

Outcome of TSG GERAN WG1 # 33 meeting 12-16 February 2007, Seoul, South Korea



Jacques Achard
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Packet Radio (GPRS and EGPRS)

Main agreed CRs:

CR to 45.008 Rel-7 clarifying which radio blocks have to be taken into account in the calculation of MEAN(BEP) and CV(BEP).

CR to 45.005 Rel-7 introducing an exception for the guard period between an access burst and a normal burst sent with high timing advance value (a rather exceptional case in (E)GPRS).

CR to 45.002 Rel-7 introducing the Flexible Timeslot Assignment (FTA).

Endorsed CRs:

CRs to 44.060 and 24.008 Rel-7 introducing FTA.

GSM - 3G and 3G LTE interoperability and multimode operation

Discussion papers (GERAN-LTE):

Monitoring LTE cells from GSM: feasibility ok in dedicated mode, but not always possible in PTM or DTM -> TSG GERAN should try to influence RAN work on LTE asap.

Impacts and Constraints in defining Inter-RAT Handovers between GERAN and E-UTRAN: all solutions impact GERAN to some extent.

GERAN-LTE framework: preferred way forward: PS HO + conversational services -> draft LS prepared for a number of 3GPP TSGs and WGs indicating this preference and potential impact of handling too many GERAN configurations (to be seen in Plenary).

Agreed CR (GERAN-UTRAN):

CR to 45.008 Rel-6 and Rel-7 stating that the MS should not monitor and report UTRAN cells that are already abandoned for cell reselections on the basis of belonging to a forbidden LA or a foreign PLMN.

HUGE

Discussion Papers:

HUGE stage 2 working assumptions: working assumptions agreed, no agreement to remove HUGE level A.

HUGE link performance update -> QPSK could be interesting at cell edge, not part of the work item at the moment.

Impact of smooth compression on EVM -> compression allows higher transmitted powers (which improves link budget) but degrades EVM (which also degrades link budget). Both effects need to be assessed simultaneously in order to derive if compression brings a net gain. Analysis valid also for RED HOT.

New training sequences (also valid for RED HOT): further investigations needed.

Normal burst formats for higher symbol rate (also valid for RED HOT): length of training sequence discussed.

Considerations on 16- / 32-QAM and turbo codes: what could be reused from HSPA work has been considered.

RED HOT

In addition to the previous documents applicable to RED HOT:

Working assumptions for RED HOT have been discussed.

Details of possible physical layers have been presented by a several companies.

PS handover / DTM handover

Agreed CRs to TS 43.129 (PS HO stage 2):

- Various updates on PS HO (Rel-6 and Rel-7).
- Correction of conditions for the PS HO Reject (Rel-6 and Rel-7).
- Introduction of the Activity Status Indicator (Rel-7).
- Introduction of Direct Tunnel Functionality (Rel-7).

Agreed CR to TS 43.055 (DTM Stage 2):

- Fast sending of DTM HO command (Rel-7).

GERAN Evolution

Voice capacity evolution with Orthogonal Sub-Channel:

Decided not to include it in the Feasibility Study on GERAN Evolutions (TR 45.912).

Proposal raised significant interest.

Several open points raised.

Will be further discussed.

Type 2 terminals:

Very detailed analysis on feasibility of type 2 terminals provided by one company -> type 2 terminals feasible, but with relaxed specifications (output power and sensitivity); system impact of these relaxations would need to be studied in order to assess real gains brought by introduction of type 2 MSs.

Proposal for a new type of duplexer for type 2 MSs proposed by another company.

All these inputs have been captured in TR 45.912 (CRs agreed).

System performance with new pulse shaping filter:

Proposal is to widen the transmit filter to 270 kHz with legacy modulations; would provide gains in networks dominated by co-channel interference and losses in networks dominated by adjacent channel interference; hence activation of the feature should be under operator control.

Dual carrier in Downlink

Discussion papers:

Terminals having a second receiver for DCDL could use it for neighbour cell measurements when in a single carrier assignment. This would allow the terminal to transfer on more timeslots than its switching capabilities would normally allow.

Proposal to indicate this by a "fake" multislots class. Corresponding CR to 45.002 not agreed in order to leave time for companies to analyse it.

MSRD and Dual Carrier: proposal that the MS can switch autonomously between MSRD and DCDL depending on radio conditions and/or battery status. Decision postponed in order to leave time for companies to analyse the concept.

Main agreed CRs:

CR 43.064 Removal of dependencies between uplink and downlink dual carrier configurations (Rel-7).

CR 45.008 Introduction of downlink dual carrier (Rel-7): clarifies that channel quality reporting has to be performed on a per carrier basis.

CR 45.002 Clarification of multislots capabilities for non-DCDL assignments (Rel-7).

Latency reductions

Discussion papers:

Proposal to decouple the PAN from the payload in DL, and to identify the MS to which the PAN is addressed by USF. No agreement.

Discussion on fast ack/nack report: handshake procedure proposed in multiple TBF assignment context in order to ensure that the bitmap in the PAN is associated to the correct TBF. No agreement.

Discussion paper on the coding schemes when RTTI and legacy MSs share the same timeslots: some support for the proposal, but no complete agreement.

Faster resumption of UL transmissions: mechanisms proposed in order to allow appropriate USF scheduling by the BSS during speech resumption after an UL DTX period (VoIP).

Uplink scheduling strategies for RTTI TBFs: proposal to combine RTTI with EDA and FTA (Flexible Timeslot Allocation).

Set of working assumptions for FANR reviewed but not completely endorsed due to lack of time.

Main CRs:

Decision to postpone approval of stage 3 CRs until a consistent set is available.

CR 45.002 Introduction of RTTI (Rel-7): needs to be completed.

CR 43.064 Introduction of Fast Ack/Nack Reporting (Rel-7).

Draft CR 24.008 Introduction of Reduced Latency EGPRS capability (Rel-7): endorsed.

Miscellaneous

DARP Phase II: square brackets removed in 45.005 (Rel-7). Work still needed to extend legacy requirements to a terminal with two antennas.

LCS: CRs to 45.005 Rel-7 on A-GPS minimum performance requirements agreed.

E-GAN: TR prepared and endorsed, with corresponding draft LS to CT1, SA2, RAN2, RAN3.

Multiblock handover command: proposal thoroughly discussed, 3 potential solutions discussed:

- 1) no impact on terminal;
- 2) impact on terminal but no signalling of terminal capability and benefits to legacy terminals; compatibility with legacy terminals seen by an issue by some companies;
- 3) impact on terminal, signalling of terminal capabilities, k=2 in LAPDm protocol, no benefit on legacy terminals, no compatibility issue with legacy terminals, seen as too complex by some companies.

Some companies would still like to see evidence of benefit in live situations.

Relaxation of some TS 45.005 BTS requirements:

- 1) system simulations provided showing negligible impact of relaxations; propagation model questioned;
- 2) many comments exchanged;
- 3) potential issue with R-GSM to be investigated;
- 4) some companies have said that this might deserve a work item but there was no agreement;
- 5) further investigations needed.

Registration in densely populated areas: draft LS endorsed to SA1 and RAN2 highlighting that solution should be the same for GERAN, UTRAN and E-UTRAN.