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Source: **3GPP TSG-GERAN Chairman, Niels Peter Skov Andersen**

Title: **TSG-GERAN Management Report**

Agenda item: 4.5

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Decision	
Discussion	
Information	**X**

1   Main events since last meeting

In the period April 2004 (PCG#12) to October 2004 (PCG#13) TSG-GERAN have held three TSG-GERAN plenary meeting, TSG-GERAN#19 19 - 23 April 2004 in Cancun Mexico, TSG-GERAN#20 Spain 21 - 25 June 2004 in Bilbao, and TSG-GERAN#21 23 – 27 August 2004. Further to TSG-GERAN plenaries, a number of meetings of the TSG-GERAN working groups and ad-hoc meetings have taken place.

The internal structure of TSG GERAN is unchanged since TSG GERAN#14 and the following working groups are established:

TSG GERAN WG1 – Radio Aspects, Base Station Testing and O&M

TSG GERAN WG2 – Protocol Aspects

TSG GERAN WG3 – Terminal Testing

This structure is well functioning and the terms of references for the TSG GERAN Working Groups are unchanged since TSG GERAN#15.

2   Releases

No major problems have been found in relation to Release 4 and TSG GERAN therefore considers release 4 stabile. It is perhaps worth recalling that regarding earlier releases TSG-GERAN have issued a technical specification documenting very late changes to the Release 97 and Release 98 specifications for GPRS. This in order to ensure that documentation of the behaviour already existing mobiles exist when it has been found necessary to update the specifications for Release 97 and Release 98. For Release 5 the key novelties are support for voice on 8-PSK channels full rate and half rate. Support for AMR-WB and support of Iu interface between the GERAN and the Core Network with the associated protocol stacks to the mobile etc. Release 5 is considered stable except for usual correction phase following introduction of major items in the specifications.

As reported earlier TSG GERAN are looking into performing enhancements to the A/Gb mode of operation in order to be able to provide (a subset of) IMS services over the A/Gb interfaces and thereby enable the IMS service on a larger base of GSM legacy networks. Originally TSG GERAN

decided to perform a feasibility study on the subject of A/Gb-mode enhancement in order better to plan for any such enhancement as well as evaluating the interaction with lu-mode. This feasibility study proceeded and some work items, such as support of multiple TBF, streaming QoS was early spun off. The main item for which feasibility was evaluated and debated longest was the potential for provision of conversational class services in A/Gb mode. TSG GERAN is now also progressing this part of the work rapidly

Of other key activities for the next release(s) can be mentioned the ongoing feasibility study of Flexible Layer One and Single Antenna Interference Cancellation (SAIC), now in the specification phase called Downlink Advanced Receiver Performance (DARP). TSG GERAN is also progressing the work on MBMS and have had significant progress over the last couple of meetings.

Further TSG GERAN have received a proposal for a feasibility study on Generic Access to the A/Gb interface. The outcome of feasibility study has been positive and TSG GERAN have approved work items to continue the work, and are liaising with TSG SA WG1, WG2 and WG3 on the different aspects of the work.

As reported earlier TSG GERAN have elaborated a quite detailed work plan utilizing the Feature, Building Block and Work Task philosophy as used by the other TSGs. This work plan has following been integrated in the overall 3GPP work plan. TSG-GERAN are keeping its work item updated, in order to ensure that the correctly reflect the planned work and align with the general structure in the overall 3GPP work plan.

3   Management issues

The leadership of TSG GERAN is unchanged in the period, except that a new TSG GERAN Working Group 2 chairman – Diana Edwin, Siemens - was elected in November, when José Luis Carrizo Martínez, Vodafone step down at the end of his terms of office. The structure is and as follows:

TSG GERAN Chairman	Niels Peter Skov Andersen, Motorola A/S
TSG GERAN Vice Chariman	Marc Grant, Cingular
TSG GERAN Vice Chairman	Michael Färber, Siemens
TSG GERAN WG1 Chairman	Niels Peter Skov Andersen, Motorola A/S
TSG GERAN WG2 Chairman	
TSG GERAN WG3 Convenor	Ilya Gonorovsky, Motorola Ltd

As the structure of TSG GERAN is unchanged, the support team for TSG GERAN still only need for three different MCC secretaries to support TSG GERAN. More generally TSG GERAN believes that the support requirement for 2005 can be considered as being the same as for 2003/2004.

As discussed on the PCG-reflector it has been found necessary to ask for funding for a project team to maintain the TTCN test suites for 2G → 3G handovers. TSG GERAN would like to request PCG to approve the Terms of Reference for the project team. The proposed terms of reference can be found in Tdoc PCG(13)018

Annex I: Detailed Work Progamme for TSG GERAN

Work Plan for 3GPP TSG GERAN – Reviewed at TSG GERAN #21

This list reflects the open work items running under the responsibility of TSG GERAN.

	Work items in this colour are closed or building blocks.

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
Alignment of 3G functional split and Iu (GER3GAL) GP-021256	GERAN user / control plane (GER3GAL-GUCOPL) GP-021255	• Alignment with UMTS bearer concept • Stage 2		Aug 2000	Jun 2001	Ready for R5.
		• Adoption of the UTRAN PDCP			Dec 2001	
		• Development of RLC / MAC			Aug 2002	
		• Development of GERAN RRC			Jun 2002	
		• Ciphering and integrity protection concept paper			Apr 2002	
		• Multiple TBF or equivalent Concept paper			Feb 2002	
		• Paging concept			Apr 2002	
		• Dedicated physical subchannels. Includes traffic and control channels			Nov 2001	
		• Iu support and broadcast concept			Apr 2002	
		• Impact of using RLC instead of LAPDm concept			Feb 2002	
		• Contention resolution, mobile-station identity, and access concept			Nov 2001	
		• PDCP concept			Apr 2002	
		• Downlink delayed TBF release			Aug 2002	
		• Add transparent RLC Concept			Feb 2002	
		• Handover concept			Feb 2002	
		• Physical layer alignment with UMTS bearer concept • Control channels in 45.003 • Receiver performance in 45.005 for PDTCH/TCH and control channels			Jun 2001	

	Iu rg interface (GER3GAL-Iurg) GP-010428	• Inter BSS interface • Identification of requirements • Stage 2 • Adoption of relevant parts from Iu r • Complementation with GERAN specifics • New stage 3		Nov 2000	Jun 2002	Ready for R5. Closed
		• Inter BSS-RNS interface • Identification of requirements • Stage 2 • Adoption of relevant parts from Iu r • Complementation with GERAN specifics • New stage 3			Jun 2002	Ready for R5. Closed
	Voice over GERAN PS and CS concept GP-021252	• Voice over GERAN PS and CS concept • Architecture for A, Iu cs and Iu ps • Handover • RTP payload		Nov 2000	Nov 2001	Ready for R5. Closed
	GERAN MS Conformance test for GERAN interface bevolution GP-021253	• MS test	0%	August 2003		Under evaluation
	GERAN BTS Conformance test for GERAN interface evolution GP-021254	• BTS test	0%	August 2003		Under evaluation
Enhancement of Broadcast and Introduction of Multicast (in responsibility of TSG SA1)	Support of the Multimedia Broadcast Multicast Service (MBMS) in GERAN (MBMS-GERAN) GP-022566	• Impact on the logical and physical channels • Simultaneous support of MBMS services • Simultaneous support of MBMS and non-MBMS services • Resynchronisation at cell change • Decision making process between point-to-point or point-to-multipoint configurations • MBMS channel allocation procedures to multiple MSs • Changes to the Gb interface • GERAN-specific changes to the Iu-ps interface • Interaction between MBMS and Iu-flex • Security aspects • MS conformance tests	60%	November 2002	November 2004	Started
Multiple TBF in A/Gb mode (MULTBF) GP-021263	Multiple TBF in A/Gb mode (MULTBF-Agbmode) GP-021263	• Multiple TBF Concept paper • Multiple TBF Stage 2 (43.064) CRs • Multiple TBF Stage 3 (44.060) CRs	100%	April 2002	August 2003	Completed

	Multiple TBF in A/Gb mode – MS testing GP-022098	• MS conformance tests	0%			Under Evaluation
Flexible Layer One for GERAN (FLOGER) GP-021018	Realisation of a Flexible Layer One (FLOGER-Real) GP-021019	• Technical Report • Architecture in 45.001 and 43.051 • Multiplexing in 45.002 • Channel Coding in 45.003 • Performance Requirements in 45.005 • Radio subsystem link control in 45.008 • Requirements in 44.004	100%	April 2002	April 2004	Completed
	Signalling and protocol support for a Flexible Layer One (FLOGER-SigPro) GP-021020	• Modifications to RLC/MAC in 44.060 and 44.160 • Modifications to RRC in 44.118 and 44.018	100%	October 2002	June 2004	Completed
	Security for a Flexible Layer One (FLOGER-SecFLO) GP-021021	• Ciphering in 44.160,44.118, 44.060 and 44.018	100%	February 2003	August 2003	Completed
	GERAN MS Conformance test for the Flexible Layer One (FLOGER-Msconf) GP-021022	• MS Test in 51.010	0%	February 2004		Under Evaluation
	GERAN BTS Conformance test for the Flexible Layer One (FLOGER-BTSconf) GP-021023	• BTS Test in 51.021	0%	February 2004		Under Evaluation
Addition of frequency bands to GSM (TAPS) GP-022072	Addition of frequency bands to GSM – Changes to core specs (TAPS-Specs) GP-022073	• New frequency ranges • Scenarios for new frequencies • Classmark information elements • Add frequency ranges • Add frequency and channels • Add frequency ranges • 43.022 Add channels to be searched	100%	June 2002	Dec 2002	Ready for Rel-6
	Addition of frequency bands to GSM – Changes for conformance tests (TAPS-Conf) GP-022074	• 51.010-1 Add testing	0%		November 2004	Not Started

Enhanced Power Control (EPC) GP-012748	Realization of Enhanced power control and signaling support GP-012749	• Concept • Changes to 43.051 • Changes to 44.004 • Changes to 44.018 • Changes to 48.058 • Changes to 45.001 • Changes to 45.002 • Changes to 45.003 • Changes to 45.008			Nov 2001	Ready for Rel 5. Closed
	GERAN MS Conformance test for Enhanced Power Control GP-012750	• MS test	0%			Under Evaluation
	GERAN BTS Conformance test for Enhanced Power Control GP-012751	• BTS test	0%			Under Evaluation
8PSK AMR HR (8PSK-AH) GP-012752	Definition of channel coding, performance requirements and signaling support GP-012753	• Concept • Changes to 44.018 • Changes to 45.001 • Changes to 45.002 • Changes to 45.003 • Changes to 45.005 • Changes to 24.008 • Changes to 48.058		Dec 2001	Jun 2002	Ready for R5. Closed
	GERAN MS Conformance test for 8PSK HR GP-012754	• MS test	0%			
	GERAN BTS Conformance test for 8PSK HR GP-012755	• BTS test	100%		Dec 2002	
Wideband telephony services (UMTS)	Support of WB AMR in GERAN (GAMRWB) GP-000453	• GMSK and 8PSK WB FR / HR support • Channel coding in 45.003 • Signalling for A interface • Signalling for Iu • Link adaptation in 45.009 • Receiver performance in 45.005		January 2000	Apr 2002 Nov 2001 Jun 2002	Ready for R5. Closed
	GERAN MS Conformance test for WB AMR GP-000454	• MS test	0%			Under Evaluation
	GERAN BTS Conformance test for WB AMR GP-000455	• BTS test	100%		Dec 2002	Closed

			%			
Single Antenna Receiver Interference Cancellation (SAIC) GP-023400	Single Antenna Receiver Interference Cancellation (SAIC)	• Determine feasibility of SAIC for GMSK and 8PSK scenarios under realistic synchronized and non-synchronized network conditions. Using a single Feasibility Study, both GMSK and 8PSK scenarios will be evaluated individually. • Realistic DIR (Dominant-to-rest of Interference Ratio) levels and distributions based on network simulations and measurements. • Robustness against different training sequences. • Determine method to detect/indicate SAICcapability.	100%	Nov 2002	August 2004	Closed
Uplink TDOA location determination for GSM, CS domain GP-032773	Uplink TDOA location determination for GSM, CS domain	Addition of U-TDOA in the CS domain	100%	November 2002	April 2004	Completed, except for potential LMU performance specs.
Uplink TDOA location determination for GPRS, PS domain GP-032774	Uplink TDOA location determination for GPRS, PS domain	Addition of U-TDOA in the PS domain	95	June 2003	November 2004	Started
Support of Conversational Services in A/Gb mode via the PS domain (SCSAGB) GP-030443	Creation of a Technical Report (SCSAGB-TR) GP-030444	• Technical Report	100%	Feb 2003	November 2003	Completed
	Stage 2 (SCSAGB-Stage2) GP-030445	• PS handover • SNDCP/LLC compression • Definition of radio resource management functionality • Modifications to FLO • Radio channel support	45%	Nov 2003	November 2004	Started
	Radio Channel Support (SCSAGB-RCS) GP-030446	• Radio channel support for Conversational QoS • Introduction of continuous measurement reporting	0%	Feb 2004	November 2004	Not Started
	Definition of radio resource management functionality (SCSAGB-RRM) GP-030447	• Addition/modification of radio resource management protocol layer	0%	Feb 2004	November 2004	Not Started
	PS Handover (SCSAGB-PSH) GP-030448	• BSSGP procedures for change of BSC • Bi-Casting • Context transfer	0%	Feb 2004	November 2004	Not Started
	Modifications to FLO (SCSAGB-FLO) GP-030449	• FLO specific impacts due to conversational QoS	0%	Feb 2004	November 2004	Not Started
Alignment between the test-regimes for GERAN capable MS GP-032236		Determine the controversial test cases in the different test regimes and align them with 3GPP GERAN test specifications. Such test cases to be added to TS 51.010.	80%	June 2003	September 2004	Started

Downlink Advanced Receiver Performance (DARP) GP-041966	DARP test scenarios GP-041967	Interference test cases for 45.005	75%	November 2003	September 2004	Started
	DARP for GMSK modulated voice services GP-041968	Performance Requirements in 45.005 Radio subsystem link control in 45.008	30%	February 2004	November 2004	Started
	DARP for GPRS and EGPRS MCS1-MCS4 GP-041969	Performance Requirements in 45.005 Radio subsystem link control in 45.008	20%	February 2004	November 2004	Started
	DARP Capability signalling GP-041970	Modification of 24.008 for signalling of MS ARP capability	75%	November 2003	September 2004	Started
	GERAN MS Conformance test for ARP GP-041971	MS Test in 51.010	10%	August 2004	February 2005	Started
Reduction of PS service interruption in Dual Transfer Mode (PSintDTM) GP-032548	Reduction of PS service interruption in Dual Transfer Mode / Use case and requirement definition (PSintDTM-Req) GP-032549	Study of use cases and requirements. Areas for investigation are: • Cell change scenarios • CS channel establishment during PS session • CS channel release during PS session	100%	November 2003	April 2004	Started
	Reduction of PS service interruption in Dual Transfer Mode / Performance Study of Current Procedures (PSintDTM-Perf) GP-032550	Analyse performance of the common use cases to determine to what extent improvements are needed to the DTM procedures in GPRS.	100%	November 2003	April 2004	Started
	Reduction of PS service interruption in Dual Transfer Mode / Reduction of service interruption times and packet loss during Dual Transfer Mode and mobility procedures (PSintDTM-Reduct) GP-032551	Investigate changes needed to improve DTM procedures identified in this work item.	80%	February 2004	November 2004	Started
	Reduction of PS service interruption in Dual Transfer Mode / MS Conformance testing	MS Conformance testing (51.010)	0%	June 2004		Under Evaluation

	Reduction of PS service interruption in Dual Transfer Mode / BTS Conformance testing	BTS Conformance testing	0%	June 2004		Under Evaluation
FS: Generic Access to A/Gb Interface (GP-041592) (GAAG)	Generic Access to A/Gb Interface	Determine the feasibility of generic IP based access to A/Gb interface.	100%	January 2005	January 2005	Not Started
Global Navigation Satellite Systems (GNSS) (GP-0422268)	Support for GNSS in GERAN	To include the capability of Assisted GALILEO as an Assisted GNSS into the GERAN.	0%	April 2005	April 2005	Not Started
FS of enhanced support of Video Telephony (GP-042221) (VIDGER)	Feasibility study of enhanced support for video telephony service over GERAN via the A interface	To enhance performance of video telephony service over GERAN via the A interface.	0%	January 2005	January 2005	Not Started
Generic Access to the A/Gb Interface (GP-042247) (GAAI)	Generic IP based Access to A/Gb interface – Stage 2	Stage 2 for Generic Access to the A/Gb Interface	0%	April 2005	April 2005	Not Started
	Generic IP based Access to A/Gb interface – Stage 3	Stage 3 for Generic Access to the A/Gb Interface	0%	April 2005	April 2005	Not Started
	MS Conformance Test for Generic Access to A/Gb Interface	MS Conformance Test for Generic Access to A/Gb Interface	0%	June 2005	June 2005	Not Started
Enhancements of VGCS in public networks for communication of public authority officials GP-041837 (EVGCS)	Enhancements of VGCS in public networks for communication of public authority officials	Enhancements of VGCS in public networks for communication of public authority officials	0%	April 2005	April 2005	Not Started

Completed or Terminated Work items

This list reflects work items that have been completed or terminated.

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
GERAN/UTRAN interface evolution 1 GP-000481	Evolution of Iu ps	• Identification of GERAN requirements on Iu ps • Update of specifications			Nov 2001 Mar 2002	Ready for R5. Closed
GERAN/UTRAN interface evolution 2 GP-010417	Evolution of Iu cs GP-000430	• Identification of GERAN requirements on Iu cs • Update of specifications			Apr 2002 Jun 2002	Ready for R5. Closed

Low chip rate TDD option (UTRAN)	Low chiprate TDD interworking with GERAN GP-000432	• Handover and Cell Selection / Reselection to UTRA 1.28Mcps TDD				Ready for R4. Closed
GERAN improvements 1 GP-000433	Gb over IP GP-000434	IP-fication of Gb • Concept • Changes to 08.16, 08.18				Ready for R4. Closed
GERAN improvements 3 GP-010909	Evolution of the transport for A GP-010910	• *Definition of a new A/Ater Interface Transport Layer option based on the Iu Interface Transport Layer* • Adaptation of the Layer 3 BSSMAP procedures as required.	0%		Dec 2002	Terminated. Not standardised
GERAN Improvements 4 GP-010363	Gb enhancements 2 GP-010363	Stage 2 Stage 3 (changes in 44.060) • Definition of enhanced countdown procedure • Definition of enhanced TBF release procedure				Ready for R4. Closed
GERAN Inter BSC NACC improvements over the Gb Interface GP-012313	Modification of Gb protocols for GERAN Inter BSC NACC over the Gb interface GP-012314	*Stage 3 (changes to)* 48.018			Apr 2002	Ready for R5. Closed
	Modification of core network protocols for GERAN Inter BSC NACC for Gb interface GP-011877	Stage 2 • Concept • 23.060 change – Definition of Inter BSC NACC Stage 3 (changes to) • 29.060			Nov 2001 Apr 2002	
GERAN support for IP multimedia GP-010420	GERAN Header adaptation GP-010421	Header adaptation: • Definition of compression for PDCP protocol • Conceptual description in stage 2 • Necessary changes on stage 3	100%		Sept 2000 Oct 2001 Dec 2002	Ready for Rel-5. Closed
	GERAN Radio access bearer design for IP multimedia GP-010422	MuM control signalling for conversational multimedia services. • Identification of requirements • Necessary modifications due to SIP	?%		Feb 2002 Dec 2002	Terminated. Not standardised
	GERAN MS Conformance test for support of IP multimedia GP-010424	• MS test	0%		Dec 2002	Terminated. Not standardised

	GERAN BTS Conformance test for support of IP multimedia GP-010425	• BTS test	0%		Dec 2002	Terminated. Not standardised
Flow control supporting an MS with multiple data flows with different QoS over the Gb interface GP-021767	Update of stage 2 specifications	• Concept document 23.060 (changes to) – Flow Control			June 2002 June 2002	Closed
	Modification of BSSGP protocol GP-021508	Stage 3 (changes to) • 48.018			June 2002	Ready for release 5. Closed
GERAN enhancements for streaming services 1 GP-010429	GERAN enhancements for streaming services 1 GP-010429	• Concept • RLC protocol enhancement (SDU Discard)			Oct 2001 Nov 2001????	Ready for R5. Closed
GERAN enhancements for streaming services 2 GP-010430	GERAN enhancements for streaming services 2 GP-010430	Usage of ECSD Stage 2 Stage 3 • RLC PDU formats • MAC header			Jun 2001 Jun 2002	Ready for R5. Closed
Intra Domain Connection of RAN Nodes to Multiple CN Nodes: Overall System Architecture SA2 Feature	GERAN work for Intra Domain Connection of RAN Nodes to Multiple CN Nodes GP-020492	Stage 2 (changes to) • 43.051 Introduction of support for IDNNS in GERAN Iu mode Stage 3 (changes to) • 48.016 Use of Gb interface concepts when a network applies IDNNS • 48.018 Include MSC/VLR identity in CS IMSI paging			Jun 2002	Ready for R5. Closed, accept changes for Gb over IP
Real Time QoS for packet services including VoIP (UTRAN)	HOs: maintenance of real-time QoS while moving between cells in the PLMN including inter-SGSN change and SRNS relocation or possibly other mechanisms (UTRAN) GP-010431	Handover for the packet switched domain • Stabile RT handover report 25.936 including header removal • Update of stage 2 • Update of relevant stage 3 specs			Nov 2001	Closed
Uplink TDOA feasibility study GP-012794	Uplink TDOA feasibility study GP-012794	• Performing of a feasibility study			Jun 2002	*Closed for R6.*

700 MHz spectrum support GP-000449	GERAN support for the 700 MHz band	• Signaling support • Physical layer definitions • Receiver performance and RF budget				Ready for R4. Closed
	GERAN MS Conformance test for 700 MHz band GP-000451	• MS test			Jun 2001	Closed
	GERAN BTS Conformance test for GERAN interface evolution GP-000452	• BTS test	100%		Dec 2002	Closed
Enhanced A/Gb feasibility study GP-022565	Enhanced A/Gb feasibility study GP-022565	• Requirements for the support of conversational services • Identification of the different building blocks for the provision of conversational services on the existing A/Gb protocol stack • Outline of impact and feasibility of these building blocks and their different solutions • Impact on 3GPP architecture and requirement to co-ordinate with other TSGs (CN, SA) • Standardisation effort • Dependency to other features	100%		Nov 2002	Closed at GERAN #13
MS Conformance Testing of Dual Transfer Mode GP-023236	MS Conformance Testing of Dual Transfer Mode	• MS Conformance Testing of Dual Transfer Mode	100%		Feb 2003	*Closed at GERAN #14*
Location service (UMTS)	LCS interoperability aspects to GERAN GP-000456	• Co-ordinated development of GSM LCS Phase 2 and UMTS LCS, S2 and GERAN				Ready for R5. Closed
	Location service for GERAN R4 GP-010932	• Work for aligning LCS R4 CN and GERAN				Ready for R4. Closed
	Location Services (LCS) for GERAN in A/Gb Mode GP-011925	• GERAN LCS Stage Two • Gb interface support for LCS • L3 protocol support for LCS • Stage 3 specifications			Feb. 2002	Ready for Rel-5. Closed

Comment [Eric1]: To be closed at GERAN #14

	Location Services (LCS) for GERAN in Iu Mode GP-011926	• GERAN LCS stage 2 • Iu interface support for LCS • Iur-g interface support for LCS • RRC protocol support for LCS • Additional impacts on Broadcast of LCS data on packet channels • Stage 3 specifications			Stage 2-GERAN #8 Feb. 2002 Stage 3 – GERAN #9 Jun 2002	Ready for R5. Closed
	GERAN MS Conformance test for LCS (LCS-GERAN-Msconf) GP-000458	• Develop LCS MS test case work plan (Release 98/99/4) • Develop LCS MS test cases	100%		June 2003	Completed
	GERAN BTS Conformance test for LCS (LCS-GERAN-BTSconf) GP-000459	• Develop LCS BTS test case work plan (Release 98/99/4) • Develop LCS BTS test cases	0%		June 2004	Closed without progress at GERAN #19
Seamless support of streaming services in A/Gb mode (SSStrea) GP-022561	Identification of requirements for streaming GP-022564	• Requirements	100%	August 2002	August 2003	Completed at GERAN #16
	Performance study of cell change mechanisms GP-022562	• Performance of NACC • Performance of cell change in DTM for the PS domain • Handover	100%	August 2002	August 2003	Completed at GERAN #16
	Reduction of service interruption times and packet loss during mobility procedures GP-022563	• Optimisations of existing mechanisms/procedures • Inter-system NACC • PS Handover (within GERAN and between GERAN and UTRAN) • Dependency to other features	100%	January 2003	November 2003	Completed at GERAN #17
	MS conformance testing GP-023424	• MS conformance tests	0%	September 2003	January 2004	Closed, no work needed.
GERAN improvements 2 (GEIMP2) GP-012812	Gb enhancements GP-000436	Intra BSC NACC • Concept • Changes in 03.64 • Changes in 04.60 • Changes in 44.008		Nov 2000	June 2001	Ready for R4. Closed
	MS conformance test for Intra BSC NACC GP-012811	Changes in 51.010	100%	Nov 2001	November 2003	Completed at GERAN #17