

**3GPP TSG CN Plenary
Meeting #11, Palm Springs, U.S.A
14th - 16th March 2001**

Tdoc NP-010072

Source: TSG CN WG4
Title: CRs to R98 on Work Item GTP Enhancement
Agenda item: 7.14
Document for: APPROVAL

Introduction:

This document contains 1 CR on **R98** Work Item "**GTP Enhancement**", that have been agreed by **TSG CN WG4**, and are forwarded to TSG CN Plenary meeting #11 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
09.60	A102	1	N4-010450	R98	Re-configure the IEs in the Create PDP Context Request to make it in ascending order	F	7.6.0

CHANGE REQUEST

⌘ **09.60 CR A102** ⌘ rev **1** ⌘ Current version: **7.6.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Re-configure the IEs in the Create PDP Context Request to make it in ascending order		
Source:	⌘ CN4		
Work item code:	⌘ GTP Enhancements	Date:	⌘ 26 th February 2001
Category:	⌘ F (agreed by consensus)	Release:	⌘ R98
	Use <u>one</u> of the following categories: F (essential 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Subcategory: agreed by consensus. According to the TS 09.60 section 7.9, the information elements shall be sorted, with the Type fields in ascending order, in the control plane messages. Currently, the IEs defined for the Create PDP Context Request message do not follow the above rule. (I.e. This message has wrong IE order.) R99 was agreed to update in the last meeting
Summary of change:	⌘ This CR reconfigures the IEs in the Create PDP Context Request message in order to make it in ascending order.
Consequences if not approved:	⌘ Since the PDU Notification Request message does not follow the very fundamental rule in GTP, some of GTP node may encounter the serious problem in GTP message handling. In addition, R97 and R99 specification differ from R98.

Clauses affected:	⌘ 7.5.1,		
Other specs Affected:	⌘ <input type="checkbox"/> Other core specifications	⌘ <input type="checkbox"/>	⌘ <input type="checkbox"/>
	<input type="checkbox"/> Test specifications	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> O&M Specifications	<input type="checkbox"/>	<input type="checkbox"/>
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.5.1 Create PDP Context Request

A Create PDP Context Request shall be sent from a SGSN node to a GGSN node as a part of the GPRS PDP Context Activation procedure. The GGSN IP address where the SGSN sends the Create PDP Context Request is the first IP address in the list of IP addresses provided by the DNS server. After sending the Create PDP Context Request message, the SGSN marks the PDP context as 'waiting for response'. In this state the SGSN shall accept G-PDUs from the GGSN but shall not send these G-PDUs to the MS. A valid request initiates the creation of a tunnel between a PDP Context in a SGSN and a PDP Context in a GGSN. If the procedure is not successfully completed, the SGSN repeats the Create PDP Context Request message to the next GGSN address in the list of IP addresses, if there is one. If the list is exhausted the activation procedure fails.

The Flow Label Data I field specifies a downlink flow label for G-PDUs which is chosen by the SGSN. The GGSN shall include this flow label in the GTP header of all subsequent downlink G-PDUs which are related to the requested PDP context.

The Flow Label Signalling field specifies a downlink flow label for signalling messages which is chosen by the SGSN. The GGSN shall include this flow label in the GTP header of all subsequent downlink signalling messages which are related to the requested PDP context.

The MSISDN of the MS is passed to the GGSN inside the Create PDP Context Request; This additional information can be used when a secure access to a remote application residing on a server is needed. The GGSN would be in fact able to provide the user identity (i. e. the MSISDN) to the remote application server, providing it with the level of trust granted to users through successfully performing the GPRS authentication procedures, without having to re-authenticate the user at the application level.

If the MS requests a dynamic PDP address and a dynamic PDP address is allowed, then the PDP Address field in the End User Address information element shall be empty. If the MS requests a static PDP Address then the PDP Address field in the End User Address information element shall contain the static PDP Address. In case the PDP addresses carried in the End User Address and optionally in the Protocol Configuration Option information element contain contradicting information, the PDP address carried in the End User Address information element takes the higher precedence. The Quality of Service Profile information element shall be the QoS values to be negotiated between the MS and the SGSN at PDP Context activation.

The SGSN shall include an SGSN Address for signalling and an SGSN address for user traffic, which may differ from that provided by the underlying network service (e.g. IP). The GGSN shall store these SGSN Addresses and use them when sending signalling on this GTP tunnel or G-PDUs to the SGSN for the MS.

The SGSN shall include a Recovery information element into the Create PDP Context Request if the SGSN is in contact with the GGSN for the very first time or if the SGSN has restarted recently and the new Restart Counter value has not yet been indicated to the GGSN. The GGSN that receives a Recovery information element in the Create PDP Context Request message element shall handle it in the same way as when receiving an Echo Response message. The Create PDP Context Request message shall be considered as a valid activation request for the PDP context included in the message.

The SGSN shall include either the MS provided APN, a subscribed APN or an SGSN selected APN in the message; the Access Point Name may be used by the GGSN to differentiate accesses to different external networks. The Selection Mode information element shall indicate the origin of the APN in the message.

The optional Protocol Configuration Options information element is applicable for the end user protocol 'IP' only.

The SGSN shall select one GGSN based on the user provided or SGSN selected APN. The GGSN may have a logical name that is converted to an address. The conversion may be performed with any name-to-address function. The converted address shall be stored in the "GGSN Address in Use" field in the PDP context and be used during the entire lifetime of the PDP context.

NOTE: A DNS query may be used as the name-to-IP address mapping of the GGSN. The IP address returned in the DNS response is then stored in the "GGSN Address in Use" field in the PDP context.

The SGSN may send a Create PDP Context Request even if the PDP context is already active.

The GGSN shall check if a PDP context already exists for the TID. The existing parameters in the PDP context shall then be replaced with the parameters in the Create PDP Context Request message. If a dynamic PDP address has already been allocated for the existing context, this address should be used and copied to the Create PDP Context Response message.

If the GGSN uses the MNRG flag and the flag is set, the GGSN should treat the Create PDP Context Request as a Note MS Present Request and clear the MNRG flag.

The optional Private Extension contains vendor or operator specific information.

Table 4: Information elements in a Create PDP Context Request

Information element	Presence requirement	Reference
Quality of Service Profile	Mandatory	7.9.6
Recovery	Optional	7.9.12
Selection mode	Mandatory	7.9.13
Flow Label Data I	Mandatory	7.9.14
Flow Label Signalling	Mandatory	7.9.15
MSISDN	Mandatory	
End User Address	Mandatory	7.9.18
Access Point Name	Mandatory	7.9.21
Protocol Configuration Options	Optional	7.9.22
SGSN Address for signalling	Mandatory	GSN Address 7.9.23
SGSN Address for user traffic	Mandatory	GSN Address 7.9.23
MSISDN	Mandatory	7.9.24
Private Extension	Optional	7.9.26