Source: **3GPP TSG GERAN Chairman**

Title: **TSG-GERAN Management Report**

Agenda item: **4.3**

Document for:

Decision	
Discussion	
Information	**X**

1 Main events since last meeting

In the period April 2005 (PCG#14) to October 2005 (PCG#15) TSG-GERAN held two TSG-GERAN plenary meetings, TSG-GERAN#25 June 2005 in Montreal, Canada and TSG-GERAN#26 August 2005 in Schaumburg, Illinois, USA.

The internal structure of TSG GERAN is unchanged (since TSG GERAN#14) and consists of the following working groups:

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

TSG GERAN WG2 – Protocol Aspects

TSG GERAN WG3 – Terminal Testing

The structure continues to function well and no changes have been proposed to the terms of references for the TSG GERAN Working Groups.

The leadership of TSG GERAN is as reported and approved at PCG#14:

TSG GERAN chairman:
Mr. Andrew Howell, Motorola Ltd (ETSI

TSG GERAN vice chairmen:
Mr Jürgen Hofmann, Siemens AG (ETSI),
Mr. Guillaume Sébire, Nokia Corporation (ETSI)
Mr Marc Grant, Cingular Wireless LLC (ATIS).

2 Releases

Release 5 is stable and minimum work has been needed on the specifications' maintenance. Corrections have been made to allow for the testing of the GSM 750 band and updates to the LCS A-GPS assistance data for extended cells have been agreed.

Since PCG#14 TSG GERAN has completed the Release 6 work on MBMS and PS Handover. In addition, work on the inclusion of high DTM multislot classes has been finalised. For VGCS agreement has been reached on ciphering related issues and this area is now considered stable.

Within the area of testing there are still a number of features requiring MS conformance tests (e.g. testing of 710 MHz band and Enhanced Power Control) but there is a lack of information on when features will be deployed. PTCRB and GCF have been approached for guidance and the feedback received will be used to prioritise the development of the tests specifications. In addition work is ongoing to optimise the GPRS and EGPRS test cases to reduce testing time and to remove redundant test cases.

The work done by MCC Task 272 has continued and three versions of the ATS have been delivered, including the formal delivery of v630 of TS 51.010-5 Annex A. It is estimated that for 2006 3 man months of effort will be needed for ATS maintenance, upgrading of tests to Release 6 and for the introduction of DTM tests. TSG GERAN #26 reviewed the work of MCC Task 272 and agreed that the requested budget for 2006 was appropriate.

PCG#15 is requested to approve the 2006 funding requested for MCC Task 272.

As reported previously the Support of Conversational Services in A/Gb mode via the PS domain, has been moved to Release 7. With the completion of the PS Handover work in Release 6 work can now start on this work item.

Also within Release 7, TSG GERAN has started work on a Feasibility Study to investigate possible Future Enhancements. The outcome of the work will be a TR which is already around 60% complete. The items under consideration include; MS RX Diversity, Higher Order Modulation, Dual Symbol Rates, Enhancements to resource allocation, Latency Enhancements, Turbo Codes, Power Control in Frequency Hopping.

Since the last PCG meeting there has been no progress on the Release 7 feasibility study on Enhanced Support of Videotelephony over the A Interface.

TSG GERAN continues to maintain a work plan utilizing the Feature, Building Block and Work Task philosophy, as used by the other TSGs. This work plan is integrated in the overall 3GPP work plan and TSG-GERAN keeps its work item updated, in order to ensure that it correctly reflects the planned work and align with the general structure in the overall 3GPP work plan.

3 Management issues

The leadership of TSG GERAN working groups has changed in the period, as a new TSG GERAN Working Group 1 chairman – Jacques Achard, Alcatel (ETSI) was elected in June when Niels Andersen, Qualcomm stepped down. In addition the current TSG GERAN Working Group 3 chairman – Ilya Gonorovsky, Motorola (ETSI) was re-elected in August for another term of office.

The TSG GERAN leadership is as follows:

TSG GERAN Chairman	Andrew Howell, Motorola Ltd
TSG GERAN Vice Chairman	Marc Grant, Cingular Wireless LLC
TSG GERAN Vice Chairman	Jürgen Hofmann, Siemens AG
TSG GERAN Vice Chairman	Guillaume Sébire, Nokia Corporation
TSG GERAN WG1 Chairman	Jacques Achard, Alcatel
TSG GERAN WG2 Chairman	Guillaume Sébire, Nokia Corporation
TSG GERAN WG3 Chairman	Ilya Gonorovsky, Motorola Ltd

As the structure of TSG GERAN is unchanged, there is still a need for three MCC secretaries to support the work of TSG GERAN. More generally TSG GERAN believes that the support requirements for 2006 will be the same as for 2004/2005.

Annex I: Detailed Work Progamme for TSG GERAN

Work Plan for 3GPP TSG GERAN – Reviewed at TSG GERAN #26

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 complete	Start Date	Date complete	Status
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%			Open
	GERAN BTS Conformance test for Enhanced Power Control GP-012751	• BTS test	0%			Open
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	85 %			
	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

Feature	Building block	Work task	Level complete	Start Date	Date complete	Status
	GERAN MS Conformance test for WB AMR GP-000454	• MS test	5%			Open
	GERAN BTS Conformance test for WB AMR GP-000455	• BTS test	100%		Dec 2002	Closed
Support of Packet-switched Handover for GERAN A/Gb mode (SPSHAGB) GP-051160	Stage 2 (SPSHAGB – Stage 2)	• PS handover • Definition of radio resource management functionality	100 %	April 2005	August 2005	Complete dOriginally Started Nov 2003 as GP-030443
	Support of Packet-switched Handover for GERAN A/Gb mode – Stage 2 (GP-051161)		100 %	April 2005	August 2005	Complete d
	Support of Packet-switched Handover for GERAN A/Gb mode – PS Handover (GP-051162)		100 %	April 2005	August 2005	Complete d
	Support of Packet-switched Handover for GERAN A/Gb mode – Definition of radio resource management functionality (GP-051163)		100 %	April 2005	August 2005	Complete d
Support of Conversational Services in A/Gb mode via the PS domain (SCSAGB) GP-051164	Support of Conversational Service in A/Gb mode via the PS Domain	1. Definition of radio resource management functionality 2. Modifications to FLO 3. Radio channel support				Originally Started Nov 2003 as GP-030443
	Support of Conversational Services in A/Gb mode via the PS domain - Modifications to FLO (GP-051165)	4.	0%	April 2005	April 2006	Not started (PS HO must be completed first)
	Support of Conversational Services in A/Gb mode via the PS domain - Radio Channel Support (GP-051166)		0%	April 2005	April 2006	Not started (PS HO must be completed first)

Feature	Building block	Work task	Level complete	Start Date	Date complete	Status
	Support of Conversational Services in A/Gb mode via the PS domain - Definition of radio resource management functionality (GP-051167)		0%	April 2005	April 2006	Not started (PS HO must be completed first)
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.	100 %	June 2003	September 2005	Completed
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	Completed
	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	Completed
	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.	100%	February 2004	November 2004	Completed
	Reduction of PS service interruption in Dual Transfer Mode / MS Conformance testing	MS Conformance testing (51.010)	0%	June 2004		Ongoing

Feature	Building block	Work task	Level complete	Start Date	Date complete	Status
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 2006	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.	35%	January 2005	November 2005	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	100%	April 2005	April 2005	Complete
	Generic IP based Access to A/Gb interface – Stage 3	Stage 3 for Generic Access to the A/Gb Interface	100%	April 2005	April 2005	Completed
	MS Conformance Test for Generic Access to A/Gb Interface	MS Conformance Test for Generic Access to A/Gb Interface	90 %	April 2005	August 2005	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	25%	January 2005	November 2005	Started
MS Antenna Performance Evaluation Method and Requirements GP-050284	Define MS antenna minimal performance requirements	Define MS antenna minimal performance requirements	10 %	January 2005	November 2005	Started
Addition of new frequency band to GSM GP-05945 (T-GSM810)		The T-GSM 810 operates in the following frequency band: - 806 MHz to 821 MHz: mobile transmit, base receive; - 851 MHz to 866 MHz: base transmit, mobile receive.		April 2005	June 2005	
	Addition of new frequency band to GSM (T-GSM810) – Changes to core specification GP-05946		100 %	April 2005	August 2005	

Feature	Building block	Work task	Level complete	Start Date	Date complete	Status
	Addition of new frequency band to GSM (T-GSM810) – Changes to MS testing specification GP-05947		0%	April 2005	August 2005	
	Addition of new frequency band to GSM (T-GSM810) – Changes to BTS testing specification		100 %	April 2005	August 2005	
Handover of dedicated and shared resources while in dual transfer mode GP-050979 (HO-DSRDTM)	Handover of dedicated and shared resources while in dual transfer mode		15 %	April 2005	March 2006	Started G24
	MS Conformance Testing		0%	April 2005	November 2006	Not Started
	BS Conformance Testing		0%	April 2005	November 2006	Not Started
Future GERAN Evolution GP-051052 (FGE)	Feasibility Study for Future GERAN Evolution		60 %	April 2005	November 2005	Started
LCS Enhancements Related to Location-Based Services GP-050265 (LCSLBS)	LCS Enhancements Related to Location-Based Services	5. Linked to SP-040682 Location Services Enhancements Rel-7 (LCS-R7)	10%	January 2005	November 2005	Started
Lower 700 MHz Inclusion in the GERAN Specifications GP-050543 (GSM710)	To include the 698 – 746 MHz band into GERAN core specifications		100%	January 2005	June 2005	Complete
	To include the 698 – 746 MHz band into GERAN test specifications		0%	January 2005	April 2006	Not Started

2 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

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
	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

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
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

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
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
	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

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

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
	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
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	

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
		• 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 6.			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	

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
	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 7.			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
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	

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
		• 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
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
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

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
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
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	100	June 2003	November 2004	Started
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
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
Enhancement of Broadcast and Introduction of Multicast (in responsibility of TSG SA1) GP-022566	Support of the Multimedia Broadcast Multicast Service (MBMS) in GERAN (MBMS-GERAN)	• 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	100%	November 2002	January 2005	Completed
Support of Conversational Services in A/Gb mode via the PS domain (SCSAGB) **GP-030443 REPLACED BY GP-**	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	85%	Nov 2003		

Feature	Building block	Work task	Level of completion	Start Date	Date of completion	Status
051160 and GP-051164	Radio Channel Support (SCSAGB-RCS) GP-030446	• Radio channel support for Conversational QoS • Introduction of continuous measurement reporting	0%	Feb 2004		
	Definition of radio resource management functionality (SCSAGB-RRM) GP-030447	• Addition/modification of radio resource management protocol layer	0%	Feb 2004		
	PS Handover (SCSAGB-PSH) GP-030448	• BSSGP procedures for change of BSC • Bi-Casting • Context transfer	25%	Feb 2004		
	Modifications to FLO (SCSAGB-FLO) GP-030449	• FLO specific impacts due to conversational QoS	0%	Feb 2004		
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	Completed
Downlink Advanced Receiver Performance (DARP) GP-041966	DARP test scenarios GP-041967	• Interference test cases for 45.005	100%	November 2003	November 2004	Completed
	DARP for GMSK modulated voice services GP-041968	Performance Requirements in 45.005 • Radio subsystem link control in 45.008	100%	February 2004	November 2004	Completed
	DARP for GPRS and EGPRS MCS1-MCS4 GP-041969	Performance Requirements in 45.005 • Radio subsystem link control in 45.008	100%	February 2004	November 2004	Completed
	DARP Capability signalling GP-041970	• Modification of 24.008 for signalling of MS ARP capability	100%	November 2003	September 2004	Completed
	GERAN MS Conformance test for DARP GP-041971	• MS Test in 51.010	100%	August 2004	August 2005	Completed