3GPP TSG-T (Terminals) Meeting #12
Stockholm, Sweden, 13 - 15 June, 2001

Tdoc TP-010086

3GPP T3 Meeting #19
St John, US VI, 8 - 11 May, 2001

Tdoc T3-010445

Liaison Statement

From: T3
(Contact: Samuel Blarre, France Telecom, email: samuel.blarre@francetelecom.com)

To: S1

Copy: TSG-T

Subject: LS to TS1 on Service Provider Name

Attachments: CR 31.102-095 Rel-4 in T3-010450 and Proposed change to S1-010586

T3-010450.doc   "Proposed changes
to S1-010587.doc"

T3 thank S1 for their quick reply on "Display of Service Provider Name" in S1-010587, (T3-010407).

T3 comments to the S1 LS S1-010587 are in Bold Italics.

S1 would like to provide the following clarification:

PLMN Name
There is a requirement to map several PLMN Identifiers to one PLMN Name stored on the SIM/USIM (the Operator PLMN List - OPL).
Agree and already done

Service Provider Name
There is a requirement to use one SP name for all PLMNs.
Agree, however, the S1 diagram in the original LS indicated multiple SP Names

*There is a requirement to map several PLMN Identifiers to one SP Name, independently of the PLMN Identifier-PLMN Name mapping.
Agree

This may require another list mechanism similar to the OPL.
Agree and is a T3 implementation issue

Display conditions
If no Service Provider name is available, the PLMN Name shall be displayed
Agree

If a Service Provider name is available:

When registered on the HPLMN or one of the PLMNs in *the appropriate PLMN List:*:
The Service Provider shall be displayed. *Agree*
Display of the PLMN Name is optional. *Agree*

When registered on neither the HPLMN nor one of the PLMNs in *the appropriate PLMN List* :

The PLMN name shall be displayed. *Agree*
*Display of the Service Provider Name is optional. *Agree and this is new functionality*

We understand the requirements marked '*' may require new functionality on the SIM/USIM in addition to the existing Release 4 functionality. If this new functionality cannot be completed in Release 4, we would still like to keep the existing Release 4 functionality.

The attached CR to 22.101 for Release 4 (S1-010588) reflects these requirements and has been agreed by S1 (note that this CR does not remove the graphic format for Release 4; however this is removed in another CR (*OK to graphic*)). *Since T3 can not implement the S1 requirement in its current form, T3 proposes the attached changes to the 22.101 CR in order to have a Rel-4 implementation. Based upon this new proposal, attached is T3's agreed CR to 31.102. T3 proposes that we have a joint S1-T3 email discussion on this early next week for the purposes of clarifying the remaining issues.*

Below is T3's interpretation of the SPN requirements that have been highlighted by the S1 CR and LS's to date. The diagram below is also in alignment with the two CRs attached.

The following diagram provides the T3 proposed overview of the functionality:
BLUE indicates current functionality
RED indicates proposed functionality
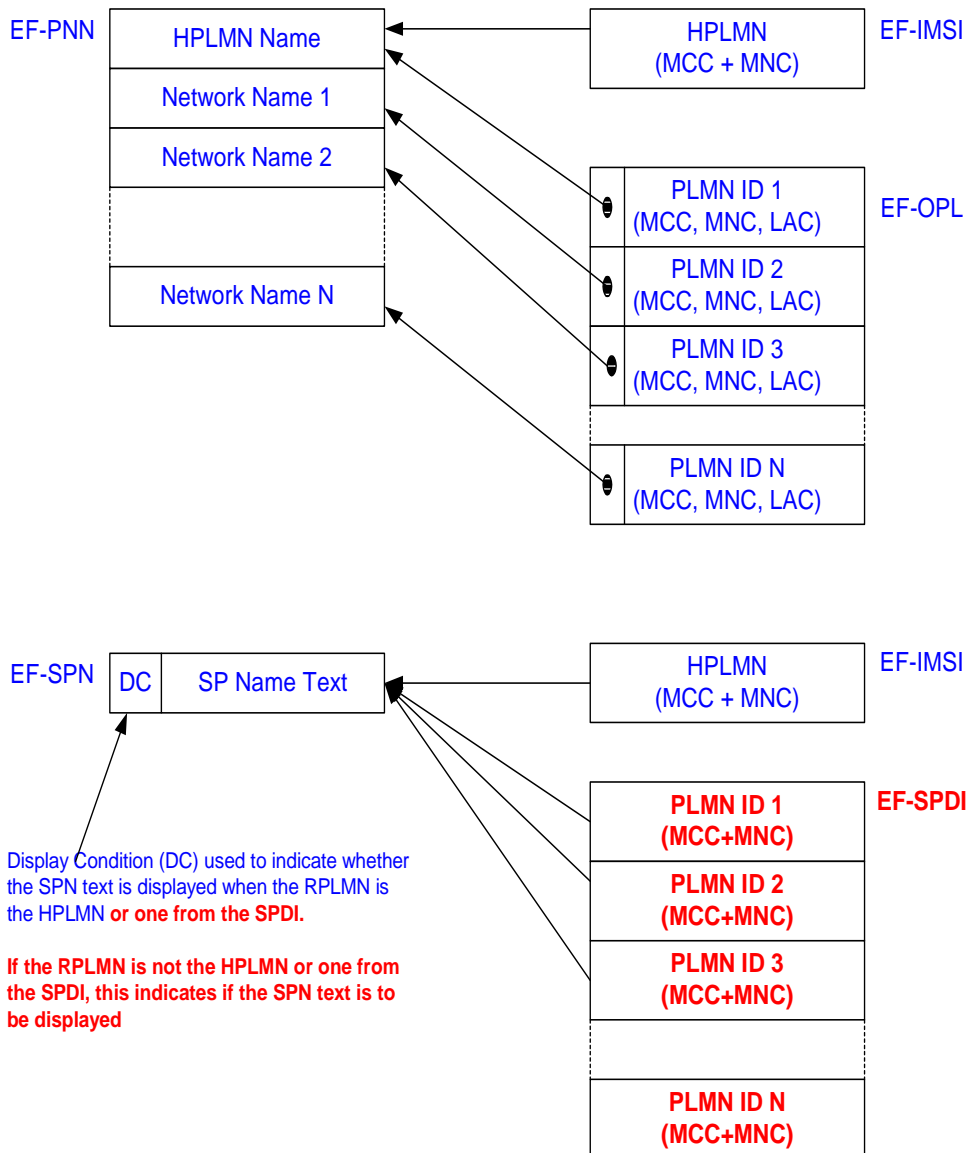
CR-Form-v3

CHANGE REQUEST

⌘ **TS 31.102** CR **095** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM **X** ME/UE **X** Radio Access Network ☐ Core Network ☐

Title: ⌘	New implementation of SPN	
Source: ⌘	T3	
Work item code: ⌘	TEI	***Date:*** ⌘ 11/05/01
Category: ⌘	B	***Release:*** ⌘ *REL-4*

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	*2 (GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96 (Release 1996)*
B *(Addition of feature),*	*R97 (Release 1997)*
C *(Functional modification of feature)*	*R98 (Release 1998)*
D *(Editorial modification)*	*R99 (Release 1999)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*REL-4 (Release 4)*
	REL-5 (Release 5)

Reason for change: ⌘	In its meeting of Cape Town in February 2001, S1 introduced a new implementation of the Service Provider Name for REL-4 (See 22.101 CR 068).
Summary of change: ⌘	• Add a new file, EF$_{SPDI}$ to store the Service provider display information • Modify EF$_{SPN}$ in order to store the new display conditions
Consequences if not approved: ⌘	Inconsistencies between S1 and T3 specifications.

Clauses affected: ⌘	4.2.8, 4.2.12, 4.2.X, 5.3.X

Other specs Affected: ⌘	☐ Other core specifications	⌘	
	☐ Test specifications		
	☐ O&M Specifications		

Other comments: ⌘	

4.2.8 EF$_{UST}$ (USIM Service Table)

This EF indicates which services are available. If a service is not indicated as available in the USIM, the ME shall not select this service.

Identifier: '6F38'		Structure: transparent		Mandatory
SFI: '04'				
File size: X bytes, X >= 1		Update activity: low		
Access Conditions: 　　READ　　　　　　　　　PIN 　　UPDATE　　　　　　　ADM 　　DEACTIVATE　　　　ADM 　　ACTIVATE　　　　　　ADM				
Bytes	Description		M/O	Length
1	Services n°1 to n°8		M	1 byte
2	Services n°9 to n°16		O	1 byte
3	Services n°17 to n°24		O	1 byte
4	Services n°25 to n°32		O	1 byte
etc.				
X	Services n°(8X-7) to n°(8X)		O	1 byte

-Services

Contents:	Service n°1 :	Local Phone Book
	Service n°2 :	Fixed Dialling Numbers (FDN)
	Service n°3 :	Extension 2
	Service n°4 :	Service Dialling Numbers (SDN)
	Service n°5 :	Extension3
	Service n°6 :	Barred Dialling Numbers (BDN)
	Service n°7 :	Extension4
	Service n°8 :	Outgoing Call Information (OCI and OCT)
	Service n°9 :	Incoming Call Information (ICI and ICT)
	Service n°10:	Short Message Storage (SMS)
	Service n°11:	Short Message Status Reports (SMSR)
	Service n°12:	Short Message Service Parameters (SMSP)
	Service n°13:	Advice of Charge (AoC)
	Service n°14:	Capability Configuration Parameters (CCP)
	Service n°15:	Cell Broadcast Message Identifier
	Service n°16:	Cell Broadcast Message Identifier Ranges
	Service n°17:	Group Identifier Level 1
	Service n°18:	Group Identifier Level 2
	Service n°19:	Service Provider Name
	Service n°20:	User controlled PLMN selector with Access Technology
	Service n°21:	MSISDN
	Service n°22:	Image (IMG)
	Service n°23:	Not used (reserved for SoLSA)
	Service n°24:	Enhanced Multi-Level Precedence and Pre-emption Service
	Service n°25:	Automatic Answer for Emlpp
	Service n°26:	RFU
	Service n°27:	GSM Access
	Service n°28:	Data download via SMS-PP
	Service n°29:	Data download via SMS-CB
	Service n°30:	Call Control by USIM
	Service n°31:	MO-SMS Control by USIM
	Service n°32:	RUN AT COMMAND command
	Service n°33:	Packet Switched Domain
	Service n°34:	Enabled Services Table
	Service n°35:	APN Control List (ACL)
	Service n°36:	Depersonalisation Control Keys
	Service n°37:	Co-operative Network List
	Service n°38:	GSM security context
	Service n°39	CPBCCH Information
	Service n°40	Investigation Scan
	Service n°41	MExE
	Service n°42	Operator controlled PLMN selector with Access Technology
	Service n°43	HPLMN selector with Access Technology
	Service n°xx	Service Provider Display Information

The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.
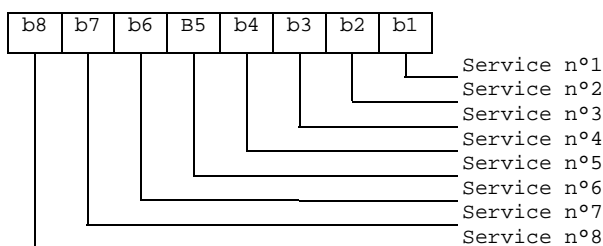
Coding:
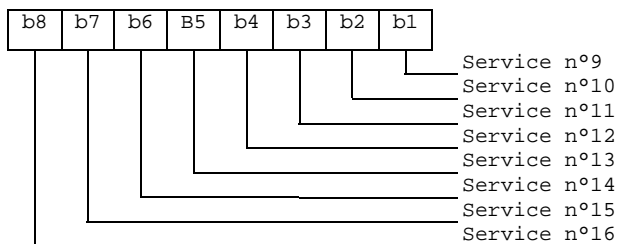1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.
- Service available means that the USIM has the capability to support the service and that the service is available for the user of the USIM unless the service is identified as "disabled" in EF_{EST}.
Service not available means that the service shall not be used by the USIM user, even if the USIM has the capability to support the service.

First byte:

b8	b7	b6	B5	b4	b3	b2	b1

Service n°1
Service n°2
Service n°3
Service n°4
Service n°5
Service n°6
Service n°7
Service n°8

Second byte:

etc.

4.2.12 EF$_{SPN}$ (Service Provider Name)

This EF contains the service provider name and appropriate requirements for the display by the ME.

Identifier: '6F46'	Structure: transparent		Optional
File Size: 17 bytes		Update activity: low	
Access Conditions: 　READ　　　　　　　ALWAYS 　UPDATE　　　　　　ADM 　DEACTIVATE　　　　ADM 　ACTIVATE　　　　　ADM			

Bytes	Description	M/O	Length
1	Display Condition	M	1 byte
2 to 17	Service Provider Name	M	16 bytes

- Display Condition
  Contents: display condition for the service provider name in respect to the registered PLMN (see 3GPP TS 22.101[24] GSM 02.07 [17]).
  Coding:
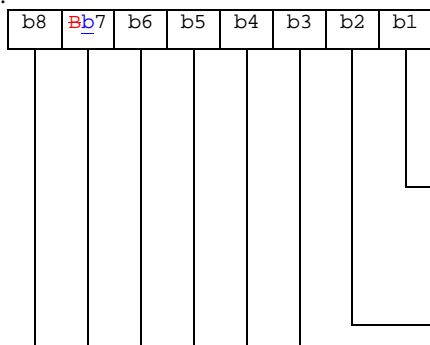
b1=0: display of registered PLMN name not required when registered PLMN is either HPLMN or a PLMN in the service provider PLMN list (see EF$_{SPDI}$).
b1=1: display of registered PLMN name required when registered PLMN is either HPLMN or a PLMN in the service provider PLMN list(see EF$_{SPDI}$).
b2=0: display of the service provider name is required when registered PLMN is neither HPLMN nor a PLMN in the service provider PLMN list(see EF$_{SPDI}$).
b2=1: display of the service provider name is not required when registered PLMN is neither HPLMN nor a PLMN in the service provider PLMN list(see EF$_{SPDI}$).
RFU (see 3G TS 31.101)

- Service Provider Name
  Contents:
    service provider string to be displayed
  Coding:
    the string shall use:
    - either the SMS default 7-bit coded alphabet as defined in 3G TS 23.038 [5] with bit 8 set to 0. The string shall be left justified. Unused bytes shall be set to 'FF'.
    - or one of the UCS2 code options defined in the annex of 3G TS 31.101 [11].

4.2.X EF$_{SPDI}$ (Service Provider Display Information)

This EF contains information regarding the service provider display i.e. the service provider PLMN list.

Identifier: 'XX'		Structure: transparent		Optional
SFI: 'XX'				
File size: x bytes		Update activity: low		

Access Conditions:
    READ   PIN
    UPDATE   ADM
    DEACTIVATE   ADM
    ACTIVATE ADM				

Bytes	Description		M/O	Length
1 to x	TLV object(s) containing Service Provider information		M	x bytes

Tag Value	Tag Description
'Ax'	Service provider display information Tag
'80'	Service provider PLMN list tag

The service provider display information object is a constructed TLV.

- Service provider PLMN list
    Contents:
        This TLV contains a list of n PLMNs in which the Service Provider Name shall be displayed, as defined in subclause 4.2.12 (EF$_{SPN}$).

    Coding:

Description	M/O	Length
Service provider PLMN list tag	M	1 byte
Length (see note)	M	x bytes
1st PLMN entry	M	3 bytes
2nd PLMN entry	O	3 bytes
3rd PLMN entry	O	3 bytes
...		
nth PLMN entry	O	3 bytes
Note: the length is 3*n bytes, where n denotes the number of PLMN entries. The length can be coded on one or more bytes.		

Each PLMN is coded as follows:
    Mobile Country Code (MCC) followed by the Mobile Network Code (MNC) according to 3G TS 24.008 [9]. In case a PLMN entry is not used, it shall be set to 'FF FF FF'.

5.3.X   Service Provider Display Information

Requirement: Service n°19 and xx are "available".

Request: The ME performs the reading procedure with EF$_{SPDI}$.

Update: The ME performs the updating procedure with EF$_{SPDI}$.

3GPP T3 Meeting #19
St John, US VI, 8 - 11 May, 2001

Tdoc T3-010407

TSG-SA WG 1 (Services) meeting #12
Helsinki, Finland, 7-11 May 2001

TSG S1 (01) 0587
Agenda Item: 6.2.8

CR-Form-v3

CHANGE REQUEST

| ⌘ | **22.101** CR **CR-Num** | ⌘ rev **-** | ⌘ Current version: **4.3.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM **X**   ME/UE **X**   Radio Access Network ☐   Core Network ☐

Title: ⌘	Clarification of PLMN Name Indication and Service Provider Name Indication feature.	
Source: ⌘	Orange	
Work item code: ⌘	SPNAME	**Date:** ⌘ 11 May 2001
Category: ⌘	**F**	**Release:** ⌘ Rel-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	2 *(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	R96 *(Release 1996)*
B *(Addition of feature),*	R97 *(Release 1997)*
C *(Functional modification of feature)*	R98 *(Release 1998)*
D *(Editorial modification)*	R99 *(Release 1999)*
Detailed explanations of the above categories can	REL-4 *(Release 4)*
be found in 3GPP TR 21.900.	REL-5 *(Release 5)*

Reason for change: ⌘	The description of Service Provider Name Indication is misleading. Clarification of conditions for display of service provider name and HPLMN name.
Summary of change: ⌘	Text to allow at least 10 PLMN Identifications to be associated with one PLMN name moved to PLMN Name section. Text to allow at least 10 PLMN Identifications to be associated with one SP name. Rules for display of SP name and PLMN name clarified.
Consequences if not approved: ⌘	Ambiguous requirement, possibly leading to incorrect implementation.

Clauses affected: ⌘	Annex A.3		
Other specs affected: ⌘	**X** Other core specifications	⌘	31.102
	☐ Test specifications		
	☐ O&M Specifications		
Other comments: ⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

A.3   Country/PLMN indication

The country/PLMN indicator shows in which PLMN the UE is currently registered. This indicator is necessary so that the user knows when "roaming" is taking place and that the choice of PLMN is correct. Both the country and PLMN will be indicated. When more than one visited PLMN is available in a given area such information will be indicated. The PLMN name is either:

- stored in the ME and associated with the MCC+MNC combination received on the broadcast channel;
- NITZ (see 22.042 [17]) (in which case it overrides the name stored in the UE);
- stored in the USIM and associated with the MCC+MNC combination, and optionally the LAI, received on the broadcast channel (in which case it overrides the name stored in the UE and – if present – the NITZ name).

It shall be possible to store on the SIM/USIM at least 10 PLMN Identifications (MCC+MNC combination and optionally the LAI) for which the same PLMN name shall be displayed.

The PLMN name stored in the USIM has the highest priority, followed by the PLMN name provided by NITZ. The PLMN name stored in the ME has the lowest priority.

A.43.1   Service Provider Name indication

~~When the UE is in idle mode and the broadcasted network identification is identical to the respective entry on the USIM, the UE shall display the service provider name.~~ The service provider name is stored in the SIM/USIM in text and/or optionally graphic format. It shall be possible to associate at least 10 PLMN Identifications (MCC+MNC combination) and optionally the LAI) with the same SP Name. ~~If there is no association~~ ~~between PLMN Identifications and SP Name, one SP Name shall be used for all PLMN Identifications.~~ ~~These PLMN Identifications may be different from those used for PLMN Name display described above.~~

When registered on the HPLMN, or one of the PLMN Identifications used for Service Provider ~~PLMN~~ Name display ~~above~~:

   (i) The SP Name shall be displayed;
   (ii) Display of the PLMN Name is optional (i.e. the Service Provider name shall be displayed either in parallel to the PLMN Name or instead of the PLMN Name).

When registered on neither the HPLMN, nor one of the PLMN Identifications used for Service Provider ~~PLMN~~ Name display ~~above~~:

   (i) The PLMN name shall be displayed;
   (ii) Display of the SP Name is optional.

~~It shall be possible to indicate on the USIM at least 10 network identifications in which the service provider name shall be displayed.~~

~~In addition it shall be possible to indicate on the USIM whether the radio connectivity provider name (network operator), if different from the service provider, is also displayed in parallel with the service provider name.~~

~~When roaming, i.e. the broadcasted network identification does not match the respective entry on the USIM or the entries in which networks only the service provider should be displayed, and the UE is in idle mode, the visited network operator name shall always be displayed. As an option the service provider name can be also displayed in parallel to the visited network operator name.~~

If the UE is unable to display the full name of the Service Provider the name is cut from the tail end. The storage of Service Provider name and options, and choice of options, shall be under control of the network operator.