# ETSI TS 188 002-2 V3.1.1 (2009-12)

*Technical Specification*

**Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Subscription Management (SuM); Part 2: Information Model**

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# Foreword

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

The present document is part 2 of a multi-part deliverable covering the Network and Service Management; Subscription Management (SuM), as identified below:

Part 1: "Requirements";

**Part 2: "Information Model";**

Part 3: "Functional Architecture";

Part 4: "Solution Set".

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# Introduction

The focus of the present document is on the definition of SuM Information Model.

# 1 Scope

The purpose of the present document is the definition of the SuM Information model which is paramount for the NGN service delivery within TISPAN NGN.

The present document contains the specification of an information model covering all the mandatory/optional information related to subscription management that shall be provisioned on the NGN Network.

The information model described in the present document is developed according to the specifications of TISPAN R2.

The purposes of the present document are:

- To capture the Subscription Management Information Model needs as expressed in [1].
- To satisfy the needs of the NGN OSS Service Interfaces (NOSI) defined in the Subscription Management Functional Architecture and to support their implementation in Solution Set interfaces.

# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

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## 2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] ETSI TS 188 002-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Subscription Management; Part 1: Requirements".

[2] ETSI ES 282 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture".

[3] ETSI ES 282 007: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Subsystem (IMS) Functional Architecture".

[4] ETSI ES 282 004: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture; Network Attachment Sub-System (NASS)".

[5] ETSI ES 283 034: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); Network Attachment Sub-System (NASS); e4 interface based on the diameter protocol".

[6] ETSI TS 123 008: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Organization of subscriber data (3GPP TS 23.008)".

[7] ETSI TS 132 172: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Subscription Management (SuM) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS) (3GPP TS 32.172)".

[8] ETSI TS 132 622: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM) (3GPP TS 32.622)".

[9] ETSI TS 132 300: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Configuration Management (CM); Name convention for Managed Objects (3GPP TS 32.300)".

[10] ETSI TS 182 012: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IMS-based PSTN/ISDN Emulation Sub-system (PES); Functional architecture".

## 2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

[i.1] ETSI TS 129 228: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents (3GPP TS 29.228)".

[i.2] ETSI TS 129 328: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia Subsystem (IMS) Sh interface; Signalling flows and message contents (3GPP TS 29.328)".

[i.3] Void.

[i.4] ETSI TS 123 218: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia (IM) session handling; IM call model; Stage 2 (3GPP TS 23.218)".

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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 188 002-1 [1] and the following apply:

**IMS Service Profile:** collection of service and user related data as defined in TS 129 228 [i.1]

**NASS User ID:** identity of the attached user at the network access

NOTE: Correspond to the Subscriber ID used in NASS specification [4].

**sub-Profile:** set of user network profile information

NOTE: Each user network profile may be divided into sub-profiles.

**subscribed network access:** collection of data related to a network access subscribed by the subscriber

**subscribed NGN service:** collection of data related to a NGN service subscribed by the subscriber

**subscriber:** entity (associated with one or more users) that is engaged in a Subscription with a service provider

NOTE: The subscriber is allowed to subscribe and unsubscribe services, to register a user or a list of users authorized to use these services, and also to set the limits relative to the use that associated users make of these services.

**subscription:** commercial relationship between the subscriber and the service provider

**user:** entity that consumes the services subscribed by the subscriber

**user NGN network access profile:** user profile in a specific network access

**user NGN service profile:** collection of service and user related data

## 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|---|---|
| AGCF | Access Gateway Control Function |
| AMF | Access Management Function |
| AS | Application Server |
| CLF | Connectivity session Location and repository Function |
| CNG | Customer Network Gateway |
| CNGCF | CNG Configuration Function |
| GAA | Generic Authentication Architecture |
| GPRS | General Packet Radio Service |
| IMS | IP Multimedia Subsystem |
| IOC | Information Object Class |
| IPTV | Internet Protocol Television |
| ME | Managed Element |
| NACF | Network Access Configuration Function |
| NASS | Network Attachment SubSystem |
| NGN | Next Generation Network |
| NOSI | NGN OSS Service Interface |
| P-CSCF | Proxy Call Session Control Function |
| PDBF | Profile Data Base Function |
| PES | PSTN Emulation Subsystem |
| RACS | Resource and Admission Control Subsystem |
| S-CSCF | Serving Call Session Control Function |
| SID | Shared Information/Data model |
| SuM | Subscription Management |
| TBD | To Be Defined in next release |
| TMF | TeleManagement Forum |
| TMN | Telecommunication Management Network |
| UAAF | User Access Authorization Function |
| UE | User Equipment |
| UML | Unified Modeling Language |
| UPSF | User Profile Server Function |
| VC | Virtual Channel |
| VP | Virtual Path |

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# 4 Void

# 5 Information Object Classes

## 5.1 Imported information entities and local labels

This clause identifies a list of information entities (e.g. information object class, information relationship, information attribute) that have been defined in other specifications and that are imported in the present document.

| Label Reference | Local Label |
|---|---|
| TS 132 172 [7], Information Object Class, SuMSubscriberProfile | SuMSubscriberProfile |
| TS 132 172 [7], Information Object Class, SuMService | SuMService |
| TS 132 172 [7], Information Object Class, SuMSubscribedService | SuMSubscribedService |
| TS 132 172 [7], Information Object Class, SuMServiceProfile | SuMServiceProfile |
| TS 132 172 [7], Information Object Class, SuMCredentials | SuMCredentials |
| TS 132 172 [7], Information Object Class, IMSServiceProfile | IMSServiceProfile |

NOTE: The TISPAN SuM information model extends the 3GPP SuM information model described in TS 132 172 [7]. The imported IOCs are limited to the IOCs that the TISPAN specific definitions extend in terms of inheritance or name-containment. Other TS 132 172 [7] Information Object Classes are used in the present document and are not contained within the table since no extensions are done on them within the present document.

## 5.2 Class diagram

The TISPAN Subscription Management Information Model is based on the 3GPP SuM information model described in TS 132 172 [7] and reminded in annex A.

### 5.2.1 Attributes and relationships

This clause depicts the set of IOCs that encapsulate information relevant for the present document. This clause provides the overview of all information object classes in UML. Subsequent clauses provide more detailed specification of various aspects of these Information Object Classes (IOCs).

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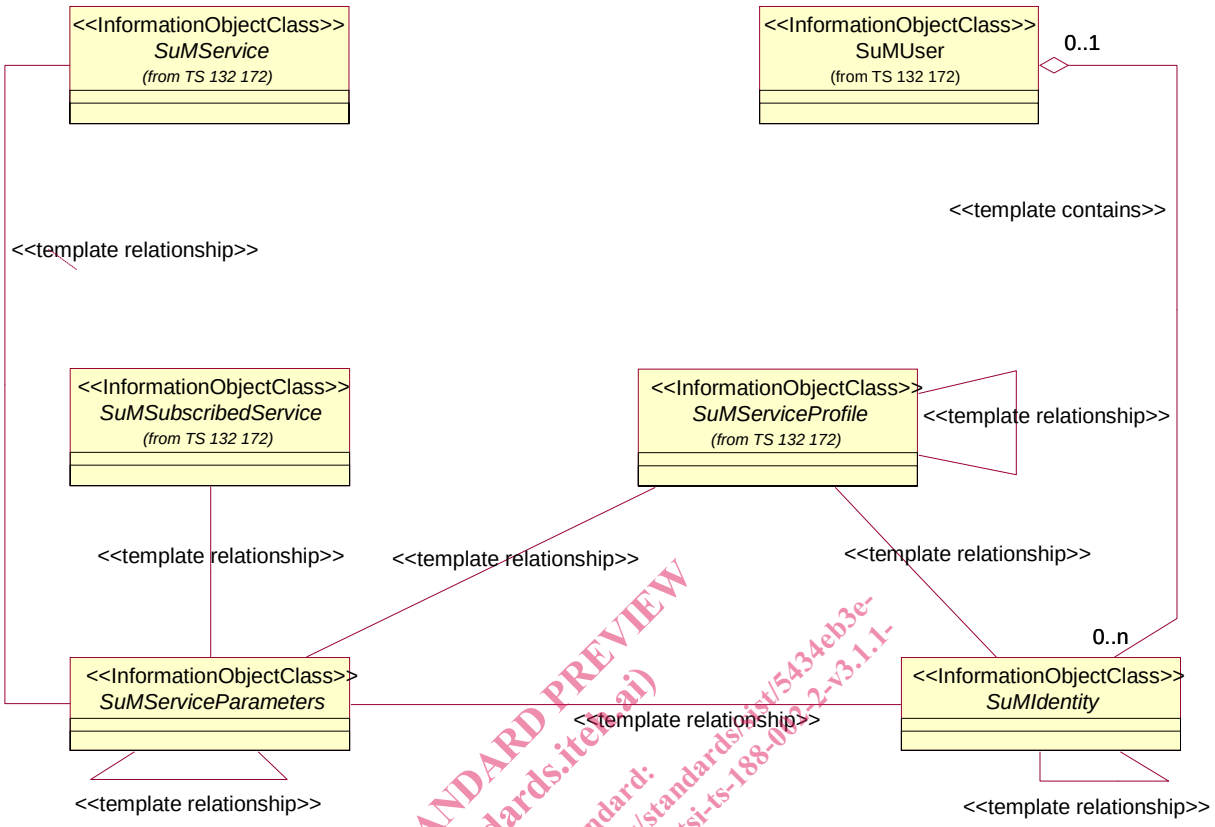


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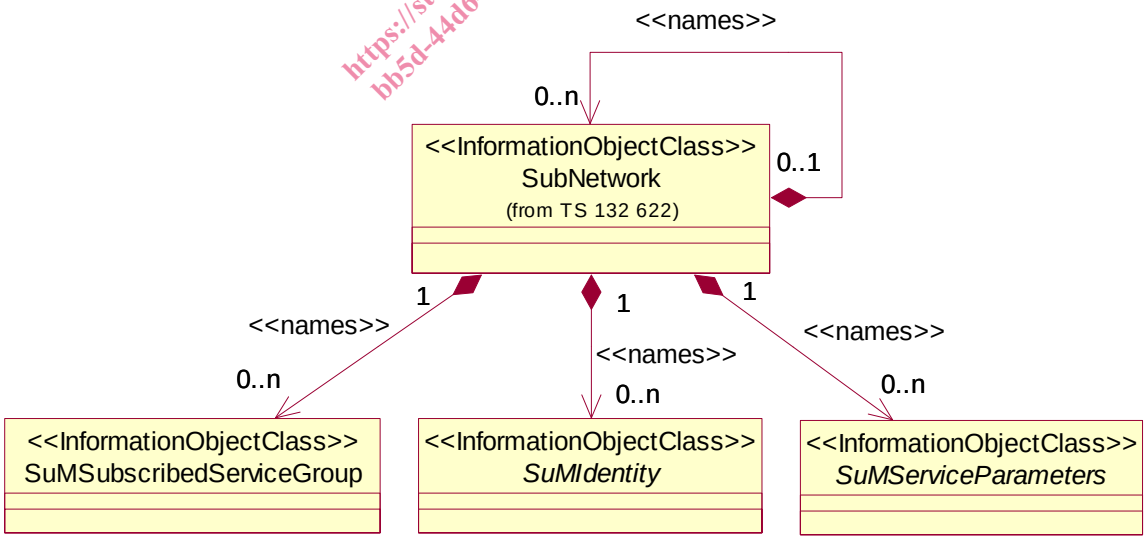
NOTE: For the other relationships of the imported IOCs, refer [7].

**Figure 5.2.1.1: TISPAN SuM generic model**




NOTE: The naming for the other TISPAN NGN specific IOCs is given by inheritance from the generic model.

**Figure 5.2.1.2: TISPAN SuM naming**

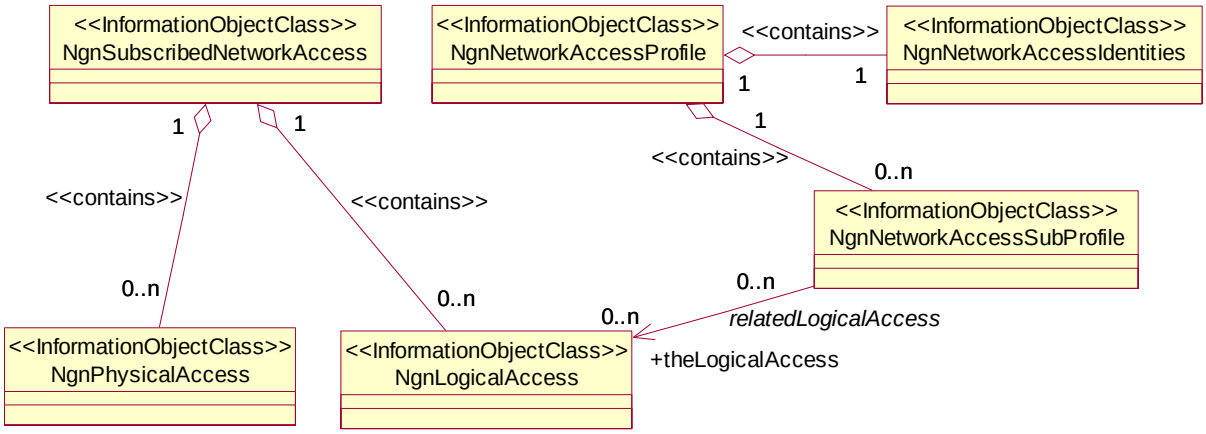



**Figure 5.2.1.3: TISPAN SuM relationship diagram 1**

NOTE: An object instance of either the UserServiceInstance IOC or the CommonServiceProfile can be contained by only one object instance of the possible parents indicated in the UML diagram.

**Figure 5.2.1.4: TISPAN SuM relationship diagram 2**

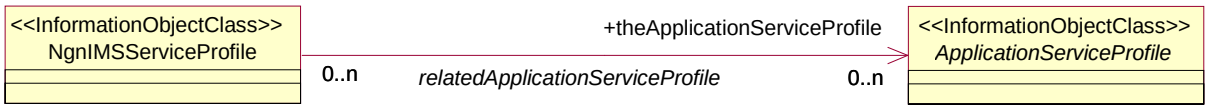



**Figure 5.2.1.5: TISPAN SuM relationship diagram 3**

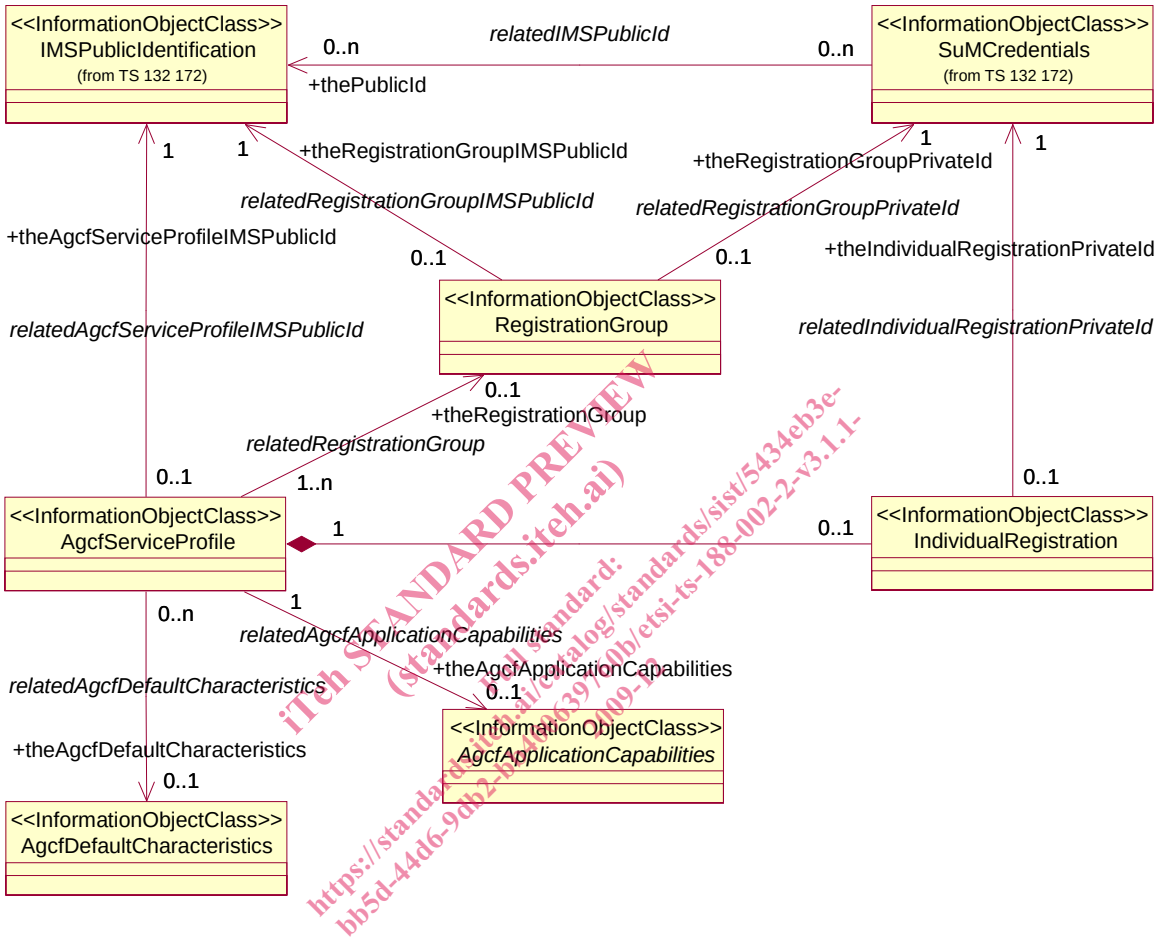



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**Figure 5.2.1.6: TISPAN SuM relationship diagram 4**

## 5.2.2 Inheritance

This clause depicts the inheritance relationships that exist between IOCs.