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ETSI Standard

Open Service Access (OSA); Parlay X Web Services; Part 6: Payment (Parlay X 3)



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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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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).

The present document is part 6 of a multi-part deliverable covering Open Service Access (OSA); Parlay X 3 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";
- Part 15: "Message Broadcast";
- Part 16: "Geocoding";
- Part 17: "Application-driven Quality of Service (QoS)";
- Part 18: "Device Capabilities and Configuration";
- Part 19: "Multimedia Streaming Control";
- Part 20: "Multimedia Multicast Session Management".

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

The present document forms part of the Parlay X 3.0 set of specifications.

The present document is equivalent to 3GPP TS 29.199-06 V7.2.2 (Release7).

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1 Scope

The present document is part 6 of the Stage 3 Parlay X 3 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 Payment 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

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.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[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 202 504-1: "Open Service Access (OSA); Parlay X Web Services; Part 1: Common (Parlay X 3)".
- [3] ISO 4217: "Codes for the representation of currencies and funds".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 202 504-1 [2] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ES 202 504-1 [2] apply.

4 Detailed service description

A vast amount of content, both information and entertainment, will be made available to subscribers. To support a business model that enables operators to offer integrated billing, a payment API is crucial. Open and inter-operable "payment APIs" are the key to market growth and investment protection. The Payment Web Service supports payments for any content in an open, Web-like environment.

The Payment Web Service described in the present document supports payment reservation, pre-paid payments, and post-paid payments. It supports charging of both volume and currency amounts, a conversion function and a settlement function in case of a financially resolved dispute.

Note that certain parameters are negotiated as part of a service level agreement. For example the taxation procedures and parameters.

An example of an application scenario could be a multimedia service. Assume a subscriber is interested in receiving a stream of, say, a soccer match. The subscriber selects a match and establishes a trusted relation with the provider. Again, the provider obtains the MSISDN and other information from the subscriber. The subscriber wants to know what the service will cost and the provider interacts with the operators rating engine (**getAmount**) taking into account the subscriber's subscription, time of day, etc. The value returned is a **ChargingInformation** amount and is printed on the page that is displayed at the MS. The subscriber then decides to stream the match to his MS. Subsequently, the provider will reserve the appropriate amount with the operator (**reserveAmount**) to ensure that the subscriber can fulfil his payment obligations. The match starts and the provider periodically charges against the reservation (**chargeReservation**). The match ends in a draw and is extended with a 'sudden death' phase. The subscriber continues listening, so the existing reservation is enlarged (**reserveAdditionalAmount**). Suddenly, one of the teams scores a goal, so the match abruptly ends, leaving part of the reserved amount unused. The provider now releases the reservation (**releaseReservation**), and the remaining amount is available for future use by the subscriber.

Now we can extend this scenario by having the subscriber participate in a game of chance in which the provider refunds a percentage of the usage costs (**refundAmount**) based on the ranking of a particular team in this tournament. For example, the subscriber gambling on the team that wins the tournament receives a full refund, while for gambling on the team that finishes in second place, the refund is 50 %, etc.

5 Namespaces

The AmountCharging interface uses the namespace:

http://www.csapi.org/wsd/parlayx/payment/amount_charging/v3_1

The VolumeCharging interface uses the namespace:

http://www.csapi.org/wsd/parlayx/payment/volume_charging/v3_1

The ReserveAmountCharging interface uses the namespace:

http://www.csapi.org/wsd/parlayx/payment/reserve_amount_charging/v3_1

The ReserveVolumeCharging interface uses the namespace:

http://www.csapi.org/wsd/parlayx/payment/reserve_volume_charging/v3_1

The data types are defined in the namespace:

http://www.csapi.org/schema/parlayx/payment/v3_0

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 Charge for content

Assume a subscriber is interested in downloading a ring tone to his device. The subscriber selects a ring tone and establishes a trusted relation with the ring tone provider. Essentially, the ring tone provider obtains the address (MSISDN) and other information from the subscriber. The ring tone may be downloaded to the device using SMS. As soon as the download succeeds, the provider of the ring tone will charge the subscriber (**chargeAmount**).

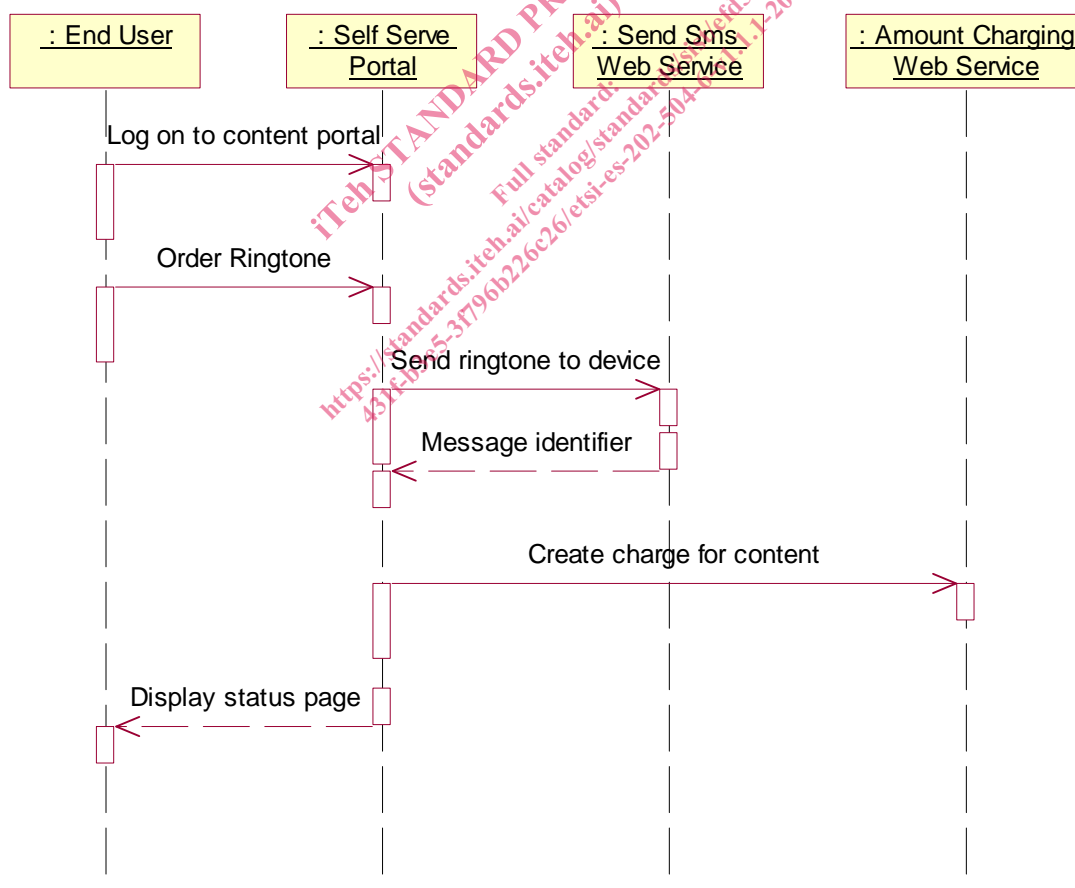


Figure 1

7 XML Schema data type definition

7.1 Property structure

Property with a name and value.

Element name	Type	Optional	Description
name	xsd:string	No	Name of property
value	xsd:string	No	Value of property

7.2 SplitType structure

Identifies the percentage of the total charge that is be allocated to the specified end user's account.

Element name	Type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged
percent	xsd: Int	No	Specifies the allocation of the total charge for this account. The sum of all allocations must equal 100. If sum of percentage allocations is not equal to 100 a service exception (SVC0271) will be thrown. The value of percentage should be positive.

8 Web Service interface definition

8.1 Interface: AmountCharging

Charge operations by currency amount.

8.1.1 Operation: chargeAmount

This operation results in directly charging to the account indicated by the end user identifier. The charge is specified as a **ChargingInformation** data structure, consisting of information on the amount to be charged and a description to appear on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.1.1.1 Input message: chargeAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged.
charge	common:ChargingInformation	No	Information on the charge to be made. In the ChargingInformation structure: <ul style="list-style-type: none"> the description element is information to appear on the bill. the amount to be charged appears either directly in the amount element or encoded in the code element. If both these elements are missing or empty, a service exception (SVC0007) will be thrown. the optional currency element specifies the currency to be used for the charge.
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes.