

3GPP TSG CN Plenary Meeting #16
5th - 7th June 2002. Marco Island, USA.

NP-020190

Source: CN5 (OSA)
Title: Rel-5 CRs 29.198-06 OSA API Part 6: Mobility
Agenda item: 8.2
Document for: APPROVAL

Doc-1 st -Level	Spec	CR	R v	Pha	Subject	Cat	Ver Curr	Ver New	Doc-2 nd -Level	Work item
NP-020190	29.198-06	011	-	Rel-5	Delete the repetitive description of P_APPLICATION_NOT_ACTIVATED and other exceptions	F	4.4.0	5.0.0	N5-020473	OSA2
NP-020190	29.198-06	012	-	Rel-5	Correcting type of assignmentID parameters from TpSessionID to TpAssignmentID	F	4.4.0	5.0.0	N5-020486	OSA2
NP-020190	29.198-06	013	-	Rel-5	Correcting erroneous references to Service Factory	F	4.4.0	5.0.0	N5-020504	OSA2

CHANGE REQUEST

⌘ **29.198-06 CR 011** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Delete the repetitive description of P_APPLICATION_NOT_ACTIVATED and other exceptions	
Source:	⌘	CN5	
Work item code:	⌘	OSA2	Date: ⌘ 17/05/2002
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)

Reason for change:	⌘	The description of P_APPLICATION_NOT_ACTIVATED in this Part 6 is in conflict with Part 2 (29.198-2). The IDL only defines P_APPLICATION_NOT_ACTIVATED in Part 2. Descriptions of other exceptions, given in the method clauses, are duplicated.
Summary of change:	⌘	Delete the description of P_APPLICATION_NOT_ACTIVATED in Part 6. Descriptions of other exceptions, given in the method clauses, are deleted.
Consequences if not approved:	⌘	Multiple descriptions of P_APPLICATION_NOT_ACTIVATED may lead to confusion. Multiple descriptions of other exceptions, given in the method clauses, are duplicated and may lead to confusion.

Clauses affected:	⌘	8
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 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.

8 Mobility Interface Classes

8.1 User Location Interface Classes

The User Location service (UL) provides a general geographic location service. UL has functionality to allow applications to obtain the geographical location and the status of fixed, mobile and IP based telephony users.

UL is supplemented by User Location Camel service (ULC) to provide information about network related information. There is also some specialised functionality to handle emergency calls in the User Location Emergency service (ULE).

The UL service provides the `IpUserLocation` and `IpTriggeredUserLocation` interfaces. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement `IpAppUserLocation` and `IpAppTriggeredUserLocation` interfaces to provide the callback mechanism.

When periodic or triggered location reporting is used, errors may be reported either when the recurrent reporting is requested, as an error per user in reports or in the corresponding `err`-method when the error concerns all subscribers in an assignment.

8.1.1 Interface Class `IpUserLocation`

Inherits from: `IpService`.

This interface is the 'service manager' interface for the User Location Service.

The user location interface provides the management functions to the user location service. The application programmer can use this interface to obtain the geographical location of users.

<code><<Interface>></code> <code>IpUserLocation</code>
<code>locationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet) : TpSessionID</code> <code>extendedLocationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest) : TpSessionID</code> <code>periodicLocationReportingStartReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest, reportingInterval : in TpDuration) : TpSessionID</code> <code>periodicLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void</code>

Method

locationReportReq ()

Request of a report on the location for one or several users.

Raises the following exceptions:

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

~~P_UNKNOWN_SUBSCRIBER~~

~~The end user is not subscribed to the application.~~

~~P_APPLICATION_NOT_ACTIVATED~~

~~The end user has de-activated the application.~~

~~P_INFORMATION_NOT_AVAILABLE~~

~~The request violates the end-user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the location-report request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_UNKNOWN_SUBSCRIBER,
P_INVALID_INTERFACE_TYPE**

Method

extendedLocationReportReq()

Advanced request of report on the location for one or several users.

Raises the following exceptions:

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

~~P_UNKNOWN_SUBSCRIBER~~

~~The end user is not subscribed to the application.~~

~~P_APPLICATION_NOT_ACTIVATED~~

~~The end user has de-activated the application.~~

~~P_INFORMATION_NOT_AVAILABLE~~

~~The request violates the end user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the extended location-report request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

Returns

TpSessionID

Raises

TpCommonExceptions, P_APPLICATION_NOT_ACTIVATED, P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED, P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED, P_UNKNOWN_SUBSCRIBER, P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE

Method

periodicLocationReportingStartReq()

Request of periodic reports on the location for one or several users.

~~Raises the following exceptions:~~

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

~~P_UNKNOWN_SUBSCRIBER~~

~~The end user is not subscribed to the application.~~

~~P_APPLICATION_NOT_ACTIVATED~~

~~The end user has de-activated the application.~~

~~P_INFORMATION_NOT_AVAILABLE~~

~~The request violates the end user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the periodic location-reporting request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

reportingInterval : in TpDuration

Specifies the requested interval in seconds between the reports.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_INVALID_REPORTING_INTERVAL,
P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED,
P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED,
P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE**

Method

periodicLocationReportingStop()

Termination of periodic reports on the location for one or several users.

Raises the following exceptions:

~~P_INVALID_ASSIGNMENT_ID~~

~~The assignment ID does not correspond to one of a valid assignment.~~

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

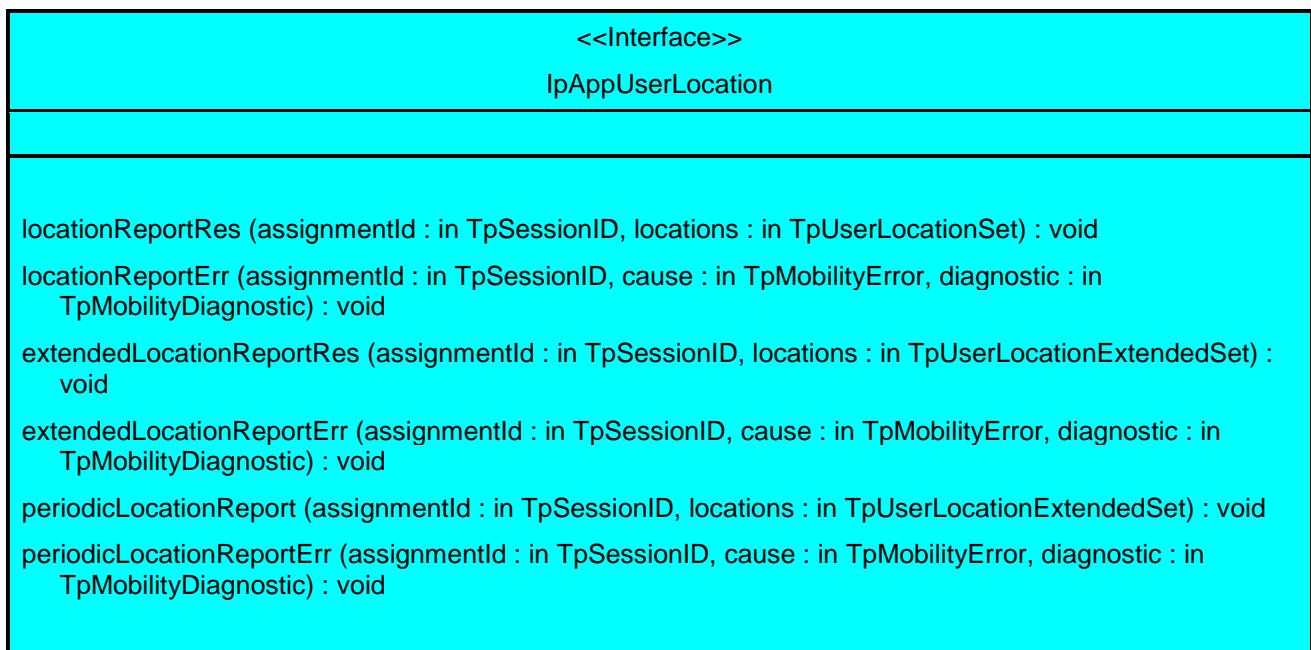
Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.1.2 Interface Class IpAppUserLocation

Inherits from: IpInterface.

The user-location application interface is implemented by the client application developer and is used to handle user location request responses.



Method

locationReportRes ()

A report containing locations for one or several users is delivered.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the location-report request.

locations : in TpUserLocationSet

Specifies the location(s) of one or several users.

Method

locationReportErr ()

This method indicates that the location report request has failed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

extendedLocationReportRes ()

A report containing extended location information for one or several users is delivered.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the extended location-report request.

locations : in TpUserLocationExtendedSet

Specifies the location(s) of one or several users.

Method

extendedLocationReportErr ()

This method indicates that the extended location report request has failed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed extended location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

periodicLocationReport ()

A report containing periodic location information for one or several users is delivered.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the periodic location-reporting request.

locations : in TpUserLocationExtendedSet

Specifies the location(s) of one or several users.

Method

periodicLocationReportErr ()

This method indicates that a requested periodic location report has failed. Note that errors only concerning individual users are reported in the ordinary periodicLocationReport() message.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed periodic location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.1.3 Interface Class IpTriggeredUserLocation

Inherits from: IpUserLocation.

This interface can be used as an extended version of the User Location: Service Interface.

The triggered user location interface represents the interface to the triggered user location functions. The application programmer can use this interface to request user location reports that are triggered by location change.

<<Interface>> IpTriggeredUserLocation
triggeredLocationReportingStartReq (appLocation : in IpAppTriggeredUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest, triggers : in TpLocationTriggerSet) : TpSessionID triggeredLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void

Method

triggeredLocationReportingStartReq()

Request for user location reports when the location is changed (reports are triggered by location change).

Returns: assignmentId

Specifies the assignment ID of the triggered location-reporting request.

Parameters

appLocation : in IpAppTriggeredUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

triggers : in TpLocationTriggerSet

Specifies the trigger conditions.

Returns

TpSessionID

Raises

TpCommonExceptions, P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED, P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED, P_TRIGGER_CONDITIONS_NOT_SUBSCRIBED, P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED, P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE

Method

triggeredLocationReportingStop()

Stop triggered user location reporting.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

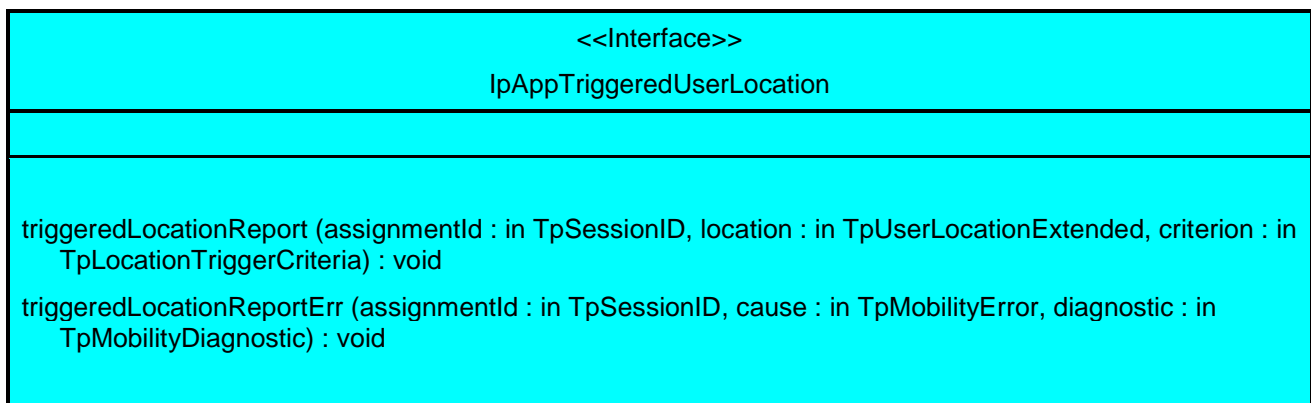
TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.1.4 Interface Class IpAppTriggeredUserLocation

Inherits from: IpAppUserLocation.

This interface must be used as a specialised version of the User Location: Application Interface if the Triggered User Location: Service Interface is used.

The triggered user location application interface is implemented by the client application developer and is used to handle triggered location reports.



Method

triggeredLocationReport ()

A triggered report containing location for a user is delivered.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the triggered location-reporting request.

location : in TpUserLocationExtended

Specifies the location of the user.

criterion : in TpLocationTriggerCriteria

Specifies the criterion that triggered the report.

Method

triggeredLocationReportErr()

This method indicates that a requested triggered location report has failed. Note that errors only concerning individual users are reported in the ordinary triggeredLocationReport() message.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed triggered location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.2 User Location Camel Interface Classes

The ULC provides location information, based on network-related information, rather than the geographical co-ordinates that can be retrieved via the general User Location Service.

Using the ULC functions, an application programmer can request the VLR Number, the location Area Identification and the Cell Global Identification and other mobile-telephony-specific location information

The ULC provides the IpUserLocationCamel interface. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement IpAppUserLocationCamel interface to provide the callback mechanism.

8.2.1 Interface Class IpUserLocationCamel

Inherits from: IpService.

This interface is the 'service manager' interface for ULC.

<<Interface>> IpUserLocationCamel
locationReportReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet) : TpSessionID periodicLocationReportingStartReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet, reportingInterval : in TpDuration) : TpSessionID periodicLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void triggeredLocationReportingStartReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet, trigger : in TpLocationTriggerCamel) : TpSessionID triggeredLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void

Method

locationReportReq ()

Request for mobile-related location information on one or several camel users.

~~Raises the following exceptions:~~

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

~~P_UNKNOWN_SUBSCRIBER~~

~~The end user is not subscribed to the application.~~

~~P_APPLICATION_NOT_ACTIVATED~~

~~The end user has de-activated the application.~~

~~P_INFORMATION_NOT_AVAILABLE~~

~~The request violates the end user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the location-report request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_APPLICATION_NOT_ACTIVATED, P_INFORMATION_NOT_AVAILABLE,
P_INVALID_INTERFACE_TYPE**

Method

periodicLocationReportingStartReq()

Request for periodic mobile location reports on one or several users.

~~Raises the following exceptions:~~

~~**P_NO_CALLBACK_ADDRESS_SET**~~

~~The requested method has been refused, because no callback address is set.~~

~~**P_RESOURCES_UNAVAILABLE**~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

~~**P_UNKNOWN_SUBSCRIBER**~~

~~The end user is not subscribed to the application.~~

~~**P_APPLICATION_NOT_ACTIVATED**~~

~~The end user has de-activated the application.~~

~~**P_INFORMATION_NOT_AVAILABLE**~~

~~The request violates the end user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the periodic location-reporting request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

reportingInterval : in TpDuration

Specifies the requested interval in seconds between the reports.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_INVALID_REPORTING_INTERVAL,
P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED,
P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED,
P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE**

Method

periodicLocationReportingStop()

This method stops the sending of periodic mobile location reports for one or several users.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

The assignment ID does not correspond to one of a valid assignment.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

Method

triggeredLocationReportingStartReq()

Request for user location reports, containing mobile related information, when the location is changed (the report is triggered by the location change).

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

~~The end user has de-activated the application.~~

~~P_INFORMATION_NOT_AVAILABLE~~

~~The request violates the end user's privacy setting.~~

Returns: assignmentId

Specifies the assignment ID of the triggered location-reporting request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

trigger : in TpLocationTriggerCamel

Specifies the trigger conditions.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_APPLICATION_NOT_ACTIVATED, P_INFORMATION_NOT_AVAILABLE,
P_INVALID_INTERFACE_TYPE**

Method

triggeredLocationReportingStop()

Request that triggered mobile location reporting should stop.

~~Raises the following exceptions:~~

~~P_INVALID_ASSIGNMENT_ID~~

~~The assignment ID does not correspond to one of a valid assignment.~~

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

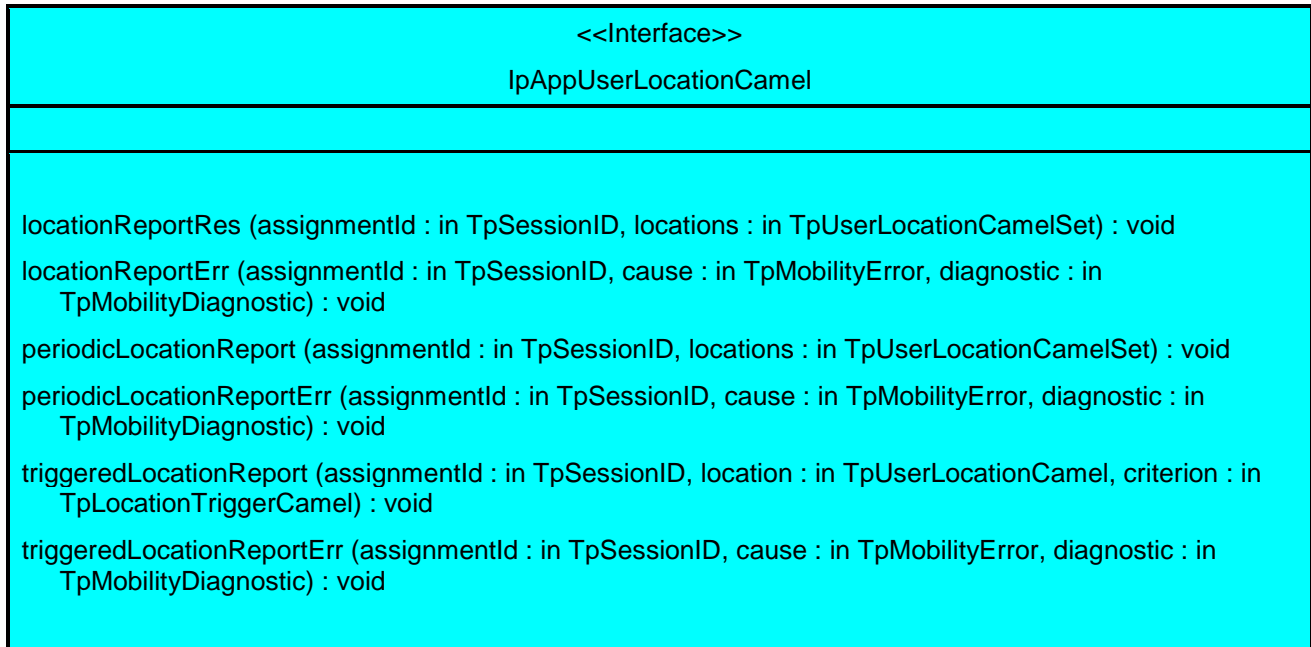
Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.2.2 Interface Class IpAppUserLocationCamel

Inherits from: IpInterface.

The user location Camel application interface is implemented by the client application developer and is used to handle location reports that are specific for mobile telephony users.



Method

locationReportRes ()

Delivery of a mobile location report. The report is containing mobile-related location information for one or several users.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the location-report request.

locations : in TpUserLocationCamelSet

Specifies the location(s) of one or several users.

Method

locationReportErr ()

This method indicates that the location report request has failed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

periodicLocationReport()

Periodic delivery of mobile location reports. The reports are containing mobile-related location information for one or several users.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the periodic location-reporting request.

locations : in TpUserLocationCamelSet

Specifies the location(s) of one or several users.

Method

periodicLocationReportErr()

This method indicates that a requested periodic location report has failed. Note that errors only concerning individual users are reported in the ordinary periodicLocationReport() message.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed periodic location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

triggeredLocationReport()

Delivery of a report that is indicating that the user's mobile location has changed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the triggered location-reporting request.

location : in TpUserLocationCamel

Specifies the location of the user.

criterion : in TpLocationTriggerCamel

Specifies the criterion that triggered the report.

Method

triggeredLocationReportErr()

This method indicates that a requested triggered location report has failed. Note that errors only concerning individual users are reported in the ordinary triggeredLocationReport() message.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed triggered location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.3 User Status Interface Classes

The User Status Service (US) provides a general user status service. US allow applications to obtain the status of fixed, mobile and IP-based telephony users.

The US provides the IpUserStatus interface. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement IpAppUserStatus interface to provide the callback mechanism.

8.3.1 Interface Class IpAppUserStatus

Inherits from: IpInterface.

The user-status application interface is implemented by the client application developer and is used to handle user status reports.

<<Interface>>
IpAppUserStatus

```
statusReportRes (assignmentId : in TpSessionID, status : in TpUserStatusSet) : void
statusReportErr (assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in
    TpMobilityDiagnostic) : void
triggeredStatusReport (assignmentId : in TpSessionID, status : in TpUserStatus) : void
triggeredStatusReportErr (assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in
    TpMobilityDiagnostic) : void
```

Method

statusReportRes ()

Delivery of a report, that is containing one or several user's status.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the status-report request.

status : in TpUserStatusSet

Specifies the status of one or several users.

Method

statusReportErr ()

This method indicates that the status report request has failed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed status report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

triggeredStatusReport ()

Delivery of a report that is indicating that a user's status has changed.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the triggered status-reporting request.

status : in TpUserStatus

Specifies the status of the user.

Method

triggeredStatusReportErr()

This method indicates that a requested triggered status reporting has failed. Note that errors only concerning individual users are reported in the ordinary triggeredStatusReport() message.

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the failed triggered status reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.3.2 Interface Class IpUserStatus

Inherits from: IpService.

The application programmer can use this interface to obtain the status of fixed, mobile and IP-based telephony users.

<<Interface>> IpUserStatus
statusReportReq (appStatus : in IpAppUserStatusRef, users : in TpAddressSet) : TpSessionID triggeredStatusReportingStartReq (appStatus : in IpAppUserStatusRef, users : in TpAddressSet) : TpSessionID triggeredStatusReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void

Method

statusReportReq()

Request for a report on the status of one or several users.

~~Raises the following exceptions:~~

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

Returns: assignmentId

Specifies the assignment ID of the status-report request.

Parameters

appStatus : in IpAppUserStatusRef

Specifies the application interface for callbacks from the User Status service.

users : in TpAddressSet

Specifies the user(s) for which the status shall be reported.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_INFORMATION_NOT_AVAILABLE, P_APPLICATION_NOT_ACTIVATED,
P_INVALID_INTERFACE_TYPE**

Method

triggeredStatusReportingStartReq

Request for triggered status reports when one or several user's status is changed. The user status service will send a report when the status changes.

~~Raises the following exceptions:~~

~~P_NO_CALLBACK_ADDRESS_SET~~

~~The requested method has been refused, because no callback address is set.~~

~~P_RESOURCES_UNAVAILABLE~~

~~The required resources in the network are not available. The application may try to invoke the method at a later time.~~

Returns: assignmentId

Specifies the assignment ID of the triggered status-reporting request.

Parameters

appStatus : in IpAppUserStatusRef

Specifies the application interface for callbacks from the User Status service.

users : in TpAddressSet

Specifies the user(s) for which the status changes shall be reported.

Returns

TpSessionID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_INFORMATION_NOT_AVAILABLE, P_APPLICATION_NOT_ACTIVATED,
P_INVALID_INTERFACE_TYPE**

Method

triggeredStatusReportingStop()

This method stops the sending of status reports for one or several users.

~~Raises the following exceptions:~~

~~P_INVALID_ASSIGNMENT_ID~~

~~The assignment ID does not correspond to one of a valid assignment.~~

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

CHANGE REQUEST

⌘ **29.198-06 CR 012** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Correcting type of assignmentID parameters from TpSessionID to TpAssignmentID	
Source:	⌘	CN5	
Work item code:	⌘	OSA2	Date: ⌘ 17/05/2002
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)

Reason for change:	⌘	All the methods in 29.198-6 which contain a parameter called assignmentID, use TpSessionID as the type of this parameter. This is confusing, since a type TpAssignmentID exists and should be used here.
Summary of change:	⌘	Occurrences of TpSessionID replaced with TpAssignmentID
Consequences if not approved:	⌘	Confusing use of TpSessionID when TpAssignmentID should be used.

Clauses affected:	⌘	8.1.1, 8.1.2, 8.1.3, 8.1.4, 8.2.1, 8.2.2, 8.3.1, 8.3.2
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 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.

8 Mobility Interface Classes

8.1 User Location Interface Classes

The User Location service (UL) provides a general geographic location service. UL has functionality to allow applications to obtain the geographical location and the status of fixed, mobile and IP based telephony users.

UL is supplemented by User Location Camel service (ULC) to provide information about network related information. There is also some specialised functionality to handle emergency calls in the User Location Emergency service (ULE).

The UL service provides the `IpUserLocation` and `IpTriggeredUserLocation` interfaces. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement `IpAppUserLocation` and `IpAppTriggeredUserLocation` interfaces to provide the callback mechanism.

When periodic or triggered location reporting is used, errors may be reported either when the recurrent reporting is requested, as an error per user in reports or in the corresponding `err`-method when the error concerns all subscribers in an assignment.

8.1.1 Interface Class `IpUserLocation`

Inherits from: `IpService`.

This interface is the 'service manager' interface for the User Location Service.

The user location interface provides the management functions to the user location service. The application programmer can use this interface to obtain the geographical location of users.

<code><<Interface>></code> <code>IpUserLocation</code>
<code>locationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet) : TpSessionIDTpAssignmentID</code>
<code>extendedLocationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest) : TpSessionIDTpAssignmentID</code>
<code>periodicLocationReportingStartReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest, reportingInterval : in TpDuration) : TpSessionIDTpAssignmentID</code>
<code>periodicLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void</code>

Method

locationReportReq ()

Request of a report on the location for one or several users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the location-report request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

Returns

TpSessionIDTpAssignmentID

Raises

**TpCommonExceptions, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_UNKNOWN_SUBSCRIBER,
P_INVALID_INTERFACE_TYPE**

Method

extendedLocationReportReq()

Advanced request of report on the location for one or several users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the extended location-report request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

Returns

TpSessionIDTpAssignmentID

Raises

TpCommonExceptions, P_APPLICATION_NOT_ACTIVATED, P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED, P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED, P_UNKNOWN_SUBSCRIBER, P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE

Method

periodicLocationReportingStartReq()

Request of periodic reports on the location for one or several users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the periodic location-reporting request.

Parameters

appLocation : in IpAppUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

reportingInterval : in TpDuration

Specifies the requested interval in seconds between the reports.

Returns

TpSessionIDTpAssignmentID

Raises

**TpCommonExceptions, P_INVALID_REPORTING_INTERVAL,
P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED,
P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED,
P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE**

Method

periodicLocationReportingStop()

Termination of periodic reports on the location for one or several users.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

The assignment ID does not correspond to one of a valid assignment.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

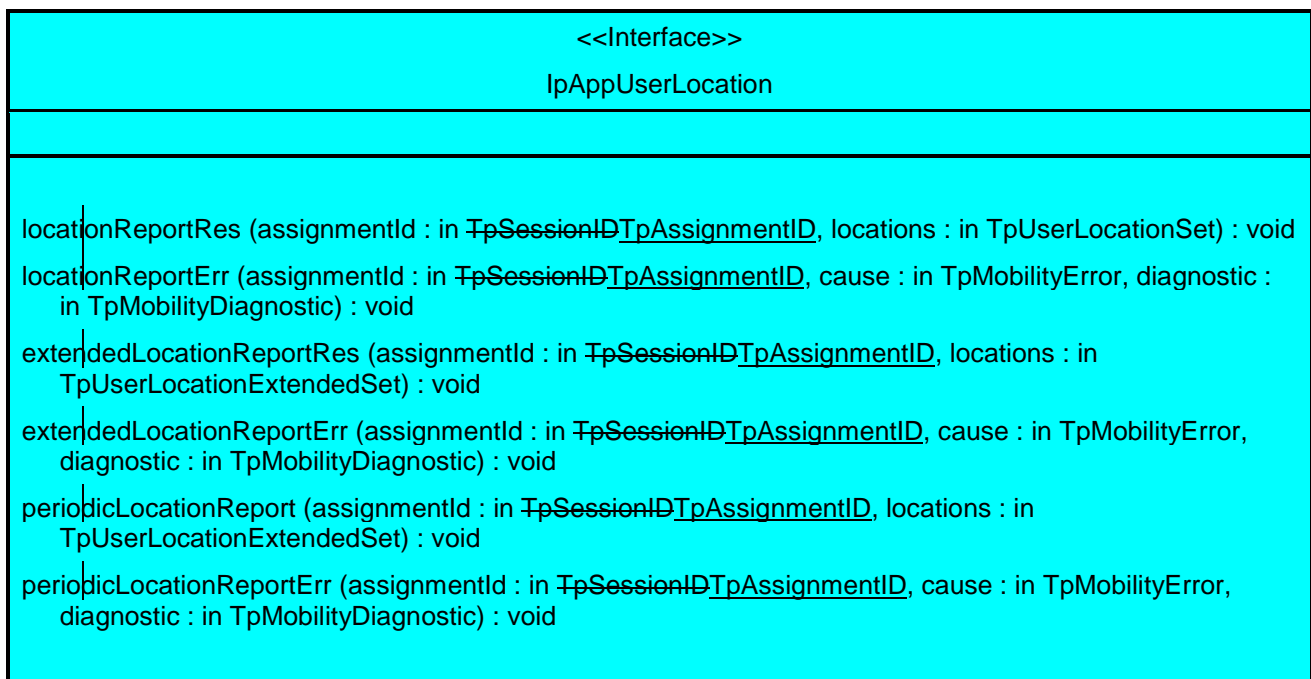
Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.1.2 Interface Class IpAppUserLocation

Inherits from: IpInterface.

The user-location application interface is implemented by the client application developer and is used to handle user location request responses.



Method

locationReportRes ()

A report containing locations for one or several users is delivered.

Parameters

assignmentId : in ~~TpSessionID~~TpAssignmentID

Specifies the assignment ID of the location-report request.

locations : in TpUserLocationSet

Specifies the location(s) of one or several users.

Method

locationReportErr ()

This method indicates that the location report request has failed.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

extendedLocationReportRes ()

A report containing extended location information for one or several users is delivered.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the extended location-report request.

locations : in TpUserLocationExtendedSet

Specifies the location(s) of one or several users.

Method

extendedLocationReportErr ()

This method indicates that the extended location report request has failed.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed extended location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

periodicLocationReport ()

A report containing periodic location information for one or several users is delivered.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the periodic location-reporting request.

locations : in TpUserLocationExtendedSet

Specifies the location(s) of one or several users.

Method

periodicLocationReportErr ()

This method indicates that a requested periodic location report has failed. Note that errors only concerning individual users are reported in the ordinary periodicLocationReport() message.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed periodic location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.1.3 Interface Class IpTriggeredUserLocation

Inherits from: IpUserLocation.

This interface can be used as an extended version of the User Location: Service Interface.

The triggered user location interface represents the interface to the triggered user location functions. The application programmer can use this interface to request user location reports that are triggered by location change.

<<Interface>> IpTriggeredUserLocation
triggeredLocationReportingStartReq (appLocation : in IpAppTriggeredUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest, triggers : in TpLocationTriggerSet) : <u>TpSessionIDTpAssignmentID</u> triggeredLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void

Method

triggeredLocationReportingStartReq()

Request for user location reports when the location is changed (reports are triggered by location change).

Returns: assignmentId

Specifies the assignment ID of the triggered location-reporting request.

Parameters

appLocation : in IpAppTriggeredUserLocationRef

Specifies the application interface for callbacks from the User Location service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

request : in TpLocationRequest

Specifies among others the requested location type, accuracy, response time and priority.

triggers : in TpLocationTriggerSet

Specifies the trigger conditions.

Returns

TpSessionIDTpAssignmentID

Raises

TpCommonExceptions, P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED, P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED, P_TRIGGER_CONDITIONS_NOT_SUBSCRIBED, P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED, P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE

Method

triggeredLocationReportingStop()

Stop triggered user location reporting.

Parameters

stopRequest : in **TpMobilityStopAssignmentData**

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

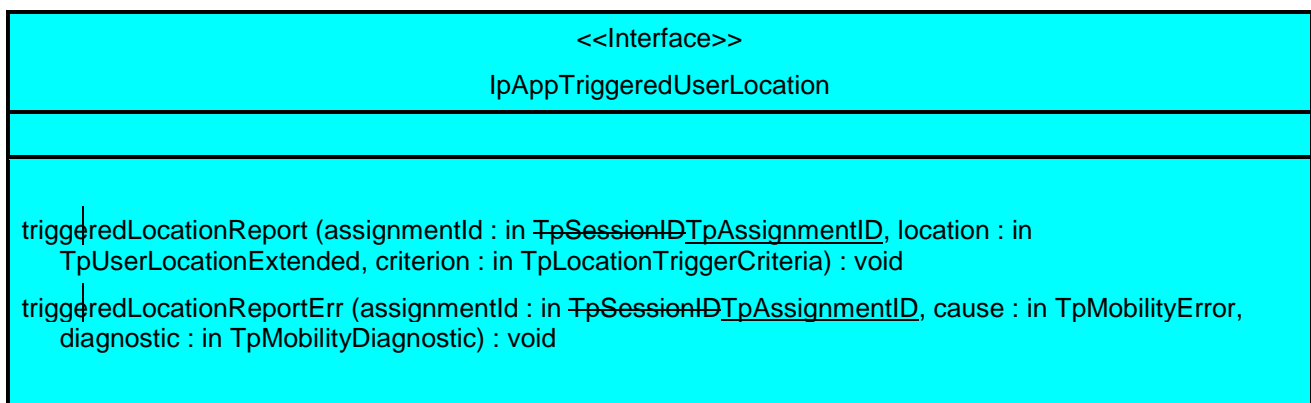
TpCommonExceptions, **P_INVALID_ASSIGNMENT_ID**

8.1.4 Interface Class IpAppTriggeredUserLocation

Inherits from: IpAppUserLocation.

This interface must be used as a specialised version of the User Location: Application Interface if the Triggered User Location: Service Interface is used.

The triggered user location application interface is implemented by the client application developer and is used to handle triggered location reports.



Method

triggeredLocationReport()

A triggered report containing location for a user is delivered.

Parameters

assignmentId : in **TpSessionIDTpAssignmentID**

Specifies the assignment ID of the triggered location-reporting request.

location : in TpUserLocationExtended

Specifies the location of the user.

criterion : in TpLocationTriggerCriteria

Specifies the criterion that triggered the report.

Method

triggeredLocationReportErr()

This method indicates that a requested triggered location report has failed. Note that errors only concerning individual users are reported in the ordinary triggeredLocationReport() message.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed triggered location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.2 User Location Camel Interface Classes

The ULC provides location information, based on network-related information, rather than the geographical co-ordinates that can be retrieved via the general User Location Service.

Using the ULC functions, an application programmer can request the VLR Number, the location Area Identification and the Cell Global Identification and other mobile-telephony-specific location information

The ULC provides the IpUserLocationCamel interface. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement IpAppUserLocationCamel interface to provide the callback mechanism.

8.2.1 Interface Class IpUserLocationCamel

Inherits from: IpService.

This interface is the 'service manager' interface for ULC.

<<Interface>> IpUserLocationCamel
<pre> locationReportReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet) : TpSessionIDTpAssignmentID periodicLocationReportingStartReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet, reportingInterval : in TpDuration) : TpSessionIDTpAssignmentID periodicLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void triggeredLocationReportingStartReq (appLocationCamel : in IpAppUserLocationCamelRef, users : in TpAddressSet, trigger : in TpLocationTriggerCamel) : TpSessionIDTpAssignmentID triggeredLocationReportingStop (stopRequest : in TpMobilityStopAssignmentData) : void </pre>

Method

locationReportReq ()

Request for mobile-related location information on one or several camel users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the location-report request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

Returns

TpSessionID**TpAssignmentID**

Raises

TpCommonExceptions, **P_UNKNOWN_SUBSCRIBER**,
P_APPLICATION_NOT_ACTIVATED, **P_INFORMATION_NOT_AVAILABLE**,
P_INVALID_INTERFACE_TYPE

Method

periodicLocationReportingStartReq()

Request for periodic mobile location reports on one or several users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the periodic location-reporting request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

reportingInterval : in TpDuration

Specifies the requested interval in seconds between the reports.

Returns

TpSessionID **TpAssignmentID**

Raises

**TpCommonExceptions, P_INVALID_REPORTING_INTERVAL,
P_REQUESTED_ACCURACY_CANNOT_BE_DELIVERED,
P_REQUESTED_RESPONSE_TIME_CANNOT_BE_DELIVERED,
P_UNKNOWN_SUBSCRIBER, P_APPLICATION_NOT_ACTIVATED,
P_INFORMATION_NOT_AVAILABLE, P_INVALID_INTERFACE_TYPE**

Method

periodicLocationReportingStop()

This method stops the sending of periodic mobile location reports for one or several users.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

The assignment ID does not correspond to one of a valid assignment.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

Method

triggeredLocationReportingStartReq()

Request for user location reports, containing mobile related information, when the location is changed (the report is triggered by the location change).

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

P_UNKNOWN_SUBSCRIBER

The end-user is not subscribed to the application.

P_APPLICATION_NOT_ACTIVATED

The end-user has de-activated the application.

P_INFORMATION_NOT_AVAILABLE

The request violates the end-user's privacy setting.

Returns: assignmentId

Specifies the assignment ID of the triggered location-reporting request.

Parameters

appLocationCamel : in IpAppUserLocationCamelRef

Specifies the application interface for callbacks from the User Location Camel service.

users : in TpAddressSet

Specifies the user(s) for which the location shall be reported.

trigger : in TpLocationTriggerCamel

Specifies the trigger conditions.

Returns

TpSessionIDTpAssignmentID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_APPLICATION_NOT_ACTIVATED, P_INFORMATION_NOT_AVAILABLE,
P_INVALID_INTERFACE_TYPE**

Method

triggeredLocationReportingStop()

Request that triggered mobile location reporting should stop.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

The assignment ID does not correspond to one of a valid assignment.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

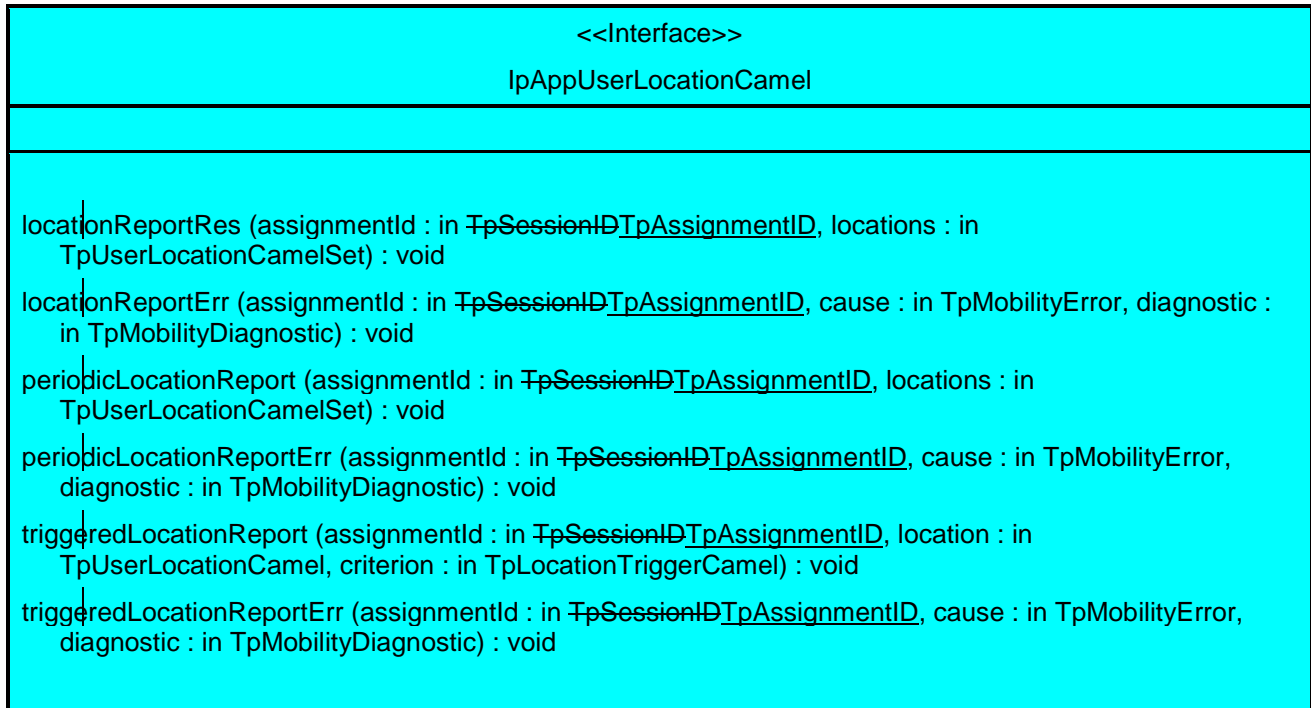
Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.2.2 Interface Class IpAppUserLocationCamel

Inherits from: IpInterface.

The user location Camel application interface is implemented by the client application developer and is used to handle location reports that are specific for mobile telephony users.



Method

locationReportRes ()

Delivery of a mobile location report. The report is containing mobile-related location information for one or several users.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the location-report request.

locations : in TpUserLocationCamelSet

Specifies the location(s) of one or several users.

Method

locationReportErr ()

This method indicates that the location report request has failed.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed location report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

periodicLocationReport()

Periodic delivery of mobile location reports. The reports are containing mobile-related location information for one or several users.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the periodic location-reporting request.

locations : in TpUserLocationCamelSet

Specifies the location(s) of one or several users.

Method

periodicLocationReportErr()

This method indicates that a requested periodic location report has failed. Note that errors only concerning individual users are reported in the ordinary periodicLocationReport() message.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed periodic location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

triggeredLocationReport()

Delivery of a report that is indicating that the user's mobile location has changed.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the triggered location-reporting request.

location : in TpUserLocationCamel

Specifies the location of the user.

criterion : in TpLocationTriggerCamel

Specifies the criterion that triggered the report.

Method

triggeredLocationReportErr()

This method indicates that a requested triggered location report has failed. Note that errors only concerning individual users are reported in the ordinary triggeredLocationReport() message.

Parameters

assignmentId : in TpSessionIDTpAssignmentID

Specifies the assignment ID of the failed triggered location reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.3 User Status Interface Classes

The User Status Service (US) provides a general user status service. US allow applications to obtain the status of fixed, mobile and IP-based telephony users.

The US provides the IpUserStatus interface. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one that uses synchronous message calls. To handle responses and reports, the developer must implement IpAppUserStatus interface to provide the callback mechanism.

8.3.1 Interface Class IpAppUserStatus

Inherits from: IpInterface.

The user-status application interface is implemented by the client application developer and is used to handle user status reports.

<<Interface>>
IpAppUserStatus

```
statusReportRes (assignmentId : in  TpSessionID TpAssignmentID, status : in TpUserStatusSet) : void
statusReportErr (assignmentId : in  TpSessionID TpAssignmentID, cause : in TpMobilityError, diagnostic : in
TpMobilityDiagnostic) : void
triggeredStatusReport (assignmentId : in  TpSessionID TpAssignmentID, status : in TpUserStatus) : void
triggeredStatusReportErr (assignmentId : in  TpSessionID TpAssignmentID, cause : in TpMobilityError,
diagnostic : in TpMobilityDiagnostic) : void
```

Method

statusReportRes ()

Delivery of a report, that is containing one or several user's status.

Parameters

assignmentId : in ~~TpSessionID~~ TpAssignmentID

Specifies the assignment ID of the status-report request.

status : in TpUserStatusSet

Specifies the status of one or several users.

Method

statusReportErr ()

This method indicates that the status report request has failed.

Parameters

assignmentId : in ~~TpSessionID~~ TpAssignmentID

Specifies the assignment ID of the failed status report request.

cause : in TpMobilityError

Specifies the error that led to the failure.

diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

Method

triggeredStatusReport ()

Delivery of a report that is indicating that a user's status has changed.

Parameters

assignmentId : in ~~TpSessionID~~TpAssignmentID

Specifies the assignment ID of the triggered status-reporting request.

status : in TpUserStatus

Specifies the status of the user.

Method

triggeredStatusReportErr()

This method indicates that a requested triggered status reporting has failed. Note that errors only concerning individual users are reported in the ordinary triggeredStatusReport() message.

Parameters

assignmentId : in ~~TpSessionID~~TpAssignmentID

Specifies the assignment ID of the failed triggered status reporting start request.

cause : in TpMobilityError

Specifies the error that led to the failure.

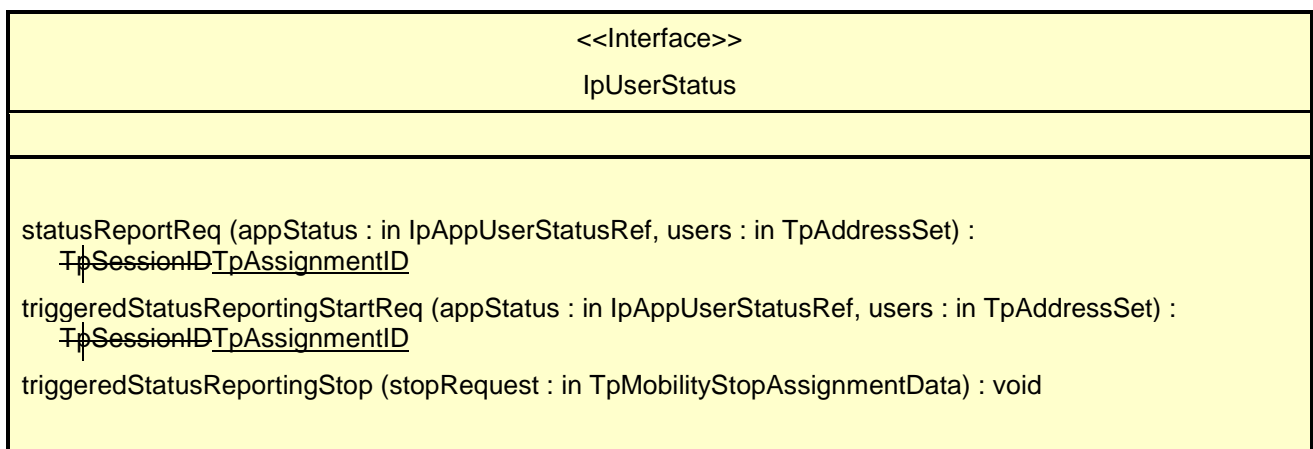
diagnostic : in TpMobilityDiagnostic

Specifies additional information about the error that led to the failure.

8.3.2 Interface Class IpUserStatus

Inherits from: IpService.

The application programmer can use this interface to obtain the status of fixed, mobile and IP-based telephony users.



Method

statusReportReq()

Request for a report on the status of one or several users.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

Returns: assignmentId

Specifies the assignment ID of the status-report request.

Parameters

appStatus : in IpAppUserStatusRef

Specifies the application interface for callbacks from the User Status service.

users : in TpAddressSet

Specifies the user(s) for which the status shall be reported.

Returns

TpSessionIDTpAssignmentID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_INFORMATION_NOT_AVAILABLE, P_APPLICATION_NOT_ACTIVATED,
P_INVALID_INTERFACE_TYPE**

Method

triggeredStatusReportingStartReq

Request for triggered status reports when one or several user's status is changed. The user status service will send a report when the status changes.

Raises the following exceptions:

P_NO_CALLBACK_ADDRESS_SET

The requested method has been refused, because no callback address is set.

P_RESOURCES_UNAVAILABLE

The required resources in the network are not available. The application may try to invoke the method at a later time.

Returns: assignmentId

Specifies the assignment ID of the triggered status-reporting request.

Parameters

appStatus : in IpAppUserStatusRef

Specifies the application interface for callbacks from the User Status service.

users : in TpAddressSet

Specifies the user(s) for which the status changes shall be reported.

Returns

TpSessionIDTpAssignmentID

Raises

**TpCommonExceptions, P_UNKNOWN_SUBSCRIBER,
P_INFORMATION_NOT_AVAILABLE, P_APPLICATION_NOT_ACTIVATED,
P_INVALID_INTERFACE_TYPE**

Method

triggeredStatusReportingStop()

This method stops the sending of status reports for one or several users.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

The assignment ID does not correspond to one of a valid assignment.

Parameters

stopRequest : in TpMobilityStopAssignmentData

Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

CHANGE REQUEST

⌘ **29.198-06 CR 013** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

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

Title:	⌘ Correcting erroneous references to Service Factory		
Source:	⌘ CN5		
Work item code:	⌘ OSA2	Date:	⌘ 30/05/2002
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)

Reason for change:	⌘ In Release 4, the Service Factory, represented by the interface IpServiceFactory was replaced by a service lifecycle manager, IpServiceInstanceLifecycleManager. However, the STDs still show a reference to the service factory.
Summary of change:	⌘ Replace the reference to service factory with references to service instance lifecycle manager
Consequences if not approved:	⌘ The STDs will not match the specification, and will reference interfaces that do not exist.

Clauses affected:	⌘ 9.2.1, 9.3.1	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘
Other comments:	⌘	

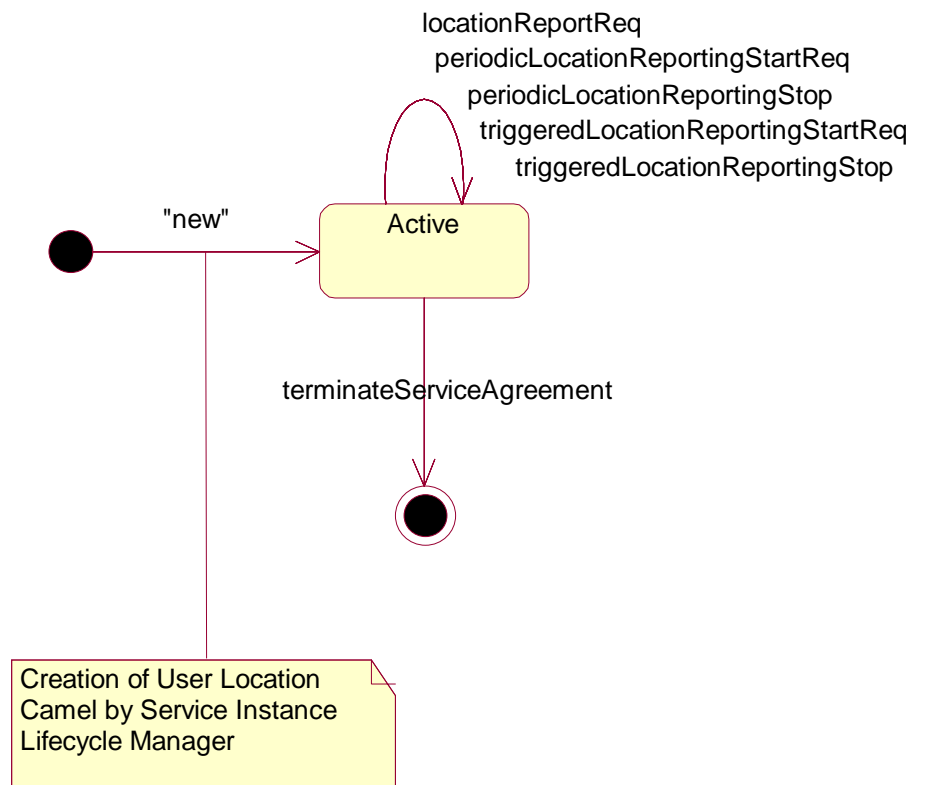
How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 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.

9.2.1 State Transition Diagrams for IpUserLocationCamel

During the signServiceAgreement a new user location interface reference is created, which is user as the initial point of contact for the application.



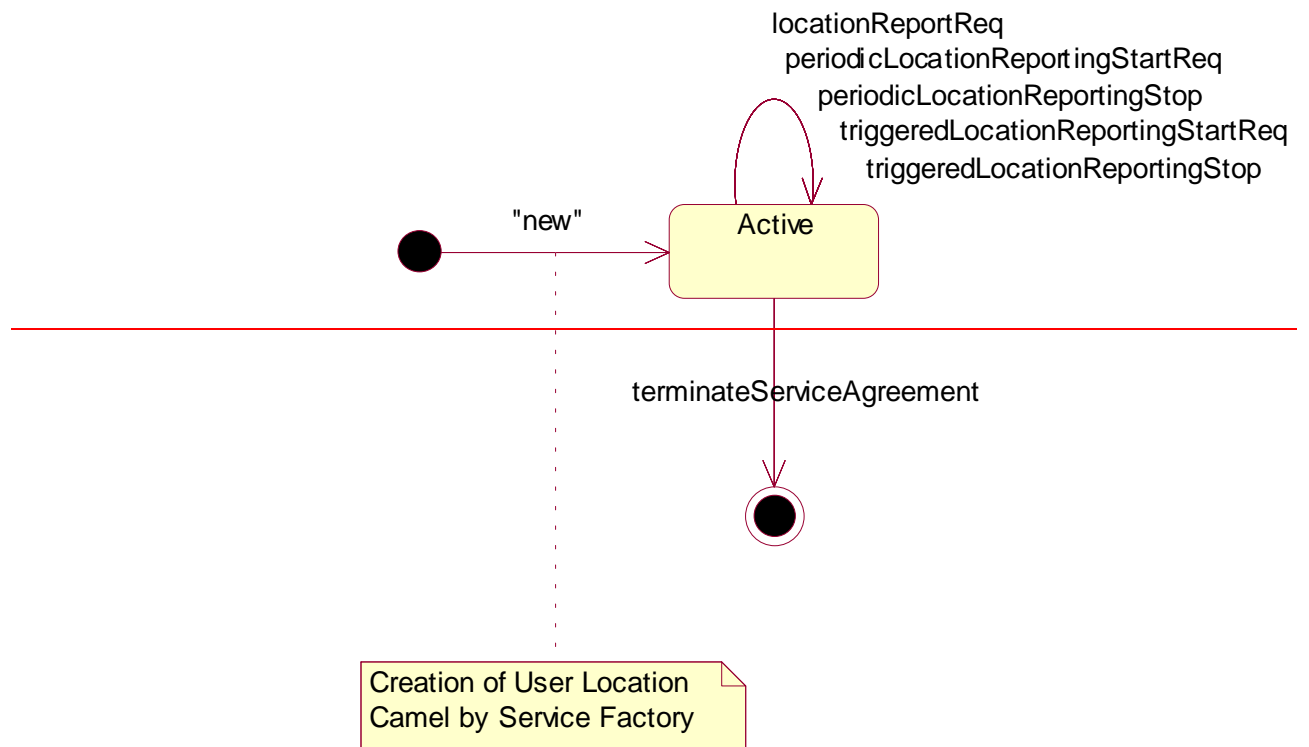


Figure : State Transition Diagram for User Location Camel

9.2.1.1 Active State

In this state, a relation between the Application and the Network User Location Service Capability Feature has been established. It allows the application to request a specific user location reports, subscribe to periodic user location reports or subscribe to triggers that generate location report when a location update occurs inside the current VLR area or when the user moves to another VLR area or both.

9.3 User Status

9.3.1 State Transition Diagrams for IpUserStatus

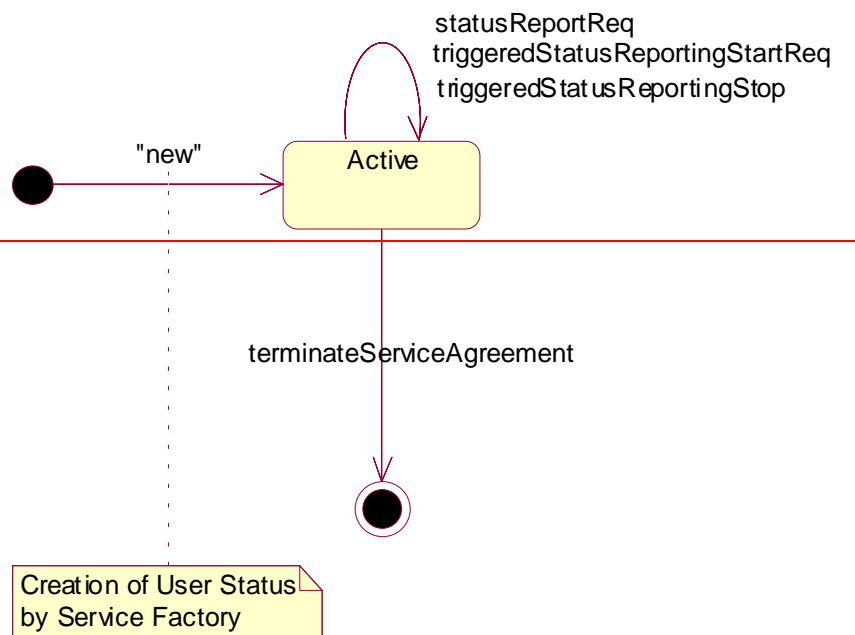
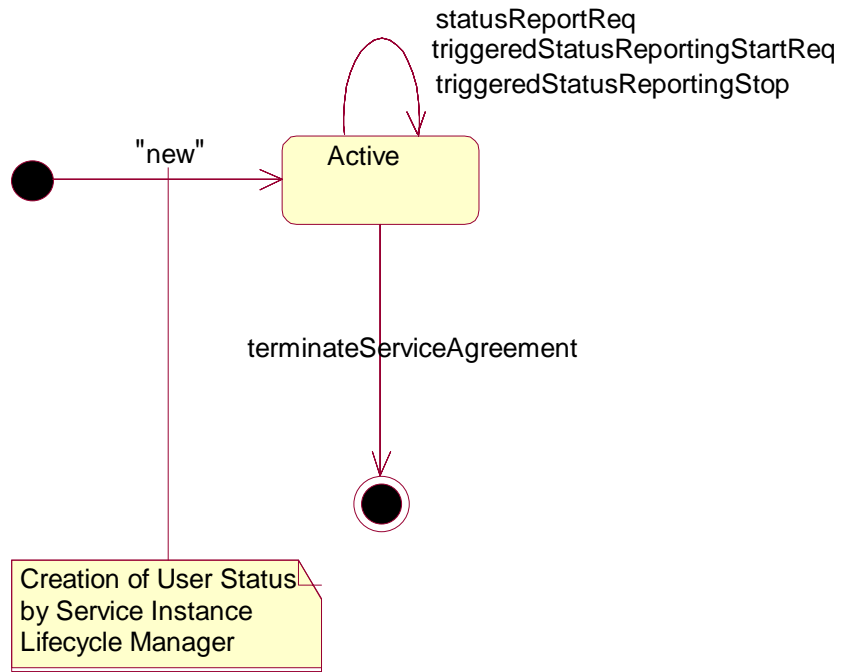


Figure : State Transition Diagram for User Status

9.3.1.1 Active State

In this state, a relation between the Application and the User Status Service Capability Feature has been established. It allows the application to request a specific user status report or subscribe to triggers that generate status reports when the status of one of the monitored user changes.