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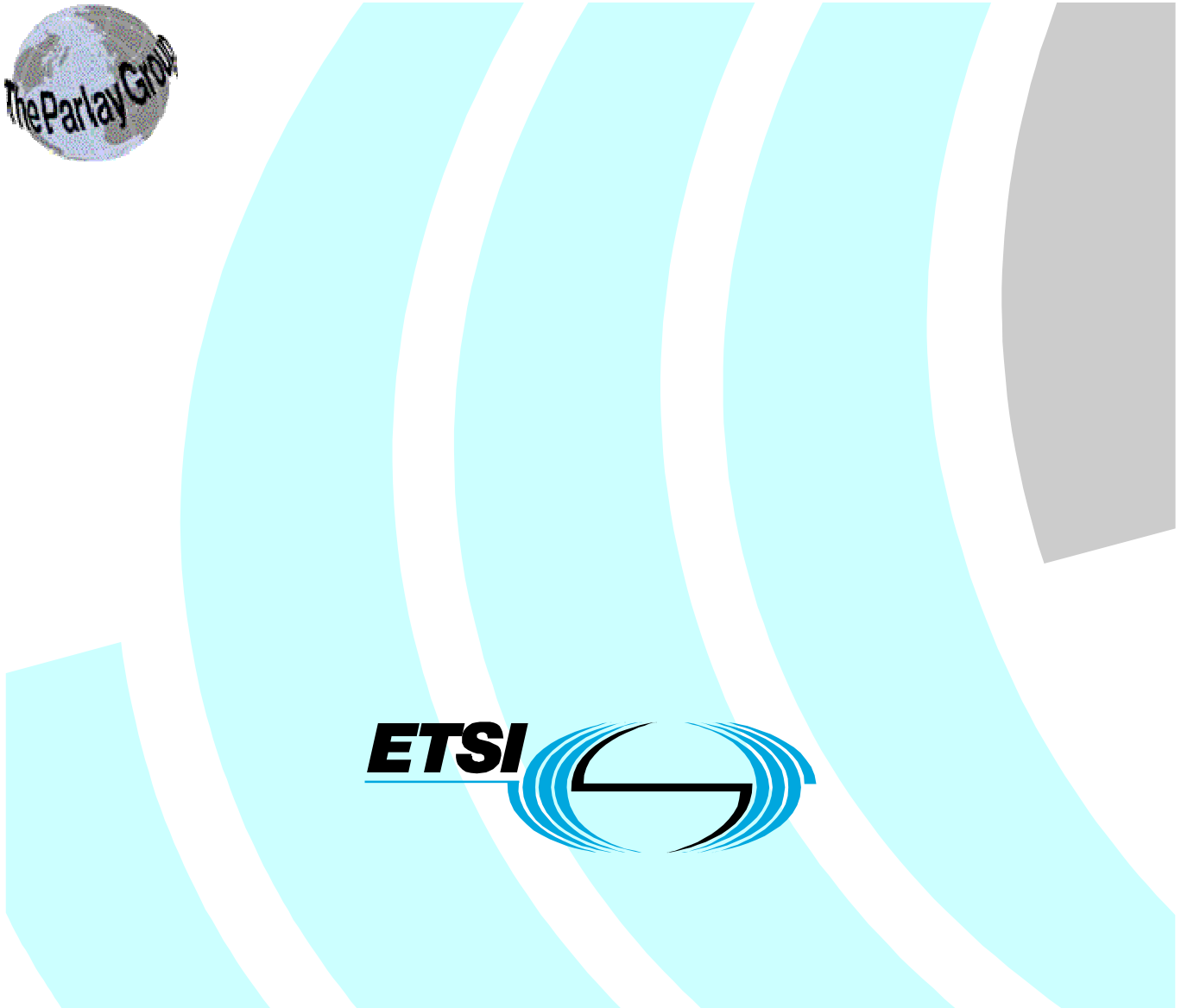
Technical Report

Open Service Access (OSA); Mapping of Parlay X Web Services to Parlay/OSA APIs; Part 1: Common Mapping



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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 1 of a multi-part deliverable covering Open Service Access (OSA); Mapping of Parlay X Web Services to Parlay/OSA APIs, as identified below:

Part 1: "Common Mapping";

Part 2: "Third Party Call Mapping";

Part 3: "Call Notification Mapping";

Part 4: "Short Messaging Mapping";

Part 5: "Multimedia Messaging Mapping";

Part 6: "Payment Mapping";

Part 7: "Account Management Mapping";

Part 8: "Terminal Status Mapping";

Part 9: "Terminal Location Mapping";

Part 10: "Call Handling Mapping";

Part 11: "Audio Call Mapping";

Part 12: "Multimedia Conference Mapping";

Part 14: "Presence Mapping";

NOTE: Part 13 has not been provided as there is currently no defined mapping between ES 202 391-13 [11] and the Parlay/OSA APIs. If a mapping is developed, it will become part 13 of this series.

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

1 Scope

The Parlay X Web Services provide powerful yet simple, highly abstracted, imaginative, telecommunications functions that application developers and the IT community can both quickly comprehend and use to generate new, innovative applications.

The Open Service Access (OSA) specifications define an architecture that enables application developers to make use of network functionality through an open standardized interface, i.e. the Parlay/OSA APIs.

The present document specifies the mapping of the Parlay X Common Data to the Parlay/OSA Common Data Definitions.

2 References

For the purposes of this Technical (TR), the following references apply:

[1] ETSI TR 121 905: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Vocabulary for 3GPP Specifications (3GPP TR 21.905)".

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

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

[3] IETF RFC 2806: "URLs for Telephone Calls".

NOTE: Available at http://www.ietf.org/rfc/rfc2806.txt.

[4] IETF RFC 3261: "SIP: Session Initiation Protocol".

NOTE: Available at http://www.ietf.org/rfc/rfc3261.txt.

[5] WS-I Basic Profile Version 1.0: "Final Material".

NOTE: Available at http://www.ws-i.org/Profiles/BasicProfile-1.0-2004-04-16.html.

[6] W3C Note (15 March 2001): "Web Services Description Language (WSDL) 1.1".

NOTE: Available at http://www.w3.org/TR/2001/NOTE-wsdl-20010315.

[7] OASIS Standard 200401 (March 2004): "Web Services Security: SOAP Message Security 1.0 (WS-Security 2004)".

NOTE: Available at http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf.

[8] W3C Recommendation (12 February 2002): "XML-Signature Syntax and Processing".

NOTE: Available at http://www.w3.org/TR/2002/REC-xmldsig-core-20020212/.

[9] ISO 4217: "Codes for the representation of currencies and funds".

[10] IETF RFC 2368: "The mailto URL Scheme".

NOTE: Available at http://www.ietf.org/rfc/rfc2368.txt.

[11] ETSI ES 202 391-13: "Open Service Access (OSA); Parlay X Web Services; Part 13: Address List Management".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

application: computer program that accesses a Web Service

SOAP: protocol used for XML messaging

NOTE: It is not an acronym.

web service: software system designed to support interoperable machine-to-machine interaction over a network

web service Provider: entity which provides web services interfaces to capabilities offered

web service Requester: entity which operates applications that access web services

3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in TR 121 905 [1] and the following apply:

3GPP	Third Generation Partnership Project
ETSI	European Telecommunications Standards Institute
IMS	IP Multimedia Subsystem
IP	Internet Protocol
IT	Information Technology
OASIS	Organization for the Advancement of Structured Information Standards
OSA	Open Service Access
RFC	Request For Comment
SIP	Session Initiation Protocol
URI	Uniform Resource Identifier
W3C	World Wide Web Consortium
WSDL	Web Service Definition Language
WS-I	Web Services - Interoperability organization
XML	Extensible Markup Language

4 Mapping description

There are mappings from both data definitions and exceptions defined in the Parlay/OSA Common Data Definitions (Part 2) and Parlay X Web Services.

These mappings are applicable to all Parlay/OSA releases, i.e. ETSI OSA 1.x/2.x/3.x, Parlay/OSA 3.x/4.x/5.x and 3GPP Releases 4/5/6, with specific release references specified for each mapped item.

5 Sequence diagrams

No sequence diagrams.

6 Detailed Mapping Information

6.1 Data Types

6.1.1 Mapping of URI address to TpAddressPlan

This mapping follows Parlay/OSA rules for formatting, as defined in ES 201 915-2, ES 202 915-2 and ES 203 915-2: i.e. clause 5.6 of Common Data Definitions (Part 2).

This mapping follows Parlay/OSA rules for formatting, as defined in ES 20X 915-2: i.e. clause 5.6 of Common Data Definitions (Part 2).

URI	TpAddressPlan	Notes
tel	P_ADDRESS_PLAN_E164	An international number without the international access code, including the country code and excluding the leading zero of the area code.
	P_ADDRESS_PLAN_NATIONAL	Reserved for National Specific use - refer to relevant National Numbering Plan Specification. This mapping is not supported in Parlay/OSA 3.2, 4.0 or earlier versions, or in the equivalent ETSI and 3GPP releases.
	P_ADDRESS_PLAN_UNDEFINED	Default if not mappable to "E164" or "NATIONAL"
sip	P_ADDRESS_PLAN_SIP	
mailto	P_ADDRESS_PLAN_SMTP	

6.1.2 Mapping of TpAddressPlan to URI address

TpAddressPlan	URI	Notes
P_ADDRESS_PLAN_E164	tel	Conformant to [2], using either a national address syntax (no leading "+" and country code) or an international address syntax (with leading "+" and country code).
P_ADDRESS_PLAN_NATIONAL	tel	Conformant to [2], using a national address syntax (no leading "+" and country code). This mapping is not supported in Parlay/OSA 3.2, 4.0 or earlier versions, or in the equivalent ETSI and 3GPP releases.
P_ADDRESS_PLAN_SIP	sip	Conformant to [3]
P_ADDRESS_PLAN_SMTP	mailto	Conformant to [11]

6.1.3 Mapping of TimeMetric to TpDuration

If a message part is of type **TimeMetric**, but not of type **TimeMetric [0 .. unbounded]**, then the **TimeMetric** data type maps to the TpDuration data type, as follows:

- If the **Metric** element of **TimeMetric** has a value of **Millisecond**, then TpDuration is assigned the value of the **Units** element of **TimeMetric**.
- If the **Metric** element of **TimeMetric** has any other value, then TpDuration is assigned the value the **Units** element of **TimeMetric** multiplied by the number of milliseconds in the **Metric** element. For example if the **Metric** element of **TimeMetric** has a value of **Hour**, then the multiplier is $3.6*10^6$ (i.e.1000*60*60).

NOTE: If the **Metric** element of **TimeMetric** has a calendar-sensitive value of **Month** or **Year**, then the multiplier should be computed based on a calendar interval commencing at the time of the message receipt and associated mapping operation.

6.1.4 Mapping of TpDuration to TimeMetric

TpDuration maps to **TimeMetric** as follows:

- The **Metric** element of **TimeMetric** is assigned a value of **Millisecond**.
- The **Units** element of **TimeMetric** is assigned the value of the TpDuration parameter.

6.1.5 Mapping of TimeMetric[0 .. unbounded] to TpDate(AndTime),TpTime

If a message part is of type **TimeMetric [0 .. unbounded]** with at least two elements, then the following table specifies the valid combinations of **TimeMetric** elements and how they are mapped. Note that:

- the **Units** elements of the **TimeMetric** elements must together represent a valid calendar date and/or time of day.

EXAMPLE: "29 February 2005" is invalid.

- The time zone associated with the date and/or time information contained in the **TimeMetric** elements is unspecified.: time zone should be specified explicitly in a parameter of the message or in a web service policy.

	TimeMetric[0 .. unbounded]	TpXxx	Notes
1	{Metric=Year,Units=YYYY} {Metric=Month,Units=MM}	TpDate	Default: the **Day** field is assumed to be "01"
2	{Metric=Year,Units=YYYY} {Metric=Month,Units=MM} {Metric=Day,Units=DD}	TpDate	
3	{Metric=Hour,Units=HH} {Metric=Minute,Units=MM}	TpTime	Default: the **Second** field is assumed to be "00" and the **Millisecond** field "000"
4	{Metric=Hour,Units=HH} {Metric=Minute,Units=MM} {Metric=Second,Units=SS}	TpTime	Default: the **Millisecond** field is assumed to be "000"
5	{Metric=Hour,Units=HH} {Metric=Minute,Units=MM} {Metric=Second,Units=SS} {Metric=Millisecond,Units=mmm}	TpTime	
6	1+3; 1+4; 1+5; 2+3; 2+4; 2+5	TpDateAndTime	
7	{Metric=Year,Units=YYYY} {Metric=Hour,Units=HH}	TpDateAndTime	Default: the **Month** field is assumed to be "01", the **Day** field "01", the **Minute** field "00", the **Second** field "00" and the **Millisecond** field "000"
8	{Metric=Year,Units=YYYY} + {3,4 or 5}	TpDateAndTime	Default: the **Month** field is assumed to be "01" and the **Day** field "01",
9	{Metric=Hour,Units=HH} + {1 or 2}	TpDateAndTime	Default: the **Minute** field is assumed to be "00", the **Second** field "00" and the **Millisecond** field "000"

6.1.6 Mapping of TpDate(AndTime),TpTime to TimeMetric[0 .. unbounded]

The mapping is symmetric - see preceding clause for details.

6.1.7 Mapping of ChargingInformation to TpAoCInfo

The following table specifies a default common parameter mapping for the **ChargingInformation** parameter. This mapping may be overridden for a specific web service. For example, for the Third Party Call web service, the **ChargingInformation** parameter may be mapped instead to TpCallChargePlan.

ChargingInformation	TpAoCInfo	Notes
Description		
Currency	Currency	
Amount		Map be mapped instead to `TpPrice`
Code	ChargeOrder:NetworkCharge	i.e. `TpCallAoCOrderCategory = P_CHARGE_NETWORK`

6.2 Exceptions

6.2.1 Mapping of `TpCommonExceptions` to ServiceException

The following table lists the default mapping of the Parlay/OSA `TpCommonExceptions` class.

Parlay/OSA Exception	Service Exception	Notes
P_RESOURCES_UNAVAILABLE	SVC0001	With error number
P_TASK_REFUSED	SVC0001	With error number
P_TASK_CANCELLED	SVC0001	With error number
P_NO_CALLBACK_ADDRESS_SET	SVC0001	With error number
P_METHOD_NOT_SUPPORTED	SVC0001	With error number
P_INVALID_STATE	SVC0001	With error number

6.2.2 Mapping of Common Parlay/OSA Exceptions to ServiceException

The following table lists the default mapping of the Parlay/OSA exception classes that are available to all Parlay/OSA APIs. These mappings may be overridden for a specific web service. For example, for the Account Management web service, the `P_INVALID_ASSIGNMENT_ID` exception may be mapped instead to **SVC0251 – Unknown Voucher** since the voucher ID is explicitly specified as a web service interface message part.

Parlay/OSA Exception	Service Exception	Notes
P_APPLICATION_NOT_ACTIVATED	SVC0001	With error number
P_INFORMATION_NOT_AVAILABLE	SVC0001	With error number
P_INVALID_ADDRESS	SVC0004	
P_INVALID_AMOUNT	SVC0002 SVC0003	
P_INVALID_ASSIGNMENT_ID	SVC0001	With error number
P_INVALID_CRITERIA	SVC0002 SVC0003	
P_INVALID_CURRENCY	SVC0001	With error number
P_INVALID_EVENT_TYPE	SVC0001	With error number
P_INVALID_INTERFACE_NAME	SVC0001	With error number
P_INVALID_INTERFACE_TYPE	SVC0001	With error number
P_INVALID_NETWORK_STATE	SVC0001	With error number
P_INVALID_SESSION_ID	SVC0002	
P_INVALID_TIME_AND_DATE_FORMAT	SVC0001	With error number
P_UNAUTHORIZED_PARAMETER_VALUE	SVC0001	With error number
P_UNKNOWN_SUBSCRIBER	SVC0002	
P_UNSUPPORTED_ADDRESS_PLAN	SVC0001	With error number
P_INVALID_VERSION	SVC0001	With error number

7 Additional Notes

No additional notes.

History

Document history		
V1.1.1	August 2005	Publication