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Technical Specification

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Universal Mobile Telecommunications System (UMTS);
LTE;
Open Service Access (OSA);
Parlay X web services;
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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

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- x the first digit:
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Introduction

The present document is part 15 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 15 of the Stage 3 Parlay X 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 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 Message Broadcast Web Service aspects of the interface. All aspects of the Message Broadcast 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".

[7] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[8] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[9] 3GPP TS 29.199-9: "Open Service Access (OSA); Parlay X web services; Part 9: Terminal location".

[10] 3GPP TS 29.199-4: "Open Service Access (OSA); Parlay X web services; Part 4: Short messaging".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and 3GPP TS 29.199-1 [6] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1], 3GPP TS 29.199-1 [6], 3GPP TS 29.199-4 [10] and the following apply:

CBC Cell Broadcast Centre
CBS Cell Broadcast Service

4 Detailed service description

Message broadcast is a functionality that allows an application to send messages to all the fixed or mobile terminals in a specified geographical area.

Message broadcast provides operations for sending a broadcast message to the network and a polling mechanism for monitoring the delivery status of a sent broadcast message. It also provides an asynchronous notification mechanism for broadcast delivery status. In addition, a mechanism is provided to start and stop the notification of delivery receipts.

There are various use cases of using Message Broadcast Web Service including the commercial application. This Web Service could be also used for non-commercial purpose as follows:

- To provide area-based public information like weather, traffic and other commonly-interested information.
- To provide emergency information like severe weather warning(e.g. typhoon, tsunami), environments hazards(e.g. chemical spills) and terrorism information.

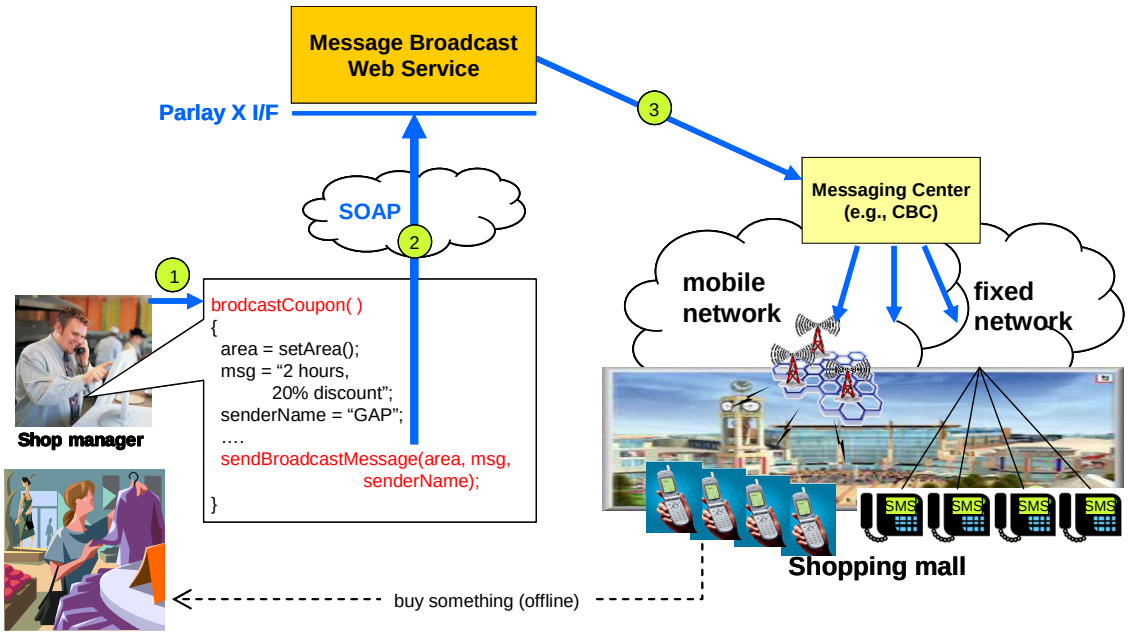

Figure 4.1: Send Broadcast Message Scenario

Figure 4.1 shows an advertising scenario using Message Broadcast Web Service to broadcast discount message around and within the shopping mall area. A shop manager who wants to increase sales in a holiday can make use of a message broadcast application. By using the application, he can set the targeted area and write a message and the sender's name to be contacted (1). Then, the application invokes a Parlay X interface to use Message Broadcast Web Service operation(2). After invocation, the Message Broadcast Web Service sends a message delivery operation to messaging centre (e.g. CBC) (3). Subsequently, the message on discount information is delivered to all the terminals within the targeted area.

5 Namespaces

The SendBroadcastMessage interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/message_broadcast/send/v4_0

The MessageBroadcastNotification interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/message_broadcast/notification/ v4_0

The MessageBroadcastNotificationManager interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/message_broadcast/notification_manager/ v4_0

The data types are defined in the namespace:

http://www.csapi.org/schema/parlayx/message_broadcast/ v4_0

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

6 Sequence Diagrams

6.1 Send broadcast message, get the status and cancel it

Pattern: Request/Response, One way

An application can send a broadcast message to a specific area and also get the delivery status from Message Broadcast Web services. If message broadcasting is no more needed, an application can send a cancellation request.

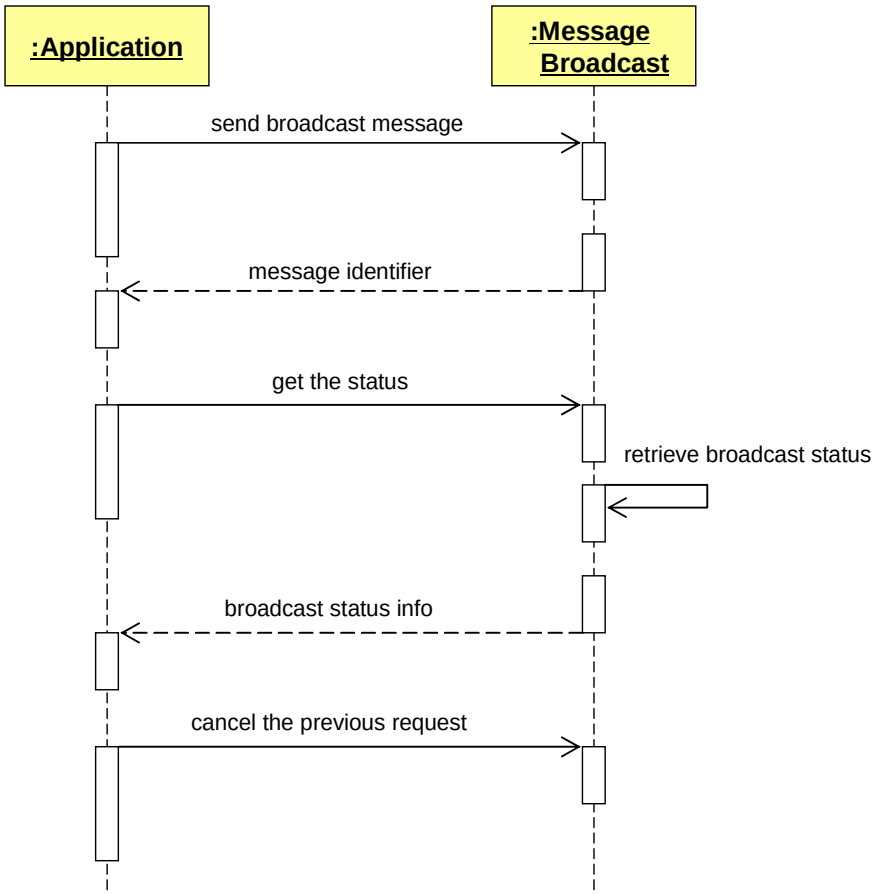

Figure 6.1: Message Broadcast Operations

6.2 Broadcast Status Notification

Pattern: Application Correlated Multiple Notification

An application can be notified of a broadcast delivery status of a specific area which is identified by correlator.

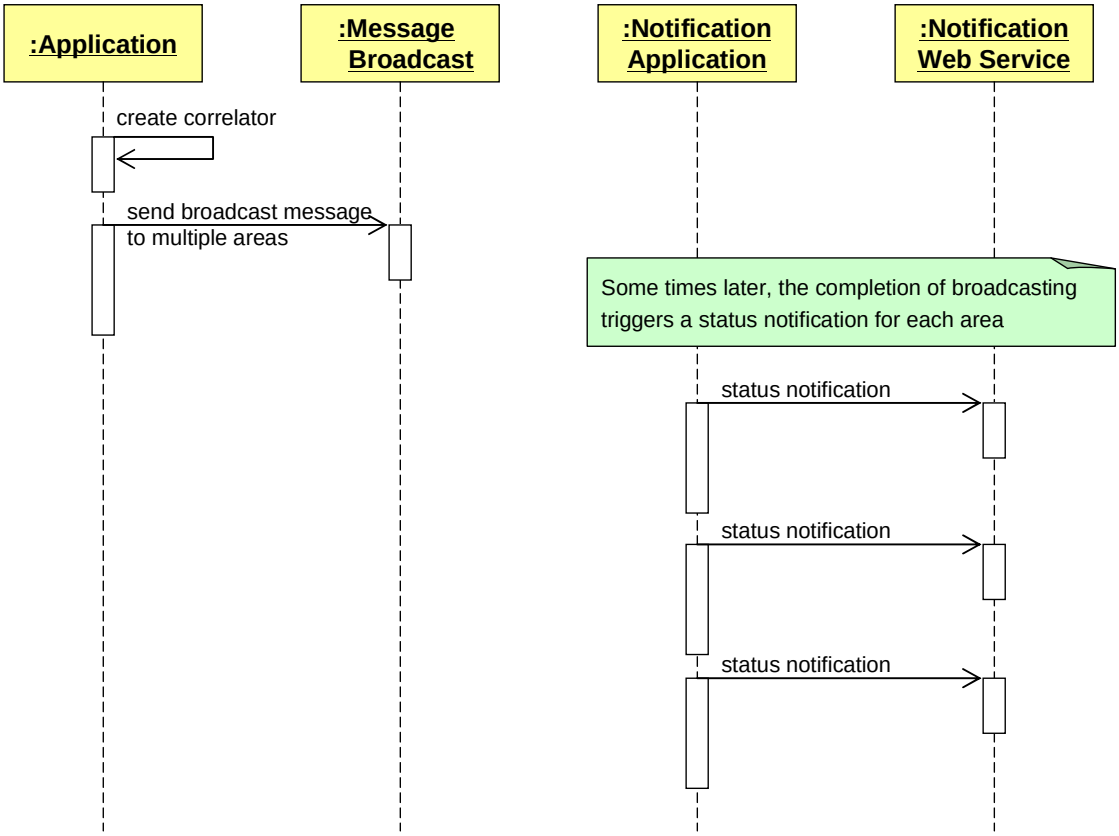

Figure 6.2: Message Broadcast Status Notification

7 XML Schema data type definition

7.1 BroadcastStatus Enumeration

List of possible broadcast delivery status values.

Enumeration	Description
MessageWaiting	The message is still queued and not delivered to the network yet. Broadcasting has not commenced.
Broadcasting	Broadcasting is initiated and the network is still attempting to deliver messages: i.e. as many times as requested in the **totalBroadcasts** part of the **sendBroadcastMessageRequest** message.
Broadcasted	A final state that indicates broadcast requests were successfully delivered to network: i.e. as many times as requested.
BroadcastImpossible	Delivery of broadcast message is impossible. Reasons include: 'out of network coverage', 'network overloads', 'expiry of valid period'.
BroadcastUnknown	Delivery status unknown: e.g. delivery requested but no response.
BroadcastNotificationNotSupported	Unable to provide broadcast delivery receipt notification. The **notifyBroadcastDeliveryReceipt** operation will return 'BroadcastNotificationNotSupported' to indicate that delivery receipt for the specified area in a **sendBroadcastMessageRequest** message is not supported.

7.2 Void

7.3 BroadcastStatusInformation Structure

This indicates a broadcast status information of an area. It includes a mandatory broadcast status value with optional values to provide additional information such as the number of broadcasts, success rate, broadcast end time.

Element name	Element type	Optional	Description
status	BroadcastStatus	No	Broadcast status of this area.
numberOfBroadcasts	xsd :int	Yes	The number of broadcasts successfully sent out. This is optional and present only if **status** is either **Broadcasting** or **Broadcasted**.
successRate	xsd :int	Yes	Successful delivery rate expressed as a percentage. This is optional and present only if **status** is either **Broadcasting** or **Broadcasted**.
broadcastEndTime	xsd :dateTime	Yes	Completed time of broadcast. This is optional and present only if **status** is **Broadcasted**.

7.4 BroadcastStatusData Structure

Data structure containing area and its status. As this can be related to a query of multiple areas, the **RetrievalStatus** element is used to indicate whether the status information for an area was retrieved or not, or if an error occurred.

Element name	Element type	Optional	Description
area	BroadcastArea	No	Broadcast area to which status information applies.
reportStatus	RetrievalStatus	No	Status of retrieval for this broadcast area.
currentStatus	BroadcastStatusInformation	Yes	Broadcast status of this area. It is only provided if **reportStatus=Retrieved**.
errorInformation	common :ServiceError	Yes	If **reportStatus** is **Error**, this is the reason for the error.

7.5 LocationPoint Structure

This is used to describe a location point. The definition of latitude and longitude values follows the terms defined in ***clause 7.1 of Parlay X Terminal Location Web Services***[9]**.**

Element name	Element type	Optional	Description
latitude	xsd :float	No	latitude value of a location
longitude	xsd :float	No	longitude value of a location

7.6 Circle Structure

Circle representation of a geographical area.

Element name	Element type	Optional	Description
center	LocationPoint	No	The center point of circle
radius	xsd :float	No	radius of circle (in meters)

7.7 Polygon Structure

Set of coordinate to configure polygonal type of a geographical area.

Element name	Element type	Optional	Description
locationPoints	LocationPoint [3..13]	No	Set of location points to make a polygon. See also clause 5.7, 7.3.7 of 3GPP TS 23.032 [8].

7.8 AreaType Enumeration

This indicates the types of area that may be used to define area by an application.

Enumeration	Description
Alias	Alias name shared by both application and network
Circle	Area represented as a circle shape
Polygon	Area represented as a polygon shape

7.9 BroadcastArea Union

Representation methods of broadcast area

Element name	Element type	Optional	Description
UnionElement	AreaType	No	Type of geographical area.(one of the following)
Alias	xsd :string	Yes	An alias name of a geographical area. The alias name shall be understood and translated by network.
Circle	Circle	Yes	Circle representation
Polygon	Polygon	Yes	Polygon representation

7.10 MessagePriority Enumeration

List of delivery priority values.

Enumeration	Description
Default	Default message priority
Low	Low message priority
Normal	Normal message priority
High	High message priority

8 Web Service interface definition

8.1 Interface: SendBroadcastMessage

This interface defines operations to send a broadcast message and to subsequently poll for delivery status. It also defines an operation to cancel the previous request.

8.1.1 Operation: sendBroadcastMessage

The application invokes the **sendBroadcastMessage** operation to send a broadcast message into the designated area(s), respectively specified by the **message** and the **broadcastArea**.

If **message** is longer than the maximum supported length in the network, the message content will be sent as several concatenated messages. E.g. a CBS message consists of several CBS pages(up to 15 pages) which comprises of 82 octets, which, using the default character set, equates to 93 characters (3GPP TS 23.041 [7]).

broadcastArea is an area or a set of areas which are the representation of the geographical area(s) in which a message is to be delivered. Areas can be described as alias name or a graphical notation such as circle and polygon. The alias name shall be determined at the provisioning step and understood by both application and network. In case of using a graphical notation, maximum and minimum size of an area can be restricted by the network.

Areas shall be covered by the mobile or wireline network. A message cannot be delivered to the terminals which are out of network coverage even though the application has indicated the area(s) in the send operation. In this case, Message Broadcast Web Service will generate a **ServiceException**(SVC 0300).

The application can also indicate optional parameters as follows:

- **senderName** specifies the sender's name, i.e. the string that is displayed on the user's terminal as the originator of the message.
- **charging** specifies the charging information.
- **priority** specifies the priority of message.
- **deliveryTime** specifies the time at which message delivery should be initiated by the send operation. By using this parameter, the Web Services could achieve an overload safety through the scheduling of broadcasts at non-peak time.
- **totalBroadcasts** specifies how many times the message should be broadcasted to each of the designated area(s).
- **interval** specifies the time duration between the broadcasts. The minimum interval should be restricted by the network capabilities.
- **receiptRequest** is optional and is specified when the application requires to receive notification of the status of the broadcast message delivery. It is a **SimpleReference** structure that indicates the application endpoint, interface used for notification of delivery receipt and a correlator that uniquely identifies the sending request.

  a) If the notification mechanism is not supported by a network, a **ServiceException** (SVC0283) will be returned to the application and the message will not be sent out to the area(s) specified.

  b) The **correlator** provided in the **receiptRequest** must be unique for this Web Service and application at the time the notification is initiated, otherwise a **ServiceException** (SVC0005) will be returned to the application.

  c) Notification to the application is done by invoking the **notifyBroadcastDeliveryReceipt** operation at the endpoint specified in **receiptRequest**.

  d) This optional message part is not used (or will be overridden) in case the **startDeliveryReceiptNotification** operation is used when the application requires to receive delivery receipt notifications. This is to avoid overlapping criteria.

- **requestIdentifier** is specified in the response message associated with each send operation. The application can use it to invoke the **getBroadcastStatus** operation to poll for the delivery status.

8.1.1.1 Input message: sendBroadcastMessageRequest

Part name	Part type	Optional	Description
broadcastArea	BroadcastArea[1..unbounded]	No	geographical area(s) to which a message is desired to be broadcasted
senderName	xsd:string	Yes	If present, it indicates the sender's name of broadcast message, i.e. the string that is displayed on the user's terminal as the originator of the message
charging	common:chargingInformation	Yes	Charge to apply to this message
message	xsd:string	No	Text to be sent in Message Broadcast
priority	MessagePriority	Yes	Priority of the message. If not present, the network will assign a priority based on an operator policy.
deliveryTime	xsd :dateTime	Yes	If present, it specifies the time to initiate message broadcast in the network. If not present, message is sent immediately
totalBroadcasts	xsd :int	Yes	The number of broadcasts. If not present, default value is 1.
interval	common:TimeMetric	Yes	The time difference between consecutive broadcasts. It presents only if **totalBroadcasts** > 1
receiptRequest	common :SimpleReference	Yes	It defines the application endpoint, interfaceName and correlator that will be used to notify application when the message has been sent out to the designated area or if delivery is impossible. It is not used (or will be overridden) in case startDeliveryReceiptNotification operation is used.

8.1.1.2 Output message : sendBroadcastMessageResponse

Part name	Part type	Optional	Description
result	xsd :string	No	It identifies a specific message broadcast delivery request

8.1.1.3 Referenced faults

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

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0280 - Message too long.
- SVC0283 - Delivery Status Notification not supported.
- SVC0300 - Broadcast Area not supported.
- SVC0301 - Too high load situation.

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

- POL0001 - Policy error.
- POL0008 - Charging not allowed.
- POL0012 - Too many description entries specified.
- POL0330 - Multiple areas not allowed.
- POL0331 - Maximum Number of Areas exceeded.
- POL0332 - Too many broadcasts requested.

- POL0333 - Min /Max interval violation.

8.1.2 Operation: getBroadcastStatus

The application invokes the **getBroadcastStatus** operation to request the status information of a previous message broadcast request, i.e. **sendBroadcastMessage** operation, identified by **requestIdentifier**.

This operation can be invoked multiple times by the application even if the status has reached a final value. However, after the status has reached a final value, status information will be available only for a limited period of time as defined by a service policy.

The operation returns a result set that can be expressed by a set of the broadcast status information, i.e. **BroadcastStatusInformation**, because multiple broadcast areas can be specified.

The result set may not include complete information, allowing the Web Service implementation to choose to deliver a partial set of results to accommodate other conditions, such as avoiding timeouts. In this case, the broadcast areas for which no attempt made to provide data will be marked **NotRetrieved** in the result for each area.

BroadcastStatusInformation data structure, of course, includes the broadcast status(**BroadcastStatus**) of a specific area with other supplementary data such as the number of broadcast, success rate, broadcast end time. The presence of supplementary data varies according to the status value.

BroadcastStatus values have been identified as follows and the conceptual status diagram is shown in the figure 8.1.2.1.

- **MessageWaiting:** the message is still queued and not delivered to the network yet.
- **Broadcasting:** broadcasting is initiated and the network is still attempting to deliver messages as many as requested in the totalBroadcasts of the send operation. If totalBroadcasts = 1, this state will promptly transit to Broadcasted state after first delivery. If totalBroadcasts > 1, the state will remain as this state until the completion of delivery.
- **Broadcasted:** this is a final state and indicates that broadcast requests were successfully delivered to network as many as requested.
- **BroadcastImpossible:** This indicates a final state that delivering broadcast message is impossible. The following reasons are possible:
  - Broadcast request was explicitly rejected by the network, because the designated area is out of network coverage.
  - Broadcast request was implicitly or explicitly rejected by the network, because the network is experiencing some problem such as overloads.
  - Broadcast request could not be delivered within the period specified by **totalBroadcasts** and **interval** parts and it was discarded.
- **BroadcastUnknown:** This indicates a state that is unable to know the delivery state.
  - Network does not support a mechanism temporarily or permanently to find out the status even though the broadcast request has delivered.
  - Delivery is in pending, so that delivery is still being tried because the period specified by **totalBroadcasts** and **interval** parts is not expired yet.

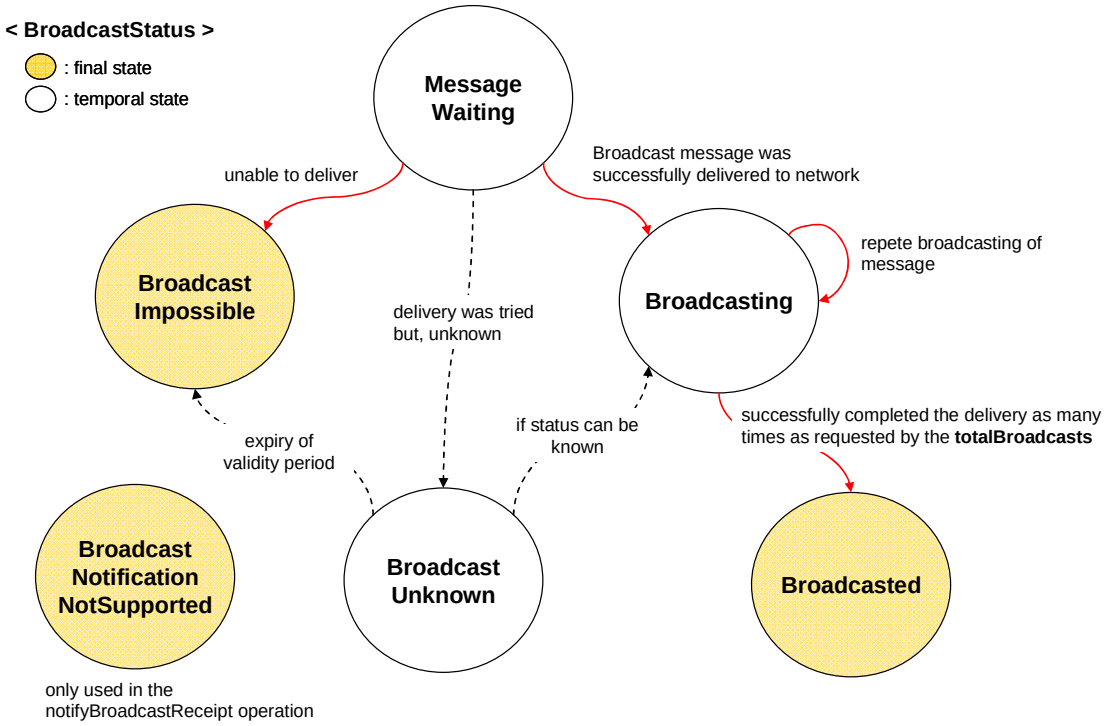

Figure 8.1.2.1: Conceptual status diagram for message broadcast

numberOfBroadcasts indicates the number of broadcasts, i.e. how many times the broadcast message has been successfully sent out to network. The value, of course, shall be less than that of **totalBroadcasts** parameter. From this value, applications can figure out the current number of broadcast delivery which has been repeated so far.

successRate also provides another possible measured value of successful delivery and indicates how much portion of the designated area has accepted the broadcast message request. In case of mobile network, this can be defined as the ratio of the number of BTSs that accepted the message and the total number of BTSs that should have accepted the message. Figure 8.1.2.2 shows the example. This is optional and present only if the broadcast status is either **Broadcasting** or **Broadcasted**. If the value is -1, it indicates the information is not available.

broadcastEndTime indicates the date and time at which the broadcast request has been completed. This value is optional and present only if the value of **BroadcastStatus** is **Broadcasted**.

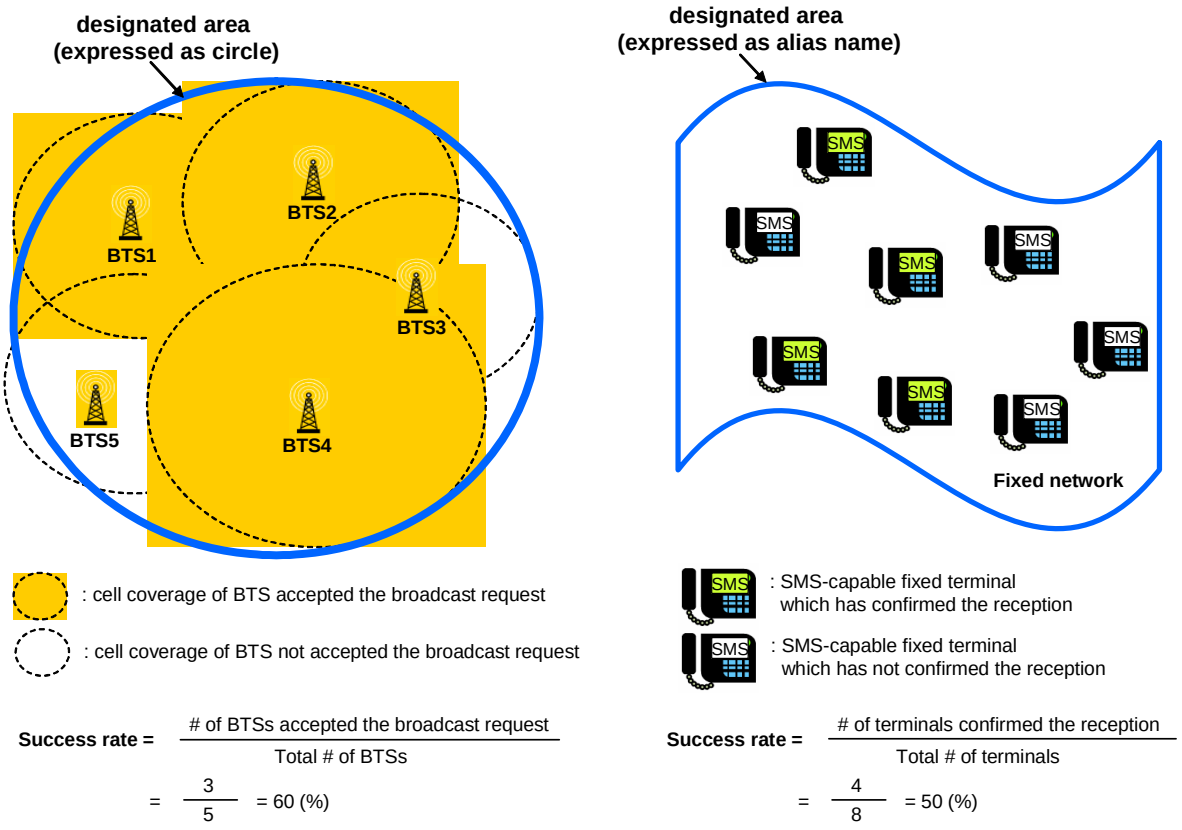

Figure 8.1.2.2: Success Rate

8.1.2.1 Input message: getBroadcastStatusRequest

Part name	Part type	Optional	Description
requestIdentifier	xsd :string	No	It identifies a specific **sendBroadcastMessage** request.

8.1.2.2 Output message : getBroadcastStatusResponse

Part name	Part type	Optional	Description
result	BroadcastStatusData [1..unbounded]	No	Set of results for the request. It provides the broadcast status for each area with several supplementary data like the number of broadcast, success rate, broadcast end time. Possible status values are: - MessageWaiting. - Broadcasting. - Broadcasted. - BroadcastImpossible. - BroadcastUnknown.

8.1.2.3 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.
- POL0010 – Retention time interval expired

8.1.3 Operation: cancelBroadcastMessage

The application invokes the **cancelBroadcastMessage** operation to request the cancellation of the previous **sendBroadcastMessage** request identified by **requestIdentifier**. It attempts to prevent the starting of a previous **sendBroadcastMessage** request and the restarting of **sendBroadcastMessage** request specified by the **totalBroadcasts** parameter. If this operation is invoked after initiating the N^{th} broadcast delivery, all the subsequent delivery after N^{th} delivery will be cancelled. In other words, it does not have any effect if the sending of broadcast message has already started.

8.1.3.1 Input message: cancelBroadcastMessageRequest

Part name	Part type	Optional	Description
requestIdentifier	xsd :string	No	It identifies a specific **sendBroadcastMessage** request.

8.1.3.2 Output message : cancelBroadcastMessageResponse

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.

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

- POL0001 - Policy error.

8.2 Interface: MessageBroadcastNotification

Message broadcast notification is the application side interface to which notifications about message broadcast are delivered.

8.2.1 Operation: notifyBroadcastDeliveryReceipt

The **notifyBroadcastDeliveryReceipt** operation must be implemented by a Web Service at the ***application side*** if it requires notification of broadcast result receipt. It will be invoked by the Parlay X server to notify the application when a message sent by an application has been handed over to messaging center like CBC and subsequently sent out to designated area(s) or if delivery is impossible. The notification will occur if and only if the status value of the sent message is **Broadcasted** or **BroadcastImpossible** and the application has specified interest in notification when sending a broadcast message using one of the following mutually exclusive mechanisms:

- by specifying the optional receiptRequest part. The correlator returned corresponds to the identifier specified by the application in the **receiptRequest** of the original **sendBroadcastMessage** request.

- by invoking the **startDeliveryReceiptNotification** operation requesting to receive delivery receipt notifications. The correlator returned corresponds to the identifier specified by the application in the **reference** of the original **startDeliveryReceiptNofitication** request.

When a broadcast message is sent to multiple geographical areas, the notification from the server will send notification for each area as and when a broadcast message is successfully sent out to the area.

notifyBroadcastDeliveryReceiptRequest will send a **BroadcastStatusInformation** data about an area which includes report status, broadcast status, the number of broadcast, success rate, broadcast end time. In case of notification, **reportStatus** value shall be **Retrieved** and the possible broadcast status values are as follows:

- **Broadcasted:** this is a final state and indicates that broadcast requests were successfully delivered to network as many as requested.

- **BroadcastImpossible:** this indicates a final state that delivering broadcast message is impossible. The following reasons are possible:

  - Broadcast request was explicitly rejected by the network, because the designated area is out of network coverage.

  - Broadcast request was implicitly or explicitly rejected by the network, because the network is experiencing some problem such as overloads.

  - Broadcast request could not be delivered within the period specified by **totalBroadcasts** and **interval** parts and it was discarded.

- **BroadcastNotificationNotSupported:** if notification is supported by the network but it does not support broadcast receipt for one or more broadcast areas specified in the **sendBroadcastMessage** message. The service will send this status for those areas.

The presence of the other data varies according to the above **BroadcastStatus** values conforming to the description in clause 8.1.2.

8.2.1.1 Input message: notifyBroadcastDeliveryReceiptRequest

Part name	Part type	Optional	Description
correlator	xsd :string	No	It identifies the original "Send' request. This correlator was provided by the application in the **sendBroadcastMessageRequest** message.
area	BroadcastArea	No	It indicates a specific area related with the correlator.
statusInfo	BroadcastStatusInformation	No	It provides the broadcast status for an area with various supplementary data like the number of broadcast, success rate, broadcast end time. Possible status values are: - Broadcasted. - BroadcastImpossible. - BroadcastNotificationNotSupported.

8.2.1.2 Output message : notifyBroadcastDeliveryReceiptResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

None.

8.3 Interface: MessageBroadcastNotificationManager

The message broadcast notification manager enables applications to set up and tear down notifications for broadcast messages, online.

8.3.1 Operation: startDeliveryReceiptNotification

Start notifications to the application for delivery receipts. The reference will be where to sned the delivery receipts. The notifyBroadcastDeliveryReceipt method (see clause 8.2.1) must be implemented by a Web Service at the application side if it requires notification of broadcast message delivery receipt. When the **startDeliveryReceiptNotification** is supported by the Service Provider, its use overrides the delivery receipting mechanism supported in the SendBroadcastMessage API (see clause 8.1: sendBroadcastMessage operation).

8.3.1.1 Input message: startDeliveryReceiptNotificationRequest

Part name	Part type	Optional	Description
reference	common:SimpleReference	No	Notification endpoint definition
filterCriteria	xsd:string	No	The filterCriteria will allow the service to filter flexibly. One example would be for service provider to filter only successful final status. This however is implementation specific and will be left to the Service Provider.

8.3.1.2 Output message: startDeliveryReceiptNotificationResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0005 - Duplicate correlator
- SVC0008 - Overlapping Criteria
- SVC0283 – Delivery Status Notification not supported

PolicyException from [6]:

- POL0001 - Policy error.

8.3.2 Operation: stopDeliveryReceiptNotification

The application may end delivery receipt notification using this operation.

8.3.2.1 Input message: stopDeliveryReceiptNotificationRequest

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

8.3.2.2 Output message: stopDeliveryReceiptNotificationResponse

Part name	Part type	Optional	Description
None			

8.3.2.3 Referenced faults

ServiceException from [6]:

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

PolicyException from [6]:

- POL0001 - Policy error.

9 Fault definitions

9.1 ServiceException

9.1.1 SVC0280: Message too long

Refer to the definition in 3GPP TS 29.199-4 [10].

9.1.2 SVC0283: Delivery Status Notification not supported

Refer to the definition in 3GPP TS 29.199-4 [10].

9.1.3 SVC0300: Broadcast Area not supported

A specific area cannot be supported if, for example, the range of an area is out of network coverage.

Name	Description
message-Id	SVC0300
Text	%1 area description cannot be supported by the network.
Variables	%1 - Message part of an area

9.1.4 SVC0301: Too high load situation

Name	Description
message-Id	SVC0301
Text	Network(e.g. messaging center) is in a overload situation. Retry after %1 minutes
Variables	%1 - suggested time duration by the network for next trial

9.2 PolicyException

9.2.1 POL0330: Multiple areas not allowed

Name	Description
message-Id	POL0330
Text	Multiple areas not allowed
Variables	

9.2.2 POL0331: Maximum Number of Areas exceeded

Name	Description
message-Id	POL0331
Text	Maximum number of broadcast areas(%1) is exceeded
Variables	%1 - maximum allowed number of broadcast areas

9.2.3 POL0332: Too Many Broadcasts requested

Name	Description
message-Id	POL0332
Text	Too many broadcasts requested. Maximum number of broadcasts allowed is %1
Variables	%1 - allowed number of broadcasts

9.2.4 POL0333: Min/Max Interval Violation

Name	Description
message-Id	POL0333
text	Minimum or Maximum interval violation. The possible min/max interval is between %1 seconds and %2 seconds
variables	%1 - min of possible interval value %2 - max of possible interval value

10 Service policies

Service policies for this service.

Name	Type	Description
ChargingSupported	xsd :boolean	Is charging supported for send operation.
MultipleAreaSupport	xsd :boolean	Multiple area description may be supported.
MaxNumberOfAreas	xsd :int	Maximum number of broadcast areas that can be requested in a send operation.
MinValueOfInterval	common :TimeMetric	Minimum value of interval in send operation.
MaxValueOfInterval	common :TimeMetric	Maximum value of interval in send operation.
MaxBroadcasts	xsd :int	Maximum number of broadcasts that can be requested in a send operation.
StatusRetentionTime	common:TimeMetric	A time interval that begins after the status of a broadcast message delivery request has reached a final value. During this interval, the delivery status information remains available for retrieval by the application.
MaximumDescriptions	xsd:int	Maximum number of Descriptions that can be charged simultaneously

Annex A (normative): WSDL for Message Broadcast

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_message_broadcast_notification_interface_4_0.wsdl
- parlayx_message_broadcast_notification_manager_interface_4_0.wsdl
- parlayx_message_broadcast_notification_manager_service_4_0.wsdl
- parlayx_message_broadcast_notification_service_4_0.wsdl
- parlayx_message_broadcast_send_interface_4_0.wsdl
- parlayx_message_broadcast_send_service_4_0.wsdl
- parlayx_message_broadcast_types_4_0.xsd

which accompanies the present document.

The WSDL files have been verified using the following files:
- 15_wsdl2Java_axis-1_4.bat
- 15_wsdl2Java_axis2-1_4_1.bat

which accompany the present document.

Annex B (informative): Description of Parlay X Web Services Part 15: Message Broadcast 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 Message Broadcast

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-060213	--	--	Submitted to TSG CT#32 for Information.	--	1.0.0	
Jun 2006	--	--	--	--	Replaced the current WSDL code in 29199-15-100-doclit.zip which is functionally the same. Changes made are to ensure consistency with the WSDL style guide in 29199-01 , clause 12 (e.g. 12.3.5).	--	1.0.0	1.0.1
Nov 2006	CT_34	CP-060610	--	--	Submitted to TSG CT#34 for Approval.	--	2.0.0	7.0.0
Mar 2007	CT_35	CP-070048	0001	--	Add OSA Parlay Web Services support for 3GPP2 networks	F	7.0.0	7.1.0
Mar 2007	--	--	--	--	Editorial: Aligned 5 Namespaces	--	7.1.0	7.1.1
Jun 2007	--	--	--	--	Renamed in Introduction Part 18:"Device management" to "Device Capabilities and Configuration"	--	7.1.1	7.1.2
Sep 2007	CT_37	CP-070640	0002	--	Correct in Message Broadcast the notification mechanism for Delivery Receipt to include a start and stop in the manager interface - Align with 29.199-04/5 Short / Multimedia messaging	F	7.1.2	7.2.0
Dec 2007	--	--	--	--	Word file and code attachment provided by PTCC. The code change required a change to the namespace in the Word TS.	--	7.2.0	7.2.1
Dec 2008	CT_42	--	--	--	Upgraded unchanged from Rel-7	--	7.2.1	8.0.0
Sep 2009	CT_45	CP-090603	0003	--	Completion of Parlay X Part 15: Message Broadcast 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