3GPP TSG CN Plenary Meeting #25 **NP-040353**
08-10 September 2004, Palm Springs, CA, USA

Source: **CN5 (OSA)**

Title: **3 Rel-6 CR 23.127 OSA Stage 2**

Agenda item: **9.7 (OSA Enhancements [OSA3])**

Document for: **APPROVAL**

Doc-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
NP-040353	23.127	048	--	Rel-6	Add descriptions of OSA high-level abstraction interfaces	F	6.1.0	N5-040504	OSA3
NP-040353	23.127	049	--	Rel-6	Correct descriptions of OSA high-level abstraction interfaces	F	6.1.0	N5-040524	OSA3
NP-040353	23.127	050	--	Rel-6	Add OSA Multi Media Messaging SCF - stage 2 description	B	6.1.0	N5-040586	OSA3

CR-Form-v7

CHANGE REQUEST

⌘ 23.127 CR 048 ⌘rev - ⌘ Current version: 6.1.0 ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network X

Title:	⌘	Add descriptions of OSA high-level abstraction interfaces
Source:	⌘	CN5 Telcordia, IBM
Work item code:	⌘	OSA3
Date:	⌘	13/08/2004
Category:	⌘	F
Release:	⌘	REL-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Aligning the 3GPP Release 6 stage 2 OSA architecture specification with the OSA stage 1 requirements and the OSA stage 3 interfaces, fulfilling those requirements.
Summary of change:	⌘	There is an OSA stage 1 requirement for High-level abstracted interfaces, which is currently being implemented in OSA stage 3 TS 29.199 by a suite of Parlay X Web Service interfaces. These high-level Parlay X Web Services interfaces provide a high-level abstraction of some of the existing available OSA API interfaces. The stage 1 and stage 3 material is not yet reflected in the OSA stage 2 architecture document. This CR proposes the introduction of the appropriate descriptions of this functionality, in order to bring the stage 1, stage 2, and stage 3 to the same consistent level.
Consequences if not approved:	⌘	The stage 1, stage 2, and stage 3 Release 6 specifications for OSA are misaligned. The OSA stage 2 does not reflect the OSA stage 1 requirements, and the OSA stage 3 interfaces specification.

Clauses affected:	⌘	New 9.10 - 9.13			
Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

9.10 Audio Call

The Parlay X Audio Call Web Service supports the creation of a call with associated audio content that is used when the call is completed. The third party application can suggest a charge against the receiving subscriber's account. The function supported is,

- Play audio, setting up a call and using provided audio content to communicate with the callee
- Retrieval of status
- Application ability to end the call

9.11 Call Handling

The Parlay X Call Handling Web Service enables call handling rules to be provisioned, allowing third party applications to specify how to handle calls for addresses without requiring the application to handle network interactions, simplifying access to this capability for application developers. The function supported is,

- Provision rules for accepting, blocking, forwarding and answering calls for an address
- Query rules associated with an address
- Remove rule processing for an address or group of addresses

For reasons of efficiency, call handling rules can be provisioned for groups of addresses. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

9.12 Multimedia Conferencing

The Multimedia Conferencing is a simple Web Service that allows the creation of a multimedia conference and the dynamic management of the participants and the media involved. The interface can be used by an application for creating a multimedia conference call and for dynamically managing the participants and the media involved in the call.

- Create a conference without participants
- Query the conference status/ participants
- Add/delete a participant
- Add/delete media per participant
- Query participant status
- End the conference

9.13 Presence

The Parlay X Presence Web Service allows for presence information to be obtained about one or more users and to register presence for the same. The service supports three interfaces: a watcher interface for requesting and subscribing presence data, a watcher notification interface in order to receive presence events, and a presentity interface for supplying presence data and managing subscriptions.

- Requests used by the watcher to obtain presence data. After subscripting to presence data, the watcher can select between a polling mode and a notification mode for receiving the presence data.
- Requests offered by the application to receive presence notifications.
- Requests used to provision presence data and manage access to the data by its watchers.

Support for groups of addresses is essential, e.g. when managing acess to presence data. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

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CHANGE REQUEST

⌘ 23.127 CR 049 ⌘rev - ⌘ Current version: 6.1.0 ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network X

Title:	⌘	Correct descriptions of OSA high-level abstraction interfaces
Source:	⌘	CN5 Telcordia, IBM
Work item code:	⌘	OSA3
Date:	⌘	13/08/2004
Category:	⌘	F
Release:	⌘	REL-6

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.

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Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Aligning the 3GPP Release 6 stage 2 OSA architecture specification with the OSA stage 3 interfaces, fulfilling those requirements.
Summary of change:	⌘	There is an OSA stage 1 requirement for High-level abstracted interfaces, which is currently being implemented in OSA stage 3 TS 29.199 by a suite of Parlay X Web Service interfaces. These high-level Parlay X Web Services interfaces provide a high-level abstraction of some of the existing available OSA API interfaces. Recent prototyping and further analyses have resulted in updates against stage 3. This material is not yet reflected in the OSA stage 2 architecture document. This CR proposes the introduction of the appropriate descriptions of this functionality, in order to bring the stage 1, stage 2, and stage 3 to the same consistent level.
Consequences if not approved:	⌘	The stage 2, and stage 3 Release 6 specifications for OSA are misaligned.

Clauses affected:	⌘	9

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:

9 Parlay X Web Services: OSA at a higher level of abstraction

9.1 General

The general architecture of a solution including Web Services and/or OSA links in deployment allows a number of deployment configurations. These configurations are derivatives of a basic architecture model, enabling a variety of deployment options.

A typical Parlay X Web Services deployment model is shown in the Figure 9.1. This model shows the publication of Parlay X Web Services through a registry, making those Web Services available for discovery, and for applications to use Web Services access methods to interact with the Gateway, where the Web Service interfaces are implemented.

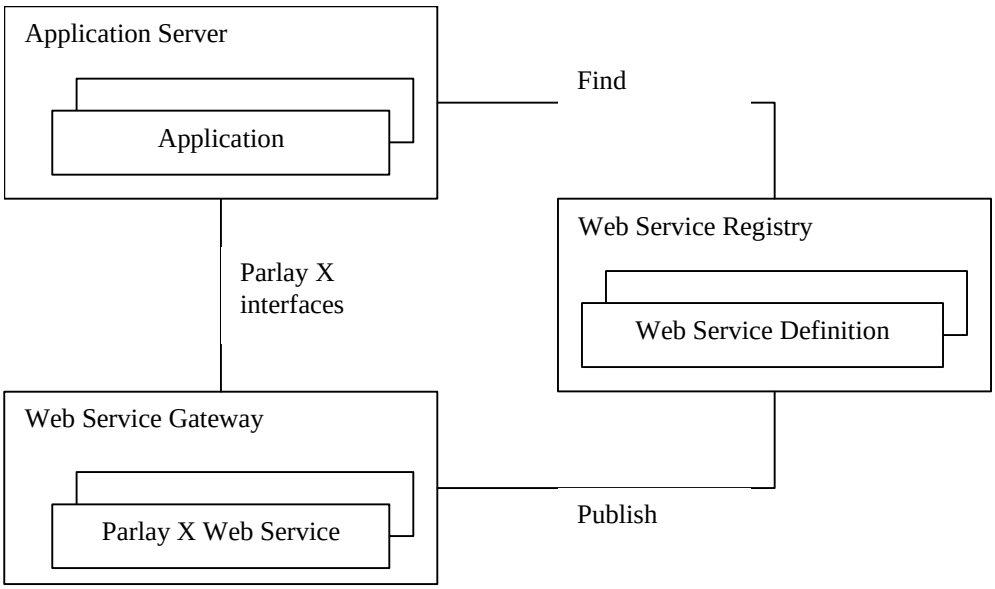

Figure 9.1 Parlay X Web Services deployment model

Interfaces to the Web Services Registry are drawn in Figure 9.1 for consistency with Web Service architectures, but they are not in the scope of the Parlay X Web Services.

This architecture may be combined with existing OSA deployment configurations, providing the overall architecture as illustrated in Figure 9.2.

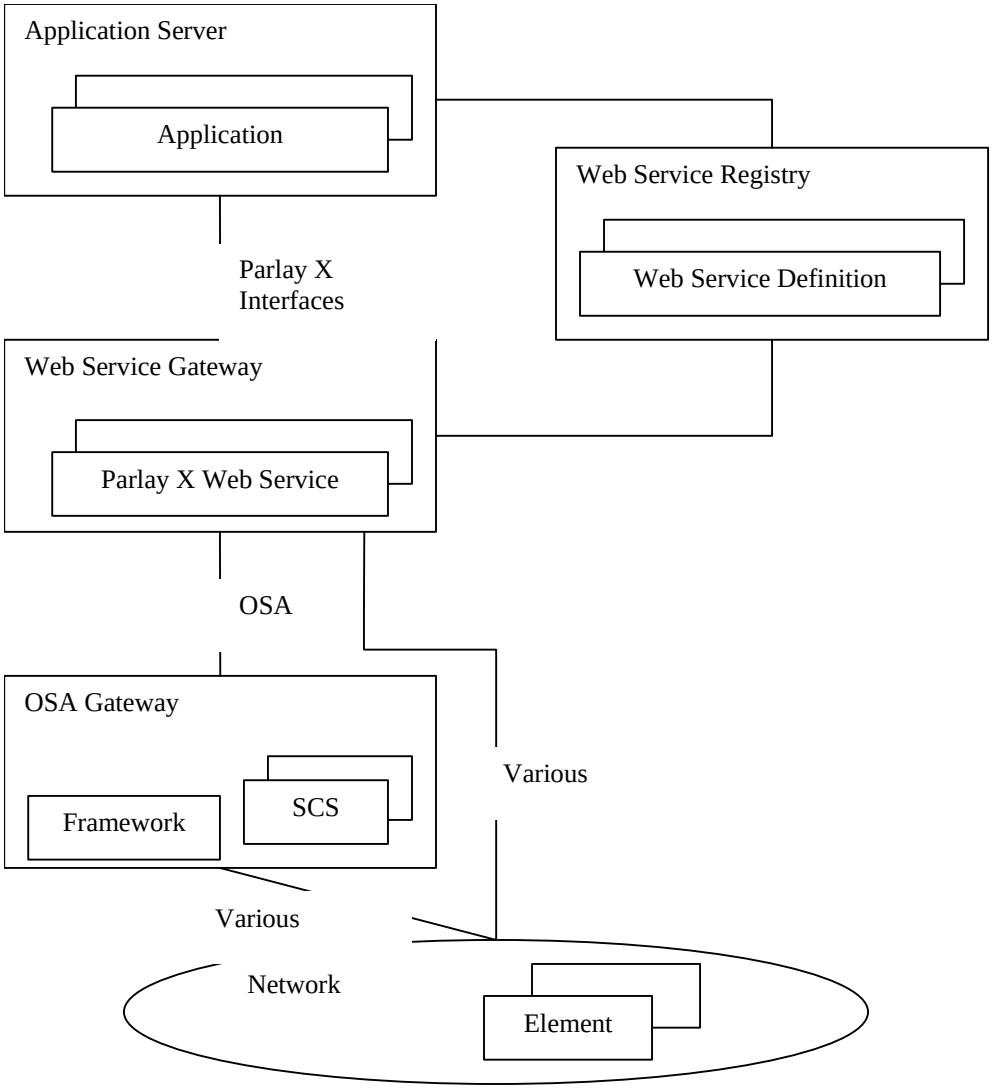

Figure 9.2 The overall Parlay X Web Services architecture

9.1.1 Deployment Scenario A: Web Services to OSA

This scenario addresses solutions that combine Web Services interfaces facing the exterior of the network with OSA interfaces facing the interior of the network.

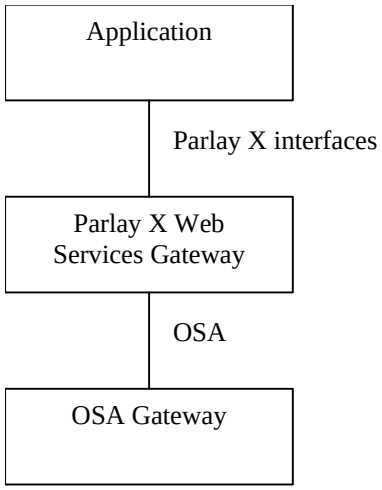

Figure 9.3 Deployment Scenario A: Web Services to OSA

Environment Description

The Application will utilize Web Services to discover and interact with the network, and will not have visibility to the OSA implementation behind the Parlay X Web Services Gateway. The Parlay X Web Services Gateway attaches to the OSA Gateway through an OSA interface. The information published to the Web Services Registry provides the Application with the connection information required to connect with the Parlay X Web Services Gateway.

9.1.2 Deployment Scenario B: Web Services to Network Element

This scenario addresses solutions that combine Web Services interfaces facing the exterior of the network with network element specific interfaces facing the interior of the network.

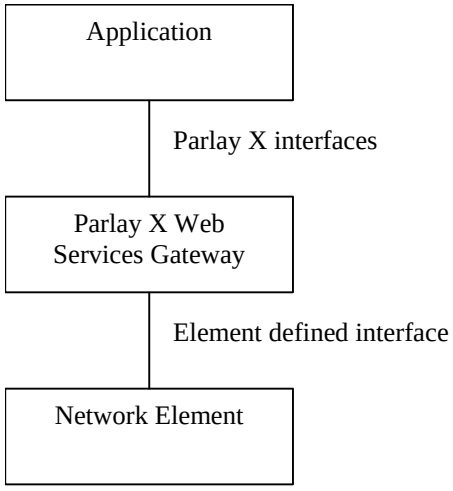

Figure 9.4 Deployment Scenario B: Web Services to Network Element

Environment Description

The Application will utilize Web Services to discover and interact with the network, and will not have visibility to the implementation behind the Parlay X Web Services Gateway. The Parlay X Web Services Gateway attaches to the Network Element through an interface defined by the Network E-lement. These interfaces (i.e. Element defined interface) are not in the scope of this ~~specificaiton~~specification. The information published to the Web Services Registry provides the Application with the connection information required to connect with the Parlay X Web Services Gateway.

The next sections describe the Web Services supported by OSA Rel6.

9.2 Third Party Call

This Web Service supports the functionality to create and manage a call initiated by an application (third party call). Using the Third Party Call Web Service, applications can invoke call handling functions without detailed telecommunication knowledge. The functionality provided is:

- Make a call which sets up a call between two addresses
- Get call information gives information about how the call progressed in the network
- End call will cease the call
- Cancel Call Request allows the network to prevent call setup before completion

The third party application can suggest a charge against the receiving subscriber's account.

9.3 Network-Initiated Third Party Call

These functions are for notification or even handling of ~~handling~~ calls initiated by a subscriber in the network. A (third party) application can determine~~s~~ how the call should be treated. The overall scope of this Web service is to provide

simple call control related functions to application developers.~~functions to application developers to determine how a call should be treated.~~ Using the Network-Initiated Third Party Call Web Service, application developers can apply simple logic to~~perform simple handling of~~ network-initiated calls without specific Telco knowledge. The Web ~~services~~ Services allow the application to handle the following conditions occurring in the set-up of a call:

- Destination busy
- Address is not Reachable
- Destination is not answering
- A specific number has been called by subscriber
- ~~The subscriber has taken the terminal "off-hook"~~

The third party application can suggest a charge against the subscriber's account on which behalf these services were rendered.

9.4 SMS

The overall scope of this Web Service is to provide to applications the means to handle SMS in a simple way. For receiving a message from the network, the application may use either polling ~~-~~or notification mechanisms. The notification mechanism is more common: network-initiated messages are sent to autonomous application-side web services. Both mechanisms are supported, but the provisioning of the notification-related criteria is not specified. Services are specified to enable an application to:

- Send any SMS
- Send a logo embodied in an SMS
- Send a ringtone embodied in an SMS
- Retrieve the delivery status of an SMS
- Request to be notified of received SMSs
- Retrieve SMS messages sent to an address

For reasons of efficiency, SMSs, whether their payload is text, a logo or ringtone, can be sent to groups of recipients. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

The third party application can suggest a charge against the receiving subscriber's account.

9.5 Multimedia Message

This is additional to the SMS web services and handles more general messaging case. Multimedia Message services provide generic messaging features (including SMS) to send and receive messages. For receiving a message from the network the application may use either polling or notification mechanisms. Network-initiated messages are sent to autonomous application-side web services. The following functions are supported:

- Send a message to an address
- Retrieve the delivery status of a message
- Retrieve by polling for received messages
- Retrieve message parts by URI references
- Retrieve whole messages as SOAP attachments
- Notification to the application that a message has been received for a specific address

For reasons of efficiency, MMSes can be sent to groups of recipients. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

The third party application can suggest a charge against the receiving subscriber's account.

9.6 Payment

The Payment Web Services support payment reservation, pre-paid payments, and post-paid payments. They support charging of both volume and currency amounts, a conversion function, and a settlement function in case of a financially resolved dispute. The functions supported enable the application to:

- Charge/refund an account by a currency amount
- Charge/refund an account by volume (e.g. minutes)
- Calculate a currency amount from a volume for a specific account
- Reserve a currency amount on an account
- Charge a prior reservation to the account
- Release a reservation by returning to an account the amount remaining in a reservation
- Reserve a volume amount of an account

9.7 Account Management

The Parlay X Account Management supports account querying, direct recharging and recharging through vouchers. The application can manage various aspects of an account using the functionality to:

Return the currency balance on an account

- Request what date the credit on an account is due to expire
- Update the currency/account balance on an account
- Return the transaction history on an account

9.8 ~~User~~ Terminal Status

The Parlay X ~~User~~ Terminal Status Web Service is used for getting ~~user~~ terminal status information. The functionality supported is simple:

- Requests a subscriber's terminal's~~user's~~ status subject to the subscriber's ~~user's~~ policies.
- Request to be notified of terminal status change.

For reasons of efficiency, Terminal status can be retrieved from groups of subscribers. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

9.9 Terminal Location

The Parlay X Terminal Location Web Service is used for getting location information, it does not require specific telecommunication skills, but some~~a~~ knowledge of location co-ordinates is required. One service is specified to:

- Request the location of one subscriber's terminal subject to subscriber's ~~user's~~ privacy policies.
- Request to be notified of terminal location change.

For reasons of efficiency, Terminal location can be retrieved from groups of subscribers. In order for such groups to be reusable; a group with recipients is uniquely identified and addition/deletion of group members is allowed.

CR-Form-v7

CHANGE REQUEST

⌘ 23.127 CR 050 ⌘rev - ⌘ Current version: 6.1.0 ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network X

Title:	⌘	Add OSA Multi Media Messaging SCF - stage 2 description
Source:	⌘	CN5 Ericsson
Work item code:	⌘	OSA3
Date:	⌘	13/08/2004
Category:	⌘	B
Release:	⌘	*REL-6*

Use one of the following categories:
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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Implementation of the OSA R6 stage 1 Multi Media Messaging requirement in OSA stage 2.
Summary of change:	⌘	There is an OSA stage 1 requirement for Multi Media Messaging. This requirement has not been implemented yet in OSA stage 2. This CR proposes the introduction of the appropriate descriptions of the Multi Media Messaging functionality in stage 2.
Consequences if not approved:	⌘	The OSA stage 2 does not reflect the OSA stage 1 requirement for Multi Media Messaging.

Clauses affected:	⌘	2.1, 3.2, 7.12 (New)

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:

2.1 Normative references

[15] 3GPP TS 23.140: "Multimedia Messaging Service; Functional Description".

3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in GSM 01.04 and in 3G TR 21.905 and the following apply:

API	Application Programming Interface
CAMEL	Customised Application For Mobile Network Enhanced Logic
CAP	CAMEL Application Part
CSE	CAMEL Service Environment
GMLC	Gateway Mobile Location Center
HE	Home Environment
HE-VASP	Home Environment Value Added Service Provider
HSS	Home Subscriber Server
IMS	IP Multimedia Core Network Subsystem
ISC	IMS Service Control
LCS	Location Services
MAP	Mobile Application Part
MExE	Mobile Execution Environment
MMS-C	Multimedia Messaging Center
MRF	Media Resource Function
MRFC	Media Resource Function Controller
MRFP	Media Resource Function Protocol
OSA	Open Service Access
PSE	Personal Service Environment
SCF	Service Capability Feature
SCS	Service Capability Server
S-CSCF	Serving Call Session Control Function
SIM	Subscriber Identity Module
SMS-C	Short Message Service Center
SOAP	Simple Object Access Protocol
USAT	Universal SIM Application Tool-Kit
USIM	Universal Subscriber Identity Module
VASP	Value Added Service Provider
VHE	Virtual Home Environment
WAP	Wireless Application Protocol

7.12 Multi Media Messaging

The Multi Media Messaging SCF addresses the stage 1 requirement for multimedia messaging.

The Multi Media Messaging SCF allows applications to:

- send and receive messages both within and outside the context of a session (for session-based and single-shot messaging respectively)
- put messages in the mailbox for storage or for sending by the messaging system (with a copy in the mailbox)
- cancel a message previously sent or query the status of a message previously sent
- manipulate folders and messages in the mailbox (e.g. copy, move, delete)
- list messages in the mailbox and retrieve complete messages, message headers, message body or parts of the message body

7.12.1 Mapping of OSA APIs in Multimedia Messaging

The Messaging SCF can interface to various messaging network elements or contain those network elements. Examples of network elements are SMS-C, MMS-C, WAP Push Proxy or an e-mail server. OSA Multi Media Messaging SCF does not mandate what network protocols to use to interface to those network elements. However, a typical example of the interface used to interface to MMS-C is MM7 [15].