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Open Service Access (OSA); Application Programming Interface (API); Part 8: Data
Session Control SCF (Parlay 4)

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Open Service Access (OSA); Application Programming Interface (API); Part 8: Data Session Control SCF (Parlay 4)



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Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 8 of a multi-part deliverable covering Open Service Access (OSA); Application Programming Interface (API), as identified below. The API specification (ES 202 915) is structured in the following parts:

- Part 1: "Overview";
- Part 2: "Common Data Definitions";
- Part 3: "Framework";
- Part 4: "Call Control";
- Part 5: "User Interaction SCF";
- Part 6: "Mobility SCF";
- Part 7: "Terminal Capabilities SCF";
- Part 8: "Data Session Control SCF";**
- Part 9: "Generic Messaging SCF";
- Part 10: "Connectivity Manager SCF";
- Part 11: "Account Management SCF";
- Part 12: "Charging SCF";
- Part 13: "Policy management SCF";
- Part 14: "Presence and Availability Management SCF".

The present document has been defined jointly between ETSI, The Parlay Group (<http://www.parlay.org>) and the 3GPP, in co-operation with a number of JAIN™ Community (<http://www.java.sun.com/products/jain>) member companies.

The present document forms part of the Parlay 4.1 set of specifications.

The present document is equivalent to 3GPP TS 29.198-8 V5.2.0 (Release 5).

1 Scope

The present document is part 8 of the Stage 3 specification for an Application Programming Interface (API) for Open Service Access (OSA).

The OSA specifications define an architecture that enables application developers to make use of network functionality through an open standardised interface, i.e. the OSA APIs.

The present document specifies the Data Session Control Service Capability Feature (SCF) aspects of the interface. All aspects of the Data Session Control SCF are defined here, these being:

- Sequence Diagrams
- Class Diagrams
- Interface specification plus detailed method descriptions
- State Transition diagrams
- Data Definitions
- IDL Description of the interfaces
- WSDL Description of the interfaces

The process by which this task is accomplished is through the use of object modelling techniques described by the Unified Modelling Language (UML).

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2 References

The references listed in clause 2 of ES 202 915-1 contain provisions which, through reference in this text, constitute provisions of the present document.

ETSI ES 202 915-1: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview (Parlay 4)".

ETSI ES 202 915-2: "Open Service Access (OSA); Application Programming Interface (API); Part 2: Common Data Definitions (Parlay 4)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 202 915-1 apply.

3.2 Abbreviations

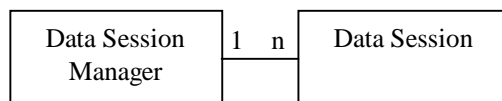
For the purposes of the present document, the abbreviations defined in ES 202 915-1 apply.

4 Data Session Control SCF

The Data Session control network service capability feature consists of two interfaces:

- 1) Data Session manager, containing management functions for data session related issues;
- 2) Data Session, containing methods to control a session.

A session can be controlled by one Data Session Manager only. Data Session Manager can control several sessions.



NOTE: The term "data session" is used in a broad sense to describe a data connection/session. For example, it comprises a PDP context in GPRS.

Figure 1: Data Session control interfaces usage relationship

The Data Session Control service capability features are described in terms of the methods in the Data Session Control interfaces. Table 1 gives an overview of the Data Session Control methods and to which interfaces these methods belong.

Table 1: Overview of Data Session Control interfaces and their methods

Data Session Manager	Data Session
createNotification	connectReq
destroyNotification	connectRes
dataSessionNotificationInterrupted	connectErr
dataSessionNotificationContinued	release
reportNotification	superviseDataSessionReq
dataSessionAborted	superviseDataSessionRes
getNotification	superviseDataSessionErr
changeNotification	dataSessionFaultDetected
enableNotifications	setAdviceofCharge
disableNotifications	setDataSessionChargePlan

The session manager interface provides the management functions to the data session service capability features. The application programmer can use this interface to enable or disable data session-related event notifications.

The following clauses describe each aspect of the Data Session Control Service Capability Feature (SCF).

The order is as follows:

- The Sequence diagrams give the reader a practical idea of how each of the SCF is implemented.
- The Class relationships clause show how each of the interfaces applicable to the SCF, relate to one another.
- The Interface specification clause describes in detail each of the interfaces shown within the Class diagram part.
- The State Transition Diagrams (STD) show the transition between states in the SCF. The states and transitions are well-defined; either methods specified in the Interface specification or events occurring in the underlying networks cause state transitions.
- The Data Definitions clause show a detailed expansion of each of the data types associated with the methods within the classes. Note that some data types are used in other methods and classes and are therefore defined within the Common Data types part ES 202 915-2.

4.1 General requirements on support of methods

An implementation of this API which supports or implements a method described in the present document, shall support or implement the functionality described for that method, for at least one valid set of values for the parameters of that method.

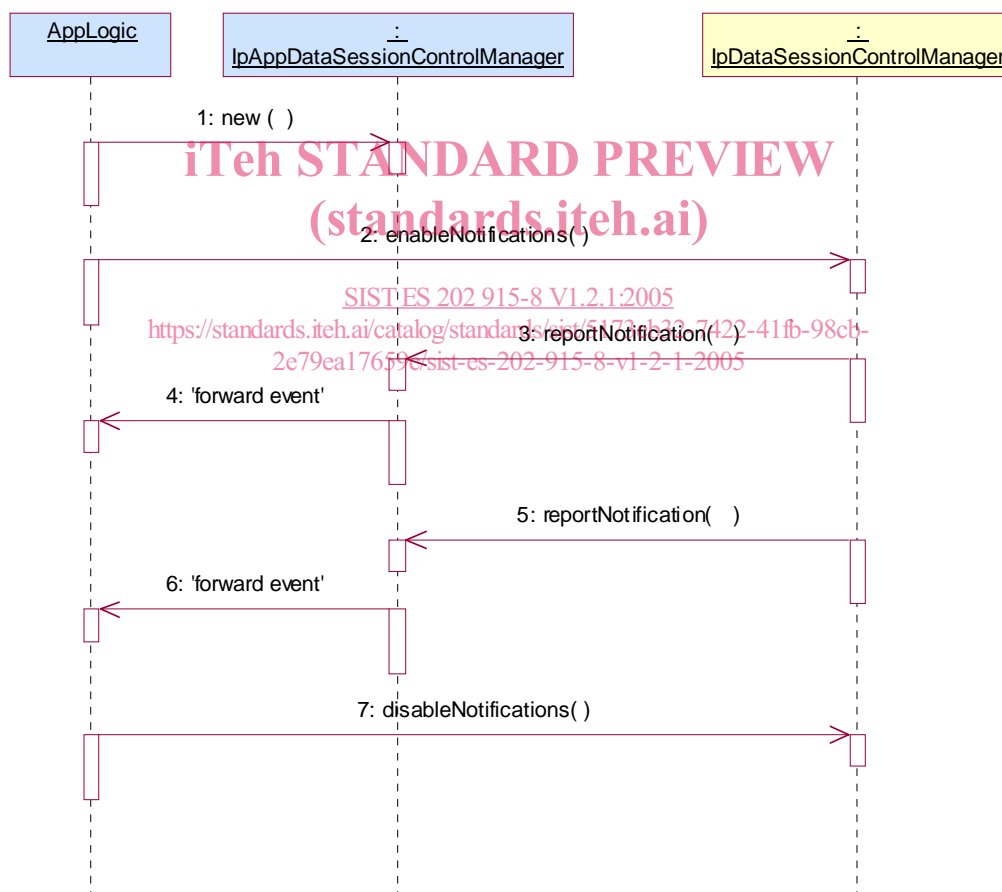
Where a method is not supported by an implementation of a Service interface, the exception `P_METHOD_NOT_SUPPORTED` shall be returned to any call of that method.

Where a method is not supported by an implementation of an Application interface, a call to that method shall be possible, and no exception shall be returned.

5 Sequence Diagrams

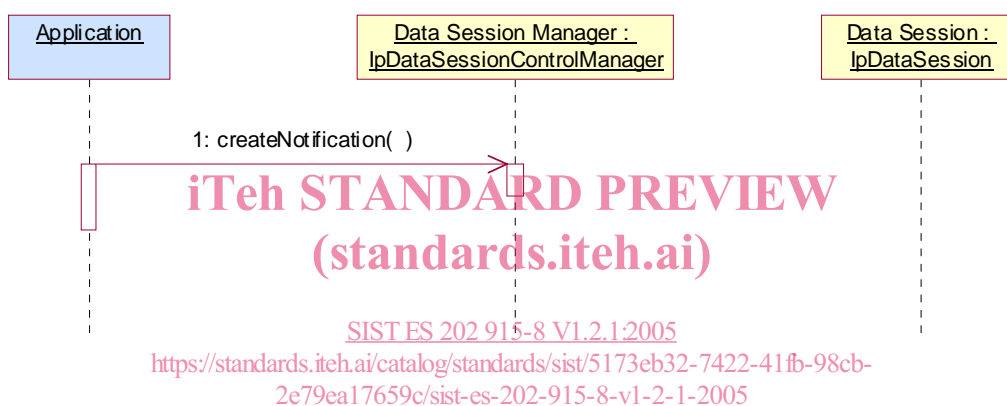
5.1 Network Controlled Notifications

The following sequence diagram shows how an application can receive notifications that have not been created by the application, but are provisioned from within the network.



- 1: The application is started. The application creates a new IpAppDataSessionControlManager to handle callbacks.
- 2: The enableNotifications method is invoked on the IpDataSessionControlManager interface to indicate that the application is ready to receive notifications that are created in the network. For illustrative purposes we assume notifications of type "B" are created in the network.
- 3: When a network created trigger occurs the application is notified on the callback interface.
- 4: The event is forwarded to the application.
- 5: When a network created trigger occurs the application is notified on the callback interface.
- 6: The event is forwarded to the application.
- 7: When the application does not want to receive notifications created in the network anymore, it invokes disableNotifications on the IpDataSessionControlManager interface. From now on the gateway will not send any notifications to the application that are created in the network. The application will still receive notifications that it has created himself until the application removes them.

5.2 Enable Data Session Notification



5.3 Address Translation With Charging

