3GPP TSG-CN Meeting #26 **NP-040509**
8th – 10th December 2004. Athens, Greece.

Source: **TSG CN WG1**

Title: **CR to Rel-6 WI "WLAN" for TS 24.234**

Agenda item: **9.17**

Document for: **APPROVAL**

This document contains **1 CR on Rel-6 Work Item "WLAN"**, that has been agreed by TSG CN WG1 CN#36 meeting and forwarded to TSG CN Plenary meeting #26 for approval.

TDoc #	Tdoc Title	Spec	CR #	Rev	CAT	C_Ver	WI	Rel
N1-042109	PLMN Selection for WLAN	24.234	015	4	B	6.0.0	WLAN	Rel-6

3GPP TSG-CN1 Meeting #36
Seoul, Korea, 15-19 November 2004

Tdoc N1-042109
Revision of N1-042092

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.234** **CR** **015** ⌘ **rev** **4** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	PLMN selection for WLAN
Source:	⌘	Research In Motion, Telecom Italia S.p.A.
Work item code:	⌘	WLAN
Date:	⌘	19/11/2004
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:

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:	⌘	In order to obtain the Supported PLMNs list for WLAN access for manual network selection the definition of an 'Alternative NAI' should be used.
Summary of change:	⌘	Addition of 'Alternative NAI' to enable WLAN UE to obtain list of Supported PLMNs list for WLAN access for manual network selection. In the clauses 4 revision of definition of NAI with addition of 'Alternative NAI' and the related usage of such different NAI types. In subclause 6 addition of Network discovery procedure for PLMN selection both automatic and manual, i.e. the capability to send to the WLAN UE the list of PLMN by WLAN when an 'Alternative NAI' is received.
Consequences if not approved:	⌘	The manual network selection will not work.

Clauses affected:	⌘	3.1, 4.2 and 6

	Y	N			
Other specs affected:	Y		Other core specifications	⌘	TS 23.003 – CR#093
		X	Test specifications		
		X	O&M Specifications		

Other comments:	⌘	The approval of text regarding Alternative NAI definition and usage proposed by this CR depends on approval of CRs against TS 23.003.

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 Changes

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

active scanning: capability of a WLAN UE to actively solicit support for a specific WSID by for probing it

associated WSID: WSID that the WLAN UE uses for association with a WLAN AP

available WSID: WSID that the WLAN UE has found after scanning

EAP AKA: EAP mechanism for authentication and session key distribution using the UMTS AKA authentication mechanism (see draft-arkko-pppext-eap-aka [9])

EAP SIM: EAP mechanism for authentication and session key distribution using the GSM Subscriber Identity Module (SIM) (see draft-haverinen-pppext-eap-sim [10])

passive scanning: capability of a WLAN UE to look for the support for a specific WSID by listening to the WSIDs broadcast in the beacon signal

PLMN selection: procedure for the selection of a PLMN, via a WLAN, either manually or automatically

selected WSID: this is the WSID that has been selected according to clause 5.2.2.1, either manually or automatically

selected PLMN: this is the PLMN that has been selected according to clause 5.2.3.3, either manually or automatically

supported PLMN: a PLMN of a roaming partner (i.e. to which the WLAN operator has a direct roaming relationship)

switch on: action of activating a WLAN UE client

switch off: action of deactivating a WLAN UE client

WLAN specific identifier (WSID): identifier for the WLAN
For WLANs compliant with IEEE 802.11 [11] this is the SSID.

Local AAA: the first hop AAA node from the WLAN AP within an I-WLAN.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.234 [2] apply.

3GPP - WLAN Interworking (WLAN-3GPP IW)
3GPP AAA server
3GPP AAA proxy
Interworking WLAN
W-APN
WLAN UE
WLAN Roaming

For the purposes of the present document, the following terms and definitions given in draft-adrangi-eap-network-discovery-and-selection [12] apply.

Decorated NAI
Root NAI

End of First Changes

Second Changes

4.2 WLAN UE Identities

4.2.1 General

WLAN UEs use Network Access Identifier (NAI) as identification towards the 3GPP WLAN AAA server. The NAI is structured according to RFC 2486 [8].

The NAI realm shall be in the form of a domain name as specified in RFC 1035 [7], the NAI username shall comply with draft-arkko-pppext-eap-aka [9] and draft-haverinen-pppext-eap-sim [10].

4.2.2 Username

The rules for the use of NAI username in the WLAN UE and for the generation and delivery of NAI username in 3GPP AAA server are defined in clause 6.1. The format of NAI username is defined in 3GPP TS 23.003 [1A].

4.2.3 Root NAI

This is the NAI format ~~when~~used by the WLAN UE when it attempts to authenticate~~s~~ directly to HPLMN (see draft-adrangi-eap-network-discovery-04 ~~and selection~~ [12] and 3GPP TS 23.234 [2]). Root NAI format is specified in 3GPP TS 23.003 [1A]. The usage of Root NAI is specified in clause 5.2.2.

4.2.4 Decorated NAI

This is the NAI format ~~when~~used by the WLAN UE when it attempts to authenticate~~s~~ to its HPLMN via a VPLMN (see draft-adrangi-eap-network-discovery ~~and selection 00~~ -04 [12]). Decorated NAI format is specified in 3GPP TS 23.003 [1A]. The usage of Decorated NAI is specified in clause 5.2.2.

4.2.5 Alternative NAI

This is the NAI format used by the WLAN UE when it attempts to obtain a list of available PLMNs during a manual selection procedure. Alternative NAI format is specified in TS 23.003 [1A]. The usage of Alternate~~e~~ive NAI is specified in clause 5

End of Second Changes

Third Changes

6 UE to 3GPP Network protocols

6.1 UE to 3GPP AAA Server protocols

6.1.1 WLAN Access Authentication and Authorization protocols

Editor's Note: Functionality in WLAN UE and 3GPP AAA server for identification, full authentication and re-authentication. Procedures are defined in [9] and [10]. This TS should specify the mandatory and optional features from SIM and AKA drafts. As an example Reauthentication and Privacy support are optional in the EAP-SIM and EAP-AKA drafts but mandatory for the WLAN UE and network.

6.1.1.1 General

WLAN authentication signalling shall be executed between WLAN UE and 3GPP AAA Server for the purpose of authenticating the end-user and enabling the access to the WLAN network or to the WLAN and 3GPP network.

The WLAN UE and 3GPP AAA server shall support EAP authentication procedures as specified in draft-arkko-pppext-eap-aka [9] and draft-haverinen-pppext-eap-sim [10].

Other EAP authentication methods than those specified in draft-arkko-pppext-eap-aka [9] and draft-haverinen-pppext-eap-sim [10] may be supported by the WLAN UE but are not part of 3GPP WLAN IW therefore are out of the scope of the present document.

WLAN authentication signalling for 3GPP-WLAN interworking shall be based on Extensible Authentication Protocol (EAP) as specified in RFC 2284 [6]).

WLAN access authorization shall be performed upon successful user authentication in the 3GPP AAA Server and it includes access rules as defined by the operator (see clause 6.1.1.3.6).

6.1.1.2 UE procedures

6.1.1.2.1 Identity management

In both EAP AKA and EAP SIM based authentications, the WLAN UE shall proceed as follows.

The WLAN UE shall always use the leading digits notation when building the username part of NAI from IMSI, as specified in TS 23.003 [1A]. draft-arkko-pppext-eap-aka [9] and draft-haverinen-pppext-eap-sim [10] each define the leading digits to identify their particular authentication mechanism.

In the first EAP-Response/Identity message the WLAN UE shall include a NAI which username is derived from IMSI. The format of such username is defined in 3GPP TS 23.003 [1A]. The WLAN UE shall include the Root NAI or Decorated NAI for authentication purposes, the WLAN UE shall include the Alternative NAI for manual network selection procedure.

The WLAN UE shall support the mechanism for communicating its identity to the server using EAP/AKA and EAP/SIM messages as specified in EAP AKA and EAP SIM respectively.

If the WLAN UE receives an EAP-Request/AKA-Identity message or EAP-Request/SIM/Start message including an AT_PERMANENT_ID_REQ after sending an identity response including the pseudonym, the WLAN UE shall respond to this new identification request by including a NAI in which username is derived from IMSI. This WLAN UE behaviour is defined in draft-haverinen-pppext-eap-sim [10] and in draft-arkko-pppext-eap-aka [9].

End of Third Changes