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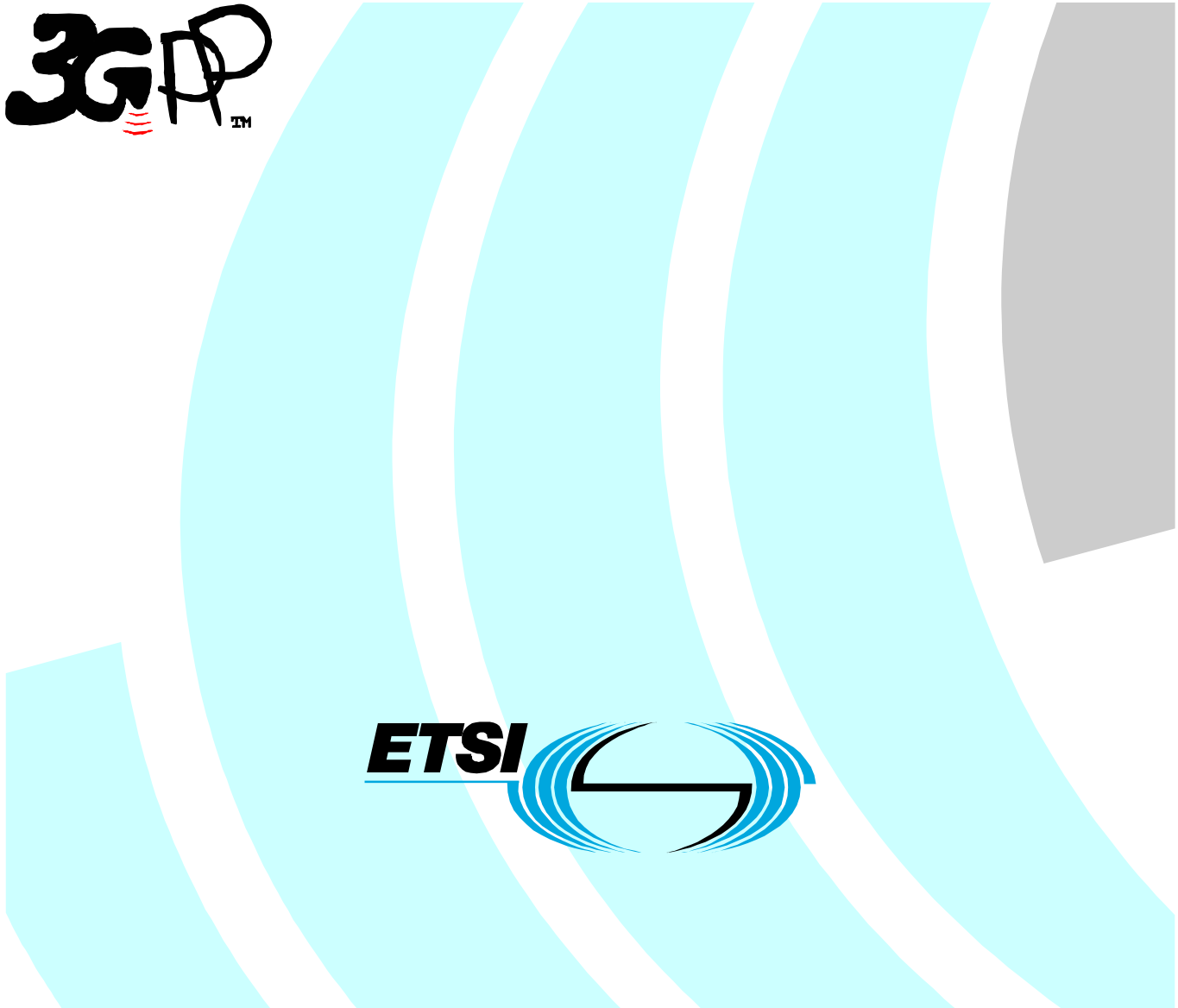
Technical Report

Universal Mobile Telecommunications System (UMTS);
Open Service Access (OSA)
Application Programming Interface (API)
Mapping for Open Service Access;
Part 1: General Issues on API Mapping
(3GPP TR 29.998-01 version 5.0.0 Release 5)



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Foreword

This Technical Report (TR) 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.

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Contents

Foreword

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

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

Structure of the OSA API Mapping (3GPP TR 29.998)

The Technical Report 3GPP TR 29.998 consists of a series of parts and subparts. An effort has been made to ensure that the part numbers used in the mapping TR correspond to the part numbers of the base OSA specification in 3GPP TS 29.198. For this reason, certain parts, for which no suitable mapping could be suggested, have not been delivered. At a later stage a mapping to a new protocol may become evident, in which case these missing parts will be developed.

The OSA documentation was defined jointly between 3GPP TSG CN WG5, ETSI SPAN 12 and the Parlay Consortium, in co-operation with the JAIN consortium. The 3GPP TR 29.998 is based on a mapping document with a wider scope, developed as part of this co-operation. Certain mappings defined in the course of this joint development are not applicable for the present 3GPP Release, which is why not all sub-parts have been delivered as part of the present 3GPP Release. However, it is expected that some may become applicable within the scope of later 3GPP Releases, which is why a common sub-part numbering is being retained, albeit with gaps for the present 3GPP Release.

If mapping for a certain Part is "Not Applicable" it can either indicate that a mapping does not exist (e.g. Part 2: Common Data), or the API is considered to be implemented directly on a physical entity, or via a proprietary mechanism.

The present document is part 1 of a multi-part deliverable covering the 3rd Generation Partnership Project; Technical Specification Group Core Network; Open Service Access (OSA); Application Programming Interface (API) Mapping for OSA.

Table: Overview of the OSA APIs & Protocol Mappings 29.198 & 29.998-family

OSA API specifications 29.198-family					OSA API Mapping - 29.998-family	
29.198-01	Overview				**29.998-01**	**Overview**
29.198-02	Common Data Definitions				*29.998-02*	*Not Applicable*
29.198-03	Framework				*29.998-03*	*Not Applicable*
Call Control (CC) SCF	29.198-04-1 Common CC data definitions	29.198-04-2 Generic CC SCF	29.198-04-3 Multi-Party CC SCF	29.198-04-4 Multi-media CC SCF	29.998-04-1	Generic Call Control – CAP mapping
					29.998-04-2	*Generic Call Control – INAP mapping*
					29.998-04-3	*Generic Call Control – Megaco mapping*
					29.998-04-4	Multiparty Call Control – SIP mapping
29.198-05	User Interaction SCF				29.998-05-1	User Interaction – CAP mapping
					29.998-05-2	*User Interaction – INAP mapping*
					29.998-05-3	*User Interaction – Megaco mapping*
					29.998-05-4	User Interaction – SMS mapping
29.198-06	Mobility SCF				29.998-06	User Status and User Location – MAP mapping
29.198-07	Terminal Capabilities SCF				*29.998-07*	*Not Applicable*
29.198-08	Data Session Control SCF				29.998-08	Data Session Control – CAP mapping
29.198-09	*Generic Messaging SCF*				*29.998-09*	*Not Applicable*
29.198-10	*Connectivity Manager SCF*				*29.998-10*	*Not Applicable*
29.198-11	Account Management SCF				*29.998-11*	*Not Applicable*
29.198-12	Charging SCF				*29.998-12*	*Not Applicable*
29.198-13	Policy Management SCF				*29.998-13*	*Not Applicable*
29.198-14	Presence & Availability Management SCF				*29.998-14*	*Not Applicable*

1 Scope

The present document is suggesting a mapping of the Application Programming Interface (API) for Open Service Access (OSA) onto CAMEL Application Part (CAP) operations and Mobile Application Part (MAP) operations, and provides an overview of the content and structure of the various parts of the present document. The mapping of the OSA API to the CAP and relevant MAP operations is considered informative and not normative.

The API specification is contained in the 3GPP TS 29.198 series of specifications. An overview of these is available in the introduction of the present document as well as in 3GPP TS 29.198-1 [1]. The concepts and the functional architecture for the Open Service Access (OSA) are described by 3GPP TS 23.127 [3]. The requirements for OSA are defined in 3GPP TS 22.127 [2].

The present document has been defined jointly between 3GPP TSG CN WG5, ETSI SPAN 12 and the Parlay Consortium, in co-operation with the JAIN consortium.

2 References

- References are either specific (identified by date of publication and/or edition number or version number) 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 TS 29.198-1: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview".

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

[3] 3GPP TS 23.127: "Virtual Home Environment (VHE) / Open Service Access (OSA); Stage 2".

[4] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[6] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[7] 3GPP TS 29.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL) Phase 3; CAMEL Application Part (CAP) specification".

[8] 3GPP TS 22.101: "Service Aspects; Service Principles".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 29.198-1 [1] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 29.198-1 [1] apply.

4 Overview of the Mapping Report TR 29.998

4.1 Structure of TR 29.998

The TR 29.998 consists of a series of parts and subparts.

An effort has been made to ensure that the part numbers used in the mapping report correspond to the part numbers of the base OSA specification in TS 29.198. For this reason, certain parts, for which no suitable mapping could be suggested, have not been delivered. At a later stage a mapping to a new protocol may become evident, in which case these missing parts will be developed.

The OSA documentation was defined jointly between 3GPP TSG CN WG5, ETSI SPAN 12 and the Parlay Consortium, in co-operation with the JAIN consortium. The 3GPP TR 29.998 is based on a mapping document with a wider scope, developed as part of this co-operation. Certain mappings defined in the course of this joint development are not applicable for the present 3GPP Release, which is why not all sub-parts have been delivered as part of the present 3GPP Release. However, it is expected that some may become applicable within the scope of later 3GPP Releases, which is why a common sub-part numbering is being retained, albeit with gaps for the present 3GPP Release.

The following is a list of the parts of the mapping report which are developed or intend to be developed. Those documents with their title in **bold text** form part of TR 29.998 Release 5:

- **Part 1: General**

  Part 2: not applicable (common data has no mapping)

  Part 3: not applicable (framework has no mapping)

- **Part 4: Call Control mapping**

  Sub-part 1: Generic call control CAP;

  Sub-part 2: Generic call control INAP (not in scope of 3GPP Release 5);

  Sub-part 3: Multiparty call control INAP (not in scope of 3GPP Release5);

  Sub-part 4: Multiparty call control SIP (new in 3GPP Release 5);

  Sub-part 5: Multimedia call control extensions mapping to SIP (not in scope of 3GPP Release 5).

- **Part 5: User Interaction mapping**

  Sub-part 1: User interaction CAP

  Sub-part 2: User interaction INAP (not in scope of 3GPP Release 5)

  Sub-part 3: User interaction Megacop (not in scope of 3GPP Release 5)

  Sub-part 4: User interaction SMS

- **Part 6: User Location/User Status mapping: user location/user status mapping to MAP**

- *Part 7: Terminal Capabilities mapping - not applicable (no mapping, i.e. directly on entity, or proprietary)*

- **Part 8: Data Session Control mapping: data session control mapping to CAP**

  Part 9: Messaging mapping - not applicable (no mapping, i.e. directly on entities, or proprietary)

  Part 10: Connectivity Management mapping - not applicable (no mapping, i.e. directly on entities (e.g. COPS policy server))

4.2 Context of the Mapping

The OSA specifications define an architecture that enables application developers to make use of network functionality through an open standardised interface, i.e. the OSA APIs. The applications constitute the top level of the architecture for Open Service Access (OSA). This level is connected to the Service Capability Servers (SCSs) via the OSA interface. The SCSs map the OSA interface onto the underlying telecommunications specific protocols (e.g. MAP, CAP, etc.) and are therefore hiding the network complexity from the applications.

The specific Service Capability Server (SCS) under consideration in the present document is the CAMEL Service Environment (CSE). In this case, the OSA API provides the operator or third party applications access to the CAMEL Application Part (CAP) protocol operations, via the OSA Interface Class methods. On the gsmSCF, the OSA Interface Class methods need to be mapped, or translated, onto the relevant CAP and/or MAP operations. Only the non-framework Service Capability Features (SCFs) will be taken into account for the mapping. The present document is not exhaustive in covering all the mappings that can be expected. It provides several examples, but it should be noted that several other possibilities exist. In particular, only general cases of normal operations are covered and exception scenarios are not within the scope of the present document.

In addition to the configuration of SCS and CSE, the present document contains some recommendations for a configuration consisting of SCS and HLR. On the HLR, the OSA Interface Class methods need to be mapped, or translated, onto the relevant MAP protocol operations. The mappings contained in the present document for the SCS/HLR case are not intended to be exhaustive.

5 General Parameter Mapping Issues

5.1 API Parameters that do not require a mapping

A number of the API method parameters have significance only on the OSA interface and in the SCS. They are used to identify objects implementing parts of the interface for instance. No mapping is required for these parameters.

- appInterface: specifies a reference to the application object which implements the callback interface for a call;
- assignmentID: specifies the assigned ID which is used to link associated requests and responses;
- callReference: specifies the reference to the call object;
- callSessionID: specifies the call session ID of the call object to which this method invocation applies.

5.2 Protocol Operation Parameters that do not require a mapping

A number of the CAP and MAP protocol operation parameters deal with the specifics of the underlying core network. these are typically those details that the OSA API was designed to abstract from and therefore do not require a mapping. Examples include:

CAP InitialDP:

- gsmSCFAddress;
- MSCAddress;
- GMSCAddress;
- IPSSPCapabilities.

MAP AnyTimeModification:

- gsmSCFAddress.

Annex A:
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Mar 2001	CN_11	NP-010131	011	-	CR 29.998: for moving TR 29.998 from R99 to Rel 4 (N5-010159)	3.2.0	4.0.0
Jun 2002	CN_16	--	--	--	Automatically upgraded to Rel-5 (i.e. no change/CR). The overview of the enlarged 29.198/29.998-family was updated in the Introduction.	4.0.0	5.0.0

History

Document history		
V5.0.0	June 2002	Publication