Technical Specification Group Services and System Aspects ***TSGS#13(01)0582~~565~~***
Meeting #13, Beijing, China, 24-27 September 2001

Source:	**Telenor, Telia, Ericsson, Microsoft, KPN, Siemens**
Title:	**WI Proposal : 'Feasibility study on WLAN-UMTS Interworking'**
Agenda item:	**8.9 Beyond Release 5 and/or Current work plan (Vision, Phasing etc.)**
Document for:	**Approval**

Work Item Description

Title

WLAN-UMTS Interworking

1 3GPP Work Area

	Radio Access
X	Core Network
X	Services

2 Linked work items

Linked Building Blocks to be defined.

3 Justification

There is an increasing demand for wireless 'local area' access in very different scenarios. Wireless access to Internet is provided to public users by the use of currently existing WLAN technology such as IEEE 802.11b. In companies wireless access is provided to portable computer users by use of the same technology. For residential use wireless access is also increasing. 3rd generation technologies and systems will provide bearers for similar packet switched services, with greater mobility and wider area coverage albeit with reduced data rate.

WLAN technology can complement UMTS in deployment environments with high user density and demand for higher data rates. However, in order to provide flexible use of both technologies in these environments and to provide mobility of services between the two technologies it is sensible that some degree of interworking exists between the two technologies/systems.

~~Interworking could be achieved in different ways. However, using WLAN as an IP access network complementary to current UMTS PS domain and utilising the UMTS subscriber databases has several advantages. It minimises the impact on UMTS systems and reduces the need for standardisation work within 3GPP. In addition the architectural solution with its IETF defined interface towards UMTS networks has the advantage of being generically suitable for all WLAN technologies. This is in line with the ongoing work in ETSI Project BRAN.~~

~~Starting the process of standardisation in time is of strategic interest to the mobile operators, in order to enable attractive commercial models.~~

4 Objective

The purpose of the feasibility study ~~this work item~~ is to ~~standardise~~ study a generic interworking functionality between UMTS and WLAN systems (e.g. IEEE 802.11 family, HIPERLAN/2, …) ~~to complement the current UMTS PS domain~~. In specific it aims at:

- Study the service requirements for interworking.
- ~~Defining the Interworking Requirements put upon UMTS~~
- Study the different possible architectures for interworking.
- ~~Specifying the Interworking Functionality~~
- ~~Including the needed enhancements in the UMTS specifications~~

~~The initial phase will specify the functionality needed for the interworking and functionality needed to enable subscribers to roam between UMTS and WLAN, including security aspects and charging principles. Later phases aim to deal with intersystem session continuity and service mobility.~~

5 Service aspects

Service aspects should assess service requirements and the support of UMTS services over the WLAN radio access.

6 MMI aspects

MMI aspects should define a minimum set of functions to support the choice of access system by the user and/or terminal for when both access systems are available.

7 Charging Aspects

Both ~~Charging~~ charging requirements ~~should be specified. The~~and ~~-~~charging architecture should be studied ~~out of these requirements~~. In particular it should considered whether WLAN charging should be integrated with the UMTS charging architecture or not.

8 Security Aspects

Security requirements should be ~~specified in such a way~~studied given the prerequisite that a) the security level of the UMTS platform itself is not impacted, b) the security level provided to users in the WLAN mode is comparable to the one of UMTS.

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes	~~X~~	~~X~~		~~X~~	
No			~~X~~		~~X~~
Don't know	X	X	X	X	X

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
~~TS 22.xxx~~	~~WLAN-UMTS Interworking~~	~~SA1~~		~~SA#15~~	~~SA#16~~	~~TS: Service requirements of the UMTS-WLAN interworking. Specifying the functional enhancements needed in UMTS.~~
TR 23.xxx	Feasibility study on WLAN-UMTS interworking ~~architecture~~	SA1	SA2	SA#15	SA#16	TR

Affected existing specifications				
		~~USIM Specification~~		
~~23.221~~		~~Architectural Requirements~~	~~SA#15~~	~~Include UMTS - WLAN architectural requirements~~
~~23.002~~		~~Network Architecture~~	~~SA#16~~	
~~22.101~~		~~UMTS Service principles~~	~~SA#15~~	~~Include UMTS - WLAN service requirements~~
~~22.060~~		~~General Packet Radio Service (GPRS); Stage 1~~	~~SA#15~~	~~Include UMTS - WLAN service requirements~~
~~22.228~~		~~IP multimedia subsystem; Stage 1~~	~~SA#15~~	~~Include UMTS - WLAN service requirements~~
~~21.111~~		~~USIM and IC card requirements~~	~~SA#15~~	
~~21.133~~		~~Security Threats and Requirements~~	~~SA#15~~	
~~31.102~~		~~Characteristic of the USIM application~~	~~SA#15~~	

11 Work item rapporteurs

Fredric Paint, Telenor

12 Work item leadership

SA1 (secondary SA2)

13 Supporting Companies

Telenor, Ericsson, Telia, Microsoft, KPN, Siemens, Samsung Electronics Research Institute, Motorola

14 Classification of the WI (if known)

~~For further study~~
~~t~~The work item is a feasibility study ~~for a Feature~~