Source: **SA1**

Title: **CRs to 22.234 on Service Requirements for I-WLAN (Rel-6, Rel-7)**

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-27	SP-050061	22.234	013	-	Rel-6	F	Explicit wording of requirements for access to 3GPP PS services	6.2.0	6.3.0	S1-050207
SP-27	SP-050061	22.234	014	-	Rel-7	A	Requirements for Support of 3GPP PS services	7.0.0	7.1.0	S1-050208

CR-Form-v7.1

CHANGE REQUEST

⌘ **22.234** **CR** **013** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*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 **X**

Title:	⌘	Explicit wording of requirements for access to 3GPP PS services
Source:	⌘	SA1 (T-Mobile)
Work item code:	⌘	WLAN-CR
Date:	⌘	20/01/2005
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:	⌘	Access to 3GPP PS services is the main interest of interworked WLAN, but the requirement is only implicitly stated in sect. 5 Service principles. An explicit statement under sect. 6 Service Requirements is missing.
Summary of change:	⌘	Add section 6.3 Support of PS services, which explicitly states the requirements to support 3GPP PS services (e.g.IMS). If the 3GPP service requires separate authentication and access control, then the respective mechanisms shall be used.
Consequences if not approved:	⌘	Access to 3GPP PS services is only stated implicit and may be neglected if TR 22.934 is not known to the reader. In this case the full picture of interworked WLAN is missing.

Clauses affected:	⌘	New clause

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	TS 23.234
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

6 Service requirements

6.1.1 Network selection

The UE shall support both manual and automatic network selection mechanisms (modes) as standardized.

The UE shall use the last network selection mode used, as the default mode, at every switch-on.

The user shall be given the opportunity to change the network selection mode at any time.

When selecting a PLMN that is accessed via an interworked WLAN the UE shall be able to determine if the home or preferred PLMNs are available. The I-WLAN and PLMN selection shall adhere to operator and end user preferences using similar procedures as for Network Selection without WLAN interworking. This set of preferences may be different from the preferences used for direct 3GPP access. In manual network selection the user shall be able to request a list of available PLMNs via interworked WLANs. The detailed procedures are described below.

NOTE 1: The 3GPP operator may have agreements with multiple I-WLANs in the area and has preference over which WLAN to connect to based on the services supported.

NOTE 2: The adaptation of the Network Selection procedures to the WLAN interworking environment should take into account performance criteria (e.g. power consumption, network load).

NOTE 3: The preference of a I-WLAN and connected PLMN may change from one country to another, even when the I-WLAN identity is unchanged.

6.1.1.1 PLMN selection procedures

General

For the purpose of selecting a PLMN two lists may be present in the UICC: the “User Controlled PLMN Selector list for I-WLAN” and the “Operator Controlled PLMN Selector list for I-WLAN”. It is not mandatory for the UICC to support these lists, however if the “Operator Controlled PLMN Selector list for I-WLAN” is supported then the “User Controlled PLMN Selector list for I-WLAN” shall also be present. Both the lists contain the preferred PLMNs for I-WLAN in priority order, and the User Controlled PLMN Selector list for I-WLAN has higher priority than the Operator Controlled PLMN Selector list for I-WLAN.

The purpose of the procedure is to enable the WLAN UE to find an I-WLAN, however, in case no PLMN is found to be supported by any of the available WLANs, the behaviour of the UE is not specified.

For the purpose of selecting the preferred I-WLAN in case multiple I-WLANs can support the connection to the desired PLMN and for optimising the PLMN selection, two lists may be present in the UICC: the “User Controlled WLAN identities list for I-WLAN” and the “Operator Controlled WLAN identities list for I-WLAN”. It is not mandatory for the UICC to support these lists, however if the “Operator Controlled WLAN identities list for I-WLAN” is supported then the “User Controlled WLAN identities list for I-WLAN” shall also be present. Both the lists contain the preferred WLAN identities in priority order, and the “User Controlled WLAN identities list for I-WLAN” has higher priority than the “Operator Controlled WLAN identities list for I-WLAN”.

A) Automatic selection mode

In the automatic mode the WLAN UE shall perform the following procedure:

1. For each of the WLANs available the WLAN UE shall attempt to discover the PLMNs available via the particular I-WLAN. If the UICC contains an I-WLAN identities' preference list, this initial step shall be done in the order of this list. For each I-WLAN, if the WLAN UE receives a list of available PLMNs, then

   1a) If the HPLMN is found then the procedure is stopped and the HPLMN is selected.

   1b) If the HPLMN is not found, the UE creates a list of PLMNs accessible over the particular WLAN

2. Among all the PLMNs obtained in step 1b), select a PLMN following this order:

i) PLMNs contained in the "[0] User Controlled PLMN Selector list for I-WLAN" data file in the USIM in priority order, if the list is available;

ii) PLMNs contained in the "Operator Controlled PLMN Selector list for I-WLAN " data file in the USIM in priority order, if the list is available;

iii) PLMNs contained in the “User Controlled PLMN Selector list with access technology”, if available;

iv) PLMNs contained in the “Operator Controlled PLMN Selector list with access technology”, if available;

v) PLMNs contained in the optional "[0]User Controlled PLMN Selector list for I-WLAN " in the ME in priority order, if the list is available;

vi) PLMNs contained in the optional "Operator Controlled PLMN Selector list for I-WLAN " in the ME in priority order, if the list is available;

vii) any other PLMN not included in the lists (randomly)

3. Attempt association with the highest priority I-WLAN in the I-WLAN identities' preference list (if available) providing connection to the PLMN selected in step 2 and attempt authentication with the selected PLMN.

B) Manual selection mode

In manual selection mode the WLAN UE shall perform the following procedure:

1. For each of the available WLANs the WLAN UE shall attempt to discover the PLMNs available via the particular WLAN.

2. If the WLAN UE receives a list of available PLMNs, then the WLAN UE presents the available PLMNs in the following order:

   i) HPLMN;

   ii) PLMNs contained in the "[0] User Controlled PLMN Selector list for I-WLAN " data file in the USIM in priority order, if the list is available;

   iii) PLMNs contained in the "Operator Controlled PLMN Selector list for I-WLAN " data file in the USIM in priority order, if the list is available;

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   In case more than one I-WLAN gives access to the same PLMN, an indication of the I-WLAN identity should also be presented to the user.

   NOTE: it is possible to have repetitions of the same PLMN in the list presented to the user

3. Upon user selection of the desired PLMN the WLAN UE shall attempt to register on this PLMN. If more than one I-WLAN offers connection to the selected PLMN[0], then the WLAN UE shall attempt registration via the selected I-WLAN . To do so, the WLAN UE associates with the I-WLAN supporting the PLMN selected by the user and attempt authentication.

6.1.2 Dual mode 3GPP / WLAN devices

The UE shall select between the available 3GPP systems and the WLANs by using similar procedures as for Network Selection without WLAN Interworking.

NOTE 1: The 3GPP operator may have agreements with multiple WLANs in the area and has preference over which WLAN to connect to based on the services supported.

6.2 Operator Determined Barring

Access to services via an interworking WLAN is different in nature to circuit and other 3GPP packet oriented services, and therefore has different requirements for Operator Determined Barring.

As described in the following categories, the Service Provider may at any time activate this feature and this shall terminate any relevant services in progress, and bar future requests for service covered by the barring category:

- It shall be possible to bar subscribers attached via an Interworking WLAN completely from the interworked service capabilities.
- It shall be possible to bar a subscriber from requesting interworking through access points that are within the HPLMN whilst the subscriber is WLAN connected via a VPLMN
- It shall be possible to bar a subscriber from requesting packet-oriented services from access points that are within the roamed to VPLMN.
- It shall be possible to bar a subscriber from requesting direct Internet access from access points that are within the I-WLAN

The term 'access point' is used to indicate the Network Element (e.g. PDG or GGSN) or part of the Network Element (e.g. PDG or GGSN) that is specified by a particular APN.

6.3 Support of PS services

I-WLAN shall support all services based on 3GPP System PS domain capabilities (e.g. IMS).

Support of real time IMS services will require QoS support in I-WLAN. If the I-WLAN does not offer sufficient support for QoS, best effort approach may be used.

When enabling access to 3GPP services that require separate authentication and access control, such as IMS, the service authentication and access control mechanisms for those services shall be used.

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CHANGE REQUEST

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Source:	⌘	SA1 (T-Mobile)
Work item code:	⌘	WLAN-CR
Date:	⌘	20/01/2005
Category:	⌘	**A**
Release:	⌘	Rel-7

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6.~~3~~4 Support for service continuity

Service continuity between I-WLAN and 3GPP systems which allows ongoing 3GPP PS based services to survive a change of the access network shall be provided.

A change in service quality may occur as a consequence of the transition between systems due to the varying capabilities of the access technologies and their associated networks. As the target network may not support an equivalent service, it is possible that some services may not survive.