

**3GPP TSG CN Plenary Meeting #14
Kyoto, Japan, 12-14 December 2001**

NP-010599

Source: CN5 (OSA)
Title: Rel-4 CRs 29.198-06
Agenda item: 8.5
Document for: Decision

Doc-1st-Level	Spec	CR	Pha	Subject	Cat	Ver Cur	Ver -New	Doc-2nd-Level	Workitem
NP-010599	29.198-06	004	Rel-4	Replace Out Parameters with Return Types	F	4.2.1	4.3.0	N5-010566	OSA1
NP-010599	29.198-06	005	Rel-4	Methods accepting an interface as a parameter need to be able to raise P_INVALID_INTERFACE_TYPE	F	4.2.1	4.3.0	N5-011007	OSA1
NP-010599	29.198-06	006	Rel-4	Correction of references to 3GPP specifications	F	4.2.1	4.3.0	N5-011251	OSA1
NP-010599	29.198-06	007	Rel-4	Correction to callback interface reference in method IpTriggeredUserLocation.triggeredLocationReportingStartReq	F	4.2.1	4.3.0	N5-011272	OSA1

CR-Form-v4

CHANGE REQUEST

⌘ **29.198-06 CR 004** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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:	⌘ Replacing Out Parameters with Return Types		
Source:	⌘ CN5		
Work item code:	⌘ OSA1	Date:	⌘ 19/072001
Category:	⌘ F	Release:	⌘ REL-4
	<i>Use one of the following categories:</i> 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 .		<i>Use one of the following releases:</i> 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:	⌘ At CN5 and CN it was agreed that Out-parameters should be removed from methods as a means of returning information, to be replaced by Return Types, in line with commonly used programming practice
Summary of change:	⌘ For each method, replace the return parameter TpResult with: 'void' if the method has no out-parameter; or the type of the out-parameter if the method has an out-parameter, and delete the out-parameter from the method.
Consequences if not approved:	⌘ If this particular CR is not agreed, TS 29.198-6 is out of sync. with the other parts of TS 29.198. If the related batch of CRs is not agreed, OSA will have a limited acceptance among the application development community, since it will be more difficult to implement. This presents a risk to the return on investment in development of OSA.

Clauses affected:	⌘ 7, 8, Annex B		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	All other parts of TS 29.198 Rel-4
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.

7 The Service Interface Specifications

7.1 Interface Specification Format

This section defines the interfaces, methods and parameters that form a part of the API specification. The Unified Modelling Language (UML) is used to specify the interface classes. The general format of an interface specification is described below.

7.1.1 Interface Class

This shows a UML interface class description of the methods supported by that interface, and the relevant parameters and types. The Service and Framework interfaces for enterprise-based client applications are denoted by classes with name `Ip<name>`. The callback interfaces to the applications are denoted by classes with name `IpApp<name>`. For the interfaces between a Service and the Framework, the Service interfaces are typically denoted by classes with name `IpSvc<name>`, while the Framework interfaces are denoted by classes with name `IpFw<name>`

7.1.2 Method descriptions

Each method (API method “call”) is described. All methods in the API return a value of type `TpResult`, indicating, amongst other things, if the method invocation was successfully executed or not.

Both synchronous and asynchronous methods are used in the API. Asynchronous methods are identified by a 'Req' suffix for a method request, and, if applicable, are served by asynchronous methods identified by either a 'Res' or 'Err' suffix for method results and errors, respectively. To handle responses and reports, the application or service developer must implement the relevant `IpApp<name>` or `IpSvc<name>` interfaces to provide the callback mechanism.

7.1.3 Parameter descriptions

Each method parameter and its possible values are described. Parameters described as 'in' represent those that must have a value when the method is called. Those described as 'out' are those that contain the return result of the method when the method returns.

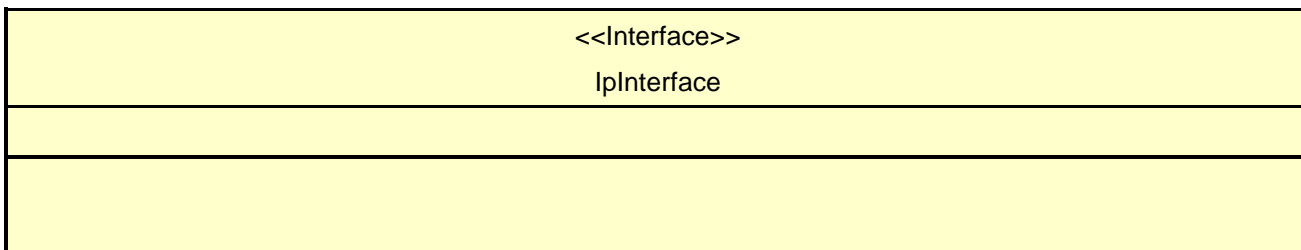
7.1.4 State Model

If relevant, a state model is shown to illustrate the states of the objects that implement the described interface.

7.2 Base Interface

7.2.1 Interface Class IpInterface

All application, framework and service interfaces inherit from the following interface. This API Base Interface does not provide any additional methods.



7.3 Service Interfaces

7.3.1 Overview

The Service Interfaces provide the interfaces into the capabilities of the underlying network - such as call control, user interaction, messaging, mobility and connectivity management.

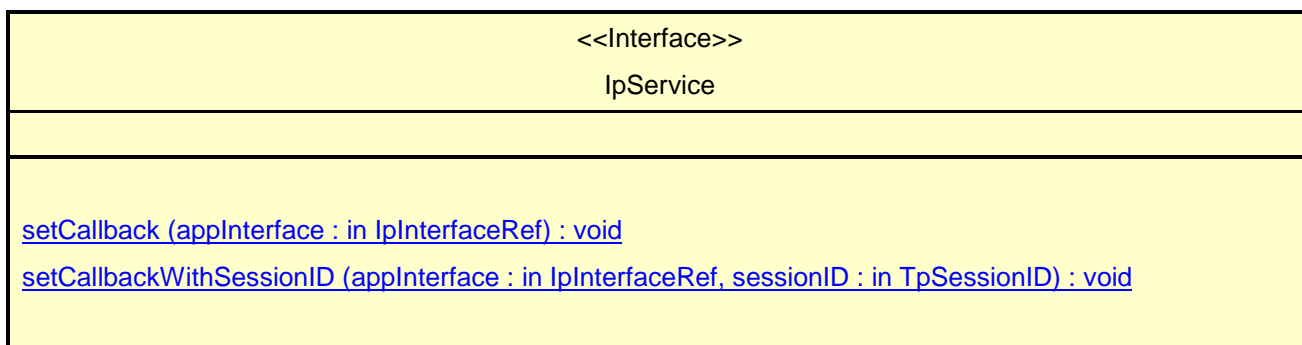
The interfaces that are implemented by the services are denoted as 'Service Interface'. The corresponding interfaces that must be implemented by the application (e.g. for API callbacks) are denoted as 'Application Interface'.

7.4 Generic Service Interface

7.4.1 Interface Class IpService

Inherits from: IpInterface

All service interfaces inherit from the following interface.



Method

setCallback()

This method specifies the reference address of the callback interface that a service uses to invoke methods on the application. It is not allowed to invoke this method on an interface that uses SessionID's.

Parameters

appInterface : in IpInterfaceRef

Specifies a reference to the application interface, which is used for callbacks

Raises

TpCommonExceptions

Method

setCallbackWithSessionID()

This method specifies the reference address of the application's callback interface that a service uses for interactions associated with a specific session ID: e.g. a specific call, or call leg. It is not allowed to invoke this method on an interface that does not uses SessionID's.

Parameters

appInterface : in IpInterfaceRef

Specifies a reference to the application interface, which is used for callbacks

sessionID : in TpSessionID

Specifies the session for which the service can invoke the application's callback interface.

Raises

TpCommonExceptions, P_INVALID_SESSION_ID

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.

<<Interface>> IpUserLocation
locationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet) : TpSessionID extendedLocationReportReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet, request : in TpLocationRequest) : TpSessionID periodicLocationReportingStartReq (appLocation : in IpAppUserLocationRef, users : in TpAddressSet,

[request : in TpLocationRequest, reportingInterval : in TpDuration\) : TpSessionID](#)
[periodicLocationReportingStop \(stopRequest : in TpMobilityStopAssignmentData\) : void](#)

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 requests 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**

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 requests 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**

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 requests 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**

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**

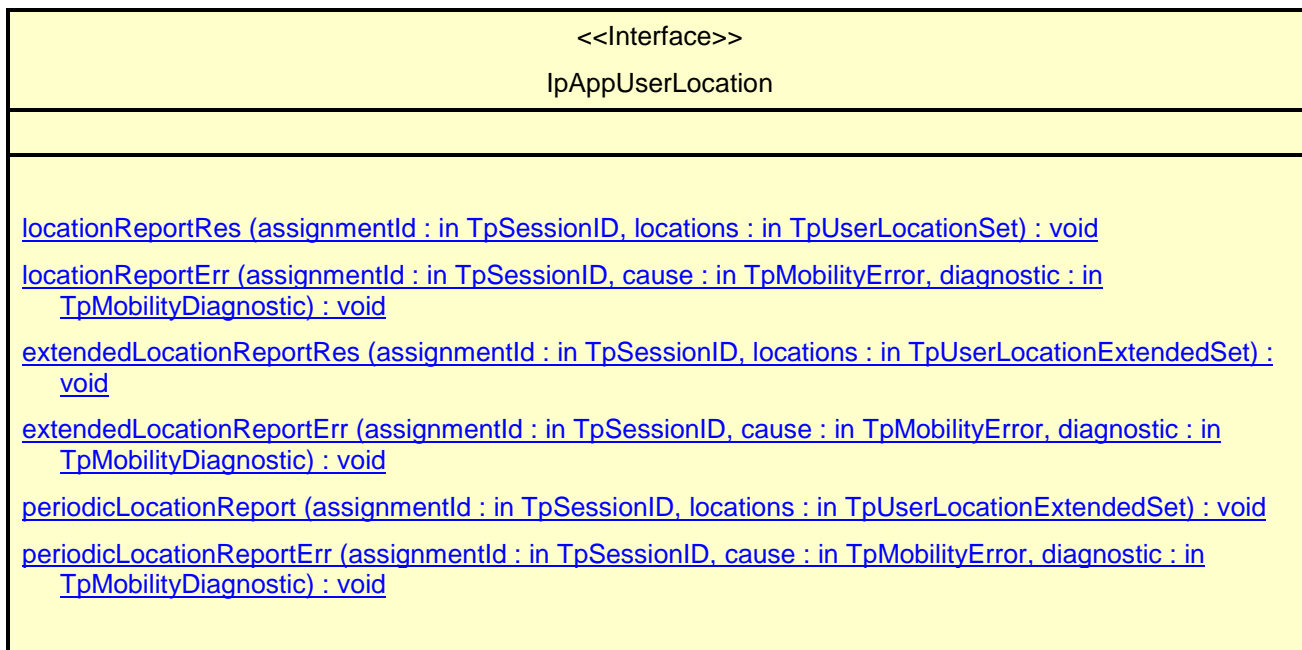
Specifies how the assignment shall be stopped, i.e. if whole or just parts of the assignment should be stopped.

*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

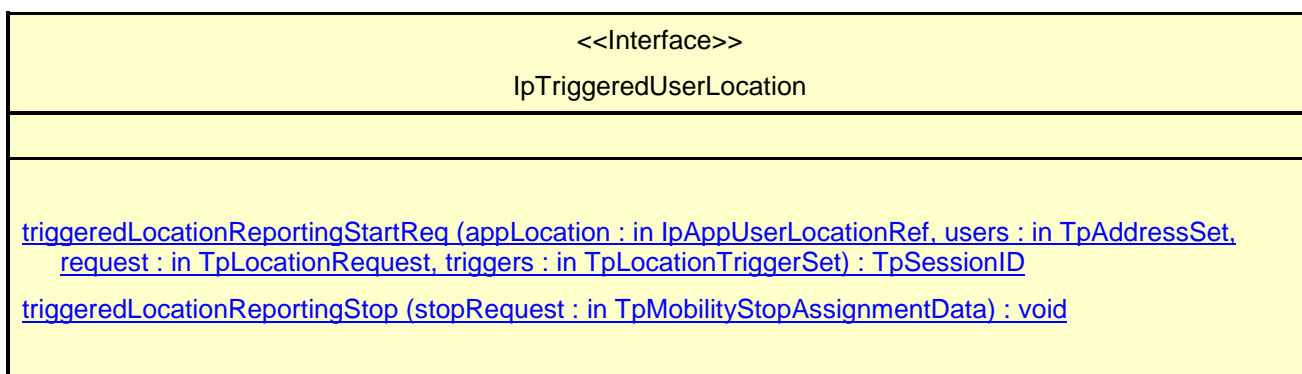
Specifies additional information about the error that led to the failure.

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.

*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 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.

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***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.

<<Interface>>

IpAppTriggeredUserLocation

[triggeredLocationReport \(assignmentId : in TpSessionID, location : in TpUserLocationExtended, criterion : in TpLocationTriggerCriteria\) : void](#)

[triggeredLocationReportErr \(assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in TpMobilityDiagnostic\) : void](#)

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 coordinates 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

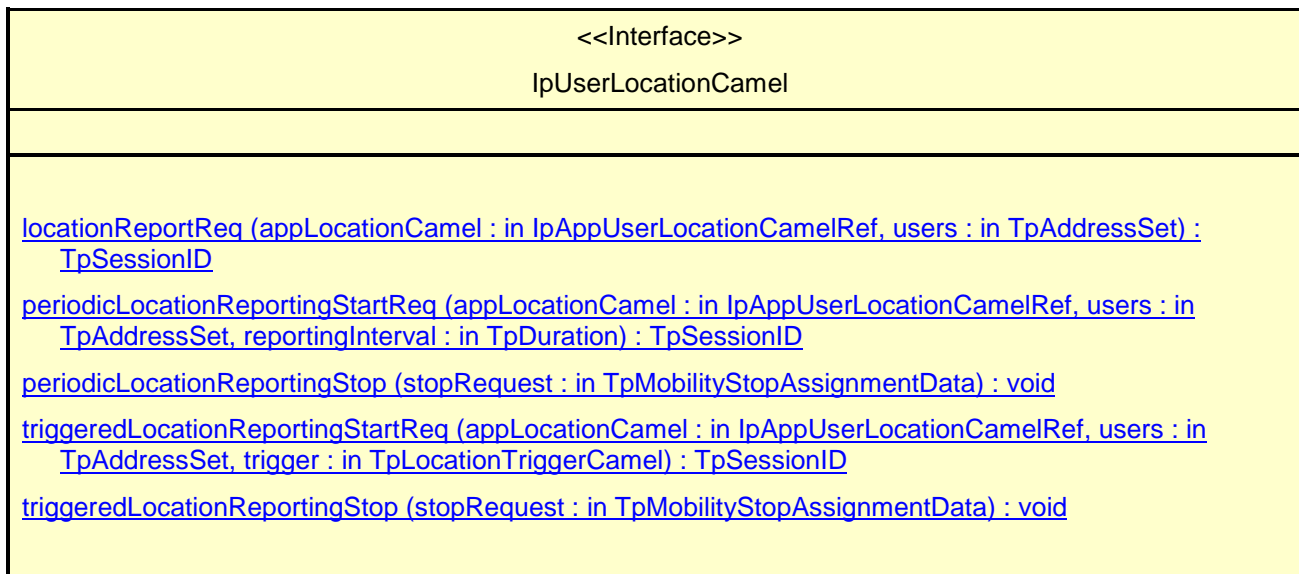
The ULC provides the IpUserLocationCamel interface. Most methods are asynchronous, in that they do not lock a thread into waiting whilst a transaction performs. In this way, the client machine can handle many more calls, than one

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.



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 requests 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

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 requests 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**

*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 requests 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

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.

<<Interface>> IpAppUserLocationCamel
<p>locationReportRes (assignmentId : in TpSessionID, locations : in TpUserLocationCamelSet) : void</p> <p>locationReportErr (assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in TpMobilityDiagnostic) : void</p> <p>periodicLocationReport (assignmentId : in TpSessionID, locations : in TpUserLocationCamelSet) : void</p> <p>periodicLocationReportErr (assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in TpMobilityDiagnostic) : void</p> <p>triggeredLocationReport (assignmentId : in TpSessionID, location : in TpUserLocationCamel, criterion : in TpLocationTriggerCamel) : void</p> <p>triggeredLocationReportErr (assignmentId : in TpSessionID, cause : in TpMobilityError, diagnostic : in TpMobilityDiagnostic) : void</p>

*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

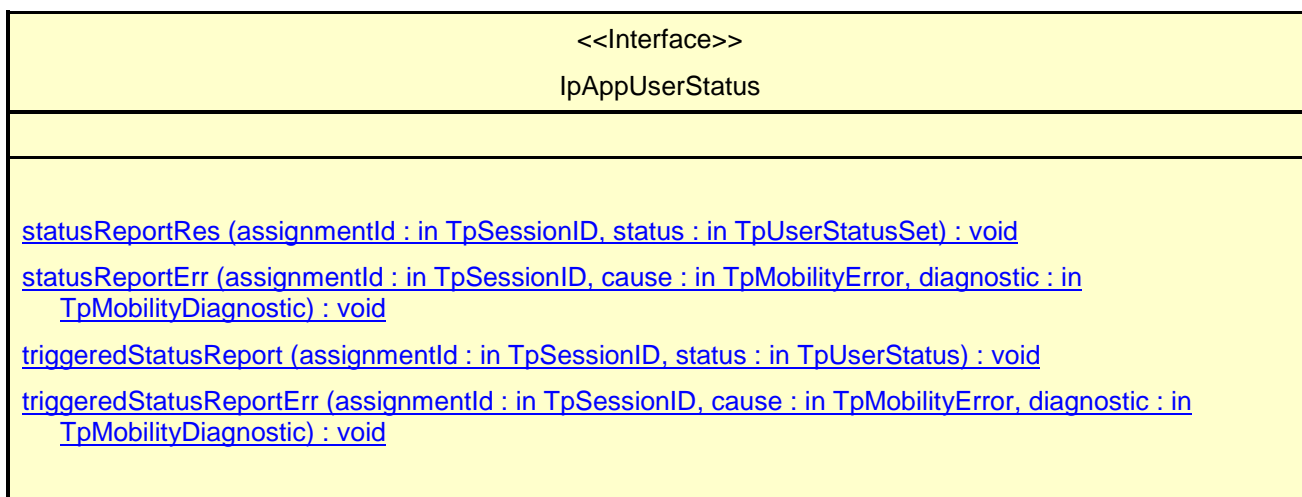
The User Status Service (US) provides a general user status service. US allow applications to obtain the status of fixed, mobile and IP-based telephony users.

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.



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.

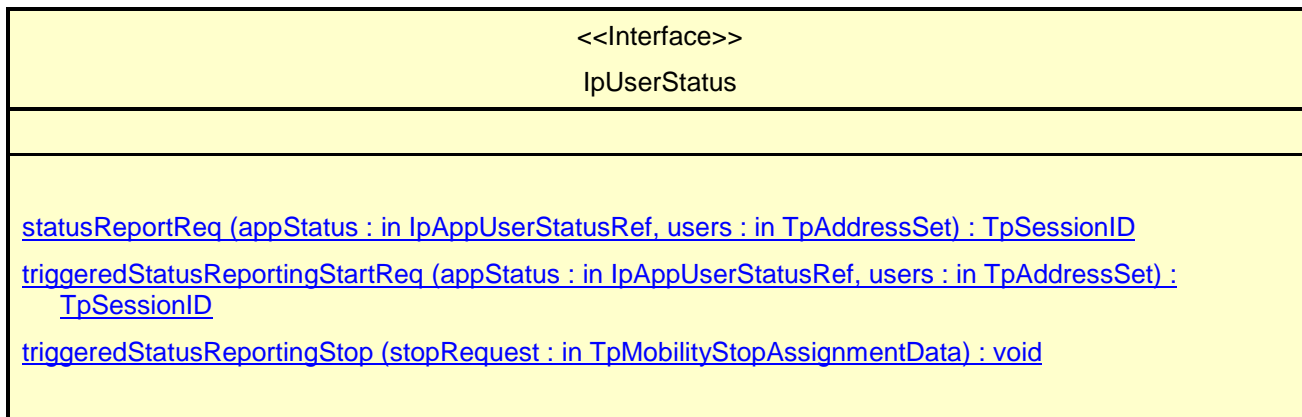
diagnostic : in TpMobilityDiagnostic

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.



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

*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

*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

=====Next changed section=====

Annex B (informative): Differences between this draft and 3GPP TS 29.198 R99

B.1 All Interfaces

All methods on IpApp interfaces no longer throw exceptions.

All methods on the other interfaces throw TpCommonExceptions and individual, identified exceptions

[All methods now return void or the former out parameter.](#)

CR-Form-v4

CHANGE REQUEST

⌘ **29.198-06 CR 005** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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:	⌘	Methods accepting an interface as a parameter need to be able to raise P_INVALID_INTERFACE_TYPE	
Source:	⌘	CN5	
Work item code:	⌘	OSA1	Date: ⌘ 19/10/2001
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)

Reason for change:	⌘	Methods accepting an interface as a parameter need to be able to raise P_INVALID_INTERFACE_TYPE.	
Summary of change:	⌘	The methods locationReportReq, extendedLocationReportReq and periodicLocationReportingStartReq have this exception added to their “raises” list.	
Consequences if not approved:	⌘	The interface specification for these methods will be incomplete.	

Clauses affected:	⌘	8.1.1	
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘
Other comments:	⌘		

Mobility

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.

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

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 requests 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 requests 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 requests 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

8.1.3 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 IpAppUserLocationRef, 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 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.

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

8.2.1 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 requests 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 requests 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 requests 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

8.3.1 Interface Class IpUserLocationEmergency

Inherits from: IpService.

The application programmer can use this interface to obtain the location of users who initiate emergency calls.

<<Interface>> IpUserLocationEmergency
emergencyLocationReportReq (appEmergencyLocation : in IpAppUserLocationEmergencyRef, request : in TpUserLocationEmergencyRequest) : TpSessionID subscribeEmergencyLocationReports (appEmergencyLocation : in IpAppUserLocationEmergencyRef) : TpSessionID unsubscribeEmergencyLocationReports (assignmentId : in TpSessionID) : void

*Method***emergencyLocationReportReq ()**

Request of report on the location for one user that is making an emergency call.

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 emergency location-report request.

Parameters

appEmergencyLocation : in IpAppUserLocationEmergencyRef

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

request : in TpUserLocationEmergencyRequest

Specifies among others the identity of the user or terminal, requested location type, accuracy, response time and priority.

Returns

TpSessionID

Raises

TpCommonExceptions, P_UNKNOWN_SUBSCRIBER, P_INFORMATION_NOT_AVAILABLE, P_APPLICATION_NOT_ACTIVATED, P_INVALID_INTERFACE_TYPE

*Method***subscribeEmergencyLocationReports ()**

Subscribe to network initiated emergency user location reports.

A method parameter has an invalid value.

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 subscription.

Parameters

appEmergencyLocation : in IpAppUserLocationEmergencyRef

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

Returns

TpSessionID

Raises

TpCommonExceptions, P_INVALID_INTERFACE_TYPE

Method

unsubscribeEmergencyLocationReports()

This method cancels a subscription to network initiated emergency user location reports.

Raises the following exceptions:

P_INVALID_ASSIGNMENT_ID

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

Parameters

assignmentId : in TpSessionID

Specifies the assignment ID of the subscription.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.4.2 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 006** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

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:	⌘ Corrections to references to 3GPP Specifications		
Source:	⌘ CN5		
Work item code:	⌘ OSA1	Date:	⌘ 30/11/2001
Category:	⌘ F	Release:	⌘ REL-4
	<i>Use one of the following categories:</i> 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.		<i>Use one of the following releases:</i> 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:	⌘ Reference is made to various definitions in GSM 09.02 and GSM 03.71. Reference should be made to the correct 3GPP versions of these specifications, since the GSM versions do not contain the items referred to.
Summary of change:	⌘ Update references to GSM 09.02 and GSM 03.71 to 3GPP 23.271.
Consequences if not approved:	⌘ References to non-existing items will continue to exist in the document.

Clauses affected:	⌘ 10		
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.

10 Service Properties

10.1 Mobility Properties

10.1.1 Emergency Application Subtypes

Emergency (see definition of ‘LCS Client Type’ in 3GPP TS 23.271~~GSM 09.02~~) Application Subtypes;

This property contains a list of application subtypes that are permitted to use the service. The possible subtypes are (see definition of ‘LCS Client Internal ID’ in GSM 09.02~~3GPP TS 23.271 and chapter 6.4.1 in GSM 03.71~~):

- “Broadcast service”
- “O&M HPLMN service”
- “O&M VPLMN service”
- “Anonymous location”
- “Target MS subscribed service”

10.1.2 Value Added Application Subtypes

Value Added (see definition of ‘LCS Client Type’ in 3GPP TS 23.271~~GSM 09.02~~) Application Subtypes.

This property contains a list of application subtypes that are permitted to use the service. The possible subtypes are (see definition of ‘LCS Client Internal ID’ in 3GPP TS 23.271~~GSM 09.02 and chapter 6.4.1 in GSM 03.71~~):

- “Broadcast service”
- “O&M HPLMN service”
- “O&M VPLMN service”
- “Anonymous location”
- “Target MS subscribed service”

10.1.3 PLMN Operator Application Subtypes

PLMN Operator (see definition of ‘LCS Client Type’ in 3GPP TS 23.271~~GSM 09.02~~.) Application Subtypes.

This property contains a list of application subtypes that are permitted to use the service. The possible subtypes are (see definition of ‘LCS Client Internal ID’ in 3GPP TS 23.271~~GSM 09.02 and chapter 6.4.1 in GSM 03.71~~):

- “Broadcast service”
- “O&M HPLMN service”
- “O&M VPLMN service”
- “Anonymous location”
- “Target MS subscribed service”

10.1.4 Lawful Intercept Application Subtypes

Lawful Intercept (See definition of ‘LCS Client Type’ in 3GPP TS 23.271~~GSM 09.02~~.) Application Subtypes.

This property contains a list of application subtypes that are permitted to use the service. The possible subtypes are (see definition of ‘LCS Client Internal ID’ in GSM~~3GPP TS 23.271~~~~09.02 and chapter 6.4.1 in GSM 03.71~~):

- “Broadcast service”
- “O&M HPLMN service”
- “O&M VPLMN service”
- “Anonymous location”
- “Target MS subscribed service”

10.1.5 Altitude Obtainable

Indicates whether it is possible to obtain a user's altitude.

10.1.6 Location Methods

List of supported location methods. Possible values (other values are permitted):

- "Time of Arrival"
- "Timing Advance"
- "GPS"
- "User Data Lookup"
- "Any Time Interrogation"

10.1.7 Priorities

List of supported priorities for location requests. Possible values (no other values are permitted):

- "Normal"
- "High"

10.1.8 Max Interactive Requests

The maximum number of parallel outstanding location or status requests allowed per application. It shall be possible to convert the value to a 32-bit integer.

10.1.9 Max Triggered Users

The maximum number of users allowed per application for which triggered location reporting can be requested. It shall be possible to convert the value to a 32-bit integer.

10.1.10 Max Periodic Users

The maximum number of users allowed per application for which periodic location reporting can be requested. It shall be possible to convert the value to a 32-bit integer.

10.1.11 Min Periodic Interval Duration

The minimal time in seconds allowed between two periodic reports. It shall be possible to convert the value to a 32-bit integer.

10.2 User Location Service Properties

A specific User Location service shall set the following properties:

- General Properties applicable to all SCFs (in Framework)
- Permitted application types
- Permitted application subtypes
- Priorities (see definition of 'LCSClientType' in 3GPP TS 23.271~~GSM-09-02.~~)
- Altitude obtainable

- Location methods
- Max interactive requests
- Max triggered users
- Max periodic users
- Min periodic interval duration

EXAMPLE: The example below describes the capabilities of two fictive User Location services:

Property Name	Property Value Service 1	Property Value Service 2
Service instance ID	0x80923AD0	0xF0ED85CB
Service name	UserLocation	UserLocation
Service version	2.1	2.1
Service description	Basic User Location service.	Advanced high-performance User Location service.
Product name	Find It	Locate.com
Product version	1.3	3.1
Supported interfaces	"IpUserLocation"	"IpUserLocation"
Permitted application types	"Emergency service", "Value added service"	"Emergency service", "Value added service", "Lawful intercept service"
Permitted application subtypes	?	?
Priorities	"Normal"	"Normal", "High"
Altitude obtainable	False	True
Location methods	"Timing Advance"	"GPS", "Time Of Arrival"
Max interactive requests	2000	10000
Max triggered users	0	2000
Max periodic users	300	2000
Min periodic interval duration	600	30

10.3 User Location Camel Service Properties

A specific User Location Camel service shall set the following properties:

- General Properties applicable to all SCFs (in Framework)
- Max interactive requests
- Max triggered users
- Max periodic users
- Min periodic interval duration

10.4 User Status Service Properties

A specific User Location service shall set the following properties:

- General Properties applicable to all SCFs (in Framework)
- Max interactive requests
- Max triggered users

CHANGE REQUEST

⌘ **29.198-06 CR 007** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

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:	⌘ Correction to callback interface reference in method IpTriggeredUserLocation.triggeredLocationReportingStartReq		
Source:	⌘ CN5		
Work item code:	⌘ OSA1 Date: ⌘ 30/11/2001		
Category:	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> ⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. </td> <td style="width: 50%; vertical-align: top;"> Release: ⌘ REL-4 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) </td> </tr> </table>	⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Release: ⌘ REL-4 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)
⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Release: ⌘ REL-4 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:	⌘ Method triggeredLocationReportingStartReq in interface IpTriggeredUserLocation contains a parameter which supplies a callback interface reference of type IpAppUserLocationRef. This should be restricted to be of type IpAppTriggeredUserLocationRef. IpAppTriggeredUserLocation inherits from IpAppUserLocation, so it is possible to supply a reference to an interface of type IpAppTriggeredUserLocation using the existing type in the method. However, without this change it is also possible to provide a reference to an interface of type IpAppUserLocation, which will not provide the functionality expected by the SCS, and which will therefore lead to interworking problems.
Summary of change:	⌘ Change the type of the appLocation parameter in IpTriggeredUserLocation.triggeredLocationReportingStartReq to be of type IpAppTriggeredUserLocationRef. A similar change in the IDL should also be performed.
Consequences if not approved:	⌘ A potential interworking problem between an application and an SCS could arise without this change. This change was already performed in Parlay 2.1 and has not been taken into account in the 3GPP specification set.

Clauses affected:	⌘ 8.1.3, Annex A
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> <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:

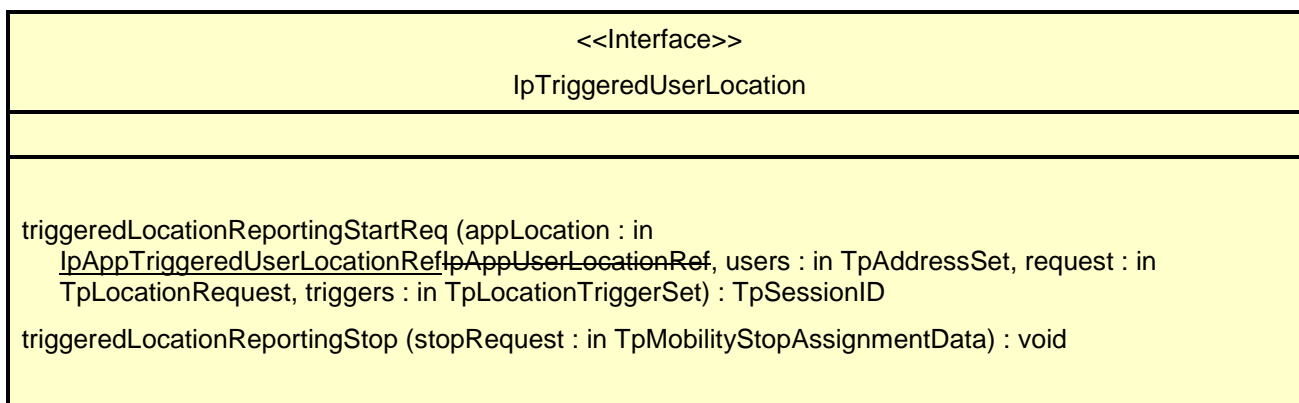
- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") 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.

8.1.3 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.



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 IpAppTriggeredUserLocationRefIpAppUserLocationRef

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

*** Next Modification ***

Annex A (normative): OMG IDL Description of Mobility SCF

The OMG IDL representation of this interface specification is contained in a text file (mm.idl contained in archive 2919806IDL.ZIP) which accompanies the present document.

```
interface IpTriggeredUserLocation : IpUserLocation {

    TpSessionID triggeredLocationReportingStartReq (
        in IpAppTriggeredUserLocationIpAppUserLocation appLocation,
        in TpAddressSet users,
        in TpLocationRequest request,
        in TpLocationTriggerSet triggers
    )
    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);

    void triggeredLocationReportingStop (
        in TpMobilityStopAssignmentData stopRequest
    )
    raises (TpCommonExceptions, P_INVALID_ASSIGNMENT_ID);
};
```