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1 Scope

The present document gives an overall view of how this service shall operate both in the PLMN and within the Mobile Station (MS). This TS defines functionality and is not intended to constrain implementation.

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, 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 TR 22.905: "Vocabulary for 3GPP Specifications".
 - [2] 3GPP TS 22.004: "General on supplementary services".
 - [3] 3GPP TS 22.030: "Man-machine Interface (MMI) of the mobile station (MS)".
 - [4] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS) Point to Point (PP)".
 - [5] 3GPP TS 22.135: "Multicall".
 - [6] 3GPP TS 22.001: "Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".
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3 Definitions and abbreviations

3.1 Definitions

For the purposes of this TS the following definitions apply:

Subscriber: The user who is provisioned with the MSP service

Profile: A profile consists of a set of telecommunications services for the subscriber. In the case of the single numbering scheme there is a unique MSISDN associated with each profile. In the multi-numbering scheme there is the ability to have a unique MSISDN associated with each basic service in each profile.

Service Provider (SP): The organisation through which the subscriber obtains PLMN telecommunication services. This may be the network operator or possibly a separate body.

Profile Identification (Profile ID): The profile IDs allow unambiguous identification of each profile. This will allow the subscriber to select the preferred profile for outgoing calls and for subscriber actions. For terminating calls the profile ID shall be part of the notification of the profile.

Registered Profile: The registered profile is that registered by/for the subscriber

Selected Profile: For mobile originated calls and short messages this is the registered profile unless the subscriber explicitly selects an alternative profile. For mobile terminating activities, this is the profile associated with the MSISDN addressed.

Mobile Terminating Activities: These include mobile terminating calls, short messages (SMS MT) and Call Independent Supplementary Services (e.g. NI-USSD).

Default Profile: Profile to be used when roaming to non-supporting network

3.2 Abbreviations

For the purposes of this TS the following abbreviations apply, in addition, abbreviations used in this TS are listed in 3GPP TS 21.905 [1].

MSP	Multiple Subscriber Profile
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4 Description

Multiple Subscriber Profile is an optional service to enable mobile subscribers to have several profiles associated with a single IMSI, with each profile being a subscription option. Each profile may be used for mobile originated and mobile terminated calls.

Up to four different profiles can be provisioned against a subscriber using the MSP feature. This will allow the subscriber to separate her telecommunication service needs into different identities (e.g. business and home).

The charges accrued for services shall be associated with the appropriate profile, allowing separate charging for each profile.

A supporting visited network shall indicate [on the billing record] for charging purposes the profile used.

4.1 Applicability to telecommunication services

The applicability of this supplementary service is defined in 3GPP TS 22.004 [2].

5 Functional requirements

5.1 Handling of the MSP Service

This clause describes the normal procedures for the handling of the MSP service.

5.1.1 Provision

The MSP service shall be provided after prior arrangement with the service provider. If the MSP service is provisioned for the subscriber at the first time the subscriber shall also be provisioned with at least two profiles.

5.1.2 Withdrawal

Withdrawal of the MSP service shall be done by either the service provider at the subscriber's request or for administrative reasons. The MSP service shall be withdrawn when there is only one profile remaining.

5.1.3 Activation

The MSP service is activated by the service provider as a result of provision.

5.1.4 Deactivation

The MSP service is deactivated by the service provider as a result of withdrawal.

5.1.5 Invocation

The MSP service is invoked by mobile originated and mobile terminating calls.

5.2 Handling of the Profile

This subclause describes the normal procedures for selecting the registered profile for mobile originated calls, short messages and call independent supplementary service related activities. For mobile terminating activities the profile is selected automatically by association with the MSISDN addressed.

5.2.1 Provision

The provision of profiles (up to a maximum of four) is provided by prior arrangement with the service provider. The subscriber may select any provisioned profile on a per call basis or register one of them. The subscriber will nominate one of their provisioned profiles as the default profile to be used when roaming to non-supporting networks. The subscriber may subsequently nominate an alternative default (i.e. roaming) profile, nevertheless the default profile can only be changed by the service provider.

5.2.2 Withdrawal

The Service Provider shall be able to withdraw profiles. The registered profile shall never be withdrawn, and consequently if the registered profile needs to be withdrawn the service provider shall first register the subscriber onto another profile.

5.2.3 Registration

Registration is the procedure by which information is written to the network to allocate a particular profile to be used for all outgoing calls and supplementary service related activities. Registration to a profile shall take place either by the service provider or with an appropriate control procedure by the subscriber as defined in 3GPP TS 22.030 [3]. At all times only one profile shall be registered. The network shall indicate to the user whether an attempt to register a profile has been successful or not.

5.2.4 Selection

The profile to be used for mobile originated calls is selected either implicitly or explicitly:

- Implicit selection occurs if the served subscriber does not indicate a profile ID when initiating a call or short message. In this case the selected profile is the registered profile.
- Explicit selection occurs if the served subscriber does indicate a profile ID when initiating a call or short message.

The control procedure used to select the profile is as defined in 3GPP TS 22.030 [3].

For mobile terminating activities, the profile is selected according to the MSISDN addressed.

5.2.5 Erasure

A previous registration can be erased in the following ways:

- the subscriber can register to another profile which causes the previous registration to be overridden;
- the registered profile is erased as a result of withdrawal of the MSP service.

5.2.6 Interrogation

The subscriber shall be able to interrogate which profile is the registered profile and all other available profile IDs, with an appropriate control procedure as defined in 3GPP TS 22.030 [3].

5.3 Normal operation with successful outcome

5.3.1 Mobile Originating Calls

Mobile originating calls shall be handled according to the selected profile. This shall be the registered profile unless an alternative is explicitly selected by the subscriber. Profiles are registered and selected according to control procedures in 3GPP TS 22.030 [3].

Any activity that is normally chargeable shall be identified against the selected profile.

5.3.2 Mobile Terminating Calls

The MSISDN addressed shall be used to determine the profile to be used. If there are any active supplementary services, which are applicable to the telecommunication service within the profile, then those supplementary services