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General Packet Radio Service (GPRS)
enhancements for Evolved Universal Terrestrial
Radio Access Network (E-UTRAN) access
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Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	10
1 Scope	11
2 References	11
3 Definitions and abbreviations.....	14
3.1 Definitions	14
3.2 Abbreviations	14
4 Architecture model and concepts	16
4.1 General concepts	16
4.2 Architecture reference model	16
4.2.1 Non-roaming architecture	16
4.2.2 Roaming architecture.....	17
4.2.3 Reference points	19
4.2.4 Warning System architecture.....	20
4.3 High level functions	20
4.3.1 General.....	20
4.3.2 Network access control functions	21
4.3.2.1 General	21
4.3.2.2 Network/Access network selection	21
4.3.2.3 Authentication and authorisation function	21
4.3.2.4 Admission control function.....	21
4.3.2.5 Policy and Charging Enforcement Function	21
4.3.2.6 Lawful Interception.....	21
4.3.3 Packet routing and transfer functions.....	21
4.3.3.1 General	21
4.3.3.2 IP header compression function.....	21
4.3.3.3 Packet screening function	21
4.3.3.4 IP Multicast Forwarding between a network accessed by LIPA and a UE	22
4.3.4 Security functions	22
4.3.5 Mobility management functions	22
4.3.5.1 General	22
4.3.5.2 Reachability Management for UE in ECM-IDLE state.....	22
4.3.5.3 Tracking Area list management	23
4.3.5.4 Inter-eNodeB mobility anchor function	23
4.3.5.5 Inter-3GPP mobility anchor function	23
4.3.5.6 Idle mode signalling reduction function.....	23
4.3.5.7 Mobility Restrictions.....	25
4.3.5.8 IMS voice over PS Session Supported Indication.....	25
4.3.5.8A Homogenous Support of IMS Voice over PS Sessions Indication.....	26
4.3.5.9 Voice domain preference and UE's usage setting.....	26
4.3.6 Radio Resource Management functions	26
4.3.7 Network management functions	27
4.3.7.1 General	27
4.3.7.2 Load balancing between MMEs.....	27
4.3.7.3 Load re-balancing between MMEs	28
4.3.7.4 MME control of overload.....	28
4.3.7.4.1 General	28
4.3.7.4.1a Throttling of Downlink Data Notification Requests.....	30
4.3.7.4.2 NAS level congestion control.....	30
4.3.7.5 PDN GW control of overload.....	33
4.3.8 Selection functions.....	33

4.3.8.1	PDN GW selection function (3GPP accesses)	33
4.3.8.2	Serving GW selection function	35
4.3.8.3	MME selection function.....	36
4.3.8.4	SGSN selection function	36
4.3.8.5	Selection of PCRF.....	36
4.3.9	IP network related functions	36
4.3.9.1	Domain Name Service function	36
4.3.9.2	DHCP function.....	36
4.3.9.3	Explicit Congestion Notification.....	36
4.3.10	Functionality for Connection of eNodeBs to Multiple MMEs.....	36
4.3.11	E-UTRAN Sharing Function	37
4.3.12	IMS Emergency Session Support	37
4.3.12.1	Introduction.....	37
4.3.12.2	Architecture Reference Model for Emergency Services	38
4.3.12.3	Mobility and Access Restrictions for Emergency Services.....	39
4.3.12.3a	Reachability Management for UE in ECM-IDLE state.....	39
4.3.12.4	PDN GW selection function (3GPP accesses) for Emergency Services	39
4.3.12.5	QoS for Emergency Services	39
4.3.12.6	PCC for Emergency Services	40
4.3.12.7	Load re-balancing between MMEs for Emergency Services	40
4.3.12.8	IP Address Allocation	40
4.3.12.9	Handling of PDN Connections for Emergency Bearer Services	40
4.3.12.10	ISR function for Emergency Bearer Services	40
4.3.13	Closed Subscriber Group functions	40
4.3.14	Location Service functions	41
4.3.15	Selected IP Traffic Offload (SIPTO) function.....	41
4.3.16	Local IP Access (LIPA) function.....	42
4.3.17	Support for Machine Type Communications (MTC).....	43
4.3.17.1	General	43
4.3.17.2	Overview of protection from Potential MTC Related Overload	43
4.3.17.3	Optimizing periodic TAU Signalling	45
4.3.17.4	UE configuration and usage of indicators	45
4.3.17.5	Void.....	47
4.3.17.6	Support of UEs configured for low access priority, Extended Access Barring and permission for override	47
4.3.18	Multimedia Priority Service.....	47
4.3.18.1	General	47
4.3.18.2	IMS-based Multimedia Priority Services	48
4.3.18.2.1	Originating IMS-based MPS Session	48
4.3.18.2.2	Terminating IMS-based MPS Session.....	48
4.3.18.3	Priority EPS Bearer Services.....	48
4.3.18.4	CS fallback	49
4.3.18.5	Network Congestion Controls for MPS	49
4.3.18.6	Load Re-balancing between MMEs for MPS	49
4.3.19	Core Network node resolution	49
4.3.19.1	General	49
4.3.19.2	MSB in LAC and MME Group ID.....	49
4.3.19.3	Explicit Indication	49
4.3.20	Relaying function.....	50
4.3.20.1	General	50
4.3.20.2	RN startup and attach procedure	50
4.3.20.2.1	General	50
4.3.20.2.2	Attach for RN preconfiguration.....	51
4.3.20.2.3	Attach for RN operation	51
4.3.20.3	DeNB E-RAB activation/modification	52
4.4	Network elements.....	53
4.4.1	E-UTRAN.....	53
4.4.2	MME.....	53
4.4.3	Gateway	54
4.4.3.1	General	54
4.4.3.2	Serving GW.....	54
4.4.3.3	PDN GW.....	54

4.4.4	SGSN	55
4.4.5	GERAN	55
4.4.6	UTRAN	56
4.4.7	PCRF	56
4.4.7.1	General	56
4.4.7.2	Home PCRF (H-PCRF).....	56
4.4.7.3	Visited PCRF (V-PCRF).....	56
4.4.8	PDN GW's associated AAA Server	56
4.4.9	HeNB subsystem	56
4.4.10	DeNB	57
4.4.11	CSG Subscriber Server	58
4.5	Void.....	58
4.6	EPS Mobility Management and Connection Management states.....	58
4.6.1	General.....	58
4.6.2	Definition of main EPS Mobility Management states	59
4.6.2.1	EMM-DEREGISTERED	59
4.6.2.2	EMM-REGISTERED	59
4.6.3	Definition of EPS Connection Management states	59
4.6.3.1	ECM-IDLE.....	59
4.6.3.2	ECM-CONNECTED.....	60
4.6.4	State transition and functions.....	61
4.7	Overall QoS concept	62
4.7.1	PDN connectivity service	62
4.7.2	The EPS bearer	62
4.7.2.1	The EPS bearer in general	62
4.7.2.2	The EPS bearer with GTP-based S5/S8	64
4.7.2.3	The EPS bearer with PMIP-based S5/S8	65
4.7.3	Bearer level QoS parameters	65
4.7.4	Support for Application / Service Layer Rate Adaptation	67
4.7.5	Application of PCC in the Evolved Packet System	67
4.7.6	Bearer Control Mode in EPC	68
4.8	Compatibility Issues	68
4.8.1	Network Configuration for Interaction with UTRAN/GERAN	68
5	Functional description and information flows.....	68
5.1	Control and user planes	68
5.1.0	General.....	68
5.1.1	Control Plane	69
5.1.1.1	General	69
5.1.1.2	eNodeB - MME.....	69
5.1.1.3	UE - MME	70
5.1.1.4	SGSN - MME.....	70
5.1.1.5	SGSN - S-GW	71
5.1.1.6	S-GW - P-GW	71
5.1.1.7	MME - MME	72
5.1.1.8	MME - S-GW.....	72
5.1.1.9	MME - HSS	73
5.1.1.10	MME - EIR	73
5.1.1.11	Void.....	73
5.1.1.12	MME - CSS.....	74
5.1.2	User Plane.....	74
5.1.2.1	UE - P-GW user plane with E-UTRAN	74
5.1.2.2	eNodeB - S-GW	75
5.1.2.3	UE - PDN GW user plane with 2G access via the S4 interface	75
5.1.2.4	UE - PDN GW user plane with 3G access via the S12 interface	76
5.1.2.5	UE - PDN GW user plane with 3G access via the S4 interface	77
5.2	Identities.....	77
5.2.1	EPS bearer identity	77
5.2.2	Globally Unique Temporary UE Identity	77
5.2.3	Tracking Area Identity (TAI).....	78
5.2.4	eNodeB S1-AP UE Identity (eNodeB S1-AP UE ID)	78
5.2.5	MME S1-AP UE Identity (MME S1-AP UE ID)	78

5.2.6	Closed Subscriber Group ID	78
5.3	Authentication, security and location management.....	78
5.3.1	IP address allocation	78
5.3.1.1	General	78
5.3.1.2	IP address allocation, renewal and release mechanisms for GTP based S5/S8.....	81
5.3.1.2.1	IPv4 address allocation via default bearer activation and release via PDN connection release.....	81
5.3.1.2.2	Allocation, renewal and release of the IPv6 default prefix via IPv6 stateless address autoconfiguration.....	81
5.3.1.2.3	IPv6 parameter configuration via stateless DHCPv6.....	82
5.3.1.2.4	IPv4 address allocation, renewal and release and IPv4 parameter configuration via DHCPv4.....	82
5.3.1.2.5	Void.....	82
5.3.1.2.6	IPv6 Prefix Delegation via DHCPv6.....	83
5.3.2	Attach procedure.....	83
5.3.2.1	E-UTRAN Initial Attach	83
5.3.2.2	UTRAN/GERAN Initial Attach	94
5.3.3	Tracking Area Update procedures	94
5.3.3.0	Triggers for tracking area update	94
5.3.3.0A	Provision of UE's TAI to MME in ECM-CONNECTED state.....	95
5.3.3.1	Tracking Area Update procedure with Serving GW change	96
5.3.3.2	E-UTRAN Tracking Area Update without S-GW Change	102
5.3.3.3	Routing Area Update with MME interaction and without S-GW change.....	109
5.3.3.4	Void.....	115
5.3.3.5	Void.....	115
5.3.3.6	Routing Area Update with MME interaction and with S-GW change.....	115
5.3.4	Service Request procedures	121
5.3.4.1	UE triggered Service Request	121
5.3.4.2	Handling of abnormal conditions in UE triggered Service Request.....	123
5.3.4.3	Network Triggered Service Request	124
5.3.5	S1 release procedure	127
5.3.6	Void.....	128
5.3.7	GUTI Reallocation procedure.....	128
5.3.8	Detach procedure	129
5.3.8.1	General	129
5.3.8.2	UE-initiated Detach procedure.....	129
5.3.8.2.1	UE-initiated Detach procedure for E-UTRAN	129
5.3.8.2.2	UE-initiated Detach procedure for GERAN/UTRAN with ISR activated.....	131
5.3.8.3	MME-initiated Detach procedure.....	132
5.3.8.3A	SGSN-initiated Detach procedure with ISR activated	134
5.3.8.4	HSS-initiated Detach procedure.....	136
5.3.9	HSS User Profile management function procedure	138
5.3.9.1	General	138
5.3.9.2	Insert Subscriber Data procedure	138
5.3.9.3	Purge function	139
5.3.10	Security Function.....	139
5.3.10.1	General	139
5.3.10.2	Authentication and Key Agreement.....	140
5.3.10.3	User Identity Confidentiality.....	140
5.3.10.4	User Data and Signalling Confidentiality	140
5.3.10.4.1	AS security mode command procedure.....	140
5.3.10.4.2	NAS Security Mode Command procedure	140
5.3.10.5	ME identity check procedure	141
5.3.11	UE Reachability procedures	141
5.3.11.1	General	141
5.3.11.2	UE Reachability Notification Request procedure	141
5.3.11.3	UE Activity Notification procedure	142
5.3.12	Update CSG Location Procedure.....	142
5.3.13	CSS subscription data management function procedure.....	143
5.3.13.1	General	143
5.3.13.2	Insert CSG Subscriber Data procedure	143
5.3.14	UE Radio Capability Match Request.....	143
5.4	Session Management, QoS and interaction with PCC functionality	145
5.4.1	Dedicated bearer activation.....	145

5.4.2	Bearer modification with bearer QoS update.....	147
5.4.2.1	PDN GW initiated bearer modification with bearer QoS update.....	147
5.4.2.2	HSS Initiated Subscribed QoS Modification.....	149
5.4.3	PDN GW initiated bearer modification without bearer QoS update.....	150
5.4.4	Bearer deactivation.....	152
5.4.4.1	PDN GW initiated bearer deactivation.....	152
5.4.4.2	MME Initiated Dedicated Bearer Deactivation.....	155
5.4.5	UE requested bearer resource modification.....	156
5.4.6	Void.....	158
5.5	Handover.....	158
5.5.1	Intra-E-UTRAN handover.....	159
5.5.1.1	X2-based handover.....	159
5.5.1.1.1	General.....	159
5.5.1.1.2	X2-based handover without Serving GW relocation.....	159
5.5.1.1.3	X2-based handover with Serving GW relocation.....	162
5.5.1.2	S1-based handover.....	164
5.5.1.2.1	General.....	164
5.5.1.2.2	S1-based handover, normal.....	165
5.5.1.2.3	S1-based handover, Reject.....	170
5.5.1.2.4	S1-based handover, Cancel.....	171
5.5.2	Inter RAT handover.....	171
5.5.2.0	General.....	171
5.5.2.1	E-UTRAN to UTRAN Iu mode Inter RAT handover.....	172
5.5.2.1.1	General.....	172
5.5.2.1.2	Preparation phase.....	173
5.5.2.1.3	Execution phase.....	176
5.5.2.1.4	E-UTRAN to UTRAN Iu mode Inter RAT handover Reject.....	178
5.5.2.2	UTRAN Iu mode to E-UTRAN Inter RAT handover.....	179
5.5.2.2.1	General.....	179
5.5.2.2.2	Preparation phase.....	180
5.5.2.2.3	Execution phase.....	183
5.5.2.2.4	UTRAN Iu mode to E-UTRAN Inter RAT handover reject.....	185
5.5.2.3	E-UTRAN to GERAN A/Gb mode Inter RAT handover.....	186
5.5.2.3.1	General.....	186
5.5.2.3.2	Preparation phase.....	187
5.5.2.3.3	Execution phase.....	190
5.5.2.3.4	E-UTRAN to GERAN A/Gb mode Inter RAT handover reject.....	193
5.5.2.4	GERAN A/Gb mode to E-UTRAN Inter RAT handover.....	194
5.5.2.4.1	General.....	194
5.5.2.4.2	Preparation phase.....	195
5.5.2.4.3	Execution phase.....	198
5.5.2.4.4	GERAN A/Gb mode to E-UTRAN Inter RAT handover reject.....	200
5.5.2.5	Inter RAT handover Cancel.....	201
5.5.2.5.1	General.....	201
5.5.2.5.2	Source RAN to Target RAN Inter RAT handover Cancel.....	202
5.6	Network Assisted Cell Change.....	203
5.6.1	Architecture Principles for E-UTRAN to GERAN NACC.....	203
5.6.2	Void.....	204
5.7	Information storage.....	204
5.7.1	HSS.....	205
5.7.2	MME.....	207
5.7.3	Serving GW.....	210
5.7.4	PDN GW.....	212
5.7.5	UE.....	214
5.7.6	Handling of Wild Card APN.....	215
5.7.7	CSS.....	215
5.7A	Charging.....	215
5.8	MBMS.....	216
5.9	Interactions with other services.....	216
5.9.1	Location Reporting Procedure.....	216
5.9.2	Location Change Reporting Procedure.....	217
5.10	Multiple-PDN support.....	218

5.10.1	General.....	218
5.10.2	UE requested PDN connectivity	218
5.10.3	UE or MME requested PDN disconnection.....	224
5.11	UE Capability Handling	226
5.11.1	General.....	226
5.11.2	UE Radio Capability Handling	226
5.11.3	UE Core Network Capability.....	228
5.12	Warning message delivery	228
5.12.1	General.....	228
5.12.2	Void	228
5.12.3	Void	228
5.13	Discontinuous Reception and UE Specific DRX Parameter handling	228
5.14	Configuration Transfer procedure	229
5.14.1	Architecture Principles for Configuration Transfer	229
5.14.2	Addressing, routing and relaying.....	230
5.14.2.1	Addressing	230
5.14.2.2	Routing.....	230
5.14.2.3	Relaying	231
5.14.2.4	Applications using the Configuration Transfer procedures.....	231
5.15	RAN Information Management (RIM) procedures	231
5.15.1	General.....	231
5.15.2	Addressing, routing and relaying.....	231
5.15.2.1	Addressing	231
5.15.2.2	Routing.....	231
5.15.2.3	Relaying	231
5.15.3	Applications using the RIM Procedures	232
5.16	MME-initiated procedure on UE's CSG membership change	232
5.17	Home eNodeB Multicast Packet Forwarding Function.....	232
5.18	HPLMN Notification with specific indication due to MME initiated Bearer removal.....	232
Annex A:	Void	233
Annex B:	Void	234
Annex C:	Void	235
Annex D (normative):	Interoperation with Gn/Gp SGSNs	236
D.1	General Considerations	236
D.2	Interoperation Scenario	236
D.2.1	Roaming interoperation scenario.....	236
D.2.2	Non-roaming interoperation scenario.....	237
D.3	Interoperation procedures.....	237
D.3.1	General	237
D.3.2	Void.....	238
D.3.3	MME to 3G SGSN combined hard handover and SRNS relocation procedure	238
D.3.4	3G SGSN to MME combined hard handover and SRNS relocation procedure	243
D.3.5	Routing Area Update.....	248
D.3.6	Gn/Gp SGSN to MME Tracking Area Update.....	253
D.3.7	E-UTRAN to GERAN A/Gb mode Inter RAT handover	259
D.3.7.1	General.....	259
D.3.7.2	Preparation phase.....	260
D.3.7.3	Execution phase	263
D.3.8	GERAN A/Gb mode to E-UTRAN Inter RAT handover.....	265
D.3.8.1	General.....	265
D.3.8.2	Preparation phase.....	266
D.3.8.3	Execution phase	268
Annex E (normative):	Mapping between EPS and Release 99 QoS parameters.....	271

Annex F (normative):	Dedicated bearer activation in combination with the default bearer activation at Attach and UE requested PDN connectivity procedures ...	274
Annex G:	Void	277
Annex H (normative):	Mapping between temporary and area identities	278
Annex I (informative):	Guidance for contributors to this specification.....	279
Annex J (informative):	High Level ISR description	280
J.1	General description of the ISR concept.....	280
J.2	Usage of the TIN	281
J.3	ISR activation.....	281
J.4	Downlink data transfer	282
J.5	ISR deactivation	283
J.6	Handling of special situations	283
Annex K (informative):	Change history	285
History		288

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1 Scope

The present document defines the Stage 2 service description for the Evolved 3GPP Packet Switched Domain - also known as the Evolved Packet System (EPS) in this document. The Evolved 3GPP Packet Switched Domain provides IP connectivity using the Evolved Universal Terrestrial Radio Access Network (E-UTRAN).

The specification covers both roaming and non-roaming scenarios and covers all aspects, including mobility between E-UTRAN and pre-E-UTRAN 3GPP radio access technologies, policy control and charging, and authentication.

The Radio Access Network functionality is documented only to the extent necessary to describe the overall system. TS 36.300 [5] contains the overall description of the Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN).

ITU-T Recommendation I.130 [3] describes a three-stage method for characterisation of telecommunication services, and ITU-T Recommendation Q.65 [4] defines Stage 2 of the method.

TS 23.402 [2] is a companion specification to this specification.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".
- [3] ITU-T Recommendation I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [4] ITU-T Recommendation Q.65: "The unified functional methodology for the characterization of services and network capabilities".
- [5] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".
- [6] 3GPP TS 23.203: "Policy and charging control architecture".
- [7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [8] 3GPP TS 43.129: "Packet-switched handover for GERAN A/Gb mode; Stage 2".
- [9] 3GPP TS 23.003: "Numbering, addressing and identification".
- [10] 3GPP TS 23.122: "Non-Access-Stratum (NAS) functions related to Mobile Station in idle mode".
- [11] 3GPP TS 43.022: "Functions related to MS in idle mode and group receive mode".
- [12] 3GPP TS 25.304: "UE procedures in idle mode and procedures for cell re-selection in connected mode".
- [13] 3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description".

- [14] 3GPP TS 29.060: "GPRS Tunnelling Protocol (GTP) across the Gn and Gp interface".
- [15] 3GPP TS 43.051: "GERAN Overall description - Stage 2".
- [16] 3GPP TS 25.401: "UTRAN overall description".
- [17] IETF RFC 1034 (1987): "Domain names – concepts and facilities" (STD 13).
- [18] IETF RFC 4862: "IPv6 Stateless Address Autoconfiguration".
- [19] IETF RFC 2131: "Dynamic Host Configuration Protocol".
- [20] IETF RFC 3736: "Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6".
- [21] IETF RFC 3633: "IPv6 Prefix Options for Dynamic Host Configuration Protocol (DHCP) version 6".
- [22] 3GPP TS 25.413: "UTRAN Iu interface Radio Access Network Application Part (RANAP) signalling".
- [23] 3GPP TS 44.064: "Mobile Station - Serving GPRS Support Node (MS-SGSN); Logical Link Control (LLC) Layer Specification".
- [24] 3GPP TS 23.251: "Network Sharing; Architecture and functional description".
- [25] IETF RFC 4039: "Rapid Commit Option for the Dynamic Host Configuration Protocol version 4 (DHCPv4)".
- [26] IETF RFC 768: "User Datagram Protocol".
- [27] 3GPP TS 23.221: "Architectural requirements".
- [28] 3GPP TS 23.008: "Organization of subscriber data".
- [29] 3GPP TS 23.078: "Customized Applications for Mobile network Enhanced Logic (CAMEL) Phase X; Stage 2".
- [30] 3GPP TS 23.236: "Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes".
- [31] IETF RFC 3588: "Diameter Base Protocol".
- [32] IETF RFC 4861: "Neighbor Discovery for IP Version 6 (IPv6)".
- [33] 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification".
- [34] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode".
- [35] IETF RFC 4960: "Stream Control Transmission Protocol".
- [36] 3GPP TS 36.413: "Evolved Universal Terrestrial Access Network (E-UTRAN); S1 Application Protocol (S1AP)".
- [37] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".
- [38] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)".
- [39] Void.
- [40] 3GPP TS 33.102: "3G Security; Security architecture".
- [41] 3GPP TS 33.401: "3GPP System Architecture Evolution: Security Architecture".
- [42] 3GPP TS 48.018: "General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN); BSS GPRS Protocol (BSSGP)".