3GPP TSG CN Plenary Meeting #25 **NP-040414**
8th – 10th August 2004 Palm Springs, US.

Source: TSG CN WG4

Title: Corrections on TEI6

Agenda item: 9.21

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level N4-04	Phase	Subject	Cat	Ver_C
23.003	089		0962	Rel-6	Background of and procedures for the ".3gppnetwork.org" domain name	B	6.3.0
29.002	743		1021	Rel-6	Wrong SDL flow page implemented	D	6.6.0
23.012	016	1	1129	Rel-6	Clarification of the Automatic Device Detection feature	F	6.1.0

3GPP TSG CN WG4 Meeting #24 **N4-040962**
Sophia Antipolis, France, 16th – 20th August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **23.003** **CR** **089** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Background of and procedures for the ".3gppnetwork.org" domain name
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	10/05/04
Category:	⌘	**B**
Release:	⌘	Rel-6

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:	⌘	It was decided during a 3GPP-IETF harmonisation meeting that 3GPP specifications should move away from specifying the use of private top level domain names such as ".gprs" for new services and features. Instead, an Internet friendly TLD of ".3gpppnetwork.org" should be used instead. Currently it is not clear that this new domain name is accessible only from Inter-PLMN IP backbone networks and NOT the public Internet. Also, it is not clear what the procedure is for defining new sub-domains of ".3gppnetwork.org".
Summary of change:	⌘	An informative annex is added to give some background information on the use of the ".3gppnetwork.org" domain name and also the procedure that all 3GPP groups should follow when defining new sub-domains. The latter is taken from an LS from GSMA IREG (N4-040632), the owners of the ".3gppnetwork.org" domain name.
Consequences if not approved:	⌘	Confusion over the use of the domain name ".3gppnetwork.org"; some people may think that it is used on the Internet. Also, FUD on how to add new sub-domains.

Clauses affected:	⌘	1.1.1, 1.1.2, 13.1, 14.1, new content for Annex D, a new Annex E and a new Annex F (the latter is created in which to move the Change History section previously in Annex D).

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

Other comments: ⌘

****** First Modified Section ******

1.1 References

1.1.1 Normative 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 TS 21.905: "3G Vocabulary".

[2] 3GPP TS 23.008: "Organization of subscriber data".

[3] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2"

[4] 3GPP TS 23.070: "Routeing of calls to/from Public Data Networks (PDN)".

[5] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[6] 3GPP TS 29.060: "GPRS Tunnelling protocol (GPT) across the Gn and Gp interface".

[7] 3GPP TS 43.020: "Digital cellular telecommunications system (Phase 2+); Security related network functions".

[8] void

[9] 3GPP TS 51.011: " Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[10] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[11] ITU-T Recommendation E.212: "The international identification plan for mobile terminals and mobile users".

[12] ITU-T Recommendation E.213: "Telephone and ISDN numbering plan for land Mobile Stations in public land mobile networks (PLMN)".

[13] ITU-T Recommendation X.121: "International numbering plan for public data networks".

[14] IETF RFC 791: "Internet Protocol".

[15] IETF RFC 2373: "IP Version 6 Addressing Architecture".

[16] 3GPP TS 25.401: "UTRAN Overall Description".

[17] 3GPP TS 25.413: "UTRAN Iu Interface RANAP Signalling".

[18] IETF RFC 2181: "Clarifications to the DNS Specification".

[19] IETF RFC 1035: "Domain Names - Implementation and Specification".

[20] IETF RFC 1123: "Requirements for Internet Hosts -- Application and Support".

[21] IETF RFC 2462: "IPv6 Stateless Address Autoconfiguration".

[22] IETF RFC 3041: "Privacy Extensions for Stateless Address Autoconfiguration in IPv6".

[23] 3GPP TS 23.236: "Intra Domain Connection of RAN Nodes to Multiple CN Nodes".

[24] 3GPP TS 23.228: "IP Multimedia (IM) Subsystem – Stage 2"

[25] IETF RFC 2486: "The Network Access Identifier"

[26] IETF RFC 3261: "SIP: Session Initiation Protocol"

[27] 3GPP TS 31.102: "Characteristics of the USIM Application."

[28] void

[29] 3GPP TS 44.118: "Radio Resource Control (RRC) Protocol, Iu Mode".

[30] 3GPP TS 23.073: "Support of Localised Service Area (SoLSA); Stage 2"

[31] 3GPP TS 29.002: "Mobile Application Part (MAP) specification"

[32] 3GPP TS 22.016: "International Mobile Equipment Identities (IMEI)"

[33] void

[34] void

[35] 3GPP TS 45.056: "CTS-FP Radio Sub-system"

[36] 3GPP TS 42.009: "Security aspects" [currently not being raised to rel-5 – Pete H. looking into it]

[37] 3GPP TS 25.423: "UTRAN Iur interface RNSAP signalling"

[38] 3GPP TS 25.419: "UTRAN Iu-BC interface: Service Area Broadcast Protocol (SABP)"

[39] 3GPP TS 25.410: "UTRAN Iu Interface: General Aspects and Principles"

[40] ISO/IEC 7812: "Identification cards - Numbering system and registration procedure for issuer identifiers"

[41] 3GPP TS 31.102 "Characteristics of the USIM Application"

[42] 3GPP TS 33.102 "3G security; Security architecture"

[43] 3GPP TS 43.130: "Iur-g interface; Stage 2"

[45] IETF RFC 2806: "URLs for Telephone Calls"

[46] 3GPP TS 44.068: "Group Call Control (GCC) protocol".

[47] 3GPP TS 44.069: "Broadcast Call Control (BCC) Protocol ".

[48] 3GPP TS 24.234: "3GPP System to WLAN Interworking; UE to Network protocols; Stage 3".

[49] IETF Internet-Draft: "Network Discovery and Selection within the EAP Framework". draft-adrangi-eap-network-discovery-and-selection-00, work in progress.

[50] IETF Internet-Draft: "EAP AKA Authentication". draft-arkko-pppext-eap-aka-11, work in progress.

[51] IETF Internet-Draft: "EAP SIM Authentication". draft-haverinen-pppext-eap-sim-12, work in progress.

[52] 3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architechture and functional description"

1.1.2 Informative references

[44] "COMPLEMENT TO ITU-T RECOMMENDATION E.212 (11/98)", Annex to ITU Operational Bulletin No. 741 – 1.VI.200; This is published on the ITU-T website, whose home page is at http://www.itu.int/ITU-T/

[xx] GSMA PRD IR.34 "Inter-PLMN Backbone Guidelines"

****** Next Modified Section ******

13 Numbering, addressing and identification within the IP multimedia core network subsystem

13.1 Introduction

This clause describes the format of the parameters needed to access the IP multimedia core network subsystem. For further information on the use of the parameters see 3GPP TS 23.228 [24]. For more information on the ".3gppnetwork.org" domain name and its applicability, see Annex D of the present document.

****** Last Modified Section ******

14 Numbering, addressing and identification for 3GPP System to WLAN Interworking

14.1 Introduction

This clause describes the format of the parameters needed to access the 3GPP system supporting the WLAN interworking. For further information on the use of the parameters see 3GPP TS 24.234 [48]. For more information on the ".3gppnetwork.org" domain name and its applicability, see Annex D of the present document.

****** New Sections ******

Annex D (informative): Applicability and use of the ".3gppnetwork.org" domain name

There currently exists a private IP network between operators to provide connectivity for user transparent services that utilise protocols that rely on IP. This includes (but is not necessarily limited to) such services as GPRS/PS roaming, WLAN roaming, GPRS/PS inter-PLMN handover and inter-MMSC MM delivery. This inter-PLMN IP backbone network consists of indirect connections using brokers (known as GRXs – GPRS Roaming Exchanges) and direct inter-PLMN connections (e.g. private wire); it is however *not* connected to the Internet. More details can be found in GSMA PRD IR.34 [xx].

Within this inter-PLMN IP backbone network, the domain name ".gprs" was originally conceived as the only domain name to be used to enable DNS servers to translate logical names for network nodes to IP addresses (and vice versa). However, after feedback from the Internet Engineering Task Force (IETF) it was identified that use of this domain name has the following drawbacks:

1. Leakage of DNS requests for the ".gprs" top level domain into the public Internet is inevitable at sometime or other, especially as the number of services (and therefore number of nodes) using the inter-PLMN IP backbone increases. In the worst case scenario of faulty clients, the performance of the Internet's root DNS servers would be seriously degraded by having to process requests for a top level domain that does not exist.

2. It would be very difficult for network operators to detect if/when DNS requests for the ".gprs" domain were leaked to the public Internet (and therefore the security policies of the inter-PLMN IP backbone network were breached), because the Internet's root DNS servers would simply return an error message to the sender of the request only.

To address the above, the IETF recommended using a domain name that is *routable* in the pubic domain but which requests to it are not actually *serviced* in the public domain. The domain name ".3gppnetwork.org" was chosen as the new top level domain name to be used (as far as possible) within the inter-PLMN IP backbone network. Only the DNS servers connected to the inter-PLMN IP backbone network are populated with the correct information needed to service requests for this domain; DNS servers connected to the Internet that are authoritative for this domain simply return the usual DNS error for unknown hosts (thereby reducing the load on the Internet's root DNS servers down to normal service levels).

The GSM Association is in charge of allocating new sub-domains of the ".3gppnetwork.org" domain name. The procedure for requesting new sub-domains can be found in Annex E.

Annex E (normative): Procedure for sub-domain allocation

When a 3GPP member company identifies the need for a new sub-domain name of ".3gppnetwork.org", that 3GPP member company shall propose a CR to this specification at the earliest available meeting of the responsible working group for this TS. The CR shall propose a new sub-domain name. The new sub-domain proposed shall be a sub-domain of the operator related sub-domain i.e. ".mnc<MNC>.mcc<MCC>.3gppnetwork.org". For example:

service.mnc015.mcc234.3gppnetwork.org

The responsible working group shall then check the CR and either endorse it or reject it. If the CR is endorsed, then the responsible working group shall send an LS to the GSMA IREG describing the following key points:

- the context
- the service
- intended use
- involved actors
- proposed new sub-domain name

GSMA IREG will then verify the consistence of the proposal and its usage within the domain's structure and interworking rules (e.g. access to the GRX Root DNS servers). GSMA IREG will then endorse or reject the proposal and inform the responsible working group (in 3GPP). It is possible that GSMA IREG will also specify, changes to the newly proposed sub-domain name.

It should be noted that services already defined to use the ".gprs" domain name will continue to do so and shall not use the new domain name of ".3gppnetwork.org"; this is to avoid destabilising services that are already live.

Annex ~~D~~F (informative):
Change history

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3GPP TSG-CN WG4 Meeting #24 ***N4-041021***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.002** **CR** **743** ⌘ **rev** **-** ⌘ Current version: **6.6.0** ⌘

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

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

Title:	⌘	Wrong SDL flow page implemented
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	05/08/2004
Category:	⌘	**D**
Release:	⌘	Rel-6

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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The SDL flow page in figure 19.1.1.8 is wrong. While it shall be flow 2/2, flowchart 1/2 appears.
Summary of change:	⌘	Change the SDL flowchart
Consequences if not approved:	⌘	

Clauses affected:	⌘	19.1.1			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	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/specs/CR.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.

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

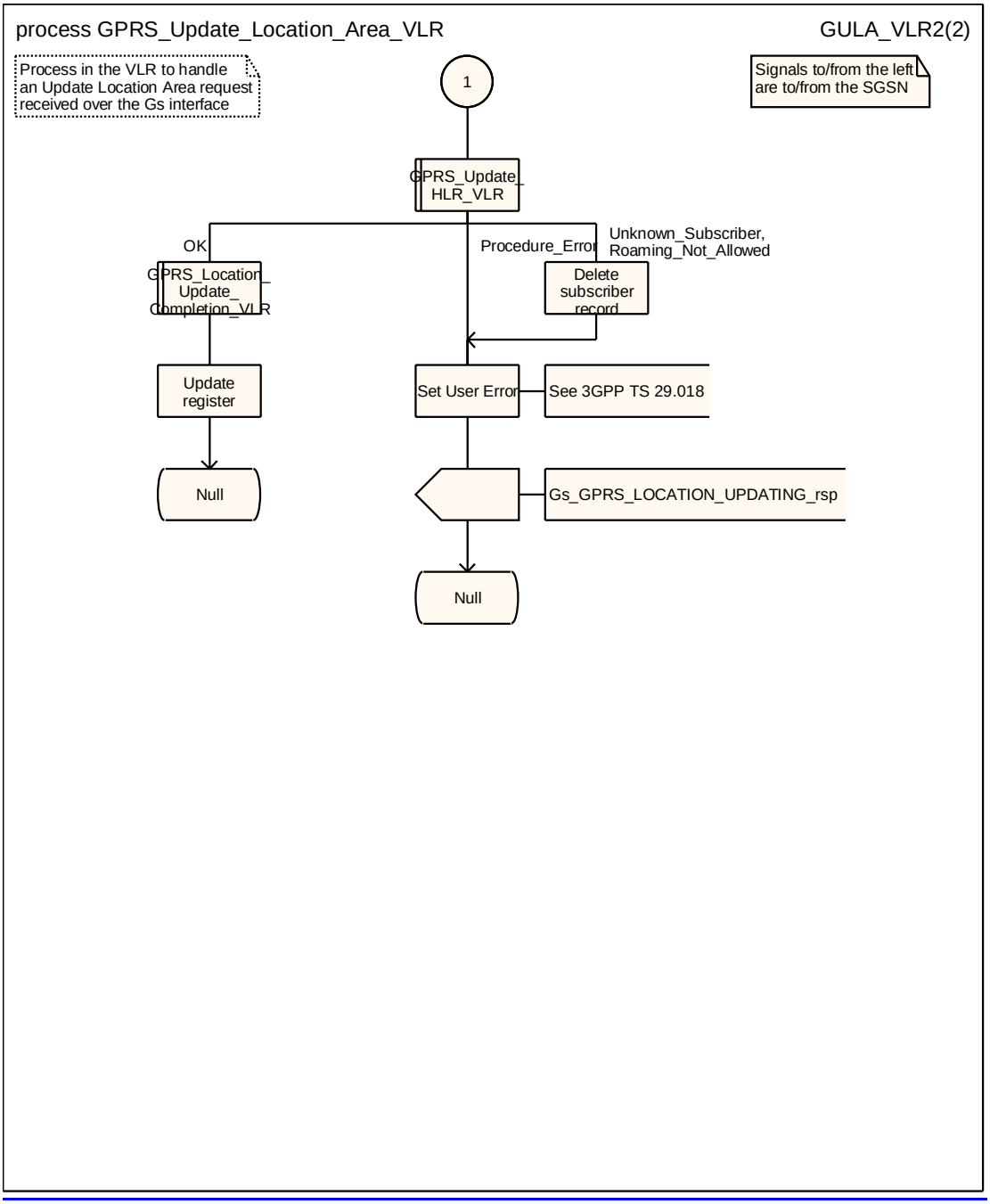
downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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.

First modification

……. SKIPPED TEXT……

Figure 19.1.1/8 (sheet 1 of 2): Process GPRS_Update_Location_Area_VLR


process GPRS_Update_Location_Area_VLR
GULA_VLR2(2)
Process in the VLR to handle an Update Location Area request received over the Gs interface
Signals to/from the left are to/from the SGSN
1
GPRS_Update_ HLR_VLR
OK
Procedure_Error
Unknown_Subscriber, Roaming_Not_Allowed
GPRS_Location_ Update_ Completion_VLR
Delete subscriber record
Update register
Set User Error
See 3GPP TS 29.018
Null
Gs_GPRS_LOCATION_UPDATING_rsp
Null

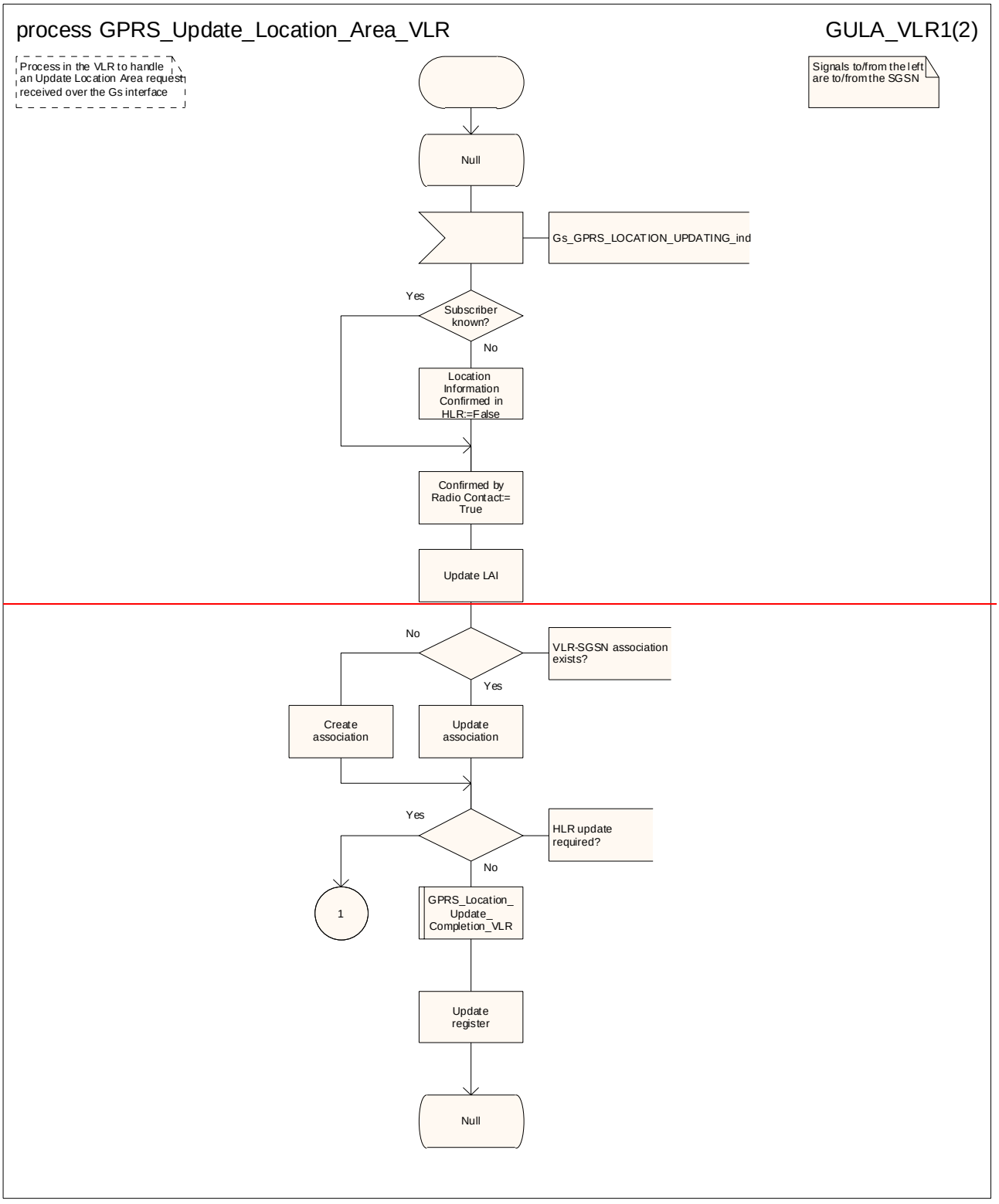


Figure 19.1.1/8 (sheet 2 of 2): Process GPRS_Update_Location_Area_VLR

Modification end

3GPP TSG-CN WG4 Meeting #24 ***N4-041129***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.012** **CR** **016** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

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

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

Title:	⌘	Clarification of the Automatic Device Detection feature
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	16/08/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

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:
Ph2 (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)
Rel-7 (Release 7)

Reason for change:	⌘	Lack of clarity on what the optional signalling optimization for Automatic Device Detection feature is and how it works.
Summary of change:	⌘	Complementary text for the SDLs for the process Update_Location_Area_VLR is added which clarifies what ADD is and the optional signalling optimisation that the VLR may use.
Consequences if not approved:	⌘	Confusion over how optional signalling optimisation in the D-interface for ADD works

Clauses affected:	⌘	4.1.2.1

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

Other comments: ⌘ The original CR for which added ADD to TS 23.012 can be found in CR 23.012-015.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

First modification

4.1.2 Detailed procedure in the VLR

4.1.2.1 Process Update_Location_Area_VLR

General comment: at any stage in the location updating process the MSC may receive an indication from the BSS that the MM transaction has been released. The MSC then sends an Abort signal to the VLR. Upon receipt of this message, the VLR shall follow one of two possible courses of action.

The two possible courses of action and the conditions determining which course shall be taken are as follows:

1. If a successfully authenticated radio connection is already established before the Abort message is received, the VLR shall ignore the message.

2. If a successfully authenticated radio connection has not been established before the Abort message is received, the VLR shall abort the Update Location Area process and return to the idle state.

Sheet 1: the location area updating process will be activated by receiving an Update Location Area indication from the MSC. If there are parameter errors in the indication, the process is terminated with the appropriate error sent in the Update Location Area response to the MSC. Else, the behaviour will depend on the subscriber identity received, either an IMSI or a TMSI.

The Automatic Device Detection (ADD) function is an optional feature that allows the HLR to be updated with the current User Equipment (IMEISV) and thus enables the network to configure the subscriber's equipment based on a predefined profile. The mechanism for the IMEISV retrieval by device management system (either from HLR or VLR) is outside the scope of this specification. As an optimisation, the VLR may optionally store whether or not the HLR supports the ADD feature and use this information to decide whether or not to send an update to the HLR.

Sheet 2: at the decision "HLR updating required?" the "True" branch shall be taken if and only if one or more of the following conditions is true:

(1) Location Info Confirmed in HLR is false.

(2) Data Confirmed by HLR is false.

Sheet 2: : The execution of the test "HLR supports ADD?" and the action "set: skip subscriber data update" is an optional optimisation and depends on the presence of the relevant indication from the HLR that ADD functionality is supported. If this optimisation is not supported on the VLR or no indication is received, both are bypassed in which case processing continues at connector 4.

Sheet 3: the procedure Obtain_IMSI_VLR is specified in 3GPP TS 23.018 [5a].

The type of Location Update is retrieved in 3G TS 23.078 procedure 'Set_Notification_Type' and is returned into the 'Notify' variable; this information is necessary for the CAMEL Mobility Management event notification procedure 3G TS 23.078 'Notify_gsmSCF'.

Modification end