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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;
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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 19 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 19 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 Multimedia streaming control Web Service aspects of the interface. All aspects of the Multimedia streaming control 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 29.199-6: "Open Service Access (OSA); Parlay X web services; Part 6: Payment".

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 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

The service provided to an end-user is consumption of streaming Multimedia. The end-user has a terminal that is able to request a media stream, either from a built-in player, or an installed application. The terminal can be any terminal with streaming media playing capabilities, and the service should allow a user to transfer between his terminals.

- The basic scenario is where an individual is browsing the Internet and finds some interesting content that he/she wants to watch. The end-user is then either doing this through the operator"s portal or accesses the content provider"s site. In the first case, the request is then processed through the portal, and charged as the stream is set-up. In the second case, the content provider redirects the request to the operator, so that the terminal capabilities can be collected and charging is done, before the stream is started.

- One scenario is an individual watching his favourite sports stream on his TV or PC at home, but he/she must leave the house of some reason, and still wants to continue the session on his mobile terminal. In that case he/she would transfer the ongoing session to the other terminal with other capabilities, since he already paid for the entire episode.

- The other way is a similar case where an individual arrives at a destination with better viewing capabilities.

4.1 Overview

Figure 4.4.1 shows streaming content delivered to mobile terminals, but is not restricted to any particular terminal type. The content is either on a location accessible over the Internet or stored locally on an operator's domain or the content provider's domain. The access to the content is done through a smart router controlling the stream towards the terminal. Transcoding of a stream is an optional feature that could allow users to switch between different terminal and networks, while consuming content from a streaming source.

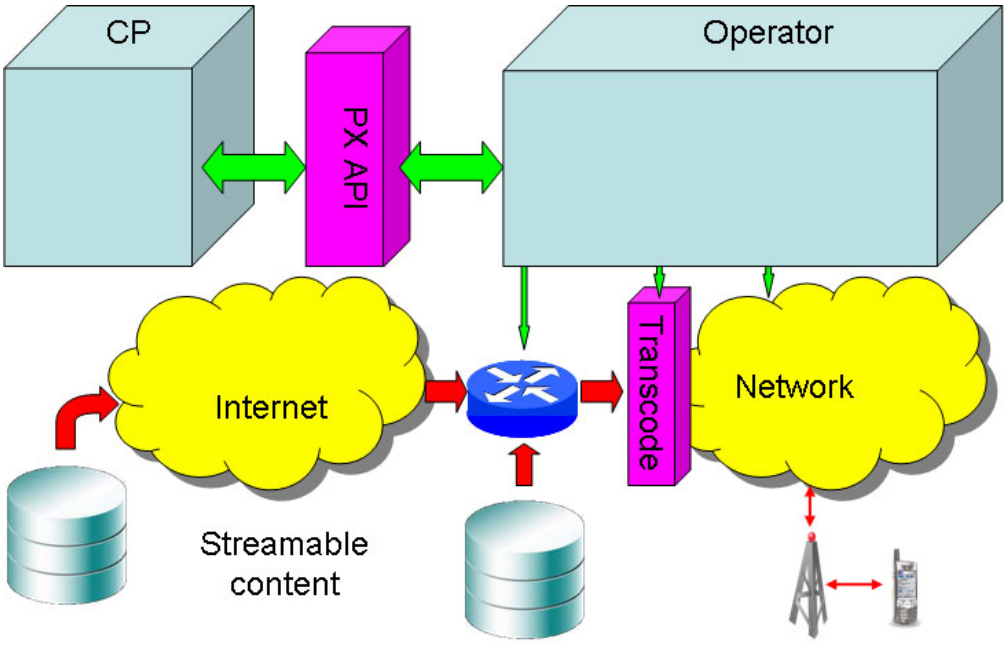


Figure 4.1.1:

5 Namespaces

The StreamingControl interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/streaming / v4_0

The StreamingNotificationManager interface uses the namespace:

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

The StreamingNotification interface uses the namespace:

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

The data types are defined in the namespace:

http://www.csapi.org/schema/parlayx/streaming /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

The following use case diagram defines the core functionality which should be supported by the Multimedia streaming control web service. These high level logical use cases will be supported by the defined API, but not necessarily on a one to one mapping basis.

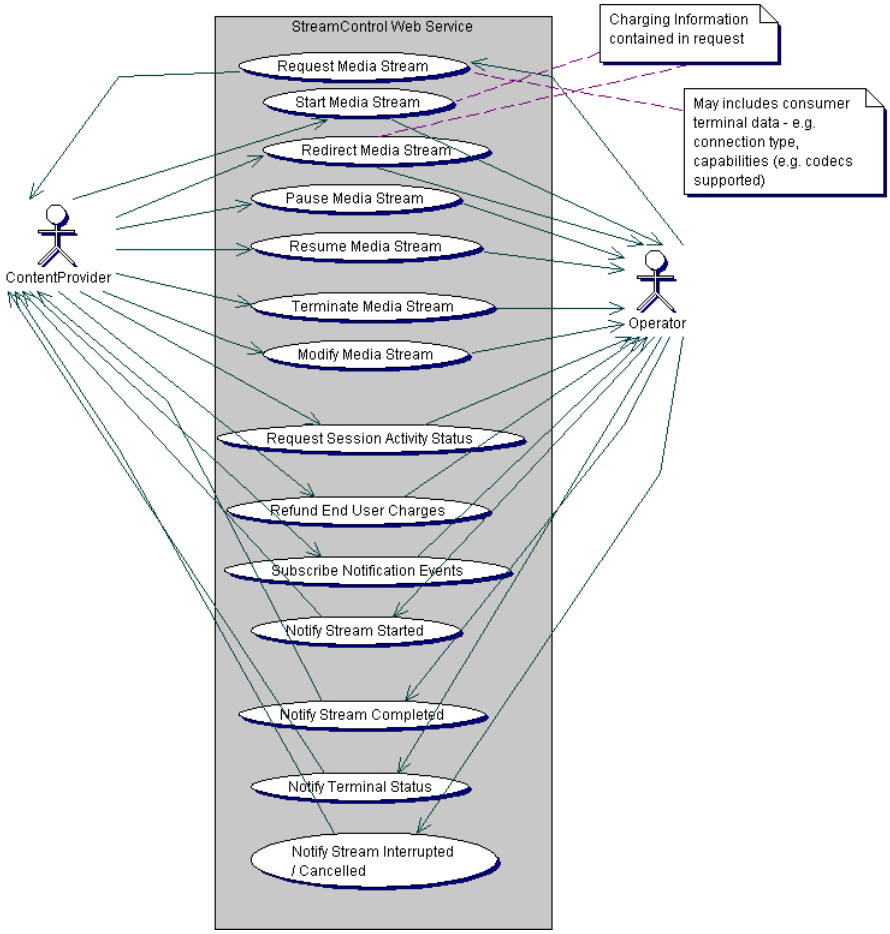
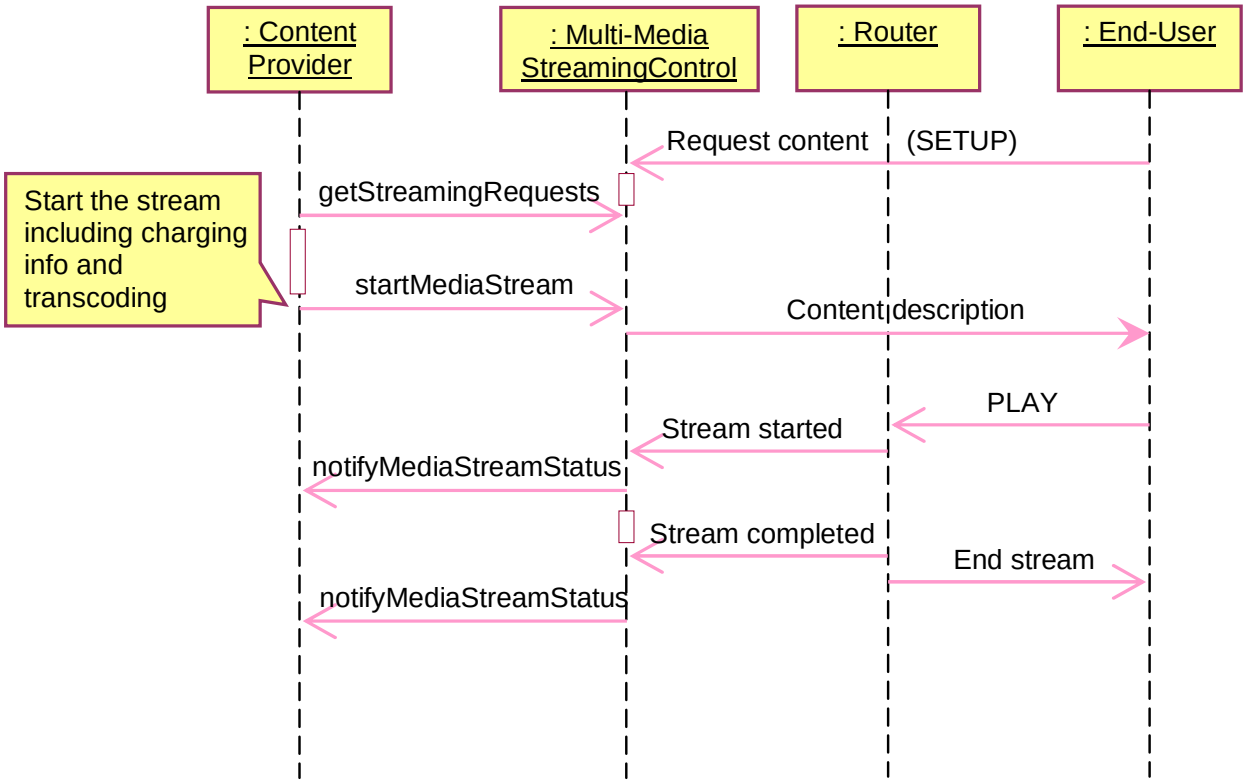


Figure 6.1

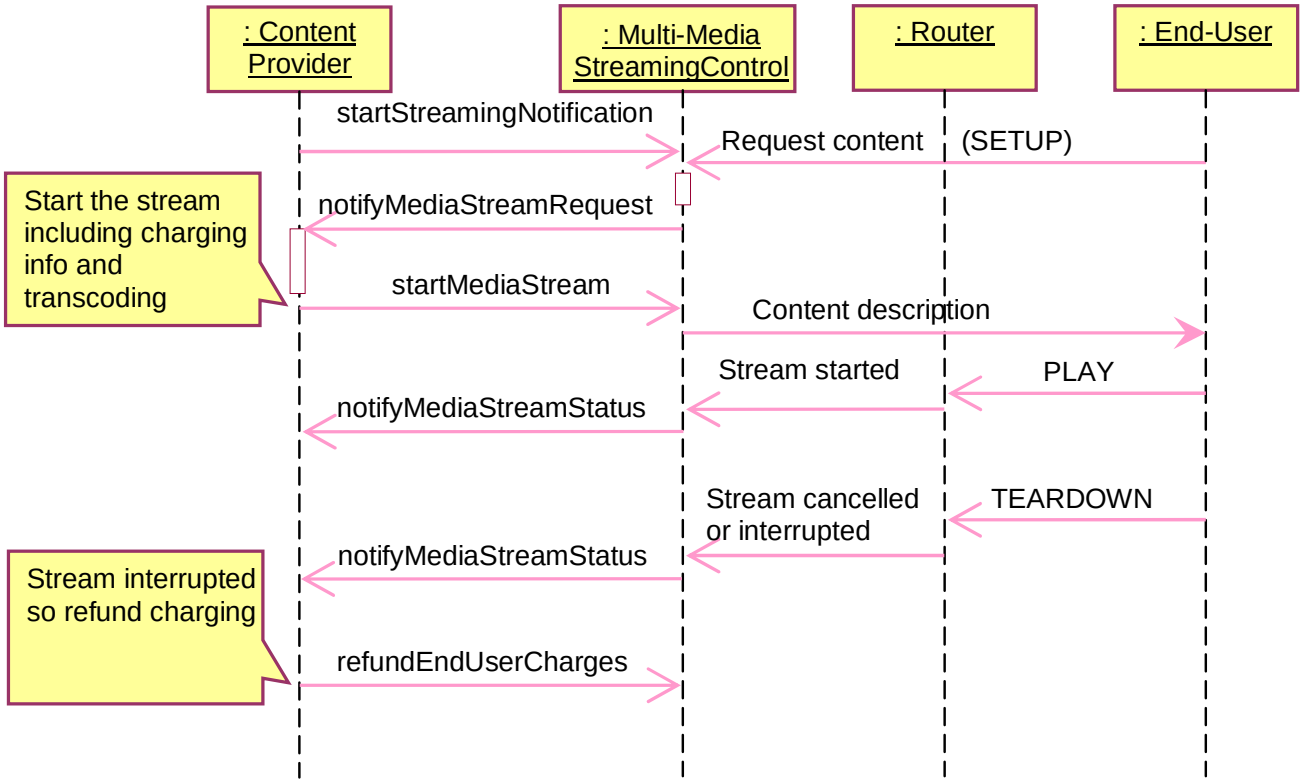
6.1 Getting requests

The following diagram illustrates the scenario where incoming stream requests are buffered at the operator. The content provider periodically retrieves streaming requests and handles them. The following diagram illustrates the scenario where incoming stream requests are buffered at the operator. The content provider periodically retrieves streaming requests and handles them.



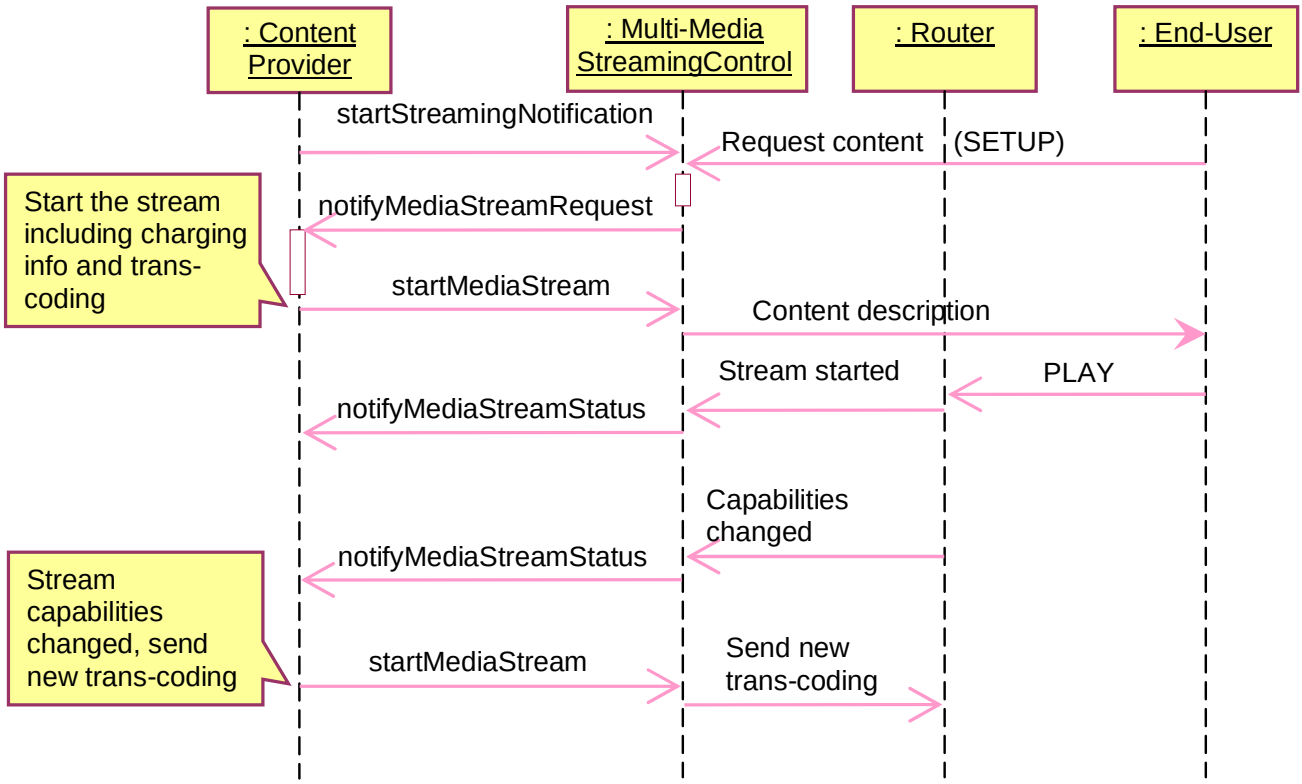
6.2 Charging refund

The following diagram illustrates the scenario where incoming stream requests are sent to the content provider when received by the operator. In this scenario the stream is cancelled before playing is completed and the content provider refunds an amount previously requested.



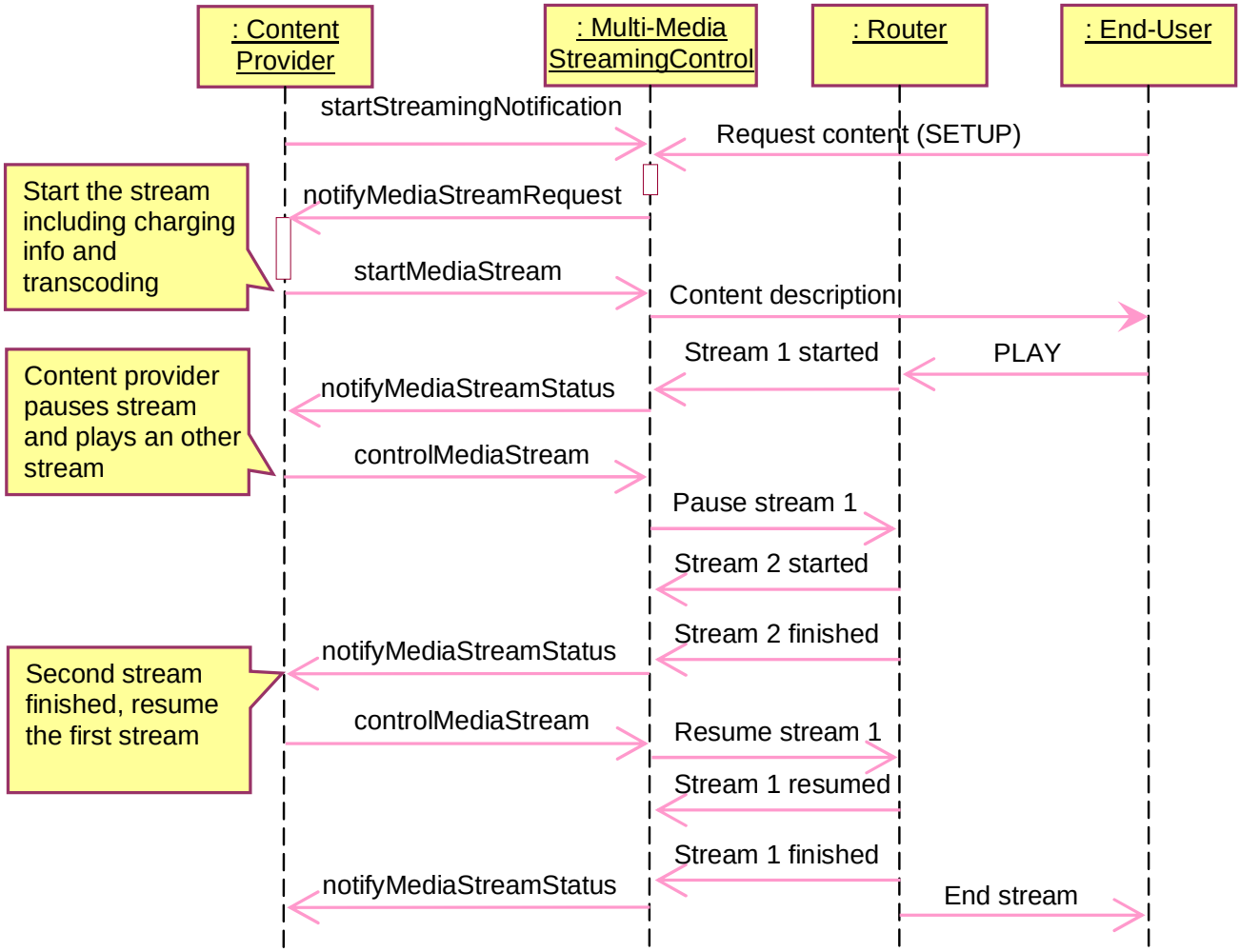
6.3 Trans-coding update

The following diagram illustrates the scenario where the capabilities for a terminal or a network changes, for example due to handover between GRPS and 3G. The contents provider is notified about this change and can change for example transcoding of the stream.



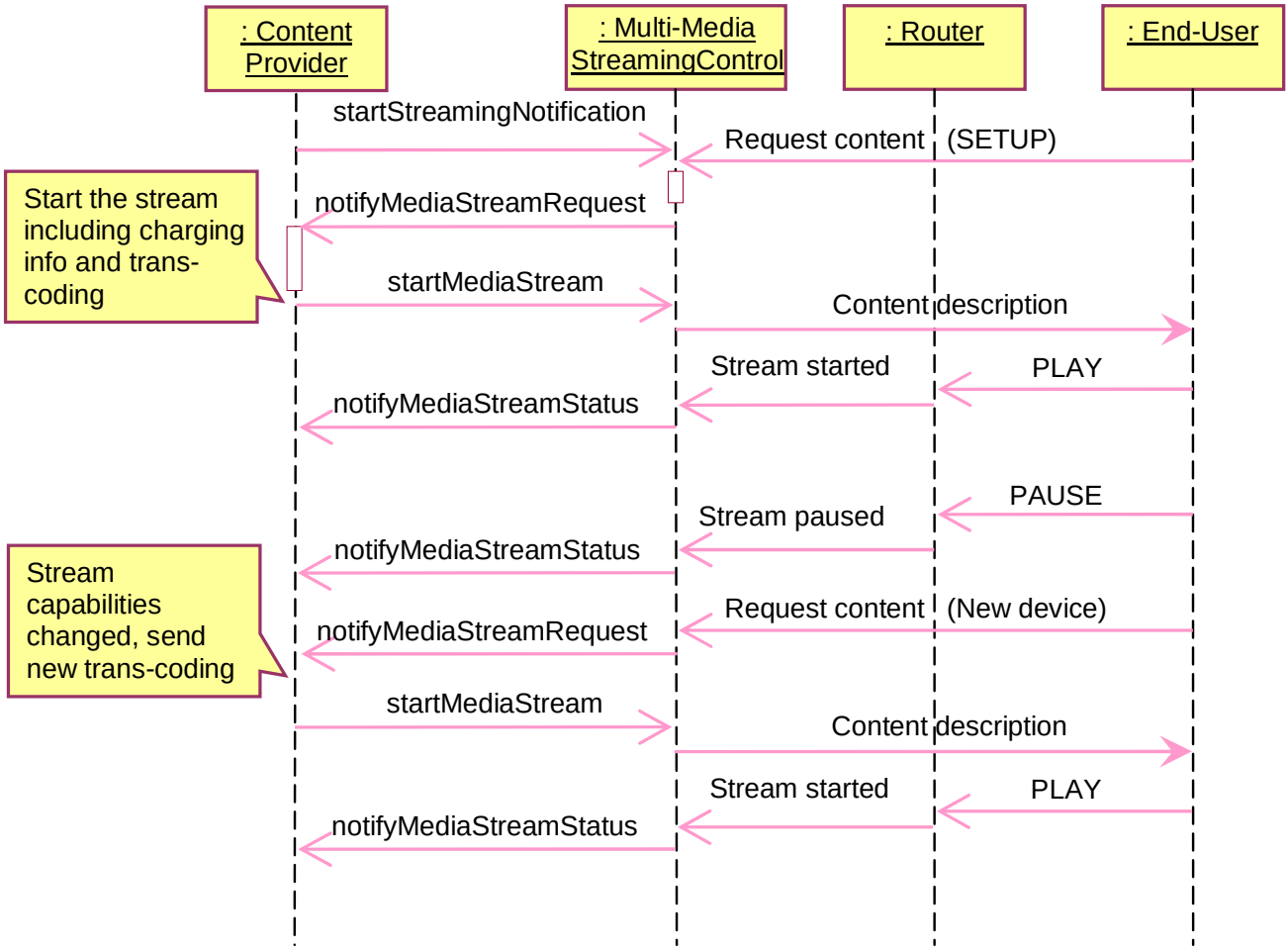
6.4 Controlling multiple streams

The following diagram illustrates the scenario where the content provider pauses an ongoing stream and temporarily plays another stream, for example an advertisement. When the second stream ends the first original stream is continued. From the end users point of view this should be perceived as one uninterrupted stream.



6.5 Redirecting a stream

The following diagram illustrates the scenario where a stream is being redirected to another device due to a user request. The contents provider receives the request from the end-user and continues the stream to the new device.

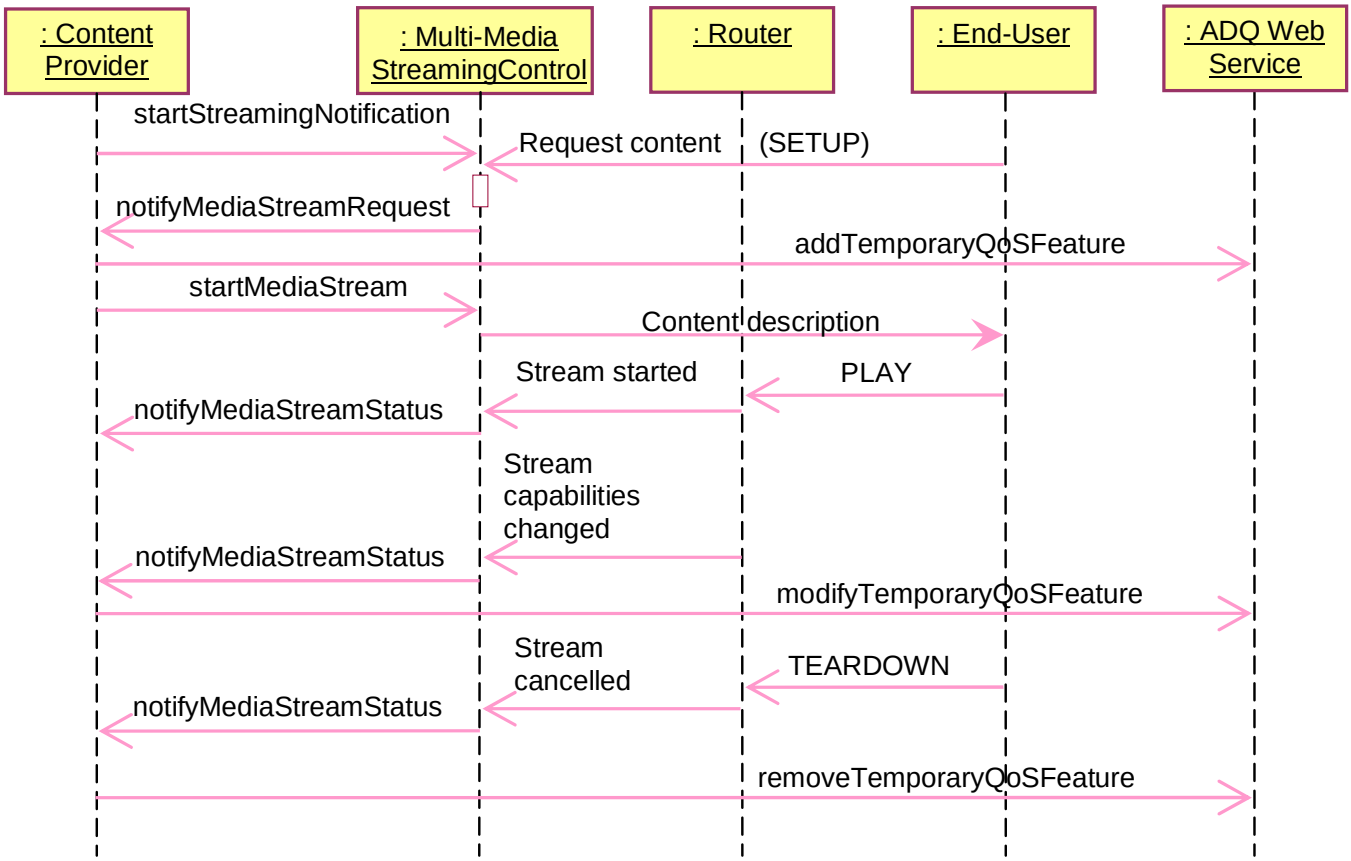


6.6 Multimedia Stream Control with Dynamic QoS

The following sequence diagram provides an example of how an application could combine functionality from the Multimedia streaming control web service (this specification) with the Application Driven QoS (ADQ) web service to provide guaranteed media stream delivery.

Flow summary:

1. ContentProvider receives a NotifyMediaStreamRequest which includes the content identifier, terminal capabilities and an estimated available bandwidth of the current network session.
2. Based upon content requirements and current network bandwidth, the content provider may decide to provide a guaranteed QoS for content delivery by applying a temporary QoS session (addTemporaryQoSFeature on ADQ Web Service).
3. The content provider will then continue to setup the media stream through the StartMediaStream operation, as for previous scenarios.
4. At some point during the ongoing stream, the network / terminal capabilities change and the content provider is notified by the operator with the NotifySessionStatus operation.
5. Based on the new session parameters (e.g. available bandwidth), the content provider may modify the guaranteed QoS parameters previously requested (modifyTemporaryQoSFeature).
6. Upon stream completion, content provider will remove the previously requested QoS session (removeTemporaryQosFeature).



7 XML Schema data type definition

7.1 MediaStreamRequest Structure

Data type used to capture attributes of a single media stream request.

Element Name	Element Type	Optional	Description
subscriberIdentifier	xsd:anyURI	No	Identity of subscriber / end user making the request for content streaming
contentIdentifier	xsd:anyURI	No	Identifier / Address of requested content item
sessionIdentifier	xsd:string	No	Operator provided session identifier
streamTransfer	xsd:boolean	Yes	States whether this request is a result of a stream transfer (e.g. transfer of existing stream from mobile device to a PC) or is a new media stream request.
terminalCapabilities	xsd:string [0..unbounded]	Yes	Terminal capability description derived from *TpTerminalCapabilities* (ref ES 203 915-07)
availableBandwidth	xsd:int	Yes	Estimation of current available network bandwidth in bits per second

7.2 MediaStreamInformation Structure

Composite data type required by the **getMediaStreamStatus** operation in order to return all requested information in a single message part..

Element Name	Element Type	Optional	Description
status	MediaStreamStatus	No	Communicates status of ongoing media stream
information	xsd:string	Yes	Contains event data specific to the **status** parameter.

7.3 StreamControlAction Enumeration

Set of enumerated actions which may be applied to an ongoing Multimedia stream.

Enumeration value	Description
Pause	Pause ongoing stream
Resume	Resume previously paused stream
Terminate	Terminate an active media stream
Start	Start a stream
Stop	Stop a stream
Forward	Move forward in time on a stream
Rewind	Move backwards in time on a stream

7.4 MediaStreamStatus Enumeration

Set of enumerated status for a media stream.

Enumeration value	Description
Started	Media stream started
Ready	Media stream is ready to be played at router
Playing	Media stream is playing
Completed	Media stream completed.
Cancelled	Media stream cancelled by user
Interrupted	Media stream interrupted. E.g. loss of network signal coverage, terminal loses power etc.
Failed	Media stream delivery failed. E.g. permanent failure in delivery, no route to terminal etc.

8 Web Service interface definition

8.1 Interface: Streaming

8.1.1 Operation: startMediaStream

The startMediaStream operation is sent to the ParlayX server to specify how a stream should be handled by the operator. The information included is media server location, charging data and information about how to handle transcoding. The operation is sent as a response to either a previous received notifyMediaStreamRequest or to streaming requests received in a getStreamingRequests response.

8.1.1.1 Input message: startMediaStreamRequest

Part Name	Part Type	Optional	Description
sessionIdentifier	xsd:string	No	Session identifier provided by the operator in the initial notifyMediaStreamRequest or getStreamingRequest operation
contentLocation	xsd:anyURI	No	Location (URL) of content item to be delivered in streaming session
chargingInformation	common: ChargingInformation	Yes	Optionally allows content provider to specify charging information to be applied to media stream
allowNetworkTranscoding	xsd:boolean	Yes	Allows a content provider to specify whether or not the network operator may apply further transcoding to the content media stream

8.1.1.2 Output message: startMediaStreamResponse

Part Name	Part Type	Optional	Description
result	MediaStreamStatus	No	Current status

8.1.1.3 Referenced Faults

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

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0007 - Invalid charging information
- SVC0270 - Charge failed.

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

- POL0001 - Policy error.
- POL0008 - Charging not supported.
- POL0012 - Too many description entries specified.

8.1.2 Operation: getStreamingRequests

The invocation of getStreamingRequests retrieves all the content requests received that fulfil the criteria identified by contentProviderID. The method returns only the list of content requests received since the previous invocation of the same method, i.e. each time the method is executed the content requests returned are removed from the server. Moreover, each content request will be automatically removed from the server after a maximum time interval as defined by a service policy. This operation allows the content provider to poll for a list of pending streaming requests rather than receive dynamic notification (notifyMediaStreamRequest). The operation returns a list of pending MediaStreamRequest structures.

8.1.2.1 Input message: getStreamingRequestsRequest

Part Name	Part Type	Optional	Description
contentProviderIdentifier	xsd:string	No	Identifies content provider.

8.1.2.2 Output message: getStreamingRequestsResponse

Part Name	Part Type	Optional	Description
result	MediaStreamRequest[0..unbounded]	Yes	List of pending MediaStreamRequests for Content Provider

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: controlMediaStream

Allows content provider to control an ongoing multimedia streaming session, as identified by the sessionIdentifier parameter. The actions allowed are as defined in the StreamControlAction enumeration: e.g. pause, resume, terminate, etc.

8.1.3.1 Input message: controlMediaStreamRequest

Part Name	Part Type	Optional	Description
sessionIdentifier	xsd:string	No	The session ID as provided by the operator in the initial notifyMediaStreamRequest or getStreamingRequests operation
action	StreamControlAction	No	Specifies action to be applied to active media stream.

8.1.3.2 Output message: controlMediaStreamResponse

Part Name	Part Type	Optional	Description
result	MediaStreamStatus	No	Current status

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.

8.1.4 Operation: getMediaStreamStatus

Allows the content provider to request current status (e.g. whether a stream has started, completed etc) on a previously requested (startMediaStream) Multimedia stream (identified by the sessionIdentifier parameter). Returns the current status (as defined by the MediaStreamStatus enumeration) and any associated status parameters (e.g. StartTime, CompletionTime etc) where applicable.

8.1.4.1 Input message: getMediaStreamStatusRequest

Part Name	Part Type	Optional	Description
sessionIdentifier	xsd:string	No	Session identifier as provided in the initial notifyMediaStreamRequest or getStreamingRequests operation.

8.1.4.2 Output message: getMediaStreamStatusResponse

Part Name	Part Type	Optional	Description
result	MediaStreamInformation	No	Communicates status of ongoing media stream and any status-specific information.

8.1.4.3 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.

8.1.5 Operation: refundEndUserCharges

Allows content provider to request that the operator apply a refund of charges to an end-user account. For example, this could be as a result of a multimedia stream failing before completion due to loss of network connectivity etc. (This would have been notified to the content provider through invocation of either a getMediaStreamStatus operation or a notifyMediaStreamStatus callback operation) Content provider will specify the refund amount within the chargingInformation parameter.

8.1.5.1 Input message: refundEndUserChargesRequest

Part Name	Part Type	Optional	Description
subscriberIdentifier	xsd:anyURI	No	Identity of subscriber / end user
sessionIdentifier	xsd:string	No	Session identifier as provided by the operator in the initial notifyMediaStreamRequest or getStreamingRequests operation.
chargingInformation	common:ChargingInformation	No	Specifies refund amount to be applied by operator to end user's account.
referenceCode	xsd:string	Yes	Textual information to uniquely identify the request, e.g. in case of disputes

8.1.5.2 Output message: refundEndUserChargesResponse

Part Name	Part Type	Optional	Description
None			

8.1.5.3 Referenced Faults

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

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0007 - Invalid charging information
- SVC0270 - Charge failed.

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

- POL0001 - Policy error.
- POL0008 - Charging not supported.
- POL0012 - Too many description entries specified.

8.2 Interface: StreamingNotificationManager

This interface manages the call-back towards the content provider

8.2.1 Operation: startNotification

The notification pattern with correlation is used in order to correlate the notification events with the request.

Initial event registration operation which allows content provider's application to subscribe to receive event notifications from the web service relating to newly requested (i.e. notifyMediaStreamRequest) and ongoing Multimedia streams (e.g. notifyMediaStreamStatus). Content provider will provide a call-back address and correlator string (which may subsequently be used to cancel notifications) within the reference parameter.

8.2.1.1 Input message: startNotificationRequest

Part Name	Part Type	Optional	Description
reference	common: SimpleReference	No	Notification endpoint definition
frequency	common: TimeMetric	No	Maximum frequency of notifications (can also be considered minimum time between notifications)
duration	common: TimeMetric	Yes	Length of time notifications occur for; do not specify to use default notification time defined by service policy
count	xsd:int	Yes	Maximum number of notifications. For no maximum, either do not specify this part or specify a value of zero.

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

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

- POL0001 - Policy error.
- POL0004 - Unlimited notifications not supported.
- POL0005 - Too many notifications requested.
- POL0009 – Invalid frequency requested.

8.2.2 Operation: endNotification

Ends event notifications previously requested by startNotification operation. Content Provider must provide the correlator string originally submitted in the startNotification operation.

8.2.2.1 Input message: endNotificationRequest

Part Name	Part Type	Optional	Description
correlator	xsd:string	No	Correlator as supplied (as part of reference parameter) in original startNotification request

8.2.2.2 Output message: endNotificationResponse

Part Name	Part Type	Optional?	Description
None			

8.2.2.2 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: StreamingNotification

This interface is used towards the content provider.

8.3.1 Operation: notifyMediaStreamRequest

The notifyMediaStreamRequest operation is invoked by the ParlayX server when an end-user requests a stream. The notification contains information about the subscriber, the terminal capabilities and the requested stream. To invoke this notification the criteria must match the ones sent in a previous startNotification operation.

8.3.1.1 Input message: notifyMediaStreamRequestRequest

Part Name	Part Type	Optional	Description
correlator	xsd:string	No	Identifies the notification request
mediaStreamRequest	MediaStreamRequest	No	Media Stream Request structure containing request details.

8.3.1.2 Output message: notifyMediaStreamRequestResponse

Part Name	Part Type	Optional	Description
None			

8.3.2 Operation: notifyMediaStreamStatus

The notifyMediaStreamStatus operation is invoked by the ParlayX server when the status of an ongoing session changes. Session changes are related to the network or terminal status rather than end-user interactions. The information provided could be used by the content provider to change transcoding settings or to cancel an ongoing stream due to changed network capabilities.

8.3.2.1 Input message: notifyMediaStreamStatusRequest

Part Name	Part Type	Optional	Description
correlator	xsd:string	No	Identifies the notification request
sessionIdentifier	xsd:string	No	Session identifier as provided in the initial RequestMediaStream request.
statusInformation	MediaStreamInformation	No	Communicates status of ongoing media stream and any status-specific information.

8.3.2.2 Output message: notifyMediaStreamStatusResponse

Part Name	Part Type	Optional	Description
None			

8.3.3 Operation: notifyError

The error message is sent to the application to indicate that the notification for a user, or for the whole notification, is being cancelled by the Web Service.

8.3.3.1 Input message: notifyErrorRequest

Part name	Part type	Optional	Description
correlator	xsd:string	No	Correlator provided in request to set up this notification.
sessionIdentifer	xsd:string	Yes	The session to which the error applies. If not specified the error applies to all sessions associated with this notification.
reason	common:ServiceError	No	The reason the notification is being discontinued.

8.3.3.2 Output message: notifyErrorResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

None.

8.3.4 Operation: notifyEnd

The notifications have ended for this correlator. This operation will be invoked when the duration or count of notifications has been attained. This operation will not be invoked in the case of an error ending the notifications or deliberate ending of the notification (using endNotification).

8.3.4.1 Input message: notifyEndRequest

Part Name	Part Type	Optional	Description
correlator	xsd:string	No	Identifies the notification request

8.3.4.2 Output message: notifyEndResponse

Part Name	Part Type	Optional	Description
None			

8.3.4.3 Referenced Faults

None

9 Fault definitions

9.1 ServiceException

9.1.1 SVC0270: Charge failed

Refer to the definition in 3GPP TS 29.199-6 [7].

10 Service policies

Name	Type	Description
Currency	xsd:string	Currency used by service (per ISO 4217)
ContentRequestRetentionTime	common:TimeMetric	A time interval that begins after the the receipt of a streaming content request. During this interval, the content request remains available for retrieval by the application.
MaximumNotificationFrequency	common:TimeMetric	Maximum rate of notification delivery (also can be considered minimum time between notifications)
MaximumNotificationDuration	common:TimeMetric	Maximum amount of time a notification may be set up for
MaximumCount	xsd:int	Maximum number of notifications that may be requested
UnlimitedCountAllowed	xsd:boolean	Allowed to specify unlimited notification count (i.e. either by not specifying the optional Count message part in startNotificationRequest or by specifying a value of zero)
MaximumDescriptions	xsd:int	Maximum number of Descriptions that can be charged simultaneously

Annex A (normative): WSDL for Multimedia streaming control

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_streaming_service_4_0.wsdl
- parlayx_streaming_interface_4_0.wsdl
- parlayx_streaming_notification_service_4_0.wsdl
- parlayx_streaming_notification_interface_4_0.wsdl
- parlayx_streaming_notification_manager_service_4_0.wsdl
- parlayx_streaming_notification_manager_interface_4_0.wsdl
- parlayx_streaming_types_4_0.xsd

which accompany the present document.

The WSDL files have been verified using the following files:

- 19_wsdl2Java_axis-1_4.bat
- 19_wsdl2Java_axis2-1_4_1.bat

which accompany the present document.

Annex B (informative): Description of Parlay X Web Services Part 19: Multimedia streaming control 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 Multimedia streaming control

There are no additions or exclusions.

Annex C (informative): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Cat**	**Old**	**New**
Nov 2006	CT_34	CP-060613	--	--	Submitted to TSG CT#34 for Information.	--	1.0.0	
Mar 2007	CT_35	CP-070053	--	--	Submitted to TSG CT#35 for Approval	--	2.0.0	7.0.0
Mar 2007	--	--	--	--	removed old code attachment WSDL doclit folder	--	7.0.0	7.0.1
Jun 2007	--	--	--	--	Renamed in Introduction Part 18:"Device management" to "Device Capabilities and Configuration"	--	7.0.1	7.0.2
Dec 2008	CT_42	--	--	--	Upgraded unchanged from Rel-7	--	7.0.2	8.0.0
Sep 2009	CT_45	CP-090607	0001	--	Completion of Parlay X Part 19 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