Source: **TSG SA WG2 (Tdoc S2-023317)**
Title: **WID on Overall architectural aspects of IP flow based bearer level charging**
Agenda Item: **7.2.3**

Work Item Description

Title   **Overall architectural aspects of IP flow based bearer level charging**

1   3GPP Work Area

	Radio Access
X	Core Network
	Services

2   Linked work items

- Charging Management (SA5 Feature)
- Charging Management for Bearer level (SA5 BB)
- Charging Management for IM Subsystem (SA5 BB)
- Charging Management for Service domain (SA5 BB)

3   Justification

Recent 3GPP Releases have developed or are developing standards for a variety of different PS-based services:
> - Non-realtime services, e.g. Presence, IMS messaging, etc…
> - Realtime services, e.g. IMS multimedia sessions, Packet-switched streaming, MBMS, etc…

Additionally, operators provide PS bearer connectivity for users to access e.g. their E-mail, FTP, web-based services – these application-level services themselves may also be provided by the operator.

Conclusively, it can be stated in general that a PDP Context will carry a diverse mix of traffic. At the same time, the standard PS charging architecture has fundamentally remained unchanged since R97 leaving operators with an apparent lack of bearer charging capabilities for these services.

In case of an IMS session, the issue may apply to both the originating and the terminating side, and there is a need to study the relationship between the two.

This shall take into account the charging situations required by SA1 (see TS 22.115).

4 Objective

Taking the above justifications for bearer charging architectural evolution into account, the objective is to analyse what charging capabilities the access network will have to provide, e.g. to analyse how the GPRS core network entities would be effected. Accordingly, it should be analysed what new interfaces are needed to provide enhanced bearer charging functionalities, and how these interfaces fit into the overall 3GPP architecture. More specifically, it needs to be addressed how possible new interfaces for enhanced bearer charging control would relate to bearer QoS control concepts (e.g. Service Based Local Policy).

To improve the architectural support of different charging models another objective is to study interoperator charging communications between networks and roaming aspects, e.g. to provide identification of serving network at IMS level.

It is intended to provide the results of this analysis to SA5 as an input for their corresponding work in this area.

5 Service Aspects

Service implications for bearer level charging.

6 MMI-Aspects

None

7 Charging Aspects

The main objective of the Work Item is to focus on charging aspects.

8 Security Aspects

In case new interface(s) are defined as a result of the overall architectural analysis, security aspects of these interfaces will have to be addressed by SA3.

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X		X		
Don't know		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
TR 23.8xx	Overall architectural aspects of IP flow based bearer level charging	SA2		SA#19 (Mar 03)	SA#20 (June 03)	
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
TS 23.207		End-to-end QoS concept and architecture		SA#20 (Jun 03)		
TS 23.060		GPRS Service Description		SA#20 (Jun 03)		

11   Work item raporteurs

Magnus Olsson (Ericsson)

12   Work item leadership

SA2

13   Supporting Companies

Ericsson, Nokia, Nortel, Vodafone, T-Mobile, Siemens, Lucent, KPN

14   Classification of the WI (if known)

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

14a   The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b   The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c   The WI is a Work Task: parent Building Block

Charging Management for Bearer level