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Technical Specification

Digital cellular telecommunications system (Phase 2+);
**Universal Mobile Telecommunications System (UMTS);**
LTE;
Open Service Access (OSA);
Parlay X web services;
Part 7: Account management
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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

Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

3GPP acknowledges the contribution of the Parlay X Web Services specifications from The Parlay Group. The Parlay Group is pleased to see 3GPP acknowledge and publish the present document, and the Parlay Group looks forward to working with the 3GPP community to improve future versions of the present document.

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x   the first digit:

1   presented to TSG for information;

2   presented to TSG for approval;

3   or greater indicates TSG approved document under change control.

y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is part 7 of a multi-part deliverable covering the 3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; 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"
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"
Part 21:   "Content management"
Part 22:   "Policy"

1 Scope

The present document is Part 7 of the Stage 3 Parlay X Web Service 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 concepts and the functional architecture for the OSA are contained in 3GPP TS 23.198 [3]. The requirements for OSA are contained in 3GPP TS 22.127 [2].

The present document specifies the Account Management Web Service aspects of the interface. All aspects of the Account Management Web Service are defined here, these being:

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

The present document has been defined jointly between 3GPP TSG CT WG5, ETSI TISPAN and The Parlay Group.

Maintenance of up to 3GPP Rel-8 and new OSA Stage 1, 2 and 3 work beyond Rel-9 was moved to OMA in June 2008.

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, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1]   3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2]   3GPP TS 22.127: "Service Requirement for the Open Services Access (OSA); Stage 1".

[3]   3GPP TS 23.198: "Open Service Access (OSA); Stage 2".

4]   3GPP TS 22.101: "Service aspects; Service principles".

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

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

[6]   3GPP TS 29.199-1: "Open Service Access (OSA); Parlay X Web Services; Part 1: Common".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 29.199-1 [6] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 29.199-1 [6] apply.

4 Detailed service description

Pre-paid subscribers, whether they have subscribed to pre-paid telephony, SMS, or data service, have credits with their service providers; the consumption of services will lead to reduction of their credit, or the credit may expire. Therefore, from time to time, subscribers may have to recharge their accounts. This occurs through an application that interfaces with the subscriber either directly or indirectly. Examples of direct interaction are voice prompts and WAP/web pages, or even SMS. Typically, such multi-modal applications either request a currency amount and, e.g. credit card information, or a voucher number plus credentials. The voucher number and credentials are then validated and causes a pre-determined currency amount to be transferred.

The Parlay X Account Management API described in the present document supports account querying, direct recharging and recharging through vouchers. As a side effect, it may prevent subscribers from having their account balance credits expire.

5 Namespaces

The AccountManagement interface uses the namespace:

> http://www.csapi.org/wsdl/parlayx/account_management/v4_0

The AccountManagementNotification interface uses the namespace:

> http://www.csapi.org/wsdl/parlayx/ account_management /notification/v4_0

The AccountManagementNotificationManager interface uses the namespace:

> http://www.csapi.org/wsdl/parlayx/ account_management /notification_manager/v4_0

The data types are defined in the namespace:

> http://www.csapi.org/schema/parlayx/account_management/v4_0

The 'xsd' namespace is used in the present document to refer to the XML Schema data types defined in XML Schema [5]. The use of the name 'xsd' is not semantically significant.

6   Sequence diagrams

This subclause discusses three scenarios; one where a subscriber uses a voucher, one where the subscriber directly recharges after the payment is cleared, and one where the subscriber checks the recent transactions.

NOTE: Associated Account Management API messages are shown in 'bold' format: e.g. (**getBalance**).

6.1   Prepaid account recharge using a voucher

The prepaid subscriber wishes to recharge their account with a voucher and query their account balance. The subscriber uses their mobile phone or other wireline phone to interact with an IVR system. In order to recharge their account, the subscriber must enter the voucher number, the MSISDN to be recharged , and PIN(s). The IVR system accesses an external voucher database to validate the voucher number. The subscriber's account balance is then increased with the value of the voucher (**voucherUpdate**). The subscriber queries their account balance (**getBalance**), before and/or after the recharge.
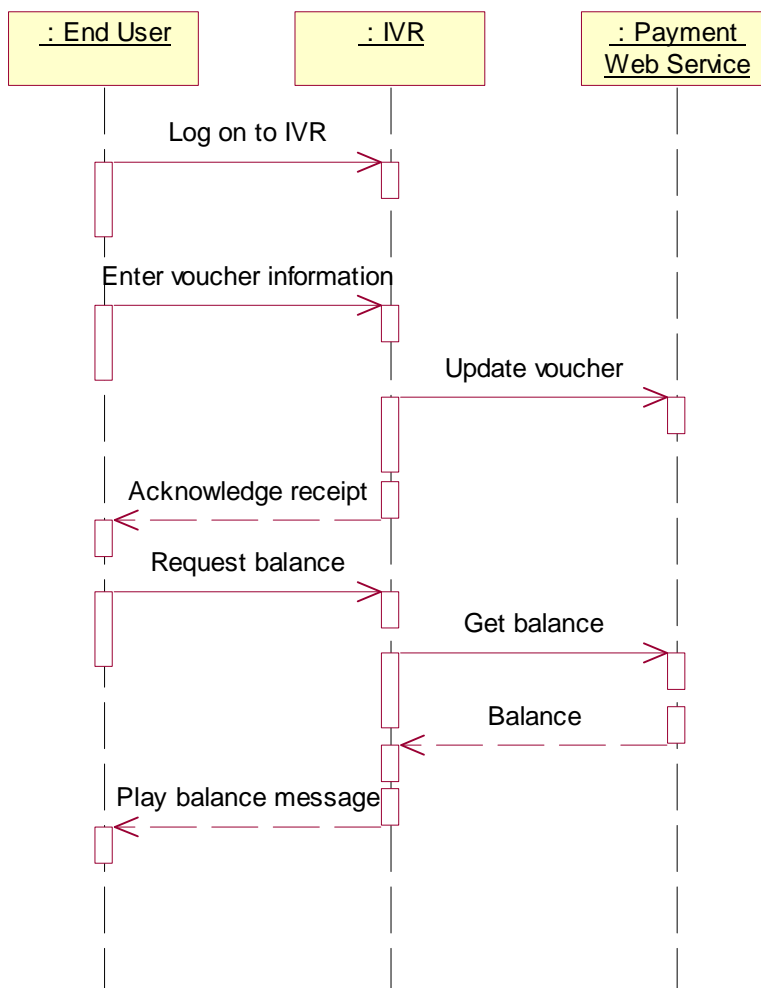
Figure 1

6.2 Prepaid account recharge using direct payment

Directly recharging (i.e. without a voucher) works much along the same way. In this case, we assume the prepaid subscriber interacts with a web page. After providing the MSISDN, along with the PIN, the user can query the account balance (**getBalance**). For recharging, the subscriber must enter payment details, for example credit card information, from which the payment will be made. After clearing the payment details, the currency amount will be transferred and the subscriber's prepaid account balance expiration date will be reset (**balanceUpdate**). The subscriber also queries their account balance expiration date (**getCreditExpiryDate**), after the recharge.
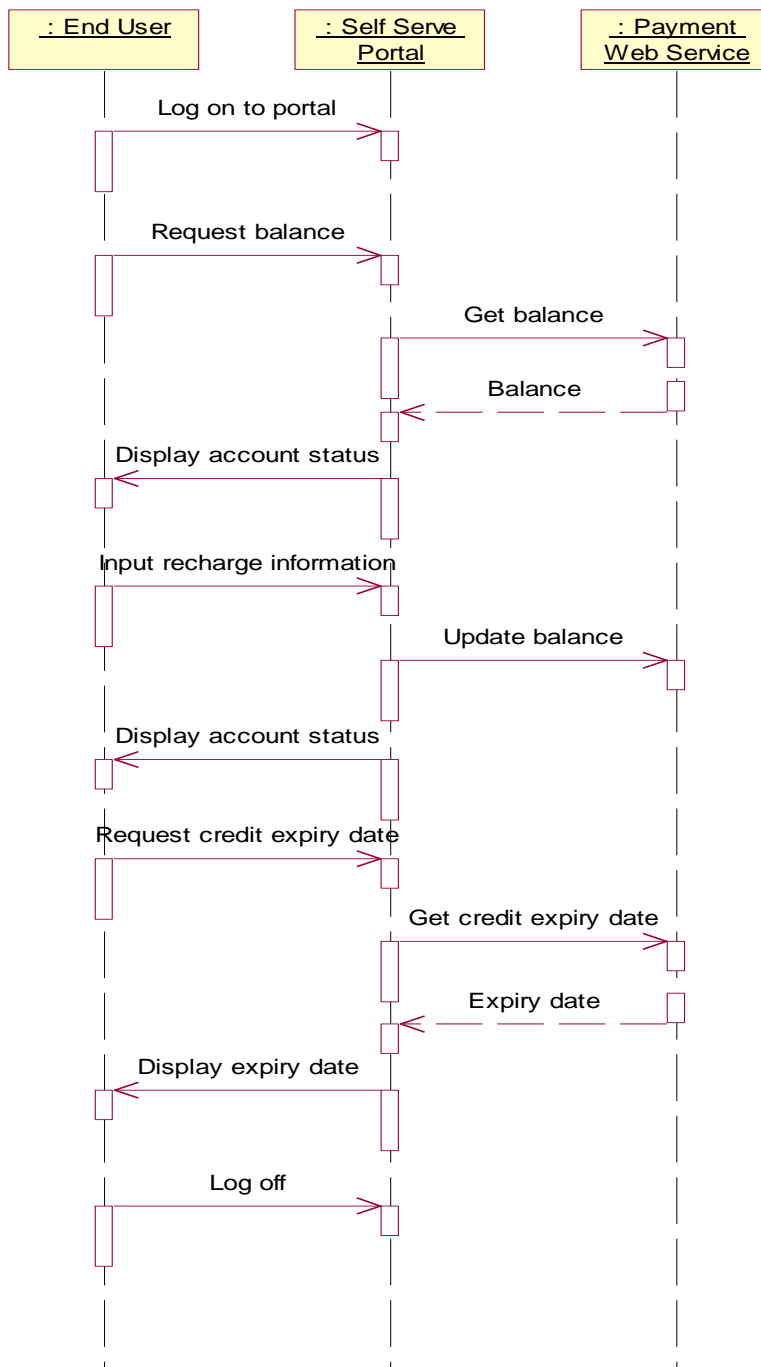
Figure 2

7   XML Schema data type definition

7.1   DatedTransaction structure

This data structure represents a transaction record.

Element Name	Element Type	Optional	Description
TransactionDate	xsd:dateTime	No	The date the transaction occurred.
TransactionDetails	xsd:string	No	The transaction details.

7.2   Balance structure

This data structure represents a balance record.

Element Name	Element Type	Optional	Description
BalanceType	xsd:string	No	Identifies the type of balance. End user accounts may have one or more balances for different types of usage (e.g Voice, SMS, gaming etc)
Amount	xsd:decimal	No	Amount of balance

7.3   BalanceExpireDetails structure

This data structure represents balance expiry details.

Element Name	Element Type	Optional	Description
BalanceType	xsd:string	No	Identifies the type of balance. End user accounts may have one or more balances for different types of usage (e.g Voice, SMS, gaming etc)
Date	xsd:dateTime	Yes	It is the date the identified balance will expire. Do not specify if the balance does not expire

7.4   AccountChangedEvent enumeration

List of possible account changed event values.

Enumeration value	Description
Charge	A balance associated with the account is charged
Recharge	A balance associated with the account is recharged
AccountLow	A balance associated with the account is below the balance threshold

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8 Web Service interface definition

8.1 Interface: AccountManagement

The Account Management interface provides access to account information for update and query operations.

8.1.1 Operation: GetBalance

This message results in getting account balances indicated by the end user identifier and associated end user PIN. The returned amount for each balance is specified as a currency amount.

End users accounts may have a single balance for all usage, or may have multiple balances for different uses. For example, an end user may have a separate balance for voice calls, SMS messages, and GPRS usage.

8.1.1.1 Input message: GetBalanceRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account

8.1.1.2 Output message: GetBalanceResponse

Part name	Part type	Optional	Description
result	Balance [1…unbounded]	No	It is a Balance array that consists of types with a string and a decimal field i.e. the balance type and balance amount respectively.

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.2 Operation: GetCreditExpiryDate

This message results in getting the expiration date of the credit indicated by the end user identifier and associated end user PIN. The returned date is the date the current balance will expire.

8.1.2.1 Input message: GetCreditExpiryDateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account.

8.1.2.2 Output message: GetCreditExpiryDateResponse

Part name	Part type	Optional	Description
result	BalanceExpireDetails [1…unbounded]	No	It is a BalanceExpireDetails array that consists of types with a string and a date field. i.e. Balance type and date balance will expire respectively

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.3 Operation: BalanceUpdate

This message results in directly recharging the account indicated by the end user identifier and optional associated end user PIN. 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. The balance type identifies an existing balance type in the account, or a new balance type to be added to the account.

> NOTE: getBalanceTypes operation is used to discover the set of allowed balance types that can be associated with a specific end user"s account.

The recharge is specified as a currency amount. The balance is requested to expire in the number of days indicated by the period parameter. The operator's policies may overrule this parameter. If the optional period parameter is not present, the operator's policy on balance expiration is always in effect.

8.1.3.1 Input message: BalanceUpdateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account.
ReferenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes
BalanceType	xsd:string	No	Identifies the type of balance to be recharged. An end user"s account may have a balance for each type of usage (e.g. Voice, SMS, gaming etc)
Amount	xsd:decimal	No	Currency amount that should be added to the balance identified in the BalanceType part.
Period	xsd:int	Yes	The balance is requested to expire in the number of days indicated by this parameter. The operator's policies may overrule this parameter. If this optional parameter is not present, the operator's policy on balance expiration is always in effect.

8.1.3.2 Output message: BalanceUpdateResponse

Part name	Part type	Optional	Description
None			

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error

8.1.4   Operation: VoucherUpdate

This message results in directly recharging the account indicated by the end user identifier and optional associated end user PIN. 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. A voucher identifier indirectly specifies the charge. The optional voucher PIN code can be used to verify the voucher.

8.1.4.1   Input message: VoucherUpdateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account.
ReferenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes
VoucherIdentifier	xsd:string	No	This parameter identifies the voucher.
VoucherPin	xsd:string	Yes	Contains the voucher's credentials for authentication.

8.1.4.2   Output message: VoucherUpdateResponse

Part name	Part type	Optional	Description
None			

8.1.4.3   Referenced Faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0250 - End user authentication failed.

- SVC0251 - Unknown voucher.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

- POL0220 - Vouchers not accepted.

8.1.5 Operation: GetHistory

This message results in returning the transaction history of the account indicated by the end user identifier and associated optional end user PIN. The maximum number of entries to return and the start date define the range of transactions that are of interest to the requester.

If the total number of entries in the transaction history, starting at the specified date, is larger than the specified maximum number of entries, only the most recent events are returned. Note that the operator might limit the maximum amount of entries to be returned or the period for which the entries are to be returned.

8.1.5.1 Input message: GetHistoryRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account.
Date	xsd:dateTime	Yes	This parameter indicates the desired starting date for the entries to be returned. If this parameter is not present, it is up to the discretion of the service to decide this date.
MaxEntries	xsd:int	Yes	This parameter indicates the maximum number of entries that shall be returned. If this parameter is not present, it is up to the discretion of the service to decide how many entries to return.

8.1.5.2 Output message: GetHistoryResponse

Part name	Part type	Optional	Description
result	DatedTransaction [0 .. unbounded]	Yes	It is a DatedTransaction array that consists of types with a date field and a string field: i.e. the date of the occurrence and the transaction details, respectively.

8.1.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.6   Operation: GetBalanceTypes

This operation is used to discover the set of all possible balance types that are permitted for a specified end user"s account.

8.1.6.1   Input message: GetBalanceTypesRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	Contains the end user's credentials for authorizing access to the account

8.1.6.2   Output message: GetBalanceTypesResponse

Part name	Part type	Optional	Description
result	xsd:string [1…unbounded]	No	Identifies all the balance types that are permitted for this end user "s account. An end user"s account may have one or more balances for different types of usage (e.g Voice, SMS, gaming etc)

8.1.6.3   Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.2 Interface: AccountManagementNotificationManager

Set up notifications for account changes.

8.2.1 Operation: startNotification

Notifications of account changes are made available to applications. The correlator provided in the reference must be unique for this Web Service at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application. The endUserIdentifier is the end user's account to monitor. The criteria provide the filtering condition to make notifications to the application. The balanceTypes part identifies balances for different types of usage within an account (e.g. Voice, SMS, gaming etc).

8.2.1.1 Input message: startNotificationRequest

Part name	Part type	Optional	Description
reference	common:SimpleReference	No	Notification endpoint definition
endUserIdentifier	xsd:anyURI	No	Account to monitor
criteria	AccountChangedEvent [0…unbounded]	Yes	List of account changed event values for which to generate notifications. If not present, notifications are enabled for all events.
balanceTypes	xsd:string [0…unbounded]	Yes	Identifies the types of balance for which to generate notifications. If not present, notifications are enabled for each balance associated with the end user account.

8.2.1.2 Output message: startNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

- SVC0005- Duplicate correlator.

- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.2.2 Operation: endNotification

The application may end a notification using this operation. Until this operation returns, notifications may continue to be received by the application.

8.2.2.1 Input message: endNotificationRequest

Part name	Part type	Optional	Description
correlator	xsd:string	No	Correlator of request to end

8.2.2.2 Output message: endNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.3 Interface: AccountNotification

Notification interface to which notifications of account balance changes are delivered.

8.3.1 Operation: accountCharged

When a monitored account balance is charged, a notification is delivered to the application reporting the amount of the charge.

8.3.1.1 Input message: accountChargedRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification
Amount	xsd: decimal	No	The currency amount of the charge
balanceType	xsd:string	No	The balance type that was charged

8.3.1.2 Output message: accountChargedResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

None

8.3.2 Operation: accountRecharged

When a monitored account balance is recharged, a notification is delivered to the application reporting the amount of the recharge.

8.3.2.1 Input message: accountRechargedRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification
Amount	xsd: decimal	No	The currency amount of the recharge
balanceType	xsd:string	No	The balance type that was recharged.

8.3.2.2 Output message: accountRechargedResponse

Part name	Part type	Optional	Description
None			

8.3.2.3 Referenced faults

None

8.3.3 Operation: accountLow

When a monitored account balance falls below the low balance threshold, a notification is delivered to the application with the currency amounts of all balances associated with the account.

8.3.3.1 Input message: accountLowRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification
Balance	Balance [1…unbounded]	No	It is a set of Balance records, where each record specifies an account balance type and the associated currency amount

8.3.3.2 Output message: accountLowResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

None

9 Fault definitions

9.1 Fault: ServiceException

9.1.1 End user authentication failed

Name	Description
Message Id	<SVC0250>
Text	End user authentication failed.
Variables	None.

9.1.2 Unknown Voucher

Name	Description
Message Id	<SVC0251>
Text	Voucher %1 is not valid.
Variables	%1 Voucher identifier.

9.2 Fault: PolicyException

9.2.1 Vouchers not accepted

Name	Description
Message Id	<POL0220>
Text	Vouchers not accepted.
Variables	None.

10 Service policies

The following service policies are defined for this service.

Name	Type	Description
VouchersAccepted	xsd:boolean	Indicates whether vouchers are accepted
Currency	xsd:string	Currency used by service (per ISO 4217)
LowBalance	xsd:decimal	Threshold that triggers low balance notification

Annex A (normative):
WSDL for Account Management

The document/literal WSDL representation of this interface specification is compliant to 3GPP TS 29.199-1 [6] and is contained in text files:

- parlayx_account_management_interface_4_0.wsdl

- parlayx_account_management_notification_interface_4_0.wsdl

- parlayx_account_management_notification_manager_interface_4_0.wsdl

- parlayx_account_management_notification_manager_service_4_0.wsdl

- parlayx_account_management_notification_service_4_0.wsdl

- parlayx_account_management_service_4_0.wsdl

- parlayx_account_management_types_4_0.xsd

which accompany the present document.

The WSDL files have been verified using the following files:

- 7_wsdl2Java_axis-1_4.bat

- 7_wsdl2Java_axis2-1_4_1.bat

which accompany the present document.

Annex B (informative):
Description of Parlay X Web Services Part 7: Account management for 3GPP2 cdma2000 networks

This annex is intended to define the OSA Parlay X Web Services Stage 3 interface definitions and it provides the complete OSA specifications. It is an extension of OSA Parlay X Web Services specifications capabilities to enable operation in cdma2000 systems environment. They are in alignment with 3GPP2 Stage 1 requirements and Stage 2 architecture defined in:

[1] 3GPP2 X.S0011-D: 'cdma2000 Wireless IP Network Standard ", Version 1.1

[2] 3GPP2 S.R0037-0: "IP Network Architecture Model for cdma2000 Spread Spectrum Systems", Version 3.0

[3] 3GPP2 X.S0013-A: "All-IP Core Network Multimedia Domain"

These requirements are expressed as additions to and/or exclusions from the 3GPP specification.
The information given here is to be used by developers in 3GPP2 cdma2000 network architecture to interpret the 3GPP OSA specifications.

B.1 General Exceptions

The terms 3GPP and UMTS are not applicable for the cdma2000 family of standards. Nevertheless these terms are used (3GPP TR 21.905) mostly in the broader sense of "3G Wireless System". If not stated otherwise there are no additions or exclusions required.

CAMEL mappings are not applicable for cdma2000 systems.

B.2 Specific Exceptions

B.2.1 Clause 1: Scope

There are no additions or exclusions.

B.2.2 Clause 2: References

There are no additions or exclusions.

B.2.3 Clause 3: Definitions and abbreviations

There are no additions or exclusions.

B.2.4 Clause 4: Detailed service description

There are no additions or exclusions.

B.2.5 Clause 5: Namespaces

There are no additions or exclusions.

B.2.6　Clause 6: Sequence diagrams

There are no additions or exclusions.

B.2.7　Clause 7: XML Schema data type definition

There are no additions or exclusions.

B.2.8　Clause 8: Web Service interface definition

There are no additions or exclusions.

B.2.9　Clause 9: Fault definitions

There are no additions or exclusions.

B.2.10　Clause 10: Service policies

There are no additions or exclusions.

B.2.11　Annex A (normative): WSDL for Account Management

There are no additions or exclusions.

Annex C (informative):
Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
Jun 2006	CT_32	CP-060210	0006	--	Add Notification Interface in Account Management	B	6.3.0	7.0.0
Dec 2006	CT_34	CP-060592	0008	-	Correct the description of the getBalanceTypes operation	A	7.0.0	7.1.0
Dec 2006	CT_34	CP-060603	0009	-	Add balance type parts to the notification messages	C	7.0.0	7.1.0
Mar 2007	CT_35	CP-070045	0011	-	Add OSA Parlay Web Services support for 3GPP2 networks	A	7.1.0	7.2.0
Mar 2007	CT_35	CP-070045	0013	-	Corrections to service policies	A	7.1.0	7.2.0
Mar 2007	--	--	--	--	Editorial: Aligned 5 Namespaces	--	7.2.0	7.2.1
Jun 2007	--	--	--	--	Renamed in Introduction Part 18:"Device management" to "Device Capabilities and Configuration"	--	7.2.1	7.2.2
Dec 2008	CT_42	--	--	--	Upgraded unchanged from Rel-7	--	7.2.2	8.0.0
Sep 2009	CT_45	CP-090595	0015		Completion of Parlay X Account management for Release 8	F	8.0.0	8.1.0
2009-12	-	-	-	-	Update to Rel-9 version (MCC)		8.1.0	9.0.0

History

Document history		
V9.0.0	January 2010	Publication