

**Universal Mobile Telecommunications System (UMTS);  
Open Service Access (OSA);  
Application Programming Interface (API) Mapping for OSA;  
Part 1: General Issues on API Mapping  
(3GPP TR 29.998-1 version 4.0.0 Release 4)**

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## Foreword

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## Foreword

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## 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 3GPP Release 4, which is why not all sub-parts have been delivered as part of 3GPP Release 4. However, it is expected that some will become applicable within the scope of 3GPP Release 5, which is why a common sub-part numbering is being retained, albeit with gaps for 3GPP Release 4.

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 TR covering the 3<sup>rd</sup> Generation Partnership Project: Technical Specification Group Core Network; Open Service Access (OSA); Application Programming Interface (API) Mapping for OSA, as identified below.

#### 29.998-1: General Issues on API Mapping

29.998-2: *Not Applicable*

29.998-3: *Not Applicable*

- |             |  |   |
|-------------|--|---|
| 29.998-4-1: | Call Control Service Mapping;                      | Subpart: API to CAP Mapping   |
| 29.998-4-2: | Call Control Service Mapping;                      | Subpart 2 generic call control INAP (not Rel-4)                         |
| 29.998-4-3: | Call Control Service Mapping;                      | Subpart 3 multiparty call control INAP (not Rel-4)                      |
| 29.998-4-4: | Call Control Service Mapping;                      | Subpart 4 multiparty call control SIP (not Rel-4)                       |
| 29.998-4-5: | Call Control Service Mapping;                      | Subpart 5 multimedia call control extensions mapping to SIP (not Rel-4) |
| 29.998-5-1: | User Interaction Service Mapping;                  | Subpart 1: API to CAP Mapping   |
| 29.998-5-2: | User Interaction Service Mapping;                  | Subpart 2 user interaction INAP (not Rel-4)                             |
| 29.998-5-3: | User Interaction Service Mapping;                  | Subpart 3 user interaction Megacop (not Rel-4)                          |
| 29.998-5-4: | User Interaction Service Mapping;                  | Subpart 4: API to SMS Mapping   |
| 29.998-6:   | User Location – User Status Service Mapping to MAP |   |
| 29.998-7:   | <i>Not Applicable</i>                              |   |
| 29.998-8:   | Data Session Control Service Mapping to CAP        |   |

OSA API specifications 29.198-family		OSA API Mapping - 29.998-family	
29.198-1	Part 1: Overview	29.998-1	Part 1: Overview
29.198-2	Part 2: Common Data Definitions	29.998-2	Not Applicable
29.198-3	Part 3: Framework	29.998-3	Not Applicable
29.198-4	Part 4: Call Control SCF	29.998-4-1	Subpart 1: Generic Call Control – CAP mapping
		29.998-4-2	
29.198-5	Part 5: User Interaction SCF	29.998-5-1	Subpart 1: User Interaction – CAP mapping
		29.998-5-2	
		29.998-5-3	
		29.998-5-4	Subpart 4: User Interaction – SMS mapping
29.198-6	Part 6: Mobility SCF	29.998-6	User Status and User Location – MAP mapping
29.198-7	Part 7: Terminal Capabilities SCF	29.998-7	Not Applicable
29.198-8	Part 8: Data Session Control SCF	29.998-8	Data Session Control – CAP mapping
29.198-9	Part 9: Generic Messaging SCF	29.998-9	Not Applicable
29.198-10	Part 10: Connectivity Manager SCF	29.998-10	Not Applicable
29.198-11	Part 11: Account Management SCF	29.998-11	Not Applicable
29.198-12	Part 12: Charging SCF	29.998-12	Not Applicable

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# 1 Scope

The present document is Part 1 of the 3GPP Technical Report TR 29.998 suggesting a mapping of the Application Programming Interface (API) for Open Service Access (OSA) onto CAMEL Application Part o(CAP) operations and Mobile Application Part (MAP) operations, and provides an overview of the content and structure of the various parts of this TR. 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.

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# 2 References

- 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 TS 29.198-1: "Open Service Access; Application Programming Interface; Part 1: Overview".
- [2] 3GPP TS 22.127: "Stage 1 Service Requirement for the Open Service Access (OSA) (Release 4)".
- [3] 3GPP TS 23.127: "Virtual Home Environment (Release 4)".
- [4] 3GPP TR 22.905: "3GPP Vocabulary".
- [6] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [7] 3GPP TS 29.078: "CAMEL Application Part (CAP) specification – Phase 3".
- [8] 3GPP TS 22.101: "Universal Mobile Telecommunications System (UMTS): Service Aspects; Service Principles".

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# 3 Definitions and abbreviations

## 3.1 Definitions

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

## 3.2 Abbreviations

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

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# 4 Overview of the Mapping Report TR 29.998

## 4.1 Structure of TR 29.998

The Technical Report 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 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 3GPP Release 4, which is why not all sub-parts have been delivered as part of 3GPP Release 4. However, it is expected that some will become applicable within the scope of 3GPP Release 5, which is why a common sub-part numbering is being retained, albeit with gaps for 3GPP Release 4.

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 4:

- **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 4)
  - Sub-part 3** multiparty call control INAP (not in scope of 3GPP Release 4)
  - Sub-part 4** multiparty call control SIP (not in scope of 3GPP Release 4)
  - Sub-part 5** multimedia call control extensions mapping to SIP (not in scope of 3GPP Release 4)
- **Part 5 User Interaction mapping**
  - **Sub-part 1 user interaction CAP**
  - Sub-part 2** user interaction INAP (not in scope of 3GPP Release 4)
  - Sub-part 3** user interaction Megacop (not in scope of 3GPP Release 4)
  - Sub-part 4 user interaction SMS**
- **Part 6 User Location/User Status mapping**
  - **Sub-part 1 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**
  - **Sub-part 1 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 this technical report 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, this technical report 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 this technical report for the SCS/HLR case are not intended to be exhaustive.

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# 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

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## Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
16 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

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# History

<b>Document history</b>		
V4.0.0	March 2001	Publication