



TECHNICAL REPORT

**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Telecommunication management;  
Study on User Data Convergence (UDC) information model  
handling and provisioning: Example use cases  
(3GPP TR 32.901 version 19.0.0 Release 19)**



---

**Reference**

RTR/TSGS-0532901vj00

---

**Keywords**

LTE,UMTS

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

---

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° w061004871

---

**Important notice**

The present document can be downloaded from the  
[ETSI Search & Browse Standards application](#).

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on [ETSI deliver repository](#).

Users should be aware that the present document may be revised or have its status changed, this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our [Coordinated Vulnerability Disclosure \(CVD\)](#) program.

---

**Notice of disclaimer & limitation of liability**

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2025.  
All rights reserved.

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the [ETSI IPR online database](#).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™**, **LTE™** and **5G™** logo are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

# Legal Notice

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. These shall be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between 3GPP and ETSI identities can be found at [3GPP to ETSI numbering cross-referencing](#).

---

# Modal verbs terminology

In the present document "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

# Contents

Intellectual Property Rights .....	2
Legal Notice .....	2
Modal verbs terminology.....	2
Foreword.....	5
1 Scope .....	6
2 References .....	8
3 Definitions and abbreviations.....	8
3.1 Abbreviations .....	8
4 Example SpIMs .....	10
4.1 Example SpIM for Preferred Currency .....	10
4.2 Example SpIM for User Name .....	10
5 Applications .....	11
5.1 Application Information Models (AIM).....	11
5.1.1 Information Object Classes.....	11
5.1.1.0 General .....	11
5.1.1.1 UdcASServiceProfile .....	12
5.1.1.2 UDCBasicServiceProfile.....	12
5.1.1.3 UDCCSCFServiceProfile.....	12
5.1.1.4 UdcHSSServiceProfile.....	12
5.1.1.5 UdcSpecialServicesProfile .....	12
5.1.1.6 UdcCSServiceProfile .....	12
5.1.1.7 UdcEPSServiceProfile .....	12
5.1.1.8 UdcGPRSServiceProfile .....	12
5.1.1.9 UdcIMSServiceProfile .....	12
5.1.1.10 UdcMMTelServiceProfile.....	12
5.1.2 CS/GPRS .....	13
5.1.2.1 HLR.....	13
5.1.3 EPS .....	13
5.1.3.1 HSS .....	13
5.1.4 IMS .....	14
5.1.4.1 CSCF.....	14
5.1.4.2 MMTel .....	14
5.2 SPIM Level .....	14
5.2.1 Preferred Currency Use Case.....	14
5.2.1.1 Setting or modification of the value of this data item .....	15
5.2.1.2 Scenarios for use of the data element.....	15
5.2.2 Age and Birth Date Use Case .....	15
5.2.2.1 Setting or modification of the value of this data item .....	15
5.2.2.2 Scenarios for use of the Age data element .....	15
5.2.3 Name Use Case.....	16
5.2.3.1 Input for Name .....	16
5.2.3.2 Scenarios for use of the data element Name .....	16
5.2.4 Gender Use Case.....	16
5.2.4.1 Setting or modification of the value of this data item .....	16
5.2.4.2 Scenarios for use of the data element .....	16
5.2.5 Preferred Language Use Case .....	16
5.2.5.1 Setting or modification of the value of this data item .....	17
5.2.5.2 Scenarios for use of the data element .....	17
5.2.6 Friend/Friends List Use Case.....	17
5.2.6.1 Setting or modification of the value of this data item .....	17
5.2.6.2 Scenarios for use of the data element.....	17
6 Recommendations regarding provisioning guidelines and requirements.....	18

**Annex A: Change history .....19**  
History .....20

---

# Foreword

This Technical Report has been produced by the 3<sup>rd</sup> 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.

# 1 Scope

TR 22.985 Service requirement for the UDC [5] describes the architecture of the User Data Convergence, a concept that proposes to move the user data from where it has been distributed and siloed in Network Elements, Applications, and other network resources to a single logical consolidated facility here called User Data Repository (UDR) where it can be accessed, stored and managed in a common way.

The introduction of a User Data Convergence of user data for network services and management applications could significantly enhance the ability of 3GPP based networks to offer complex and combined services. User data can be decomposed and reformed by a common data model framework (e.g. tree-like data model, rational data model) provided by UDR. In that case, user data categorized by services can be regrouped and identified by user ID, leaving no data redundancy. Also, convergence in data model will unify the user data access interface and its protocol, which will promote new service application development. Thereby, the capability of user data convergence can be open to creation of data-less applications.

Methods for data protection against access by unauthorized parties are outside the scope of this document.

TS 32.181 UDC Framework for Model Handling and Management [3] and TS 29.335 UDC; User Data Repository Access Protocol over the Ud interface; Stage 3 [4] provide various types of information and data models associated with the architecture of UDC.

These include the Common Baseline Information Model (CBIM) (see TS 32.182 [7]), the Specialized Information Model (SpIM), Application Information Models (AIMs), Application Data Models (ADMs), and the Consolidated Data Model (CDM) of the User Data Repository (UDR).

Figure 1 from TS 32.181 UDC Framework for Model Handling and Management [3] shows the operational environment of the UDC.

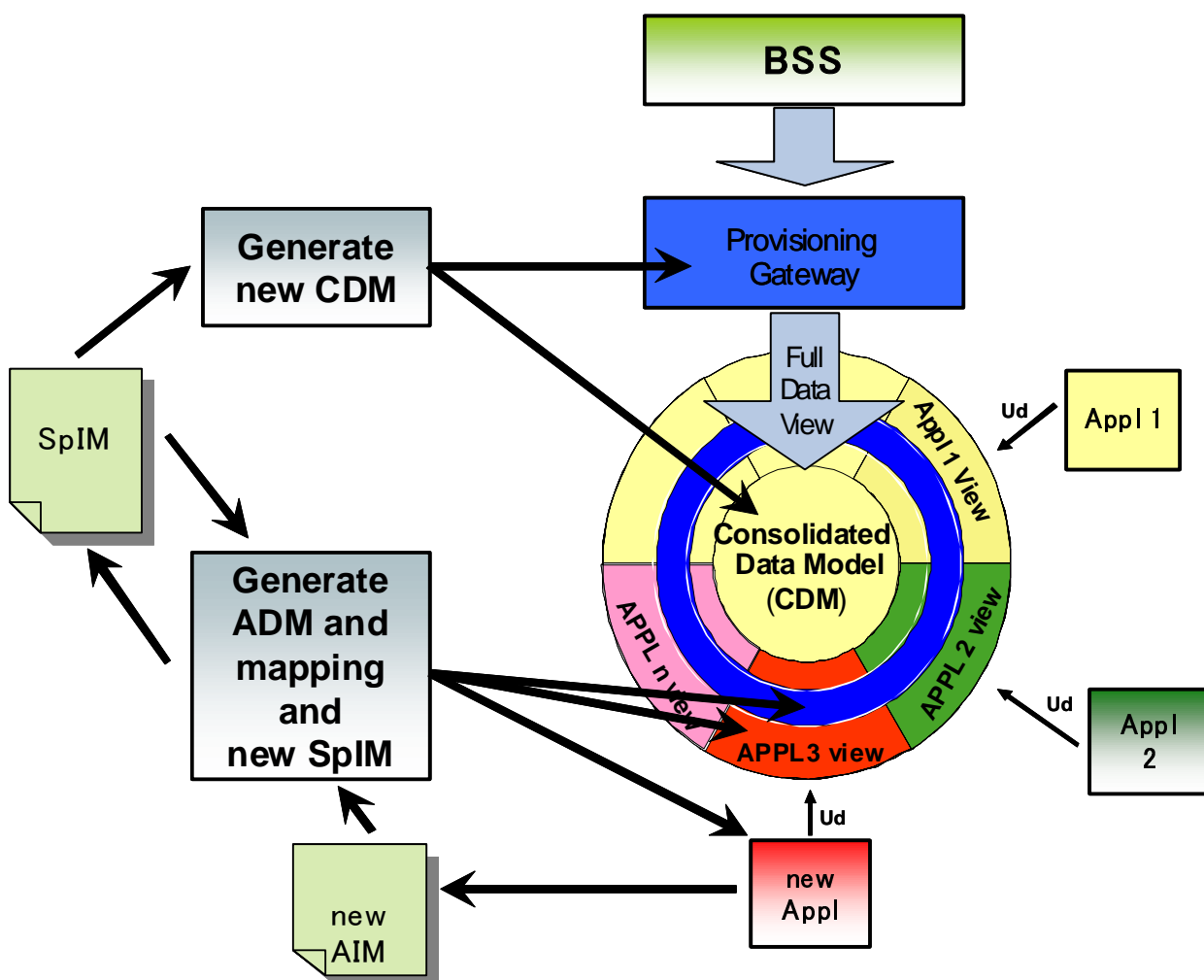


Figure 1.1: Evolution of the CDM in a UDR

In addition to the models previously mentioned, Figure 1.1 introduces the aspect of the Provisioning Gateway, which is essential for the operation of the UDR. The Provisioning Gateway provides a single logical point for access to provisioning of user data for **all** services in the UDR. The Provisioning Gateway is shown supporting an interaction with the operator's BSS; by implication this interaction is associated with the provisioning of user subscription and service data in the UDR via the Provisioning Gateway.

This study analyzes the progression of information models displayed in the above figure using some specific application examples, in particular the applications of HSS-IMS and MMTel. It provides guidelines and preliminary requirements for the BSS provisioning capabilities and information model handling when new applications and related services are implemented in the operator's UDR by doing the following:

- Develop several example initial SpIMs for discussion purposes.
- Examine what BSS interactions with the Provisioning Gateway would be required to support provisioning of user service and subscription data in the UDR for these SpIMs.
- Study the relationship to the information model of TS 32.172 Subscription Management (SuM) Network Resource Model (NRM) IRP Information Service [9].
- Develop understanding of CBIM-derived entities of Application Information Models (AIM) for HSS-IMS and MMTel from application data elements available in TS 29.364 IMS Application Server service data descriptions for AS interoperability [11], TS 23.008 Organization of subscriber data [12], and other relevant specifications.
- Discuss the integration and consolidation of these AIM entities with the example initial SpIMs above.
- Evaluate the potential changes to the BSS provisioning interactions for the implementation of HSS-IMS and MMTel applications in the UDR and implications concerning the information model of TS 32.172 Subscription Management (SuM) Network Resource Model (NRM) IRP Information Service [9].

This study does not derive findings concerning the Ud reference point, the subject of TR 23.845 Study on UDC Evolution [10].

---

## 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 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 TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.335: "User Data Convergence (UDC); Technical realization and information flows; Stage 2".
- [3] 3GPP TS 32.181: "User Data Convergence (UDC); Framework for Model Handling and Management".
- [4] 3GPP TS 29.335: "User Data Convergence (UDC); User Data Repository Access Protocol over the Ud interface; Stage 3".
- [5] 3GPP TR 22.985: "Service requirement for the User Data Convergence (UDC)".
- [6] 3GPP TS 22.101: "Service aspects; Service principles".
- [7] 3GPP TS 32.182: "User Data Convergence; Common Baseline Information Model".
- [8] 3GPP TR 32.808: "Study of Common Profile Storage (CPS) Framework of User Data for network services and management".
- [9] 3GPP TS 32.172: "Subscription Management (SuM) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)".
- [10] 3GPP TR 23.845: "Study on UDC Evolution".
- [11] 3GPP TS 29.364: "IP Multimedia System (IMS) Application Server (AS) service data descriptions for AS interoperability".
- [12] 3GPP TS 23.008: "Organization of subscriber data".

---

## 3 Definitions and abbreviations

### 3.1 Abbreviations

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

AIM	Application Information Model
ADM	Application Data Model
BSS	Business Support System
CBIM	Common Baseline Information Model
CDM	Consolidated Data Model
CPS	Common Profile Storage
FE	Front End
HSS	Home Subscriber Server
IMS	IP Multimedia System
IRP	Integration Reference Point
IS	Information Service

LDAP	Lightweight Directory Access Protocol
MMTel	MultiMedia Telephony
NRM	Network Resource Model
RDM	Reference Data Model
SpIM	Specialized Information Model
SuM	Subscription Management
UDC	User Data Convergence
UDR	User Data Respository

## 4 Example SpIMs

### 4.1 Example SpIM for Preferred Currency

A user can request that any charging or pricing information be provided using a specific currency. The method is operator specific, but the example shown below is typical of what would transpire to derive the SpIM and resulting Data Model.

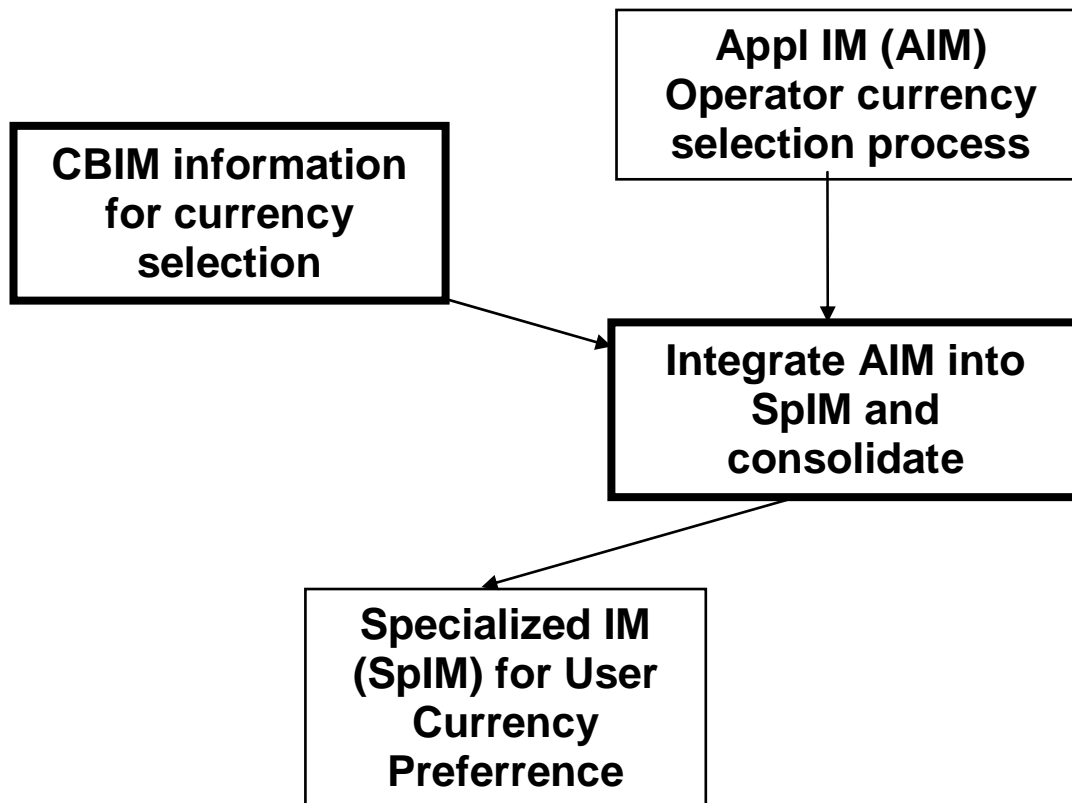


Figure 4.1-1

### 4.2 Example SpIM for User Name

A user can request that his/her name be made available for messaging and special services as a particular value, e.g. "Jane M. Doe", or "Dr. Terry W. Smith IV". The method is operator specific, but the example shown below is typical of what would transpire to derive the SpIM and resulting Data Model.

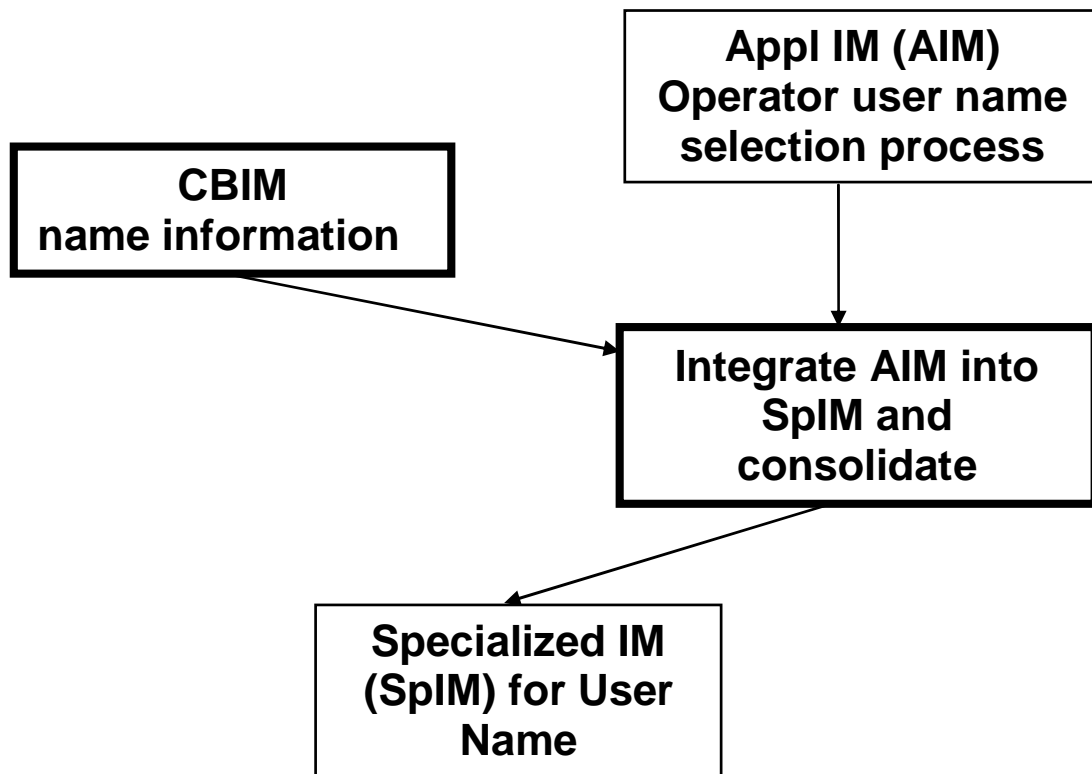


Figure 4.2-1

---

## 5 Applications

This section describes application data for all network domains supporting UDC handling and provisioning.

The domains shown below are at the AIM level including CS, EPS, and IMS.

*The AIM import from existing applications is outside the scope of the present document. This study is not an application guide.*

### 5.1 Application Information Models (AIM)

AIM may be imported from existing applications or may be generated from information elements already existing in the UDR. *The import method is for further study.*

An AIM should contain IOCs for

- the Service Profile(s) of the particular application,
- Identifier(s) used by the application.

and additionally, if needed, any other IOC defined in CBIM. E.g. related End Device, if such is to be connected to one or more identifiers within the application.

#### 5.1.1 Information Object Classes

##### 5.1.1.0 General

The information object classes described in 5.1.1.1 through 5.1.1.10 are meant to illustrate the use of example data within the context of this study document, and not meant as replacements or to supersede any IOCs in any 3GPP specifications,

#### 5.1.1.1 UdcASServiceProfile

This is a class created only to represent some ASServiceProfile data within the context of this example. It can be unique to the operator.

#### 5.1.1.2 UDCBasicServiceProfile

This is a class created only to represent some BasicServiceProfile data within the context of this example. It can be unique to the operator.

#### 5.1.1.3 UDCCSCFServiceProfile

This is a class created only to represent some CSCFServiceProfile data within the context of this example. It can be unique to the operator.

#### 5.1.1.4 UdcHSSServiceProfile

This is a class created only to represent some HSSServiceProfile data within the context of this example. It can be unique to the operator.

#### 5.1.1.5 UdcSpecialServicesProfile

This is a class created only to represent some SpecialServicesProfile data within the context of this example. It can be unique to the operator.

#### 5.1.1.6 UdcCSServiceProfile

This object class is provided in TS 32.182, and represents the part of the UdcServiceProfile that contains data related to Circuit-Switched services. An example of further specialization of this object class, including attributes, is provided in TS 32.181.

#### 5.1.1.7 UdcEPSServiceProfile

This object class represents the part of the UdcServiceProfile that contains data related to the Evolved Packet System services. An example of further specialization of this object class, including attributes, is provided in TS 32.181.

#### 5.1.1.8 UdcGPRSServiceProfile

This object class is provided in TS 32.182, and represents the part of the UdcServiceProfile that contains data related to Packet-Switched services. An example of further specialization of this object class, including attributes, is provided in TS 32.181.

#### 5.1.1.9 UdcIMSServiceProfile

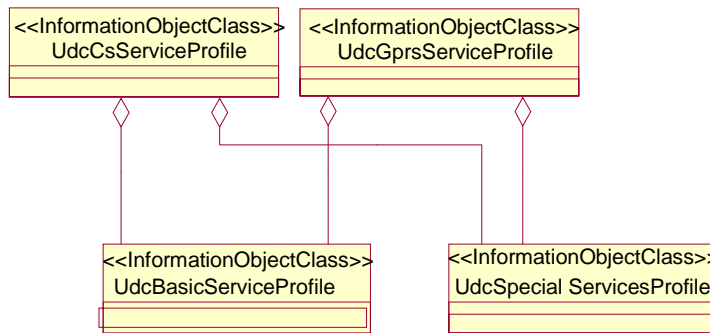
This object class is provided in TS 32.182, and represents the part of the UdcServiceProfile that contains data related to IMS services. An example of further specialization of this object class, including attributes, is provided in TS 32.181.

#### 5.1.1.10 UdcMMTelServiceProfile

This is a class created only to represent some MMTelServiceProfile data within the context of this example. It can be unique to the operator. The use of MMTel data is typically transparent to applications and is usually part of the ASServiceProfile. It is shown here as one example of how the data is modeled.

## 5.1.2 CS/GPRS

### 5.1.2.1 HLR

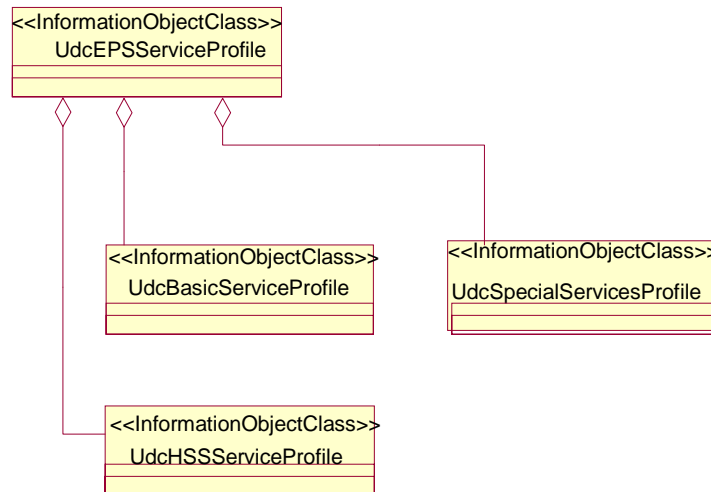


**Figure 5.1-1: Consolidation of data in the application for CS/GPRS-HLR**

Editor's note: This diagram is an example and is FFS.

## 5.1.3 EPS

### 5.1.3.1 HSS



**Figure 5.1-2: Consolidation of data in the application for EPS-HSS**

Editor's note: This diagram is an example and is FFS.

## 5.1.4 IMS

### 5.1.4.1 CSCF

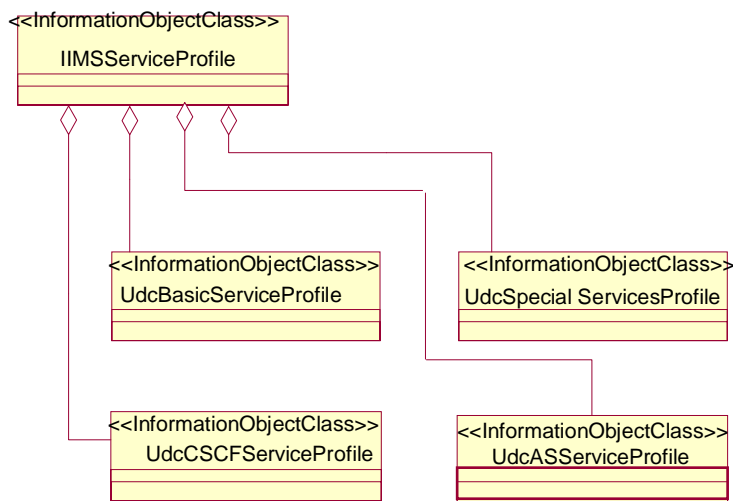


Figure 5.1-3: Consolidation of data in the application for IMS CSCF

Editor's note: This diagram is an example and is FFS.

### 5.1.4.2 MMTel

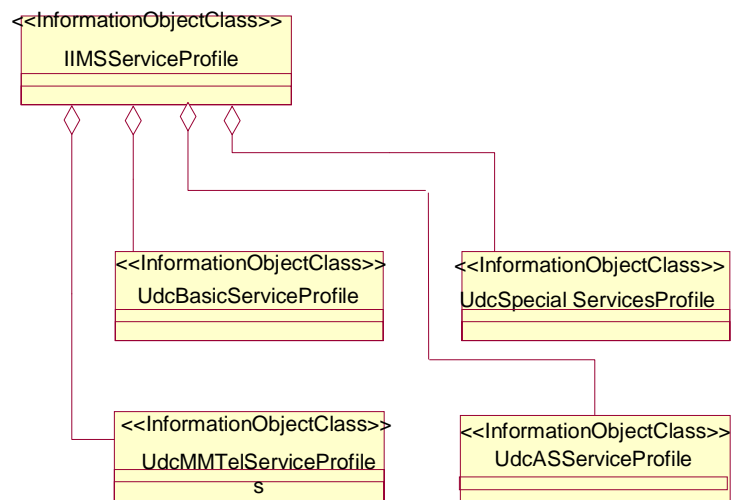


Figure 5.1-4: Consolidation of data in the application for IMS MMTel

Editor's note: This diagram is an example and is FFS.

## 5.2 SPIM Level

### 5.2.1 Preferred Currency Use Case

Expression of currency information to the subscriber in a particular currency may be supported by setting the optional "Currency Preference" subscription data element. The values for this data element may be any national currency (euros, Japanese yen, U.S. dollars, etc.):

### 5.2.1.1 Setting or modification of the value of this data item

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative.

### 5.2.1.2 Scenarios for use of the data element

Below are examples of scenarios in which different applications may use the same Currency Preference data element to beneficially improve the subscriber's service experience. One type of subscriber case where use of this data element would be most meaningful would be a when a person has travelled to another country (either as a tourist or on business) and starts a subscription with an operator in that visited country.

- a) A subscriber calls a freephone number to automated routine of Acme Airlines to get a ticket price for a certain itinerary. This 'prompt and collect menu-driven application is running on an AS in the network. At the point where the application is about ready to provide the price quote, It checks the subscriber's profile for the Preferred Currency setting, and provides the quote in that currency.
- b) A subscriber with a smartphone is at the operator's smartphone "app store". The app store checks the subscriber's profile for the Preferred Currency setting. As the subscriber browses apps, the app prices are stated in the preferred currency.
- c) The subscriber makes an international call and invokes the operator's Advice of Charge supplementary service to be told the price of the call when it ends. And perhaps may be provided the cumulative price-so-far updates at periodic intervals during the call. The Advice of Charge application checks the subscriber's profile for a preferred currency, and indicates the advice of charge information to the subscriber in that currency.

## 5.2.2 Age and Birth Date Use Case

Expression of age and birth date to the subscriber may be supported by setting the optional "Age Preference" subscription data element. The values for this data element may be age in years or birth date:

### 5.2.2.1 Setting or modification of the value of this data item

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative. The operator has to responsibility to verify the age of the subscriber to ensure age appropriate information is conveyed.

### 5.2.2.2 Scenarios for use of the Age data element

Below are examples of scenarios in which different applications may use the same Age data element to beneficially improve the subscriber's service experience, perhaps is a criteria for deciding if service fulfilment is to be allowed, either according to operator policy or national regulations, or perhaps as a way of targeting specific advertising to the subscriber.

- a) A subscriber calls a freephone number for Acme airlines, e.g., for travel information or to make a reservation. There is a queue. The Acme airlines application checks the subscriber profile for age information and, if set, selects the type of music or advertising or both that are played to that specific subscriber while in queue.
- b) A subscriber with a smartphone is browsing the operator's app store. Certain apps with inappropriate themes for children are not to be displayed to subscribers/users under the age of 18, due to operator policy or federal regulation. The app store checks the subscriber profile and uses the Age data element to determine whether the user is under 18. (Note: in order to purchase, this may still be followed up with a step where the users must confirm that they are over 18.)

A subscriber calls a freephone number for a "Find Me A Restaurant" application and asks for recommendations for a good Italian restaurant in the local area. In this particular case there are lots of such restaurants, and so the application needs to apply some criteria determining just what recommendations to make available to the subscriber. Statistically, the application knows that some of the restaurants are more popular with the younger crowd and others with the older crowd. The application checks the subscriber profile for the Age value to help determine the specific restaurant

suggestions to the subscriber. (Note: the application could certainly use other criteria as well.) It may also use the Age value to select the appropriate coupon enticement to offer to the subscriber (free appetizer, free drink, or free dessert).

### 5.2.3 Name Use Case

The name of the subscriber may be supported by setting the optional "Name" subscription data element.

#### 5.2.3.1 Input for Name

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative.

#### 5.2.3.2 Scenarios for use of the data element Name

Below are examples of scenarios in which different applications may use the Name data element to beneficially improve the subscriber's service experience. One type of subscriber case where use of this data element would be most meaningful would be a when a person wishes to have his or her name be known for personalized notices and offerings.

- a) A subscriber receives a personalized greeting, and is asked that name be made available for friends list, or to a vendor for product offerings.
- b) A subscriber with a smartphone is at the operator's smartphone "app store". The "app store" checks the subscriber's profile for the Name setting. As the subscriber browses apps, the app prices are stated to the subscriber in their name.
- c) The subscriber makes a a call and their name is presented to the called party.

### 5.2.4 Gender Use Case

The gender of the subscriber may be supported by setting the optional "Gender" subscription data element.

#### 5.2.4.1 Setting or modification of the value of this data item

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative.

#### 5.2.4.2 Scenarios for use of the data element

Below are examples of scenarios in which different applications may use the Gender data element to beneficially improve the subscriber's service experience. One type of subscriber case where use of this data element would be most meaningful would be a when a subscriber's gender required for specific services.

- a) A subscriber calls a merchant to get a price for a certain item. This 'prompt and collect menu-driven application is running on an AS in the network. At the point where the application is about ready to provide the price quote, It checks the subscriber's profile for the Gender setting, and provides the information asked for and offers some gender related suggestions..
- b) A subscriber with a smartphone wishes to be networked into a gender related social action group, or a gender related group is seeking membership and solicits the subscriber to join its organization.
- c) The subscriber makes a call and asks for assistance. The responders can target their actions based on appropriate gender.

### 5.2.5 Preferred Language Use Case

Expression of language information to the subscriber in a particular language may be supported by setting the optional "Language Preference" subscription data element. The values for this data element may be any language supported by the network.

### 5.2.5.1 Setting or modification of the value of this data item

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative.

### 5.2.5.2 Scenarios for use of the data element

Below are examples of scenarios in which different applications may use the same Language Preference data element to beneficially improve the subscriber's service experience. One type of subscriber case where use of this data element would be most meaningful would be a when a person has travelled to another country (either as a tourist or on business) and starts a subscription with an operator in that visited country.

- a) A subscriber calls a freephone number to automated routine of Acme Airlines to get information for a certain itinerary. This 'prompt and collect menu-driven application is running on an AS in the network. At the point where the application is about ready to provide the itinerary, It checks the subscriber's profile for the Preferred Language setting, and provides the information in that language.
- b) A subscriber with a smartphone is at the operator's smartphone "app store". The "app store" checks the subscriber's profile for the Preferred Language setting. As the subscriber browses apps, the app items are stated in the preferred language.
- c) The subscriber makes an international call and invokes the operator's Advice of Charge supplementary service to be told the price of the call when it ends. And perhaps may be provided the cumulative price-so-far updates at periodic intervals during the call. The Advice of Charge application checks the subscriber's profile for a preferred language, and indicates the advice of charge information to the subscriber in that language.

## 5.2.6 Friend/Friends List Use Case

The list of friends of the subscriber may be supported by setting the optional "Friends List" subscription data element. The values for this data element may be a list representing a friends call group' or individual friend call numbers.

### 5.2.6.1 Setting or modification of the value of this data item

The subscriber may be able to change the value of this data element through an appropriate procedure at any time, e.g., a subscription profile web interface that the operator provides, or through interaction with an operator customer representative.

### 5.2.6.2 Scenarios for use of the data element

Below are examples of scenarios in which different applications may use the Friends identifier data element to beneficially improve the subscriber's service experience. One type of subscriber case where use of this data element would be most meaningful would be a when a person wishes to contact an individual friend or group of friends.

- a) A subscriber wants to notify a friend or group of friends of a particular event.. This 'notification' menu-driven application is running on an AS in the network. At the point where the application is about to process the service, it determines that a friends list exist, and will forward the notification to all members in that list.
- b) An operator has just provided a specific application service to the subscriber who has a friends list. The Friends List data elements are then used to notify all members in that list of the service. Some examples are:

The subscriber has just landed on an international flight and registers his mobile with the local operator. The operator determines the presence of the Friends List application and checks which type of subscribed notifications can be applied. The AS then notifies the friend or friends of the arrival and local registration.

The subscriber has a specific event and wants friends to be automatically notified. The friends AS will send the notice to all members in the list.

---

## 6 Recommendations regarding provisioning guidelines and requirements

The result of this study is for further consideration and is a guide for use by operators in the application of UDC for specialized services.

## Annex A: Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
2011-11	SP-54	SP-110697	--	--	Presentation to SA for information and approval	--	---	1.0.0
2012-12	--	--	--	--	Publication	--	1.0.0	11.0.0
2014-10	-	-	-	-	Update to Rel-12 version (MCC)		11.0.0	<b>12.0.0</b>
2016-01	-	-	-	-	Update to Rel-13 version (MCC)		12.0.0	<b>13.0.0</b>
2017-04	SA#75	-	-	-	Promotion to Release 14 without technical change		13.0.0	<b>14.0.0</b>

Change history								
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version	
2018-06						Update to Rel-15 version (MCC)	15.0.0	
2020-07	-	-	-	-	-	Update to Rel-16 version (MCC)	16.0.0	
2022-04	-	-	-	-	-	Update to Rel-17 version (MCC)	17.0.0	
2024-04	-	-	-	-	-	Update to Rel-18 version (MCC)	18.0.0	
2025-09	SA#109	-	-	-	-	Update to Rel-19 version (MCC)	19.0.0	

---

# History

<b>Document history</b>		
V19.0.0	October 2025	Publication