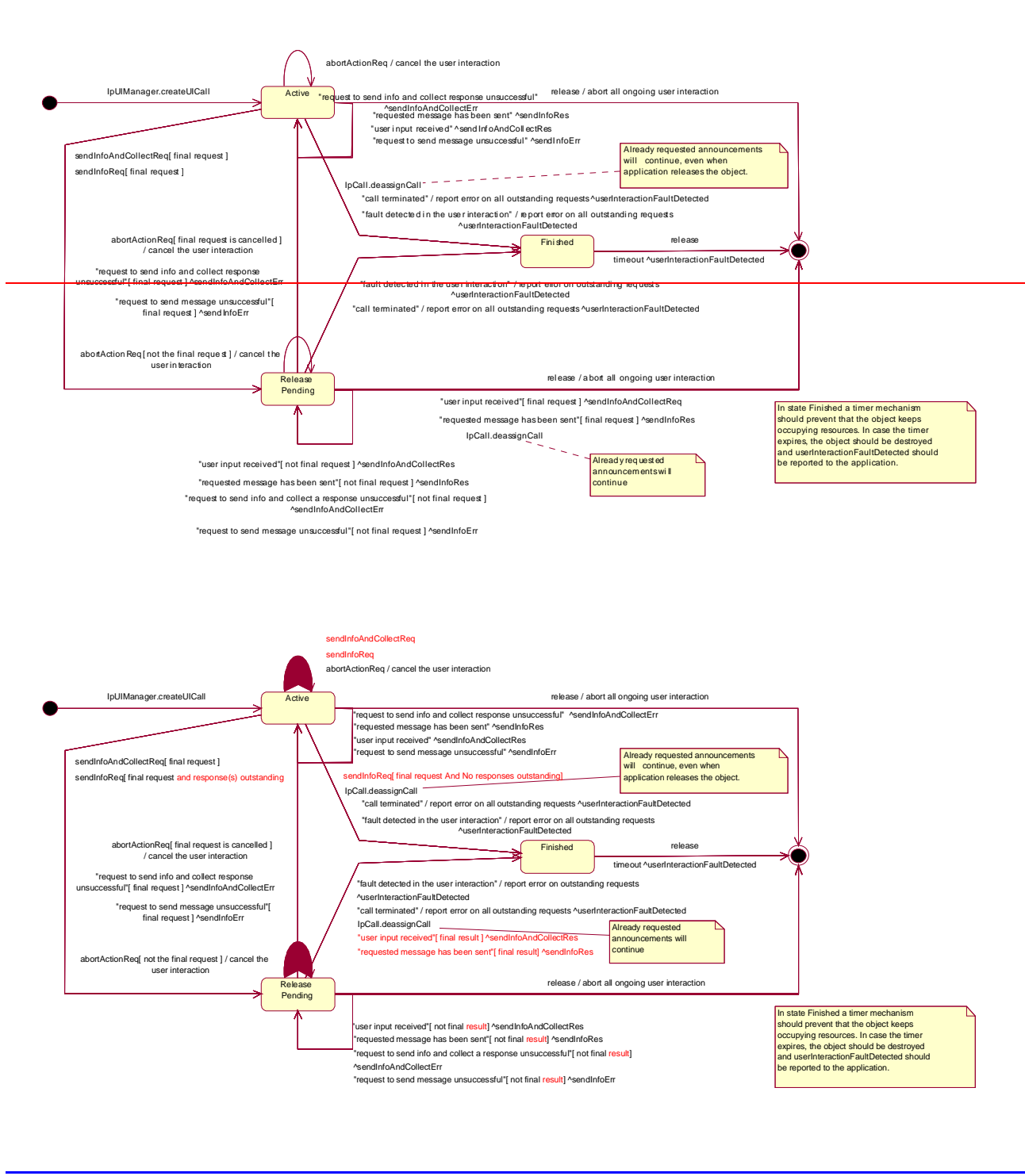


Figure : Application view on the UICall object

***** End of Change # 3*****

Annex D (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Mar 2001	CN_11	NP-010134	047	--	CR 29.198: for moving TS 29.198 from R99 to Rel 4 (N5-010158)	3.2.0	4.0.0
Jun 2001	CN_12	NP-010330	001	--	Corrections to OSA API Rel4	4.0.0	4.1.0
Sep 2001	CN_13	NP-010468	002	--	Changing references to JAIN	4.1.0	4.2.0
Dec 2001	CN_14	NP-010598	003	--	Replace Out Parameters with Return Types	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	004	--	Correction of description of sendInfoRes()	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	005	--	Correction to handling of deassign on related object	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	006	--	Correction to Exceptions Raised in UI	4.2.0	4.3.0
Dec 2001	CN_14	NP-010598	007	--	Correction to values of TpUIInfoType	4.2.0	4.3.0
Mar 2002	CN_15	NP-020107	008	--	Add P_INVALID_INTERFACE_TYPE exception to IpService.setCallback() and IpService.setCallbackWithSessionID()	4.3.0	4.4.0
Jun 2002	CN_16	NP-020181	009	--	Addition of support for Java API technology realisation	4.4.0	5.0.0
Jun 2002	CN_16	NP-020189	010	--	Improve the vague description of P_ID_NOT_FOUND	4.4.0	5.0.0
Jun 2002	CN_16	NP-020182	011	--	Addition of support for WSDL realisation	4.4.0	5.0.0
Jun 2002	CN_16	NP-020189	012	--	Detach call leg before playing announcement or collecting digits	4.4.0	5.0.0
Jun 2002	CN_16	NP-020189	013	--	Delete P_INVALID_CRITERIA from sendInfoAndCollectReq()	4.4.0	5.0.0
Jun 2002	CN_16	NP-020183	014	--	Addition of Support for Network Controlled Notifications UI	4.4.0	5.0.0
Jun 2002	CN_16	NP-020189	015	--	Correcting erroneous description of UI behaviour in call control	4.4.0	5.0.0
Sep 2002	CN_17	NP-020432	018	--	Add text to clarify requirements on support of methods	5.0.0	5.1.0
Sep 2002	CN_17	NP-020432	019	--	Correction on use of NULL in User Interaction API	5.0.0	5.1.0
Sep 2002	CN_17	NP-020432	020	--	Correction to TpUIInfo data type to support binary data for SMS services	5.0.0	5.1.0
Sep 2002	CN_17	NP-020395	021		Add text to clarify relationship between 3GPP and ETSI/Parlay OSA specifications	5.0.0	5.1.0
Mar 2003	CN_19	NP-030021	023	--	Correction to User Interaction Prepaid Sequence Diagrams	5.1.0	5.2.0
Mar 2003	CN_19	NP-030021	025	--	Correction to getNotification to remove P_INVALID_CRITERIA exception	5.1.0	5.2.0
Mar 2003	CN_19	NP-030021	028	--	Addition of status of methods to User Interaction interfaces	5.1.0	5.2.0
Mar 2003	CN_19	NP-030021	031	--	Corrections to User Interaction	5.1.0	5.2.0
Mar 2003	CN_19	NP-030021	033	--	Correction of User Interaction Event Notification to support non text encodings	5.1.0	5.2.0
Mar 2003	CN_19	NP-030033	029	--	Inconsistent description of use of secondary callback	5.1.0	5.2.0
Jun 2003	CN_20	NP-030238	035	--	Correction of the description for callEventNotify & reportNotification	5.2.0	5.3.0
Jun 2003	CN_20	NP-030244	036	--	Clarify IpUI sendInfoReq()	5.2.0	5.3.0
Jun 2003	CN_20	NP-030244	037	--	Update TpUIInfo for consistency with GMS capabilities	5.2.0	5.3.0
Jun 2003	CN_20	NP-030299	038	1	Specifying the origin of a GUI message	5.2.0	5.3.0