Technical Specification Group Services and System Aspects
Meeting #21, Frankfurt, Germany, 22-25 September 2003

TSGS#21(03)0455

Source: **SA1**

Title: **CRs to 22.071 on Correction of requirements on the identity format of LCS clients (Rel-4, Rel-5 and Rel-6)**

Document for: **Approval**

Agenda Item: **7.1.3**

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-21	SP-030455	22.071	054	-	Rel-4	F	Correction of requirements on the identity format of LCS clients	4.4.1	4.5.0	S1-030943
SP-21	SP-030455	22.071	055	-	Rel-5	A	Correction of requirements on the identity format of LCS clients	5.1.1	5.2.0	S1-030944
SP-21	SP-030455	22.071	056	-	Rel-6	A	Correction of requirements on the identity format of LCS clients	6.4.0	6.5.0	S1-030945

CR-Form-v7

CHANGE REQUEST

⌘ **22.071** **CR** **054** ⌘ **rev** **-** ⌘ Current version: **4.4.1** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Correction of requirements on the identity format of LCS clients
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	07/07/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	TS 22.071 requires, that LCS clients are identified by a E.164 number or by an Access Point Name (APN). Identification by APN, which was introduced in Rel-4, has never been implemented. This causes misalignment between stages 1 and 2.
Summary of change:	⌘	The requirement for identification of a LCS client by APN is removed.
Consequences if not approved:	⌘	Misalignment with LCS implementation (e.g. TS 23.271, TS 29.002)
Clauses affected:	⌘	3.2, 6.4.2

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
			Test specifications	
			O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
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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.

3.2 Definitions

For the purposes of the present document the following definitions apply:

Current Location: after a location attempt has successfully delivered a location estimate and its associated time stamp, the location estimate and time stamp are referred to as the 'current location' at that point in time.

Deferred location request: a location request where the location response (responses) is (are) not required immediately.

Immediate location request: a location request where a single location response only is required immediately.

Initial Location: in the context of an originating emergency call the location estimate and the associated time stamp at the commencement of the call set-up is referred to as 'initial location'.

Last Known Location: The current location estimate and its associated time stamp for Target UE stored in the LCS Server is referred to as the 'last known location' and until replaced by a later location estimate and a new time stamp is referred to as the 'last known location'.

LCS Client: a software and/or hardware entity that interacts with a LCS Server for the purpose of obtaining location information for one or more Mobile Stations. LCS Clients subscribe to LCS in order to obtain location information. LCS Clients may or may not interact with human users. The LCS Client is responsible for formatting and presenting data and managing the user interface (dialogue). The LCS Client is identified by a unique international identification, e.g. E.164~~, number or Access Point Name (APN)~~.

NOTE: The LCS Client may reside inside or outside the PLMN.

LCS Client Access barring list: an optional list of MSISDNs per LCS Client where the LCS Client is not allowed to locate any MSISDN therein.

LCS Client Subscription Profile: a collection of subscription attributes of LCS related parameters that have been agreed for a contractual period of time between the LCS client and the service provider.

LCS Feature: the capability of a PLMN to support LCS Client/server interactions for locating Target UEs.

LCS Server: a software and/or hardware entity offering LCS capabilities. The LCS Server accepts requests, services requests, and sends back responses to the received requests. The LCS server consists of LCS components which are distributed to one or more PLMN and/or service provider.

Location Estimate: the geographic location of a UE and/or a valid Mobile Equipment (ME), expressed in latitude and longitude data. The Location Estimate shall be represented in a well-defined universal format. Translation from this universal format to another geographic location system may be supported, although the details are considered outside the scope of the primitive services.

North American Emergency Services Routing Digits (NA-ESRD): a telephone number in the North American Numbering Plan (NANP) that can be used to identify a North American emergency services provider and its associated LCS client. The ESRD also identifies the base station, cell site or sector from which a North American emergency call originates.

North American Emergency Services Routing Key (NA-ESRK): a telephone number in the North American Numbering Plan (NANP) assigned to an emergency services call by a North American VPLMN for the duration of the call. The NA-ESRK is used to identify (e.g. route to) both the emergency services provider and the switch in the VPLMN currently serving the emergency caller. During the lifetime of an emergency services call, the NA-ESRK also identifies the calling mobile subscriber.

PLMN Access barring list: an optional list of MSISDN per PLMN where any LCS Client is not allowed to locate any MSISDN therein except for certain exceptional cases.

Privacy Class: list of LCS Clients defined within a privacy exception class to which permission may be granted to locate the target UE. The permission shall be granted either on activation by the target UE or permanently for a contractual period of time agreed between the target UE and the service provider.

Privacy Exception List: a list consisting of various types of privacy classes (i.e. operator related, personal etc.). Certain types of classes may require agreement between the service provider and the target MS.**Target MS:** The UE being positioned.

Target UE: The UE being positioned.

Target UE Subscription Profile: the profile detailing the subscription to various types of privacy classes.

Next modified section

6.4.2 Privacy Exception List

To support privacy, the LCS Server shall enable each Target UE Subscriber to subscribe to a "privacy exception list" containing the LCS Client identifiers, classes of LCS Clients, the target subscriber notification setting (with/without notification) and the default treatment, which is applicable in the absence of a response from the Target UE for each LCS Client identifiers.

The privacy exception list shall support a minimum of 20 clients. The maximum number of clients shall be determined by implementation constraints.

If the target subscriber notification is set as "notification with verification", each positioning request from the LCS Client shall be notified to the target UE before positioning. The treatment for location request from the LCS Client, which is not registered in the privacy exception list, shall also be specified in the privacy exception list. An empty privacy exception list shall signify an intent to withhold location from all LCS Clients.

The classes that can be included are as follows.

- Universal Class: location services may be provided to all LCS Clients;
- Call/session-related Class: location services may be provided to any value added LCS clients or a particular value added LCS client or particular group of value added LCS Clients – where each LCS Client or group of LCS Clients is identified by a unique international identification, e.g. E.164~~ or Access Point Name (APN)~~ - that currently has a temporary association with the Target UE in the form of an established voice, data call or PS session originated by the Target UE. For each identified LCS Client or group of LCS Clients, one of the following geographical restrictions shall apply:

    a) Location request allowed from an LCS Client served by identified PLMN only;

    b) Location request allowed from an LCS Client served in the home country only;

    c) Location request allowed from any LCS Client;

- Call/session-unrelated Class; location services may be provided to a particular value added LCS Client or particular group of value added LCS Clients – where each LCS Client or group of LCS Clients is identified by a unique international identification, e.g. E.164~~, number or Access Point Name (APN)~~. For each identified LCS Client or group of LCS Clients, one of the following geographical restrictions shall apply:

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PLMN Operator Class – location services may be provided by particular types of LCS clients supported within the HPLMN or VPLMN. The following types of clients are distinguished (see note):

a) Clients broadcasting location related information to the UEs in a particular geographic area – e.g. on weather, traffic, hotels, restaurants;

b) O&M client (e.g. an Operations System) in the HPLMN

c) O&M client (e.g. an Operations System) in the VPLMN

d) Clients recording anonymous location information (i.e. without any UE identifiers) – e.g. for traffic engineering and statistical purposes

e) Clients enhancing or supporting any supplementary service, IN service, bearer service or teleservice subscribed to by the target UE subscriber.

NOTE: The definitions of the various PLMN operator categories may be supplemented by more precise language in contractual agreements both between UE subscribers and their home service providers and between individual network operators with inter-PLMN roaming agreements. Such classification of the PLMN operator categories is outside the scope of this specification.

CR-Form-v7

CHANGE REQUEST

⌘ **22.071** **CR** **055** ⌘ **rev** **-** ⌘ Current version: **5.1.1** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Correction of requirements on the identity format of LCS clients
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	07/07/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
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Reason for change:	⌘	TS 22.071 requires, that LCS clients are identified by a E.164 number or by an Access Point Name (APN). Identification by APN, which was introduced in Rel-4, has never been implemented. This causes misalignment between stages 1 and 2.
Summary of change:	⌘	The requirement for identification of a LCS client by APN is removed.
Consequences if not approved:	⌘	Misalignment with LCS implementation (e.g. TS 23.271, TS 29.002)

Clauses affected:	⌘	3.2, 6.4.3

Other specs affected: ⌘	Y	N		⌘
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			Test specifications	
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Other comments: ⌘

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Change of Area: is one event supported for deferred Location Requests. Change of Area means that the network is required to report the location or the occurrence of the event of the requested subscriber in triggered fashion immediately after the network (MSC/SGSN) processes the mobility event for the the new location of the subscriber. Usually new location is noticed after the Location Update, Handover, RAU, Registration or RANAP Location Report, e.g. when the SAI changes.

Codeword: access code, which is used by a Requestor or LCS Client in order to gain acceptance of a location request for a Target UE. The codeword is part of the privacy information that may be registered by a Target UE user.

Current Location: after a location attempt has successfully delivered a location estimate and its associated time stamp, the location estimate and time stamp are referred to as the 'current location' at that point in time.

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Requestor: an originating entity, which has requested the location of the target UE from the LCS client.

Target UE: The UE being positioned.

Target UE Subscription Profile: the profile detailing the subscription to various types of privacy classes.

UE available: deferred Location Request event in which the MSC/SGSN has established a contact with the UE. Note, this event is considered to be applicable when the UE is temporarily unavailable due to inaction by the UE user, temporarily loss of radio connectivity or IMSI detach and so on. Note that IMSI detach is only applicable in the case UE has previously been registered and information is still kept in the node.

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CR-Form-v7

CHANGE REQUEST

⌘ **22.071** **CR** **056** ⌘ **rev** **-** ⌘ Current version: **6.4.0** ⌘

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Title:	⌘	Correction of requirements on the identity format of LCS clients
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	07/07/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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Service Identifier: A service provided by an LCS Client is identified by a Service Identifier. One LCS client may have one or more services. The combination of the LCS client Identifier and the Service Identifier constitutes a unique identification of a service.

Location Estimate: the geographic location of a UE and/or a valid Mobile Equipment (ME), expressed in latitude and longitude data. The Location Estimate shall be represented in a well-defined universal format. Translation from this universal format to another geographic location system may be supported, although the details are considered outside the scope of the primitive services.

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The privacy exception list shall support a minimum of 20 clients. For each client the privacy exception list shall support a minimum of 10 services. The maximum number of clients and services shall be determined by implementation constraints.

If the target subscriber notification is set as “notification with verification”, each positioning request from the LCS Client or the service shall be notified to the target UE before positioning. The treatment for location request from the LCS Client or service, which is not registered in the privacy exception list, shall also be specified in the privacy exception list. An empty privacy exception list shall signify an intent to withhold location from all LCS Clients.

The classes that can be included are as follows.

- Universal Class: location services may be provided to all LCS Clients;
- Call/session-related Class: location services may be provided to any value added LCS clients or a particular value added LCS client or a particular service or particular group of value added LCS Clients – where each LCS Client, service or group of LCS Clients is identified by a unique international identification, e.g. E.164~~, service ID or Access Point Name (APN)~~ - that currently has a temporary association with the Target UE in the form of an established voice, data call or PS session originated by the Target UE. For each identified LCS Client, service or group of LCS Clients, one of the following geographical restrictions shall apply:

  a) Location request allowed from an LCS Client or service served by identified PLMN only;

  b) Location request allowed from an LCS Client or service served in the home country only;

  c) Location request allowed from any LCS Client or service;

- Call/session-unrelated Class; location services may be provided to a particular value added LCS Client or a particular service or particular group of value added LCS Clients – where each LCS Client, service or group of LCS Clients is identified by a unique international identification, e.g. E.164~~, number, service ID or Access Point~~

~~Name (APN)~~. For each identified LCS Client, service or group of LCS Clients, one of the following geographical restrictions shall apply:

a) Location request allowed from an LCS Client or service served by identified PLMN only;

b) Location request allowed from an LCS Client or service served in the home country only;

c) Location request allowed from any LCS Client or service;

- PLMN Operator Class – location services may be provided by particular types of LCS clients supported within the HPLMN or VPLMN. The following types of clients are distinguished (see note):

a) Clients broadcasting location related information to the UEs in a particular geographic area – e.g. on weather, traffic, hotels, restaurants;

b) O&M client (e.g. an Operations System) in the HPLMN

c) O&M client (e.g. an Operations System) in the VPLMN

d) Clients recording anonymous location information (i.e. without any UE identifiers) – e.g. for traffic engineering and statistical purposes

e) Clients enhancing or supporting any supplementary service, IN service, bearer service or teleservice subscribed to by the target UE subscriber.

NOTE: The definitions of the various PLMN operator categories may be supplemented by more precise language in contractual agreements both between UE subscribers and their home service providers and between individual network operators with inter-PLMN roaming agreements. Such classification of the PLMN operator categories is outside the scope of this specification.