Source:	**SA5 (Telecom Management)**
Title:	**Revised SP-020730 Rel-6 BB (BB1) WID on Charging Management for Bearer level**
Document for:	**Approval**
Agenda Item:	**7.5.3**

3GPP TSG-SA5 (Telecom Management)   S5-034149

Meeting #33, Phoenix, USA, 24-28 February 2003

Source:	**SWG-B Chair**
Title:	**Work Item Description: [Bearer Charging] WI type: [Building Block]**
Document for:	**Decision**
Agenda Item:	**5.2**

Work Item Description

Title: Charging management for bearer level

1   3GPP Work Area

X	Radio Access
X	Core Network
X	Services
	Terminals

2   Linked work items

As described in the parent Feature "Charging Management"

3   Justification

Currently (i.e. in 3GPP release 5), only the bearer level charging functionality for the Circuit Switched (CS) and Packet Switched (PS) domains is are defined. With the advent of WLAN in Rel-6, bearer level charging functionality must be provided for this new access technology.

In addition, more services, such as the ESS and Presence Service, are being standardised in 3GPP, and existing services and subsystems (e.g. LCS, IMS) are being enhanced. The impacts of these additional services and enhancements on the bearer level charging have to be analysed, and specified within the charging TSs as required, both for the existing domains (CS and PS), and for WLAN as the new means to access a GSM / UMTS wireless network.

Also required by these new charging features are considerations of architectural implications, the method of defining the information model, and the resulting impacts on the existing stage 2 charging specification, i.e. TS 32.200. Finally, the addition of more sophisticated functionality is planned in certain areas in the existing specifications, such as the charging characteristics.

4 Objective

The objectives of this work item are:

- to specify bearer level charging functionality for WLAN access for both offline and online charging;
- to harmonise online charging for GPRS with WLAN online charging;
- to upgrade the existing charging specifications as appropriate in order to incorporate changes and additions necessary to support the bearer level charging functionalities listed under item 3 above.

5 Service Aspects

Appropriate network nodes will need to collect and forward service related charging data.

6 MMI-Aspects

None

7 Charging Aspects

The main principles and structure of the charging TSs are described in the parent Feature "Charging Management". It is expected that this BB will result in the generation of ~~changes to the existing~~ TSs' ~~32.200, 32.205 and 32.215~~32.250, 32.251, 32.252, and sections of 32.240, 32.297, 32.298 and 32.299. ~~In addition, new Implementers' Guides (stage3 descriptions) will be provided for WLAN offline and online charging, and for PS domain online charging.~~ Refer to the table ~~below~~ in section 10 for more details about the expected output for this BB.

8 Security Aspects

None

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes			X (WLAN)	**X**	
No	**X**	X			
Don't know					X

WLAN AN may be affected if the AAA server is considered to be part of the AN.

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

~~Note that the exact structure for the TSs described below is still under discussion.~~

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.xxx	PS domain online charging	SA5		TSG#20 (06/03)	TSG#21 (09/03)	
32.yyy	WLAN online charging	SA5		TSG#20 (06/03)	TSG#21 (09/03)	
32.zzz	WLAN offline charging	SA5		TSG#20 (06/03)	TSG#21 (09/03)	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.200			TSG#21 (09/03)	
32.205			TSG#21 (09/03)	
32.215			TSG#21 (09/03)	

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.240	Charging Architecture and Principles – Stage 2	SA5		12/2003	03/2004	
32.250	CS domain charging	SA5		12/2003	03/2004	
32.251	PS domain charging	SA5		12/2003	03/2004	
32.252	WLAN charging	SA5		12/2003	03/2004	
32.297	Charging Interface Description to the Billing Domain	SA5		12/2003	03/2004	
32.298	Charging Encoding Rules Description	SA5		12/2003	03/2004	
32.299	Diameter based Charging Protocol Description	SA5		12/2003	03/2004	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments

11   Work item Rapporteur~~rapporteurs~~

Benni ALEXANDER ([benni.alexander@Nokia.com])

~~Karl-Heinz NENNER (SA5 SWG-B Chair {karl-heinz.nenner@t-mobile.de})~~

12   Work item leadership

SA5

13   Supporting Companies

Ericsson, Lucent, Nokia, Nortel Networks, Siemens, T-Mobile, Orange, Telecom Italia, Cingular Wireless~~.~~. TeliaSonera, AWS, Amdocs.

14   Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14b   The WI is a **Building Block**: parent **Feature**

Charging Management

15   Work Tasks under this Building Block/Feature

Note that the exact structure for the TSs described below is still under discussion.

Building Block	Work Task	Description	SA5 Tdoc#

Building Block	Work Task	Description	SA5 Tdoc#
Bearer Charging	WT1: Align PS domain online charging with WLAN	~~Generation of new TS 32.xxx for PS domain online charging, expected to be based on the Ro interface as used for WLAN. This TS will contain mainly the online charging data description and the charging protocol specification.~~ Enhancement of the new PS domain charging specification TS 32.251 for PS domain online charging, expected to be based on the Ro interface similar to online charging for WLAN.	
Bearer Charging	WT2: WLAN offline charging	Generation of the offline part of the new WLAN charging specification, TS 32.252, where Offline Charging is expected to be based on the 'Rf' interface as defined for IMS Charging in Rel-5. This TS will contain the online & offline charging framework and the charging data description specific to WLAN. ~~Generation of new TS 32.yyy for WLAN offline charging, expected to be based on the Rf interface defined for IMS in Rel-5. This TS will contain mainly the CDR descriptions, charging protocol, and file based interface to the billing domain.~~	
Bearer Charging	WT3: WLAN online charging	Generation of the online part of the new WLAN charging specification, TS 32.252, where Online Charging is expected to be based on the 'Ro' interface as defined for IMS Charging in Rel-5. This TS will contain the online & offline charging framework and the charging data description specific to WLAN. ~~Generation of new TS 32.zzz for WLAN online charging, expected to be based on the Ro interface that was specified for the IMS in Rel-5. This TS will contain mainly the online charging data description and the charging protocol specification.~~	
Bearer Charging	WT4: Alignment of existing charging specifications	~~This WT comprises all necessary alignments and upgrades of existing charging specifications TS 32.200, 32.205, and 32.215, due to the emergence of new or modified services, subsystems, and access technologies, with regards to bearer charging. Also included is the addition of functional enhancements to the above TSs.~~ This WT comprises all necessary alignments to the charging specifications TS 32.240, 32.250, 32.251, 32.252, , 32.297, 32.298 and 32.299, due to the emergence of new or modified services, subsystems, and access technologies, with regard to bearer charging. Also included is the addition of functional enhancements to the above TSs'.	

Source:	**SA5 (Telecom Management)**
Title:	**Revised SP-020730 Rel-6 BB (BB1) WID on Charging Management for Bearer level**
Document for:	**Approval**
Agenda Item:	**7.5.3**

3GPP TSG-SA5 (Telecom Management) **S5-034149**
Meeting #33, Phoenix, USA, 24-28 February 2003

Source:	**SWG-B Chair**
Title:	**Work Item Description: [Bearer Charging] WI type: [Building Block]**
Document for:	**Decision**
Agenda Item:	**5.2**

Work Item Description

Title: **Charging management for bearer level**

1 **3GPP Work Area**

X	Radio Access
X	Core Network
X	Services
	Terminals

2 **Linked work items**

As described in the parent Feature "Charging Management"

3 **Justification**

Currently (i.e. in 3GPP release 5), only the bearer level charging functionality for the Circuit Switched (CS) and Packet Switched (PS) domains are defined. With the advent of WLAN in Rel-6, bearer level charging functionality must be provided for this new access technology.

In addition, more services, such as the ESS and Presence Service, are being standardised in 3GPP, and existing services and subsystems (e.g. LCS, IMS) are being enhanced. The impacts of these additional services and enhancements on the bearer level charging have to be analysed, and specified within the charging TSs as required, both for the existing domains (CS and PS), and for WLAN as the new means to access a GSM / UMTS wireless network.

Also required by these new charging features are considerations of architectural implications, the method of defining the information model, and the resulting impacts on the existing stage 2 charging specification, i.e. TS 32.200. Finally, the addition of more sophisticated functionality is planned in certain areas in the existing specifications, such as the charging characteristics.

4 **Objective**

The objectives of this work item are:

- to specify bearer level charging functionality for WLAN access for both offline and online charging;
- to harmonise online charging for GPRS with WLAN online charging;
- to upgrade the existing charging specifications as appropriate in order to incorporate changes and additions necessary to support the bearer level charging functionalities listed under item 3 above.

5 Service Aspects

Appropriate network nodes will need to collect and forward service related charging data.

6 MMI-Aspects

None

7 Charging Aspects

The main principles and structure of the charging TSs are described in the parent Feature "Charging Management". It is expected that this BB will result in the generation of TSs' 32.250, 32.251, 32.252, and sections of 32.240, 32.297, 32.298 and 32.299. Refer to the table in section 10 for more details about the expected output for this BB.

8 Security Aspects

None

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes			X (WLAN)	X	
No	X	X			
Don't know					X

WLAN AN may be affected if the AAA server is considered to be part of the AN.

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

New specifications						
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32.252	WLAN charging	SA5		12/2003	03/2004	
32.297	Charging Interface Description to the Billing Domain	SA5		12/2003	03/2004	
32.298	Charging Encoding Rules Description	SA5		12/2003	03/2004	
32.299	Diameter based Charging Protocol Description	SA5		12/2003	03/2004	
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	

11 Work item Rapporteur

Benni ALEXANDER ([benni.alexander@Nokia.com])

12 Work item leadership

SA5

13 Supporting Companies

Ericsson, Lucent, Nokia, Nortel Networks, Siemens, T-Mobile, Orange, Telecom Italia, Cingular Wireless, TeliaSonera, AWS, Amdocs.

14   **Classification of the WI (if known)**

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

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Charging Management

15   Work Tasks under this Building Block/Feature

Note that the exact structure for the TSs described below is still under discussion.

Building Block	Work Task	Description	SA5 Tdoc#
Bearer Charging	WT1: Align PS domain online charging with WLAN	Enhancement of the new PS domain charging specification TS 32.251 for PS domain online charging, expected to be based on the Ro interface similar to online charging for WLAN.	
Bearer Charging	WT2: WLAN offline charging	Generation of the offline part of the new WLAN charging specification, TS 32.252, where Offline Charging is expected to be based on the 'Rf' interface as defined for IMS Charging in Rel-5. This TS will contain the online & offline charging framework and the charging data description specific to WLAN.	
Bearer Charging	WT3: WLAN online charging	Generation of the online part of the new WLAN charging specification, TS 32.252, where Online Charging is expected to be based on the 'Ro' interface as defined for IMS Charging in Rel-5. This TS will contain the online & offline charging framework and the charging data description specific to WLAN.	
Bearer Charging	WT4: Alignment of existing charging specifications	This WT comprises all necessary alignments to the charging specifications TS 32.240, 32.250, 32.251, 32.252, , 32.297, 32.298 and 32.299, due to the emergence of new or modified services, subsystems, and access technologies, with regard to bearer charging. Also included is the addition of functional enhancements to the above TSs'.	