Technical Specification Group Services and System Aspects
Meeting #8, Düsseldorf, Germany, 26-28 June 2000

TSGS#8(00)0206

Source: **TSG SA1**

Title: **CRs to SoLSA (22.043)**

Document for: **Approval**

Agenda Item: **6.1.3**

Doc-1st-Level	Doc-2nd-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New
SP-000206	S1-000324	02.43	A002		R98	F	Clarification of requirements and editorial changes	7.2.0	7.3.0
SP-000206	S1-000325	22.043	003		R99	F	Clarification of requirements and editorial changes	3.0.1	3.1.0

3GPP SA Working Group 1 Meeting #8
Beijing, 10 April - 14 April 2000

Document S1-000325
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

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22.043	CR	003	Current Version:	3.0.1

GSM (AA.BB) or 3G (AA.BBB) specification number ? *? CR number as allocated by MCC support team*

For submission to:	TSG#8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ?		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [X]

Source: SA1 **Date:** 14/4/00

Subject: Clarification of requirements and editorial changes.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: Stage 1 update for 3GPP use and clarification and alignment of requirements with rel 99 system functionality.

Clauses affected: 1-5

Other specs affected:

Other 3G core specifications		?	List of CRs:
Other GSM core specifications		?	List of CRs:
MS test specifications		?	List of CRs:
BSS test specifications		?	List of CRs:
O&M specifications		?	List of CRs:

Other comments:

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The motivation for this concept is to create means for network operators to build new service and tariff packages, which take into account subscriber groups and their needs.
The localised service area is both an optional network feature and an optional ~~MS~~UE feature. Usage and implementation of the different SoLSA service features may vary according to operator's service packages.
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Note: The present document covers description for GERAN support ~~SM~~ only. UTRAN support will be added in latter releases. ~~The document needs to be updated to make it applicable to 3GPP.~~

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3 Definitions and abbreviations

3.1 Definitions

Localised Service Area (LSA):
A localised service area consists of a cell or a number of cells within a PLMN.
Cells being part of different localised service areas may have overlapping coverage areas. The cells constituting a localised service area may not necessarily provide continuous coverage.

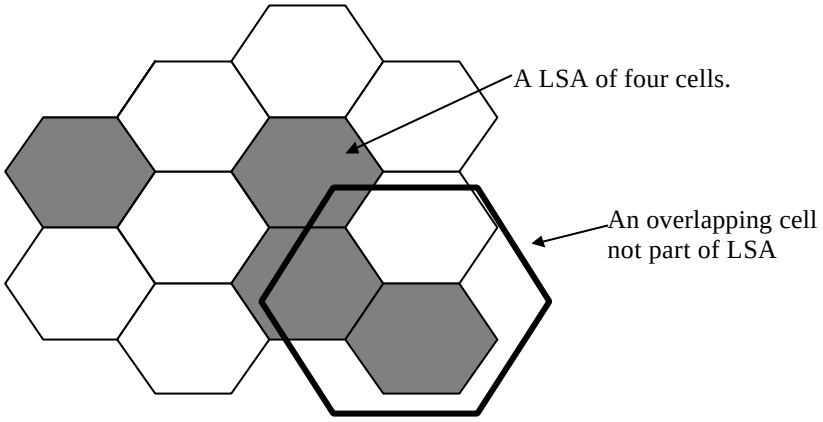

Figure 1: Localised Service Area

Subscribed to LSA: Set of LSAs, which the user has subscribed to.
Valid LSA: A LSA ,whichthe user has subscribed to and his ~~MS~~UE can receive service.
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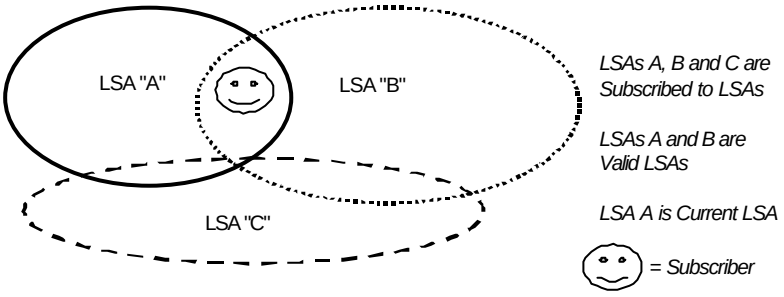

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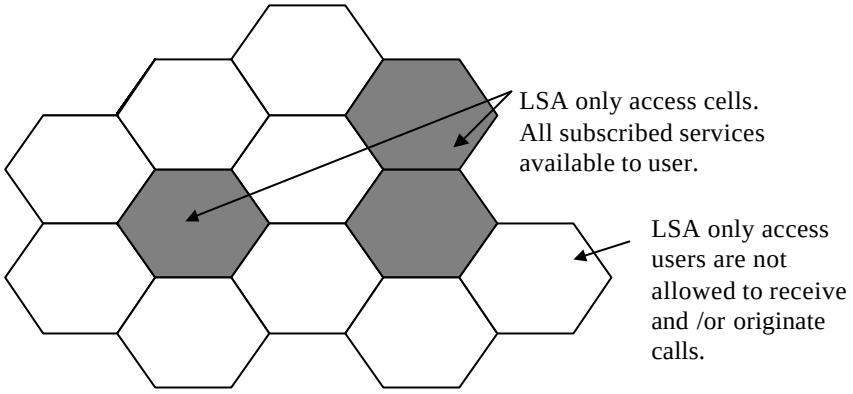
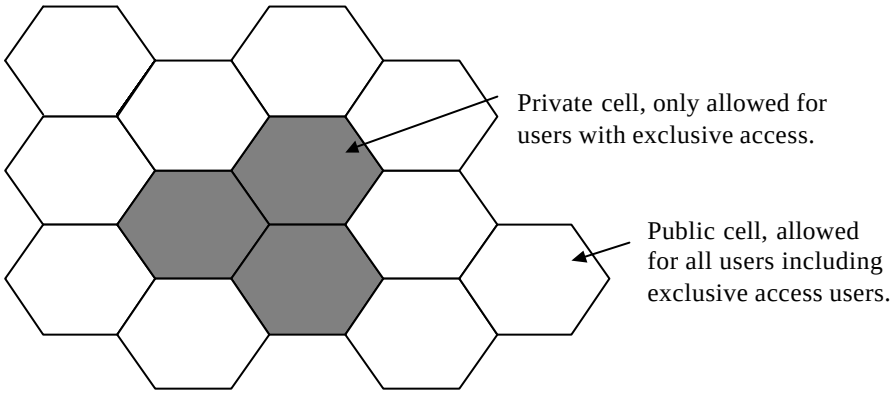


Figure 3: LSA only access

Exclusive Access: Access to exclusive access cells is restricted to defined LSA subscribers.



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Preferential Access: LSA user shall have preferential access to resources of LSA cells, compared to non-LSA users.

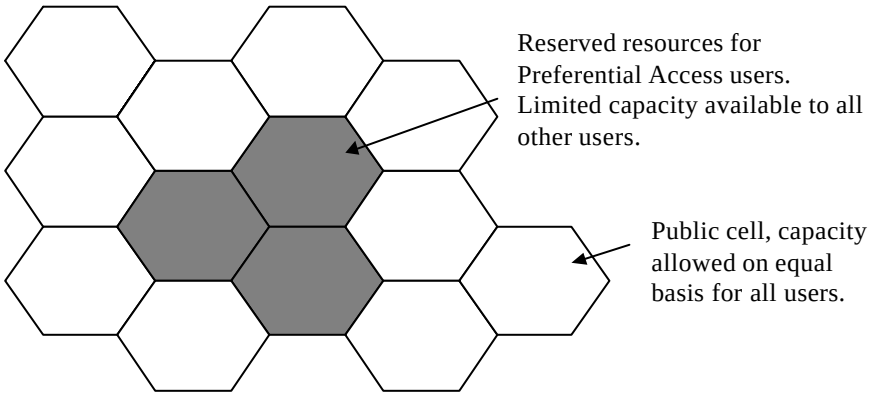

Figure 5: Preferential Access

3.3 Abbreviations

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

LSA Localised Service Area

Further abbreviations may be found in TR 21.905 [4] and GSM 01.04 [5].

4 Description

The localised service area concept shall give the operator the basis to offer subscribers different services (e.g. tariffs or access rights) depending on the location of the subscriber.

4.1 Defining subscriber information for localised service area

A subscriber can have up to 20~~100~~ LSAs per PLMN.
It shall be possible to assign localised service areas to subscribers. Subscriber may have service, which contains several LSAs potentially belonging to different PLMNs. There shall be means to allocate LSA priority to each subscriber independently by operator.
Localised service areas for subscriber(s) may overlap, i.e. one cell may be part of several LSAs belonging to that subscriber.
As an example, within a hierarchical cell structure, cells in different layers can constitute different localised service areas.
A localised service area could be defined so that it is possible to establish flexible sized areas, which are applicable to

- a very small localised service area ("home area" covering one or several cells dedicated e.g. to a residential subscriber or a company); or
- a large area covering a part of the city (one or several location areas); or
- a combination of these.

Thus it is possible to use the various radio network configurations.
The definition of location areas and the definition of localised service areas may be independent of each other.

4.2 Service Features

Following service features are building blocks for SoLSA based services. It is up to the operator to decide which service features are required for a specific service.

- Localised service area indication.
- Localised service area support in idle mode (camping).
- Localised service area support in active mode (handover).
- LSA only access.
- Exclusive access.
- Preferential access.

4.2.1 Localised service area indication

It shall be possible to assign a subscriber defined identifier by the operator to each LSA (alphanumeric text up to 10 characters), which can be provided to the user in idle and active mode. As a ~~MS~~UE manufacturer option the user may assign an icon or another form of indication to each LSA.
It shall be possible to indicate a change of localised service area during idle and active mode.
The indication is a network option (activated/deactivated by the network).

4.2.2 Localised service area support in idle mode (camping)

The PLMN shall determine, which cells, belonging to the LSA, are to be favoured by the ~~MS~~UE when camping.
When camping on a cell in idle mode, the subscriber's mobile station shall use the information provided by the PLMN in selecting cells belonging to his localised service area. The mobile station shall have the ability to reselect a cell in a different LSA with higher priority. This favouring shall not degrade the overall service quality.
There should be no extra delay in cell selection procedure.

4.2.3 Localised service area support in active mode (handover)

The PLMN shall determine, which cells, belonging to the LSA, are to be favoured during active mode.
The cells belonging to users LSAs shall be favoured at call setup and when handovers are carried out. This favouring shall not degrade the overall service quality.

4.2.4 Exclusive access

For a cell belonging to one or more service areas and where only one or more specific subscribers shall have allowed

access, other subscriber's mobile stations shall be prevented from using the cell to obtain any service, other than TS12 (Emergency Calls).
NOTE: This does not prevent other subscriber's mobile stations from camping on the cell to perform Location Updating.
Handovers into cells belonging to localised service areas where only specific subscribers shall have allowed access, shall be possible to be prevented for other subscribers, if required by a SoLSA application.

4.2.5 LSA only access

With access allowed only within one or more localised service areas, it shall be possible to prevent receiving and/or originating ~~activities~~ basic services from non-LSA cells. ~~outside LSA.~~ SMS and Supplementary service operations are allowed in all areas.
It shall be possible to prevent handovers to cells not belonging to allowed localised service areas, if required by a SoLSA application.

4.2.6 Preferential access

It shall be possible to allocate resources at call setup and during the active mode to LSA users, if required by a SoLSA application.

NOTE: An example of a requirement: the last traffic channel is not allocated to non-LSA user or in case of congestion an ongoing call of a non-LSA user is released and replaced with a call of a LSA user.

5 Impact on other services

5.1 General

SoLSA is not limited to specific services and there are no modifications necessary for existing services. In particular there shall be no impact to Emergency Call (TS12).
LSA should be able to support all tele, bearer and supplementary services .There is no interaction to supplementary services except those specified below.

~~5.2 Multiple Subscriber Profile (MSP)~~

~~It shall be possible to assign different LSAs for one or more MSP profile(s).~~

~~NOTE: By changing a MSP profile, a cell reselection with new criteria might be required.~~

5.3 GPRS

It shall be possible to apply SoLSA services independently to circuit switched services and to GPRS. LSA support in idle mode shall be specified for GPRS.
The definition of routing areas and the definition of localised service areas shall be independent of each other.

5.4 Call Forwarding

No interaction.

NOTE: Operators should consider using tools such as ODB and CAMEL to control call forwarding functionality provided in conjunction with any SoLSA services.

5.5 Completion of Calls to Busy Subscriber (CCBS)

LSA only access restrictions shall apply to CCBS recall.

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(U)SIM		ME	X	UTRAN / Radio		Core Network	X

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Phase 2	
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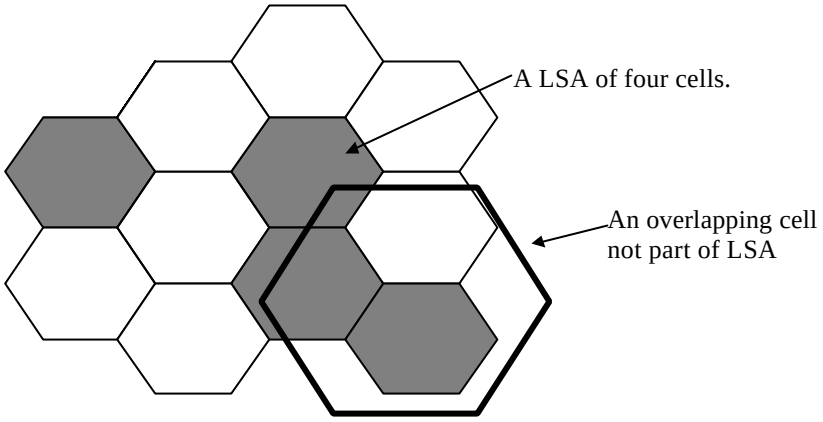

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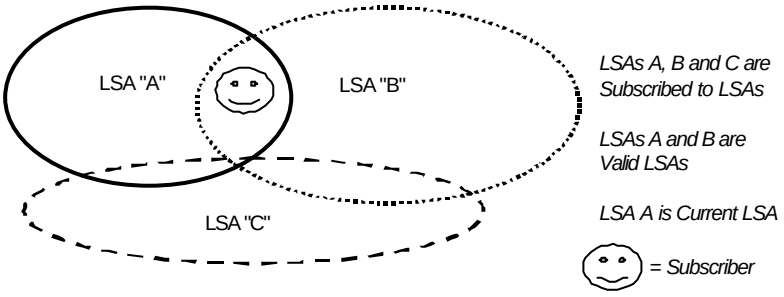

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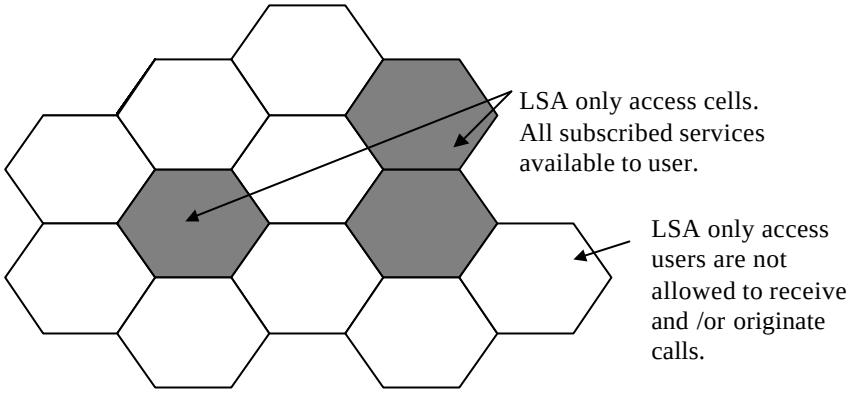

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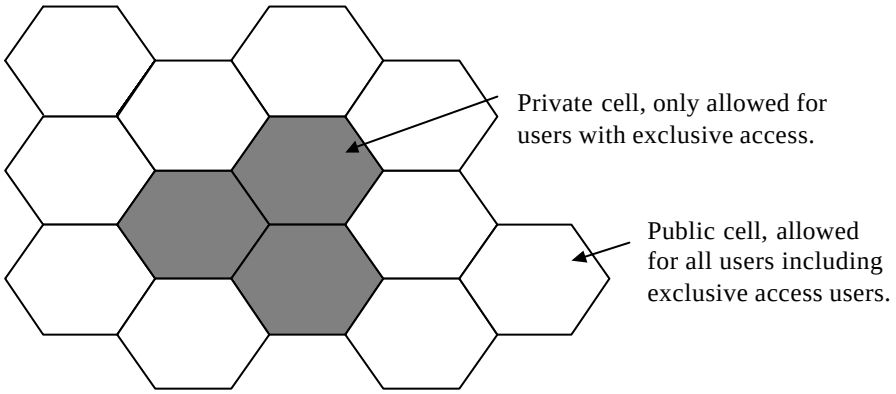

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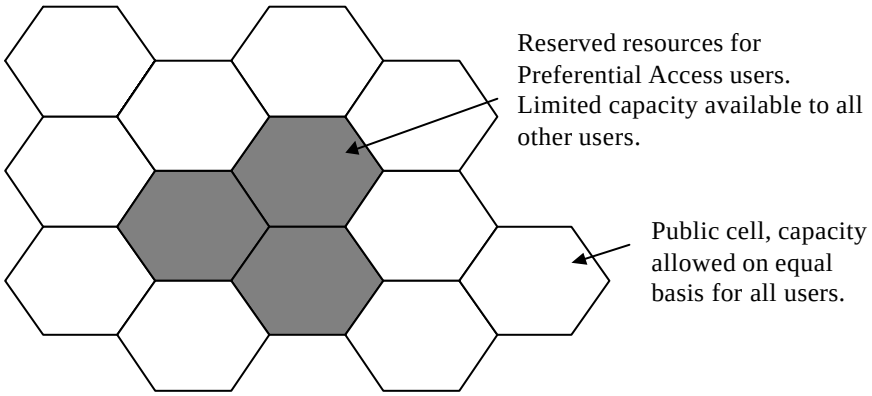

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