3GPP TSG CN Plenary Meeting #15 **NP-020105**
6 – 8 March 2002. Jeju, KOREA

Source: **CN5 (OSA)**

Title: **Rel-4 CRs 29.198-03 OSA API Part 3: Framework**

Agenda item: **8.5**

Document for: **Decision**

Doc-1st-Level	Spec	CR	R	Phase	Subject	Cat	Ver - Curr	Ver - New	Doc-2nd-Level	Workitem
NP-020105	29.198-03	023		Rel-4	**Add P_INVALID_INTERFACE_TYPE exception to IpService.setCallback() and IpService.setCallbackWithSessionID()**	F	4.3.0	4.4.0	N5-020020	OSA1
NP-020105	29.198-03	024		Rel-4	**Replace erroneous mention of P_OSA_ACCESS by the correct value P_OSA_AUTHENTICATION**	F	4.3.0	4.4.0	N5-020046	OSA1
NP-020105	29.198-03	025		Rel-4	**Add missing inheritance in service agreement management interfaces**	F	4.3.0	4.4.0	N5-020073	OSA1
NP-020105	29.198-03	026		Rel-4	**Include Operation Set as part of General Service Properties**	F	4.3.0	4.4.0	N5-020095	OSA1
NP-020105	29.198-03	027		Rel-4	**Improved description of activityTestReq with respect to ServiceInstanceID**	F	4.3.0	4.4.0	N5-020137	OSA1
NP-020105	29.198-03	028		Rel-4	**OSA Framework - Generate statistics records on behalf of another entity using genFaultStatsRecordReq**	F	4.3.0	4.4.0	N5-020140	OSA1
NP-020105	29.198-03	029		Rel-4	**Update the interface names for alignment between 3GPP and ETSI/Parlay**	F	4.3.0	4.4.0	N5-020160	OSA1

3GPP TSG_CN5 (Open Service Access – OSA) **N5-020020**
Meeting #16, Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v5

CHANGE REQUEST

⌘ **29.198-03** **CR** **023** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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:	⌘	Add P_INVALID_INTERFACE_TYPE exception to IpService.setCallback() and IpService.setCallbackWithSessionID()
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one 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 one 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 2 methods setCallback() and setCallbackWithSessionID() are both used to pass an interface reference, yet there is no possible exception to indicate if an incorrect interface reference has been passed.
Summary of change:	⌘	Add the exception P_INVALID_INTERFACE_TYPE to the exception list of setCallback() and setCallbackWithSessionID()
Consequences if not approved:	⌘	If an incorrect interface reference is received, a service instance will not be able to indicate this to the application, therefore no callback interface reference will have been provided, and so interworking between instances of an application and a service will fail.

Clauses affected:	⌘	5.4.1		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	TS 29.198-4 to -12 inclusive
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.

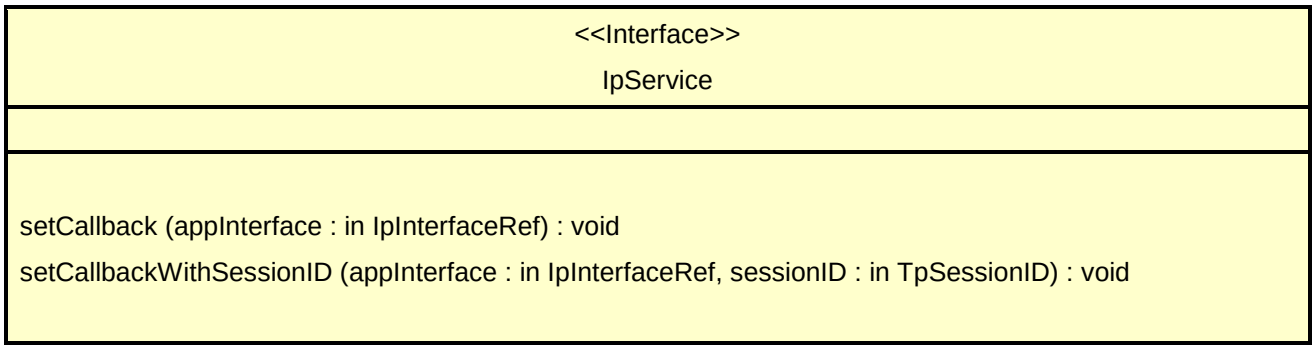
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.4 Generic Service Interface

5.4.1 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, P_INVALID_INTERFACE_TYPE

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, P_INVALID_INTERFACE_TYPE

3GPP TSG_CN5 (Open Service Access – OSA) ***Tdoc N5-020160***
Meeting #16, Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v6.1

CHANGE REQUEST

⌘ **29.198-03** **CR** **029** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	Update the interface names for alignment between 3GPP and ETSI/Parlay
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
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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 one 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:	⌘	Data type alignment between 3GPP and ETSI / Parlay relating to attributes and properties, for consistency and reuse
Summary of change:	⌘	Missing interface names are added to type TpServiceTypeName.
Consequences if not approved:	⌘	Inconsistent use of data types and violation of naming convention and design patterns. This may result in problems for application developers and gateway implementers, which in turn can result in interoperability problems. In addition, if not approved, the alignment between 3GPP and ETSI / Parlay is abandoned. Parlay / ETSI have already corrected these errors - they need to be corrected in 29.198 to ensure synchronisation between groups and allow development of common applications across multiple platforms.

Clauses affected:	⌘	10.3.31
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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****** FIRST MODIFICATION ******

10.3.31 TpServiceTypeName

This data type is identical to a TpString, and is defined as a string of characters that uniquely identifies the type of an SCF interface. Other Network operator specific capabilities may also be used, but should be preceded by the string "SP_". The following values are defined.

Character String Value	Description
NULL	An empty (NULL) string indicates no SCF name
P_GENERIC_CALL_CONTROL	The name of the Generic Call Control SCF
P_MULTI_PARTY_CALL_CONTROL	The name of the MultiParty Call Control SCF
P_MULTI_MEDIA_CALL_CONTROL	The name of the MultiMedia Call Control SCF
P_CONFERENCE_CALL_CONTROL	The name of the Conference Call Control SCF
P_USER_INTERACTION	The name of the User Interaction SCFs
P_TERMINAL_CAPABILITIES	The name of the Terminal Capabilities SCF
P_USER_LOCATION	The name of the User Location SCF
P_USER_LOCATION_CAMEL	The name of the Network User Location SCF
P_USER_LOCATION_EMERGENCY	The name of the User Location Emergency SCF
P_USER_STATUS	The name of the User Status SCF
P_DATA_SESSION_CONTROL	The name of the Data Session Control SCF
P_GENERIC_MESSAGING	The name of the Generic Messaging SCF
P_CONNECTIVITY_MANAGER	The name of the Connectivity Manager SCF
P_CHARGING	The name of the Charging SCF
P_ACCOUNT_MANAGEMENT	The name of the Account Management SCF
P_POLICY_MANAGEMENT	The name of the Policy Management SCF
P_PAM_PRESENCE_AND_AVAILABILITY	The name of PAM presentity SCF
P_PAM_EVENT_MANAGEMENT	The name of PAM watcher SCF
P_PAM_PROVISIONING	The name of PAM provisioning SCF

****** END OF DOCUMENT ******

3GPP TSG_CN5#16 (Open Service Access – OSA) ***Tdoc N5-020140***
Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v6.1

CHANGE REQUEST

⌘ **29.198-03** **CR** **028** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	OSA Framework - Generate statistics records on behalf of another entity using genFaultStatsRecordReq
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one 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 one 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:	⌘	Looking at genFaultStatsRecordReq on IpFaultManager, the Client Application requests the Framework's and/or the Service Instances' fault statistics via this method. It is clear-cut how the Framework's statistics can be obtained, since the Framework itself keeps them. However, it is less straightforward how the Service Instance's statistics could be obtained since there is no way for the Framework to obtain these. In the current specification the Framework would somehow have to determine when errors occurred, keep this data, and generate fault statistics reports.
Summary of change:	⌘	Introduce a genFaultStatsRecordReq to IpSvcFaultManager (and also to IpAppFaultManager since this issue is mirrored) so that the Framework can ask for the statistics.
Consequences if not approved:	⌘	The Service Instance's statistics cannot be obtained since there is no way for the Framework to obtain these.

Clauses affected:	⌘	7.3.3.1, 7.3.3.2, 8.3.4.1, 8.3.4.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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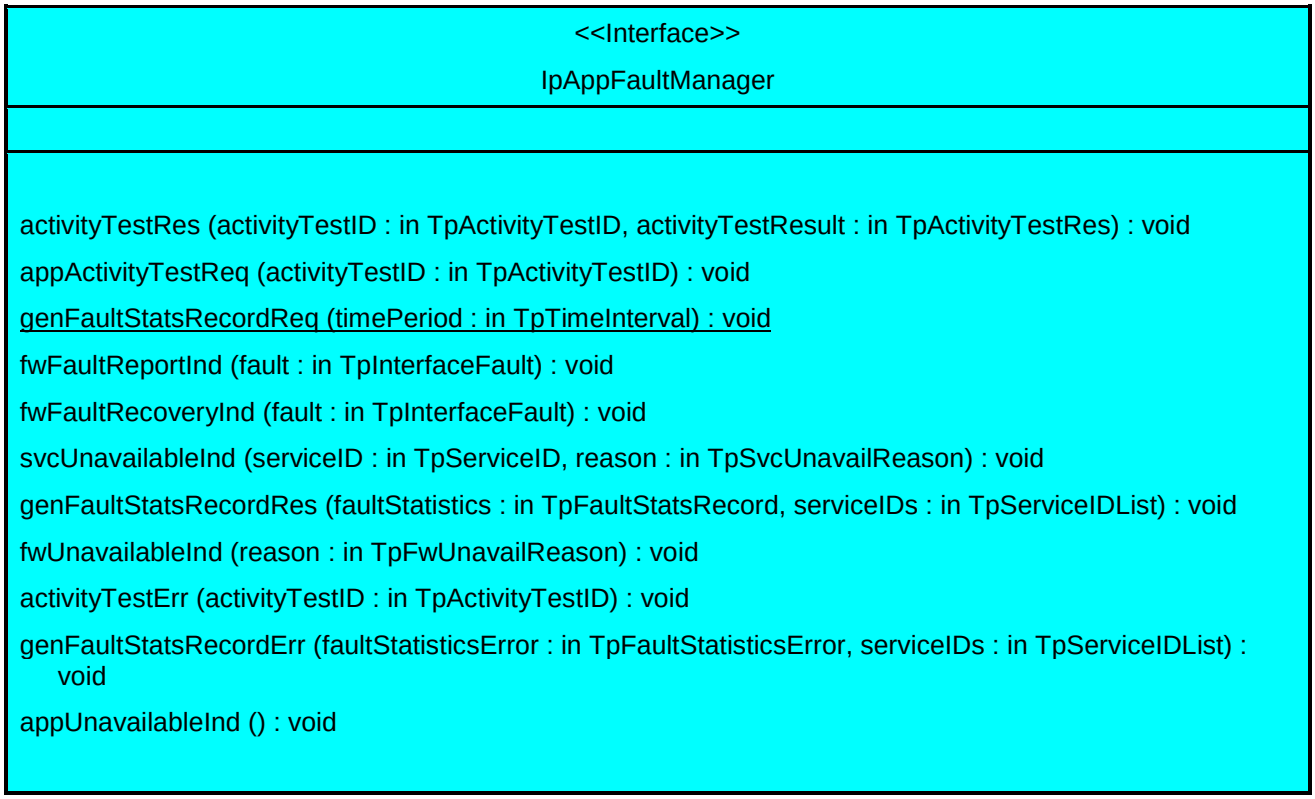
****** FIRST MODIFIED SECTION ******

7.3.3 Integrity Management Interface Classes

7.3.3.1 Interface Class IpAppFaultManager

Inherits from: IpInterface.

This interface is used to inform the application of events that affect the integrity of the Framework, Service or Client Application. The Fault Management Framework will invoke methods on the Fault Management Application Interface that is specified when the client application obtains the Fault Management interface: i.e. by use of the obtainInterfaceWithCallback operation on the IpAccess interface



Method

`activityTestRes()`

The framework uses this method to return the result of a client application-requested activity test.

Parameters

`activityTestID : in TpActivityTestID`

Used by the client application to correlate this response (when it arrives) with the original request.

`activityTestResult : in TpActivityTestRes`

The result of the activity test.

Method

appActivityTestReq()

The framework invokes this method to test that the client application is operational. On receipt of this request, the application must carry out a test on itself, to check that it is operating correctly. The application reports the test result by invoking the appActivityTestRes method on the IpFaultManager interface.

Parameters

activityTestID : in TpActivityTestID

The identifier provided by the framework to correlate the response (when it arrives) with this request.

Method

genFaultStatsRecordReq()

This method is used by the framework to solicit fault statistics from the client application, for example when the framework was asked for these statistics by a service instance by using the genFaultStatsRecordReq operation on the IpFwFaultManager interface. On receipt of this request, the client application must produce a fault statistics record, for the application during the specified time interval, which is returned to the framework using the genFaultStatsRecordRes operation on the IpFaultManager interface.

Parameters

timePeriod : in TpTimeInterval

The period over which the fault statistics are to be generated. A null value leaves this to the discretion of the client application.

Method

fwFaultReportInd()

The framework invokes this method to notify the client application of a failure within the framework. The client application must not continue to use the framework until it has recovered (as indicated by a fwFaultRecoveryInd).

Parameters

fault : in TpInterfaceFault

Specifies the fault that has been detected by the framework.

Method

fwFaultRecoveryInd()

The framework invokes this method to notify the client application that a previously reported fault has been rectified. The application may then resume using the framework.

Parameters

fault : in TpInterfaceFault

Specifies the fault from which the framework has recovered.

Method

svcUnavailableInd()

The framework invokes this method to inform the client application that it can no longer use its instance of the indicated service. On receipt of this request, the client application must act to reset its use of the specified service (using the normal mechanisms, such as the discovery and authentication interfaces, to stop use of this service instance and begin use of a different service instance).

Parameters

`serviceID : in TpServiceID`

Identifies the affected service.

`reason : in TpSvcUnavailReason`

Identifies the reason why the service is no longer available

Method

genFaultStatsRecordRes()

This method is used by the framework to provide fault statistics to a client application in response to a genFaultStatsRecordReq method invocation on the IpFaultManager interface.

Parameters

`faultStatistics : in TpFaultStatsRecord`

The fault statistics record.

`serviceIDs : in TpServiceIDList`

Specifies the framework or services that are included in the general fault statistics record. If the serviceIDs parameter is an empty list, then the fault statistics are for the framework.

Method

fwUnavailableInd()

The framework invokes this method to inform the client application that it is no longer available.

Parameters

`reason : in TpFwUnavailReason`

Identifies the reason why the framework is no longer available

Method

activityTestErr()

The framework uses this method to indicate that an error occurred during an application-initiated activity test.

Parameters

`activityTestID : in TpActivityTestID`

Used by the application to correlate this response (when it arrives) with the original request.

Method

genFaultStatsRecordErr()

This method is used by the framework to indicate an error fulfilling the request to provide fault statistics, in response to a genFaultStatsRecordReq method invocation on the IpFaultManager interface.

Parameters

faultStatisticsError : in TpFaultStatisticsError

The fault statistics error.

serviceIDs : in TpServiceIDList

Specifies the framework or services that were included in the general fault statistics record request. If the serviceIDs parameter is an empty list, then the fault statistics were requested for the framework.

Method

appUnavailableInd()

The framework invokes this method to indicate to the application that the service instance has detected that it is not responding. On receipt of this indication, the application must end its current session with the service instance.

Parameters

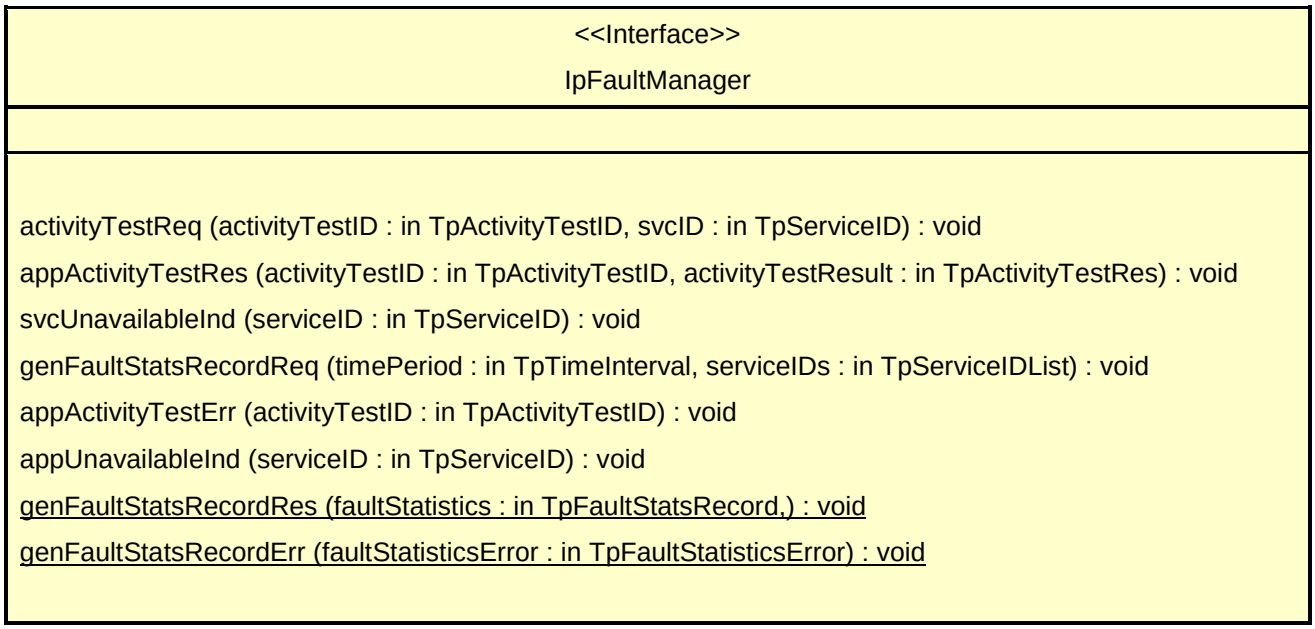
No Parameters were identified for this method

****** NEXT MODIFIED SECTION ******

7.3.3.2 Interface Class IpFaultManager

Inherits from: IpInterface.

This interface is used by the application to inform the framework of events that affect the integrity of the framework and services, and to request information about the integrity of the system. The fault manager operations do not exchange callback interfaces as it is assumed that the client application supplies its Fault Management callback interface at the time it obtains the Framework's Fault Management interface, by use of the obtainInterfaceWithCallback operation on the IpAccess interface.



Method

activityTestReq()

The application invokes this method to test that the framework or its instance of a service is operational. On receipt of this request, the framework must carry out a test on itself or on the client's instance of the specified service, to check

that it is operating correctly. The framework reports the test result by invoking the activityTestRes method on the IpAppFaultManager interface. If the application does not have access to a service instance with the specified serviceID, the P_UNAUTHORISED_PARAMETER_VALUE exception shall be thrown. The extraInformation field of the exception shall contain the corresponding serviceID.

Parameters

activityTestID : in TpActivityTestID

The identifier provided by the client application to correlate the response (when it arrives) with this request.

svcID : in TpServiceID

Identifies either the framework or a service for testing. The framework is designated by a null value.

Raises

TpCommonExceptions,P_INVALID_SERVICE_ID, P_UNAUTHORISED_PARAMETER_VALUE

Method

appActivityTestRes()

The client application uses this method to return the result of a framework-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the framework to correlate this response (when it arrives) with the original request.

activityTestResult : in TpActivityTestRes

The result of the activity test.

Raises

TpCommonExceptions,P_INVALID_SERVICE_ID,P_INVALID_ACTIVITY_TEST_ID

Method

svcUnavailableInd()

This method is used by the client application to inform the framework that it can no longer use its instance of the indicated service (either due to a failure in the client application or in the service instance itself). On receipt of this request, the framework should take the appropriate corrective action. The framework assumes that the session between this client application and service instance is to be closed and updates its own records appropriately as well as attempting to inform the service instance and/or its administrator. Attempts by the client application to continue using this session should be rejected. If the application does not have access to a service instance with the specified serviceID, the P_UNAUTHORISED_PARAMETER_VALUE exception shall be thrown. The extraInformation field of the exception shall contain the corresponding serviceID.

Parameters

serviceID : in TpServiceID

Identifies the service that the application can no longer use.

Raises

TpCommonExceptions ,P_INVALID_SERVICE_ID, P_UNAUTHORISED_PARAMETER_VALUE

Method

genFaultStatsRecordReq()

This method is used by the application to solicit fault statistics from the framework. On receipt of this request the framework must produce a fault statistics record, for either the framework or for the client's instances of the specified services during the specified time interval, which is returned to the client application using the genFaultStatsRecordRes operation on the IpAppFaultManager interface. If the application does not have access to a service instance with the specified serviceID, the P_UNAUTHORISED_PARAMETER_VALUE exception shall be thrown. The extraInformation field of the exception shall contain the corresponding serviceID.

Parameters

timePeriod : in TpTimeInterval

The period over which the fault statistics are to be generated. A null value leaves this to the discretion of the framework.

serviceIDs : in TpServiceIDList

Specifies either the framework or services to be included in the general fault statistics record. If this parameter is not an empty list, the fault statistics records of the client's instances of the specified services are returned, otherwise the fault statistics record of the framework is returned.

Raises

TpCommonExceptions, P_INVALID_SERVICE_ID, P_UNAUTHORISED_PARAMETER_VALUE

Method

appActivityTestErr()

The client application uses this method to indicate that an error occurred during a framework-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the framework to correlate this response (when it arrives) with the original request.

Raises

TpCommonExceptions, P_INVALID_ACTIVITY_TEST_ID

Method

appUnavailableInd()

This method is used by the application to inform the framework that the it is ceasing its use of the service instance. This may a result of the application detecting a failure. The framework assumes that the session between this client application and service instance is to be closed and updates its own records appropriately as well as attempting to inform the service instance and/or its administrator.

Parameters

serviceID : in TpServiceID

Identifies the affected application.

Raises

TpCommonExceptions

Method

genFaultStatsRecordRes()

This method is used by the client application to provide fault statistics to the framework in response to a genFaultStatsRecordReq method invocation on the IpAppFaultManager interface.

Parameters

faultStatistics : in TpFaultStatsRecord

The fault statistics record.

Raises

TpCommonExceptions

Method

genFaultStatsRecordErr()

This method is used by the client application to indicate an error fulfilling the request to provide fault statistics, in response to a genFaultStatsRecordReq method invocation on the IpAppFaultManager interface.

Parameters

faultStatisticsError : in TpFaultStatisticsError

The fault statistics error.

Raises

TpCommonExceptions

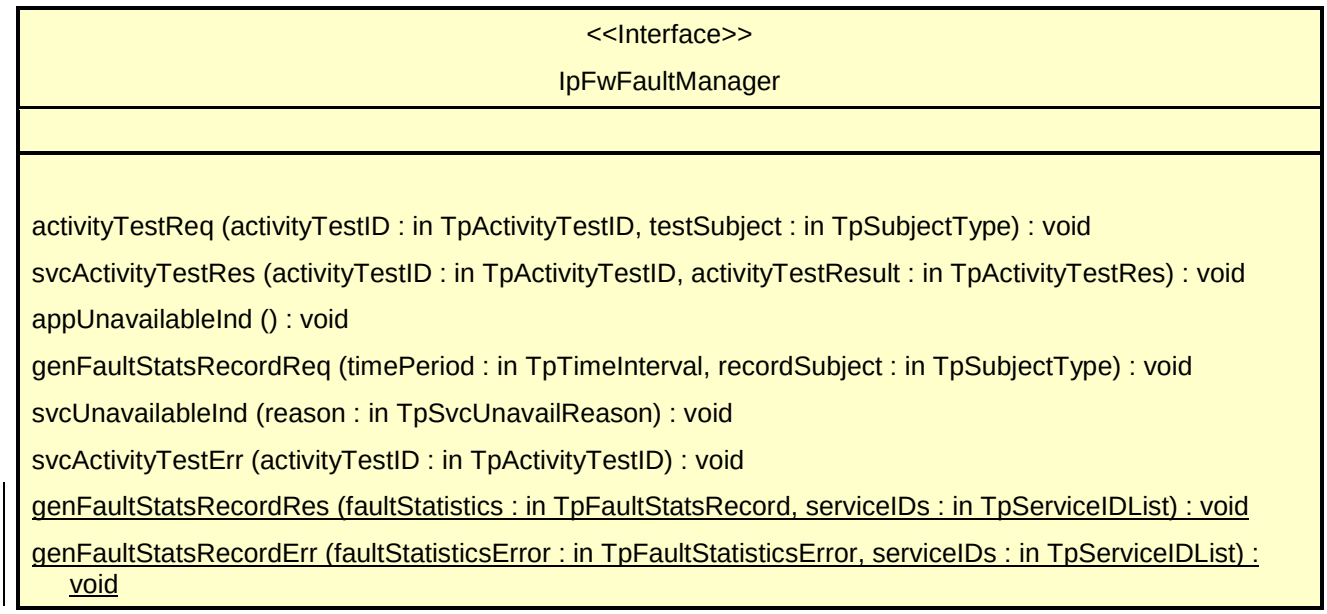
****** NEXT MODIFIED SECTION ******

8.3.4 Integrity Management Interface Classes

8.3.4.1 Interface Class IpFwFaultManager

Inherits from: IpInterface.

This interface is used by the service instance to inform the framework of events which affect the integrity of the API, and request fault management status information from the framework. The fault manager operations do not exchange callback interfaces as it is assumed that the service instance has supplied its Fault Management callback interface at the time it obtains the Framework's Fault Management interface, by use of the obtainInterfaceWithCallback operation on the IpAccess interface.



Method

activityTestReq()

The service instance invokes this method to test that the framework or the client application is operational. On receipt of this request, the framework must carry out a test on itself or on the application, to check that it is operating correctly. The framework reports the test result by invoking the activityTestRes method on the IpSvcFaultManager interface.

Parameters

activityTestID : in TpActivityTestID

The identifier provided by the service instance to correlate the response (when it arrives) with this request.

testSubject : in TpSubjectType

Identifies the subject for testing (framework or client application).

Raises

TpCommonExceptions

Method

svcActivityTestRes()

The service instance uses this method to return the result of a framework-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the framework to correlate this response (when it arrives) with the original request.

activityTestResult : in TpActivityTestRes

The result of the activity test.

Raises

TpCommonExceptions,P_INVALID_ACTIVITY_TEST_ID

Method

appUnavailableInd()

This method is used by the service instance to inform the framework that the client application is not responding. On receipt of this indication, the framework must act to inform the client application that it should cease use of this service instance.

Parameters

No Parameters were identified for this method

Raises

TpCommonExceptions

Method

genFaultStatsRecordReq()

This method is used by the service instance to solicit fault statistics from the framework. On receipt of this request, the framework must produce a fault statistics record, for the framework or for the application during the specified time interval, which is returned to the service instance using the genFaultStatsRecordRes operation on the IpSvcFaultManager interface.

Parameters

timePeriod : in TpTimeInterval

The period over which the fault statistics are to be generated. A null value leaves this to the discretion of the framework.

recordSubject : in TpSubjectType

Specifies the subject to be included in the general fault statistics record (framework or application).

Raises

TpCommonExceptions

Method

svcUnavailableInd()

This method is used by the service instance to inform the framework that it is about to become unavailable for use. The framework should inform the client application that is currently using this service instance that it is unavailable for use (via the svcUnavailableInd method on the IpAppFaultManager interface).

Parameters

reason : in TpSvcUnavailReason

Identifies the reason for the service instance's unavailability.

Raises

TpCommonExceptions

Method

svcActivityTestErr()

The service instance uses this method to indicate that an error occurred during a framework-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the framework to correlate this response (when it arrives) with the original request.

Raises

TpCommonExceptions, P_INVALID_ACTIVITY_TEST_ID

Method

genFaultStatsRecordRes()

This method is used by the service to provide fault statistics to the framework in response to a genFaultStatsRecordReq method invocation on the IpSvcFaultManager interface.

Parameters

faultStatistics : in TpFaultStatsRecord

The fault statistics record.

serviceIDs : in TpServiceIDList

Specifies the services that are included in the general fault statistics record. The serviceIDs parameter is not allowed to be an empty list.

Method

genFaultStatsRecordErr()

This method is used by the service to indicate an error fulfilling the request to provide fault statistics, in response to a genFaultStatsRecordReq method invocation on the IpSvcFaultManager interface.

Parameters

faultStatisticsError : in TpFaultStatisticsError

The fault statistics error.

serviceIDs : in TpServiceIDList

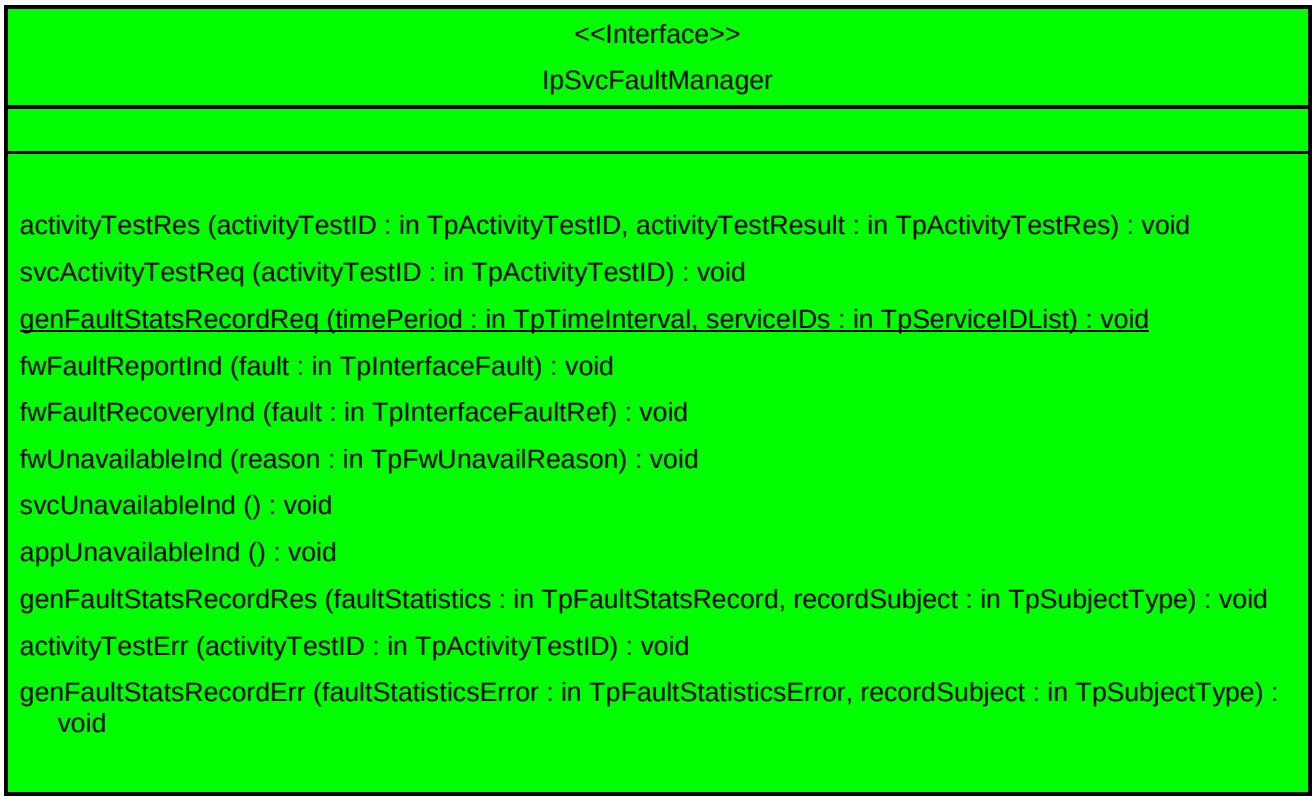
Specifies the services that were included in the general fault statistics record request. The serviceIDs parameter is not allowed to be an empty list.

****** NEXT MODIFIED SECTION ******

8.3.4.2 Interface Class IpSvcFaultManager

Inherits from: IpInterface.

This interface is used to inform the service instance of events that affect the integrity of the Framework, Service or Client Application. The Framework will invoke methods on the Fault Management Service Interface that is specified when the service instance obtains the Fault Management Framework interface: i.e. by use of the obtainInterfaceWithCallback operation on the IpAccess interface



Method

activityTestRes()

The framework uses this method to return the result of a service-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the service to correlate this response (when it arrives) with the original request.

activityTestResult : in TpActivityTestRes

The result of the activity test.

Raises

TpCommonExceptions,P_INVALID_ACTIVITY_TEST_ID

Method

svcActivityTestReq()

The framework invokes this method to test that the service instance is operational. On receipt of this request, the service instance must carry out a test on itself, to check that it is operating correctly. The service instance reports the test result by invoking the svcActivityTestRes method on the IpFwFaultManager interface.

Parameters

activityTestID : in TpActivityTestID

The identifier provided by the framework to correlate the response (when it arrives) with this request.

Raises

TpCommonExceptions

Method

genFaultStatsRecordReq()

This method is used by the framework to solicit fault statistics from the service, for example when the framework was asked for these statistics by the client application using the genFaultStatsRecordReq operation on the IpFaultManager interface. On receipt of this request the service must produce a fault statistics record, for either the framework or for the client's instances of the specified services during the specified time interval, which is returned to the framework using the genFaultStatsRecordRes operation on the IpFwFaultManager interface. If the framework does not have access to a service instance with the specified serviceID, the P_UNAUTHORISED_PARAMETER_VALUE exception shall be thrown. The extraInformation field of the exception shall contain the corresponding serviceID.

Parameters

timePeriod : in TpTimeInterval

The period over which the fault statistics are to be generated. A null value leaves this to the discretion of the service.

serviceIDs : in TpServiceIDList

Specifies the services to be included in the general fault statistics record. This parameter is not allowed to be an empty list.

Raises

TpCommonExceptions, P_INVALID_SERVICE_ID, P_UNAUTHORISED_PARAMETER_VALUE

Method

fwFaultReportInd()

The framework invokes this method to notify the service instance of a failure within the framework. The service instance must not continue to use the framework until it has recovered (as indicated by a fwFaultRecoveryInd).

Parameters

`fault : in TpInterfaceFault`

Specifies the fault that has been detected by the framework.

Raises

`TpCommonExceptions`

Method

`fwFaultRecoveryInd()`

The framework invokes this method to notify the service instance that a previously reported fault has been rectified. The service instance may then resume using the framework.

Parameters

`fault : in TpInterfaceFaultRef`

Specifies the fault from which the framework has recovered.

Raises

`TpCommonExceptions`

Method

`fwUnavailableInd()`

The framework invokes this method to inform the service instance that it is no longer available.

Parameters

`reason : in TpFwUnavailReason`

Identifies the reason why the framework is no longer available

Raises

`TpCommonExceptions`

Method

`svcUnavailableInd()`

The framework invokes this method to inform the service instance that the client application has reported that it can no longer use the service instance (either due to a failure in the client application or in the service instance itself). The service should assume that the client application is leaving the service session and the service should act accordingly to terminate the session from its own end too.

Parameters
No Parameters were identified for this method

Raises

TpCommonExceptions

Method
appUnavailableInd()

The framework invokes this method to inform the service instance that the client application is ceasing its current use of the service. This may be a result of the application reporting a failure. Alternatively, the framework may have detected that the application has failed: e.g. non-response from an activity test, failure to return heartbeats.

Parameters
No Parameters were identified for this method

Raises

TpCommonExceptions

Method
genFaultStatsRecordRes()

This method is used by the framework to provide fault statistics to a service instance in response to a genFaultStatsRecordReq method invocation on the IpFwFaultManager interface.

Parameters

faultStatistics : in TpFaultStatsRecord

The fault statistics record.

recordSubject : in TpSubjectType

Specifies the entity (framework or application) whose fault statistics record has been provided.

Raises

TpCommonExceptions

Method
activityTestErr()

The framework uses this method to indicate that an error occurred during a service-requested activity test.

Parameters

activityTestID : in TpActivityTestID

Used by the service instance to correlate this response (when it arrives) with the original request.

Raises

TpCommonExceptions, P_INVALID_ACTIVITY_TEST_ID

Method

genFaultStatsRecordErr()

This method is used by the framework to indicate an error fulfilling the request to provide fault statistics, in response to a genFaultStatsRecordReq method invocation on the IpFwFaultManager interface.

Parameters

faultStatisticsError : in TpFaultStatisticsError

The fault statistics error.

recordSubject : in TpSubjectType

Specifies the entity (framework or application) whose fault statistics record was requested.

Raises

TpCommonExceptions

****** END OF DOCUMENT ******

3GPP TSG_CN5#16 (Open Service Access – OSA) ***Tdoc N5-020137***
Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v6.1

CHANGE REQUEST

⌘ **29.198-03** **CR** **027** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	Improved description of activityTestReq with respect to ServiceInstanceID
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one 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 one 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:	⌘	Although the existing description of the activityTestReq operation of the IpFaultManager interface says that it is the Service Instance that the request is for, the parameter identifying it is the serviceID and not the serviceInstanceID. The reason for this is not explained in the current text. The reason is that for security reasons it isn't desireable for a Client Application to be able to use the serviceInstanceID (since it could "spoof"/guess the instanceID of another Service Instance being used by another Client Application). Since the relationship between the Client Application and a service is one to one (only one instance per client app) the Framework can determine the serviceInstanceID from the serviceID.
Summary of change:	⌘	Use of method parameter is clarified
Consequences if not approved:	⌘	Erroneous implementations based on the unclear description can occur, resulting in security problems.

Clauses affected:	⌘	7.3.3.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

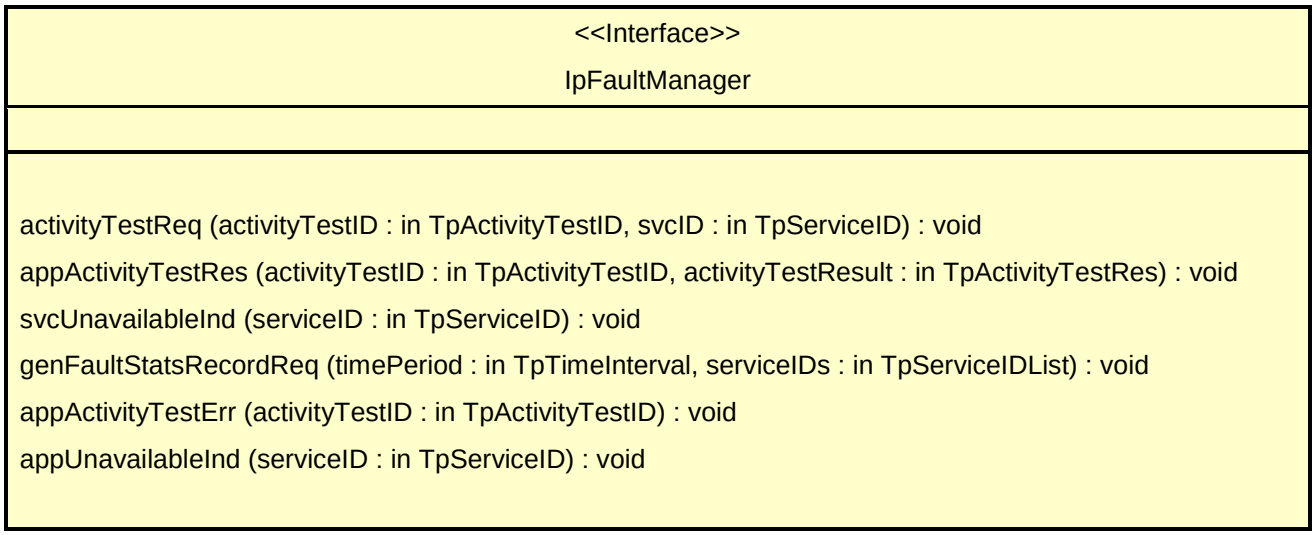
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****** FIRST MODIFIED SECTION ******

7.3.3.2 Interface Class IpFaultManager

Inherits from: IpInterface.

This interface is used by the application to inform the framework of events that affect the integrity of the framework and services, and to request information about the integrity of the system. The fault manager operations do not exchange callback interfaces as it is assumed that the client application supplies its Fault Management callback interface at the time it obtains the Framework's Fault Management interface, by use of the obtainInterfaceWithCallback operation on the IpAccess interface.



Method

activityTestReq()

The application invokes this method to test that the framework or its instance of a service is operational. On receipt of this request, the framework must carry out a test on itself or on the client's instance of the specified service, to check that it is operating correctly. The framework reports the test result by invoking the activityTestRes method on the IpAppFaultManager interface. If the application does not have access to a service instance with the specified serviceID, the P_UNAUTHORISED_PARAMETER_VALUE exception shall be thrown. The extraInformation field of the exception shall contain the corresponding serviceID.

For security reasons the client application has access to the service ID rather than the service instance ID. However, as there is a one to one relationship between the client application and a service, i.e. there is only one service instance of the specified service per client application, it is the obligation of the framework to determine the service instance ID from the service ID.

Parameters

activityTestID : in TpActivityTestID

The identifier provided by the client application to correlate the response (when it arrives) with this request.

svcID : in TpServiceID

Identifies either the framework or a service for testing. The framework is designated by a null value.

Raises

TpCommonExceptions,P_INVALID_SERVICE_ID, P_UNAUTHORISED_PARAMETER_VALUE

****** END OF DOCUMENT ******

3GPP TSG_CN5 (Open Service Access – OSA) **N5-020095**
Meeting #16, Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v5

CHANGE REQUEST

⌘ **29.198-03** **CR** **026** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	Include Operation Set as part of General Service Properties
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one 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 one 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:	⌘	A description of the Service Property 'Operation Set' has been included in TS 29.198-3. However, this service property has not been included among the General Service Properties, applicable to each service. It has also not been included in any set of service specific service properties.
Summary of change:	⌘	Add the service property 'Operation Set' to the set of General Service Properties in clause 9.2 of TS 29.198-3
Consequences if not approved:	⌘	If this service property is not referred to in any specification, it cannot be used, therefore an SCS cannot select which operations it supports. This implies that, among other things, implementations of Call Control interfaces on top of CAMEL Service Environments will be assumed to support all methods, even those which cannot be mapped to CAP operations, because there is no mechanism to identify which methods are supported and which are not.

Clauses affected:	⌘	9.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
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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 General Service Properties

Each service instance has the following general properties:

- Service Name
- Service Version
- Service Instance ID
- Service Instance Description
- Product Name
- Product Version
- Supported Interfaces
- Operation Set

9.2.1 Service Name

This property contains the name of the service, e.g. “UserLocation”, “UserLocationCamel”, “UserLocationEmergency” or “UserStatus”.

9.2.2 Service Version

This property contains the version of the APIs, to which the service is compliant, e.g. “2.1".

9.2.3 Service Instance ID

This property uniquely identifies a specific instance of the service. The Framework generates this property.

9.2.4 Service Instance Description

This property contains a textual description of the service.

9.2.5 Product Name

This property contains the name of the product that provides the service, e.g. “Find It”, “Locate.com”.

9.2.6 Product Version

This property contains the version of the product that provides the service, e.g. “3.1.11”.

9.2.7 Supported Interfaces

This property contains a list of strings with interface names that the service supports, e.g. “IpUserLocation”, “IpUserStatus”.

9.2.8 Operation Set

Property	Type	Description
P_OPERATION_SET	STRING_SET	Specifies set of the operations the SCS supports. The notation to be used is : {“Interface1.operation1”,”Interface1.operation2”, “Interface2.operation1”}, e.g.: {“IpCall.createCall”,”IpCall.routeReq”}.

3GPP TSG_CN5 (Open Service Access – OSA) **N5-020073**
Meeting #16, Hongkong, China, 4 – 8 February 2002

CR-Form-v4

CHANGE REQUEST

⌘ **29.198-03** **CR** **025** ⌘ ev **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	Add missing inheritance in service agreement management interfaces
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one 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 one 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 service agreement management, the IpServiceAgreementManagement and IpAppServiceAgreementManagement interfaces do not inherit from IpInterface. Therefore, these interfaces can not be used as results/parameters of other methods (e.g., obtainInterfaceWithCallBack). This is clearly an oversight. Furthermore the text of signServiceAgreement refers to the TpSignatureAndServiceMgr structure that does not correspond to the definition in the data structures.
Summary of change:	⌘	Add IpInterface inheritance for IpServiceAgreementMangement and IpAppServiceAgreementMangement. Also, bring description inline with data structures.
Consequences if not approved:	⌘	Service management interfaces can not be obtained.

Clauses affected:	⌘	7.3.2.1 and 7.3.2.2
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications
	⌘	
Other comments:	⌘	

How to create CRs using this form:

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.3.2.1 Interface Class IpAppServiceAgreementManagement

Inherits from: IpInterface

<<Interface>> IpAppServiceAgreementManagement
signServiceAgreement (serviceToken : in TpServiceToken, agreementText : in TpString, signingAlgorithm : in TpSigningAlgorithm) : TpOctetSet terminateServiceAgreement (serviceToken : in TpServiceToken, terminationText : in TpString, digitalSignature : in TpOctetSet) : void

…

7.3.2.2 Interface Class IpServiceAgreementManagement

Inherits from: IpInterface

<<Interface>> IpServiceAgreementManagement
signServiceAgreement (serviceToken : in TpServiceToken, agreementText : in TpString, signingAlgorithm : in TpSigningAlgorithm) : TpSignatureAndServiceMgr terminateServiceAgreement (serviceToken : in TpServiceToken, terminationText : in TpString, digitalSignature : in TpOctetSet) : void selectService (serviceID : in TpServiceID) : TpServiceToken initiateSignServiceAgreement (serviceToken : in TpServiceToken) : void

Method

signServiceAgreement()

This method is used by the client application to request that the framework sign an agreement on the service, which allows the client application to use the service. If the framework agrees, both parties sign the service agreement, and a reference to the service manager interface of the service is returned to the client application. The service manager returned will be configured as per the service level agreement. If the framework uses service subscription, the service level agreement will be encapsulated in the subscription properties contained in the contract/profile for the client application, which will be a restriction of the registered properties. If the client application is not allowed to access the service, then an error code (P_SERVICE_ACCESS_DENIED) is returned.

Returns <signatureAndServiceMgr> : This contains the digital signature of the framework for the service agreement, and a reference to the service manager interface of the service.

```
structure TpSignatureAndServiceMgr {
        digitalSignature:  TpOctetSet;
            serviceMgrInterface:  IpServiceInterfaceRef;
                };
```

The digitalSignature is the signed version of a hash of the service token and agreement text given by the client application.

The serviceMgrInterface is a reference to the service manager interface for the selected service.

3GPP TSG_CN5 (Open Service Access – OSA) **N5-020046**
Meeting #16, Hong Kong, CHINA, 4 – 8 February 2002

CR-Form-v5

CHANGE REQUEST

⌘ **29.198-03** **CR** **024** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

*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 **X**

Title:	⌘	Replace erroneous mention of P_OSA_ACCESS by the correct value P_OSA_AUTHENTICATION
Source:	⌘	CN5
Work item code:	⌘	OSA1
Date:	⌘	08/02/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one 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 one 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 parameter TpAuthType is wrongly assigned the value P_OSA_ACCESS instead of the correct one P_OSA_AUTHENTICATION in the explanatory text that accompanies the authentication sequence diagrams, which are the only reflection of the dynamics of the API in the specification.
Summary of change:	⌘	Two occurrences of the value P_OSA_ACCESS for the parameter TpAuthType have been corrected to the value P_OSA_AUTHENTICATION.
Consequences if not approved:	⌘	An incorrect implementation of the API dynamics may lead to interworking problems.

Clauses affected:	⌘	6.1.1.4
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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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.

6.1.1.4. API Level Authentication

This sequence diagram illustrates the two-way mechanism by which the client and the framework mutually authenticate one another.

The OSA API supports multiple authentication techniques. The procedure used to select an appropriate technique for a given situation is described below. The authentication mechanisms may be supported by cryptographic processes to provide confidentiality, and by digital signatures to ensure integrity. The inclusion of cryptographic processes and digital signatures in the authentication procedure depends on the type of authentication technique selected. In some cases strong authentication may need to be enforced by the Framework to prevent misuse of resources. In addition it may be necessary to define the minimum encryption key length that can be used to ensure a high degree of confidentiality.

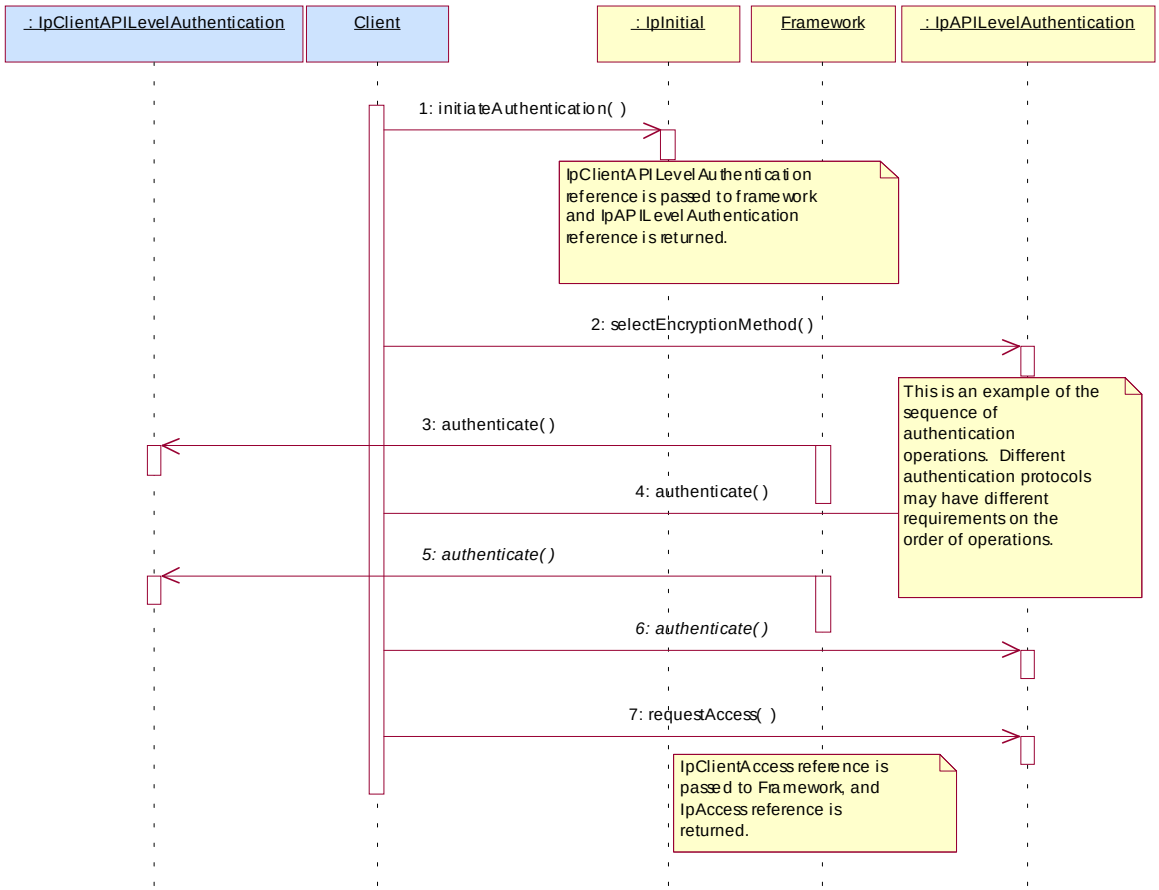
The client must authenticate with the Framework before it is able to use any of the other interfaces supported by the Framework. Invocations on other interfaces will fail until authentication has been successfully completed.

1) The client calls initiateAuthentication on the OSA Framework Initial interface. This allows the client to specify the type of authentication process. This authentication process may be specific to the provider, or the implementation technology used. The initiateAuthentication method can be used to specify the specific process, (e.g. CORBA security). OSA defines a generic authentication interface (API Level Authentication), which can be used to perform the authentication process. The initiateAuthentication method allows the client to pass a reference to its own authentication interface to the Framework, and receive a reference to the authentication interface preferred by the client, in return. In this case the API Level Authentication interface.

2) The client invokes the selectEncryptionMethod on the Framework's API Level Authentication interface. This includes the encryption capabilities of the client. The framework then chooses an encryption method based on the encryption capabilities of the client and the Framework. If the client is capable of handling more than one encryption method, then the Framework chooses one option, defined in the prescribedMethod parameter. In some instances, the encryption capability of the client may not fulfil the demands of the Framework, in which case, the authentication will fail.

3) The application and Framework interact to authenticate each other. For an authentication method of P_OSA_~~ACCESS~~AUTHENTICATION, this procedure consists of a number of challenge/ response exchanges. This authentication protocol is performed using the authenticate method on the API Level Authentication interface. P_OSA_~~ACCESS~~ AUTHENTICATION is based on CHAP, which is primarily a one-way protocol. Mutual authentication is achieved by the framework invoking the authenticate method on the client's APILevelAuthentication interface.

NOTE: At any point during the access session, either side can request re-authentication. Re-authentication does not have to be mutual.


: IpClientAPILevelAuthentication
Client
: IpInitial
Framework
: IpAPILevelAuthentication
1: initiateAuthentication( )
IpClientAPILevelAuthentication reference is passed to framework and IpAPILevelAuthentication reference is returned.
2: selectEncryptionMethod( )
This is an example of the sequence of authentication operations. Different authentication protocols may have different requirements on the order of operations.
3: authenticate( )
4: authenticate( )
5: authenticate( )
6: authenticate( )
7: requestAccess( )
IpClientAccess reference is passed to Framework, and IpAccess reference is returned.