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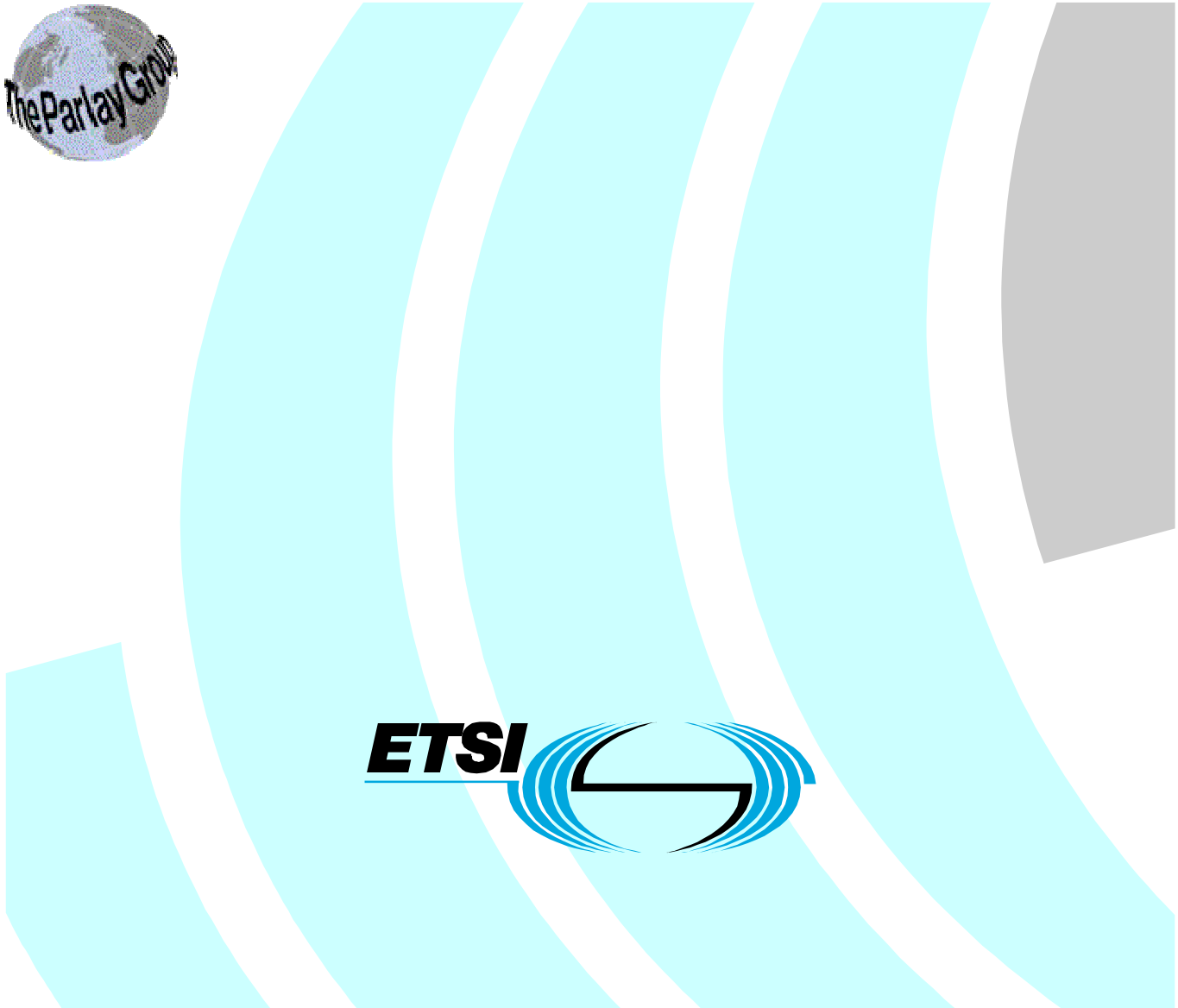
ETSI Standard

Open Service Access (OSA); Parlay X Web Services; Part 2: Third Party Call (Parlay X 2)



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Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN), and is now submitted for the ETSI standards Membership Approval Procedure.

The present document is part 2 of a multi-part deliverable covering Open Service Access (OSA); Parlay X Web Services, as identified below:

Part 1: "Common";

Part 2: "Third Party Call";

Part 3: "Call Notification";

Part 4: "Short Messaging";

Part 5: "Multimedia Messaging";

Part 6: "Payment";

Part 7: "Account Management";

Part 8: "Terminal Status";

Part 9: "Terminal Location";

Part 10: "Call Handling";

Part 11: "Audio Call";

Part 12: "Multimedia Conference";

Part 13: "Address List Management";

Part 14: "Presence".

The present document has been defined jointly between ETSI, The Parlay Group (http://www.parlay.org) and the 3GPP.

The present document forms part of the Parlay X 2.1 set of specifications.

The present document is equivalent to 3GPP TS 29.199-02 V6.3.0 (Release 6).

1 Scope

The present document is part 2 of the Stage 3 Parlay X 2 Web Services specification for Open Service Access (OSA).

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

The present document specifies the Third Party Call Web Service. The following are defined here:

- Name spaces.
- Sequence diagrams.
- Data definitions.
- Interface specification plus detailed method descriptions.
- Fault definitions.
- Service Policies.
- WSDL Description of the interfaces.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

[1] W3C Recommendation (2 May 2001): "XML Schema Part 2: Datatypes".

NOTE: Available at: http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/.

[2] ETSI ES 202 391-1: "Open Service Access (OSA); Parlay X Web Services; Part 1: Common (Parlay X 2)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 202 391-1 [2] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ES 202 391-1 [2] apply.

4 Detailed service description

Currently, in order to perform a third party call in telecommunication networks we have to write applications using specific protocols to access Call Control functions provided by network elements (specifically operations to initiate a call from applications). This approach requires a high degree of network expertise. We can also use the OSA gateway approach, invoking standard interfaces to gain access to call control capabilities, but these interfaces are usually perceived to be quite complex by application IT developers. Developers must have advanced telecommunication skills to use Call Control OSA interfaces.

In this clause we describe a Parlay X 2 Web Service, Third Party Call, for creating and managing a call initiated by an application (third party call). The overall scope of this Web Service is to provide functions to application developers to create a call in a simple way. Using the Third Party Call Web Service, application developers can invoke call handling functions without detailed telecommunication knowledge.

Figure 1 shows a scenario using the Third Party Call Web Service to handle third party call functions. The application invokes a Web Service to retrieve stock quotes and a Parlay X 2 Interface to initiate a third party call between a broker and his client.

In the scenario, whenever a particular stock quote reaches a threshold value (1) and (2), the client application invokes a third party call between one or more brokers and their corresponding customers to decide actions to be taken. After invocation (3) by the application, the Third Party Call Web Service invokes a Parlay API method (4) using the Parlay/OSA SCS-CC (Call control) interface. This SCS handles the invocation and sends a message (5) to an MSC to set-up a call between user A and user B.

In an alternative scenario, the Parlay API interaction involving steps (4) and (5) could be replaced with a direct interaction between the Third Party Call Web Service and the Mobile network.

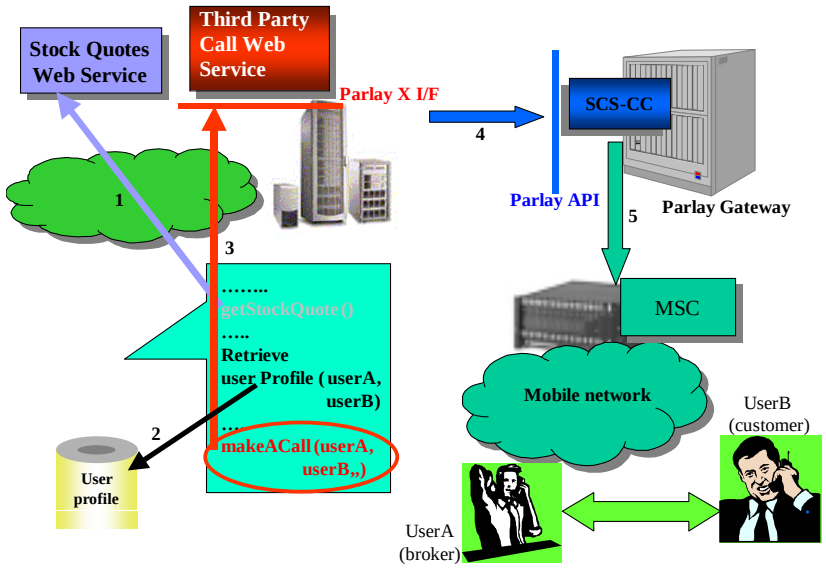

Figure 1: Third party call scenario

5 Namespaces

The ThirdPartyCall interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/third_party_call/v2_3

The data types are defined in the namespace:

http://www.csapi.org/schema/parlayx/third_party_call/v2_3

The "xsd" namespace is used in the present document to refer to the XML Schema data types defined in XML Schema [1]. The use of the name "xsd" is not semantically significant.

6 Sequence diagrams

6.1 "Click to Dial" call setup

A common convergence application is Click to Dial, where a self service portal provides a web page that can initiate a call between two phones. This sequence shows a basic call setup, and ending the call through the portal.

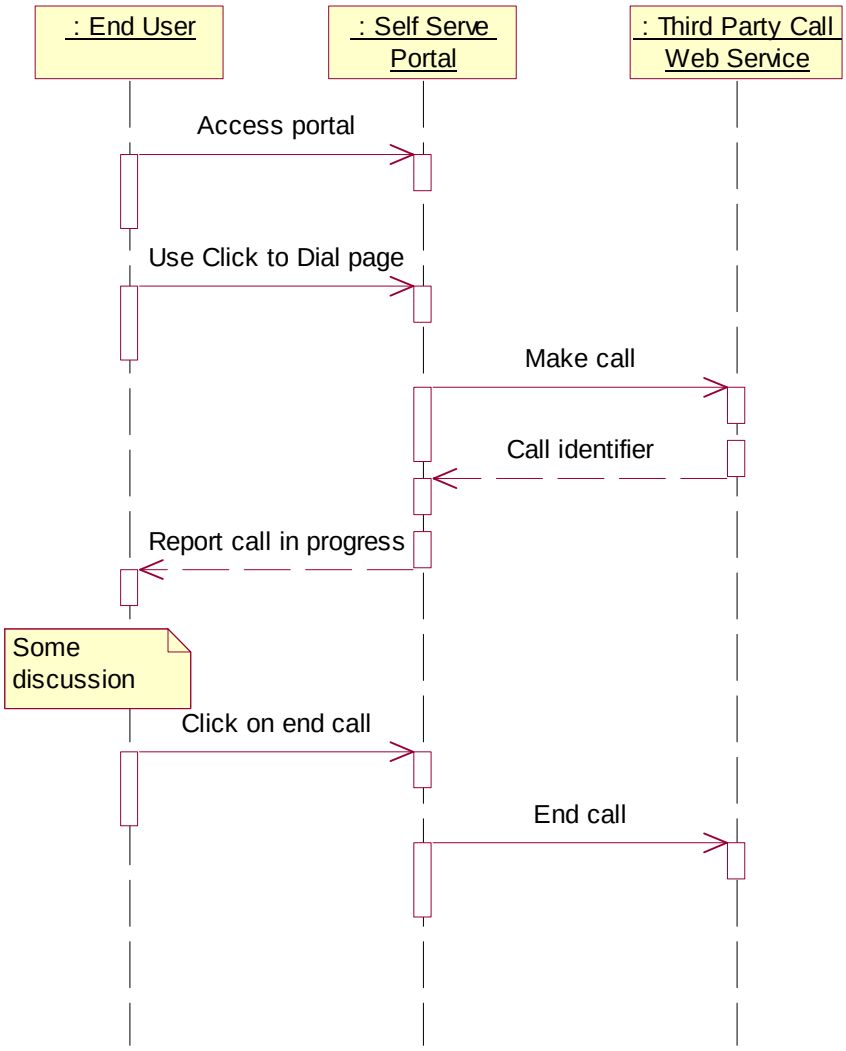

Figure 2

7 XML Schema data type definition

7.1 CallStatus enumeration

List of call status values.

Enumeration value	Description
CallInitial	The call is being established
CallConnected	The call is active
CallTerminated	The call was terminated

7.2 CallTerminationCause enumeration

List of call termination cause values.

Enumeration value	Description
CallingPartyNoAnswer	Calling Party did not answer
CalledPartyNoAnswer	Called Party did not answer
CallingPartyBusy	Calling Party was busy
CalledPartyBusy	Called Party was busy
CallingPartyNotReachable	Calling Party was not reachable
CalledPartyNotReachable	Called Party was not reachable
CallHangUp	The call was terminated by either party hanging up
CallAborted	The call was aborted (any other termination cause)

7.3 CallInformation Structure

Call information for this call.

Element name	Element type	Optional	Description
callStatus	CallStatus	No	It indicates the current status of the call (see possible values below)
startTime	xsd:dateTime	Yes	When applicable (callStatus <> CallInitial), it indicates the time of the beginning of the call
duration	xsd:int	Yes	When applicable (callStatus = CallTerminated), it indicates the duration of the call expressed in seconds
terminationCause	CallTerminationCause	Yes	When applicable (callStatus = CallTerminated), it indicates the cause of the termination of the call

8 Web Service interface definition

8.1 Interface: ThirdPartyCall

This interface provides the ability to setup, end and determine the status of a call.

8.1.1 Operation: makeCall

The invocation of **makeCall** requests to set-up a voice call between two addresses, **callingParty** and **calledParty**, provided that the invoking application is allowed to connect them. Optionally the application can also indicate the charging information (**charging**).

By invoking this operation the application may monitor the status of the requested call. The returned parameter, **callIdentifier**, can be used to identify the call. In order to receive the information on call status the application has to explicitly invoke **getCallInformation**.

8.1.1.1 Input message: makeCallRequest

Part name	Part type	Optional	Description
callingParty	xsd:anyURI	No	It contains the address of the first user involved in the call
calledParty	xsd:anyURI	No	It contains the address of the second user involved in the call
charging	common:ChargingInformation	Yes	Charge to apply to the call

8.1.1.2 Output message : makeCallResponse

Part name	Part type	Optional	Description
result	xsd:string	No	It identifies a specific call request

8.1.1.3 Referenced faults

ServiceException from ES 202 391-1 [2]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from ES 202 391-1 [2]:

- POL0001 - Policy error.
- POL0008 - Charging not supported.

8.1.2 Operation: getCallInformation

The invocation of **getCallInformation** retrieves the current status, **callInformation**, of the call identified by **CallIdentifier**. This method can be invoked multiple times by the application even if the call has already ended. However, after the call has ended, status information will be available only for a limited period of time that is specified in the service policy "StatusRetentionTime".

8.1.2.1 Input message: getCallInformationRequest

Part name	Part type	Optional	Description
callIdentifier	xsd:string	No	It identifies a specific call request

8.1.2.2 Output message : getCallInformationResponse

Part name	Part type	Optional	Description
result	CallInformation	No	It identifies the status of the call

8.1.2.3 Referenced faults

ServiceException from ES 202 391-1 [2]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from ES 202 391-1 [2]:

- POL0001 - Policy error.

8.1.3 Operation: endCall

The invocation of **endCall** terminates the call identified by **callIdentifier**. If the call is still in the initial state this method has the same effect as the **cancelCall** operation.

8.1.3.1 Input message: endCallRequest

Part name	Part type	Optional	Description
callIdentifier	xsd:string	No	It identifies a specific call request

8.1.3.2 Output message: endCallResponse

Part name	Part type	Optional	Description
None			

8.1.3.3 Referenced faults

ServiceException from ES 202 391-1 [2]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0261 - Call already terminated.

PolicyException from ES 202 391-1 [2]:

- POL0001 - Policy error.

8.1.4 Operation: cancelCall

The invocation of **cancelCall** cancels the previously requested call identified by **callIdentifier**. Note that this method differs from the **endCall** operation since it only attempts to prevent the call from starting but it does not have any effect if the call has already started.

8.1.4.1 Input message: cancelCallRequest

Part name	Part type	Optional	Description
callIdentifier	xsd:string	No	It identifies a specific call request

8.1.4.2 Output message: cancelCallResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from ES 202 391-1 [2]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0260 - Call already connected.

PolicyException from ES 202 391-1 [2]:

- POL0001 - Policy error.

9 Fault definitions

The following faults are defined for this service.

9.1 ServiceException

9.1.1 SVC0260: Call already connected

Part name	Description
messageId	SVC0260
text	Call has already been connected, it cannot be cancelled
variables	None

9.1.2 SVC0261: Call already terminated

Part name	Description
messageId	SVC0261
text	Call has already been terminated
variables	None

10 Service policies

These service policies are defined for the Third Party Call service.

Name	Type	Description
ChargingAllowed	xsd:boolean	Is charging allowed for makeCall operation
StatusRetentionTime	xsd:int	Length of time, in seconds, to retain status after the termination of the call

Annex A (normative): WSDL for Third Party Call

The document/literal WSDL representation of this interface specification is compliant to ES 202 391-1 [2] and is contained in text files (contained in archive es_20239102v010201m0.zip) which accompany the present document.

Annex B (informative): Bibliography

ETSI TR 121 905: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Vocabulary for 3GPP Specifications (3GPP TR 21.905)".

History

Document history		
V1.1.1	March 2005	Publication
V1.2.1	October 2006	Membership Approval Procedure MV 20061215: 2006-10-17 to 2006-12-15