**3GPP TSG RAN#28 meeting** **RP-050337**
**Quebec, Canada, June 1st-3rd, 2005**

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**Agenda Item:** 8.14
**Source:** Siemens
**Title:** Continuous connectivity for packet data users
**Document for:** Approval

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# Work Item Description

Title: Continuous connectivity for packet data users

## 1 3GPP Work Area

| | |
|---|---|
| X | Radio Access |
| | Core Network |
| | Services |

## 2 Linked work items

WI "CS and PS Call Setup Delay Improvement"

## 3 Justification

Packet-oriented features like HSDPA and E-DCH in WCDMA/UMTS systems will promote the subscribers' desire for continuous connectivity, where the user stays connected over a long time span with only occasional active periods of data transmission, and avoiding frequent connection termination and re-establishment with its inherent overhead and delay.

This is the perceived mode a subscriber is used to in fixed broadband networks (e.g. DSL) and a precondition to attract users from fixed broadband networks.

To support a high number of HSDPA users in the code limited downlink the feature F-DPCH was introduced in REL-6.

In the uplink, the limiting factor for supporting a similarly high number of E-DCH users is the noise rise.

For such a high number of users in the cell it can be assumed that many users are not transmitting any user data for some time (e.g. for reading during web browsing), so the corresponding overhead in the noise rise caused by maintained control channels will significantly limit the number of users that can be efficiently supported.

As completely releasing dedicated channels during periods of traffic inactivity would cause considerable delays for reestablishing data transmission and a corresponding bad user perception, this WI is intended to reduce the impact of control channels on uplink noise rise while maintaining the connections and allowing a much faster reactivation for temporarily inactive users.

## 4 Objective

The objective of this work item is to reduce the uplink noise rise from physical control channels of inactive packet data users.

This is intended to significantly increase the number of inactive packet data users (i.e. HS-DSCH/E-DCH users without UL DPDCH) in the UMTS FDD system

- that can stay in CELL_DCH state over a long time period,
- without degrading cell throughput, and
- that can restart transmission with a much shorter delay (<50ms) than would be necessary for reestablishment of a new connection.

## 5 Service Aspects

*None*

## 6 MMI-Aspects

*None*

## 7 Charging Aspects

*None*

## 8 Security Aspects

*None*

## 9 Impacts

| Affects: | USIM | ME | AN | CN | Others |
|---|---|---|---|---|---|
| Yes | | X | X | | |
| No | 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 endorsement at plenary# | Approved at plenary# | Comments |
| | | RAN1 | RAN2, RAN3 | | RAN#30 | |

| Affected existing specifications | | | | |
|---|---|---|---|---|
| Spec No. | CR | Subject | Approved at plenary# | Comments |
| tbd | | | RAN#30 | |

**11 Work item raporteurs**

Joerg Gustrau (Siemens)

**12 Work item leadership**

TSG-RAN WG1

**13 Supporting Companies**

Cingular, Nokia , Siemens AG, T-Mobile, Vodafone

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

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

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

14b The WI is a Building Block: parent Feature

REL-7 RAN Improvements

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