3GPP TSG-CN Meeting #25 **NP-040339**
8th – 10th September 2004. Palm Springs, USA.

Source:	**CN3**
Title:	**WID for Rx Reference point specification for flow based charging**
Agenda item:	**9.22**
Document for:	**APPROVAL**

Work Item Description

Title Rx reference point specification for flow based charging

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

- Overall architectural aspects of flow based bearer level charging (SA2 Work Task)
- 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.

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.

As a result, SA2 have conducted an architectural analysis and specification work on enhancing the PS core network to support flow-based charging capabilities. Among other aspects, this work has defined a new reference point Rx. The Rx reference point enables transport of information (e.g. dynamic media stream information) from the application function to the charging rules function. An example of such information would be filter information to identify the packet flow. This functionality is required for both offline and online charging.

SA2 has conducted an architectural analysis and a close relationship between the Rx and Gq reference exist. Since both the reference points Rx and Gq in a wider scope relate to information flows between the same physical entities (AF and GGSN) and the information defined for the Rx reference point is quite similar to the Gq information, it shall be possible to implement a combined CRF/PDF that has a single interface towards the AF. It shall also be possible to implement a separate CRF and PDF. In that sense Rx is seen as a subset of Gq.

4 Objective

The objective is to develop a protocol level of detail for the Rx reference point to cover the functionalities defined in 23.125. The Rx reference point may be intra- or inter-domain. Rx should be a subset of Gq.

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

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

8 Security Aspects

Security aspects of Rx is expected to be analyzed by SA3.

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

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 29.xxx	TBD	CN3		CN#26 (Dec 04)	CN#26 (Dec 04)	The need of this new TS will be confirmed based on contributions. It is possible that modifications to TS 29.209 is enough

Affected existing specifications				
Spec No.	Title	Prime rsp. WG	Approved at plenary#	Comments
TS 29.209	Policy Control over Gq interface	CN3	CN#26 (Dec 04)	I

11 Work item raporteurs

Javier Gonzalez Gallego
Email: ggfjATnortelnetworksDOTcom

12 Work item leadership

CN3

13 Supporting Companies

Nortel, Lucent, Vodafone, Siemens, Ericsson

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