



**Карьера
после диплома**



Откуда и куда мы идём поколения мобильной связи

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О докладчике

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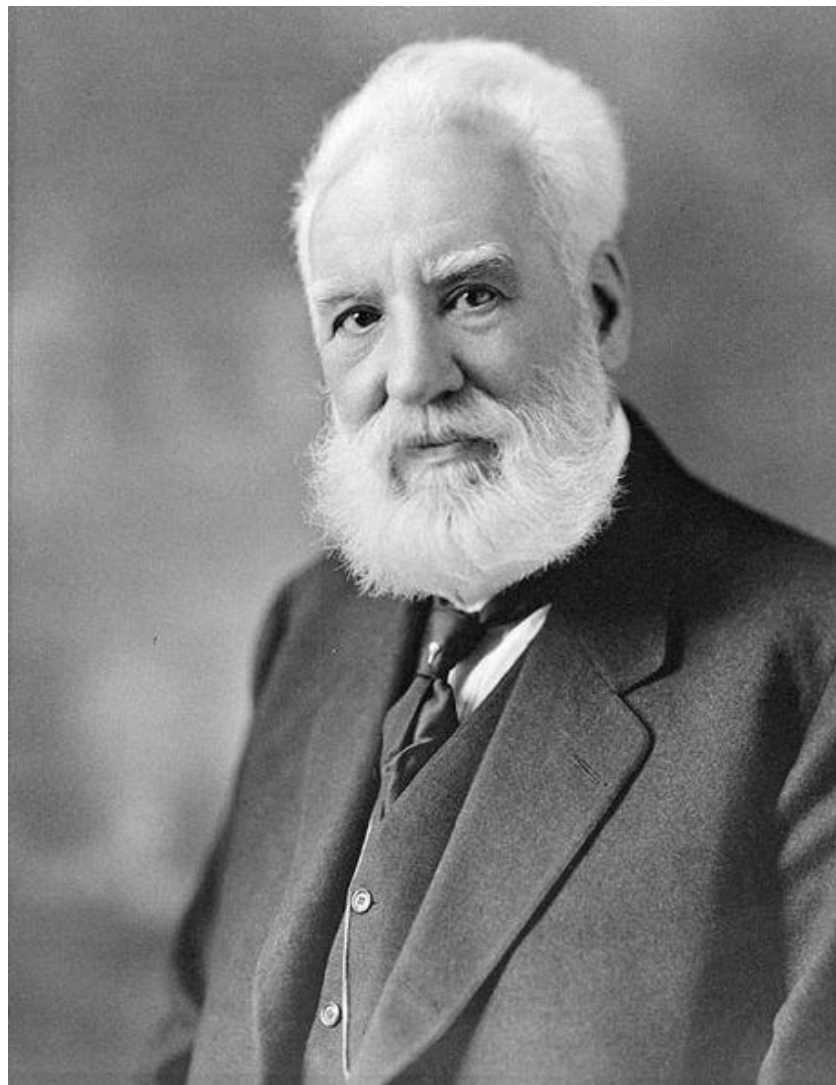
2014

ОАО Мегафон, Москва

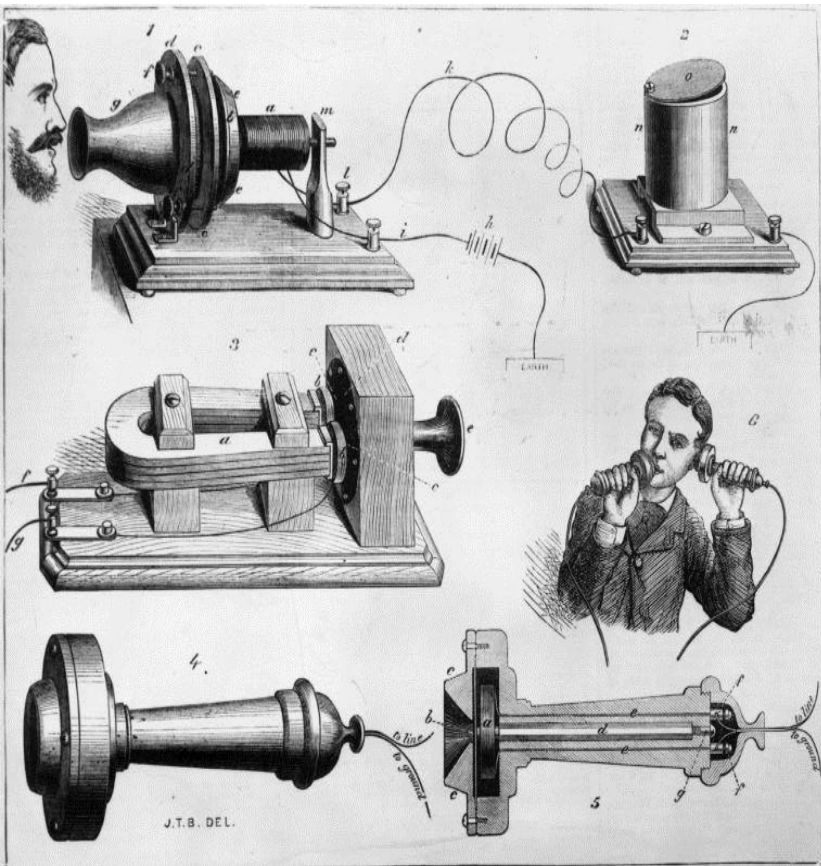
Инженер технического контроля



Алекса́ндр Грэ́йам Белл (*Alexander Graham Bell*)



патент США № 174465





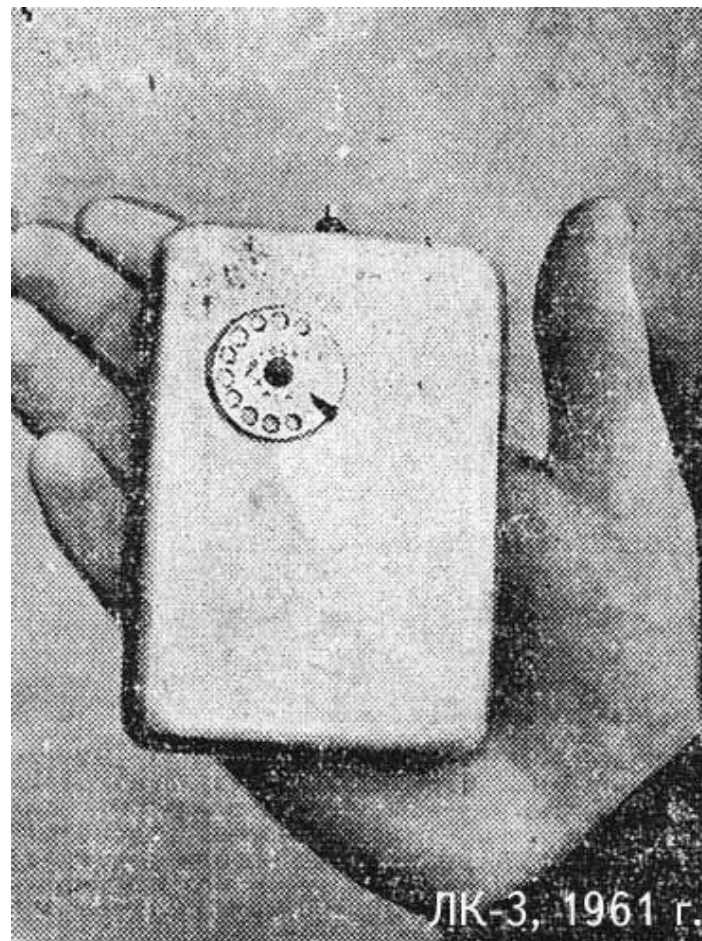
Антонио Меуччи



К слову...



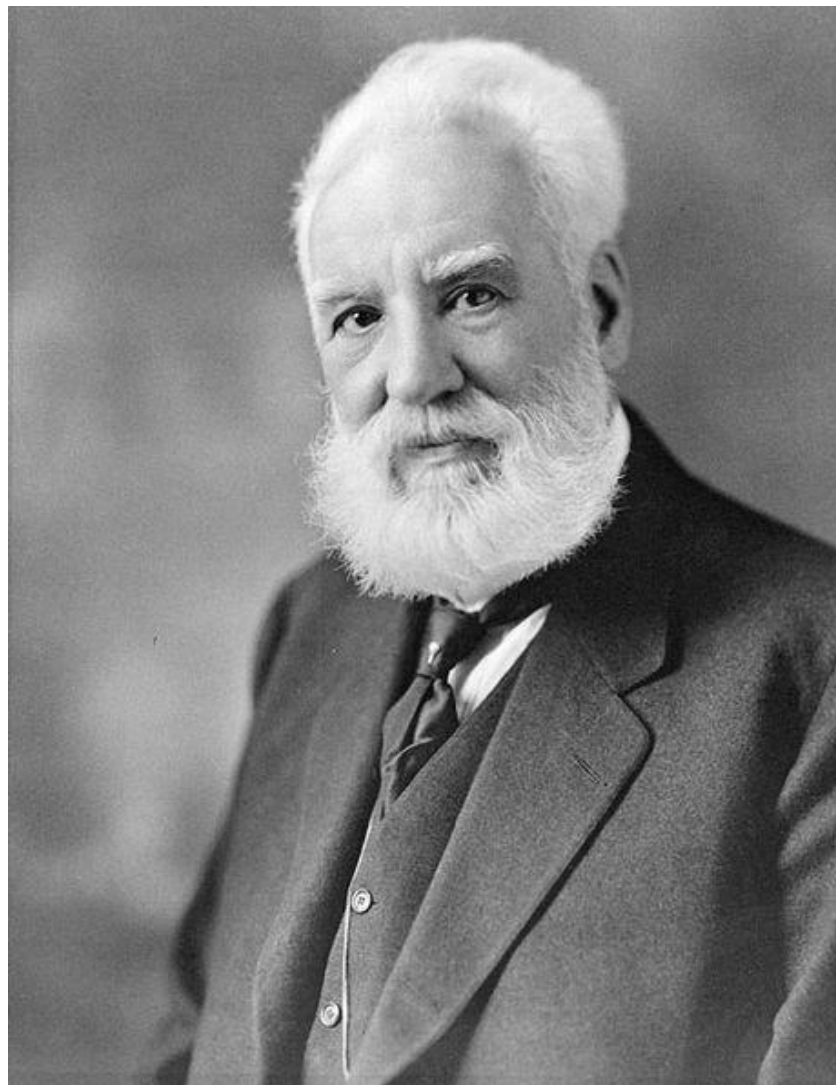
Доктор Мартин Купер со своей первой моделью мобильного телефона 1973 г.
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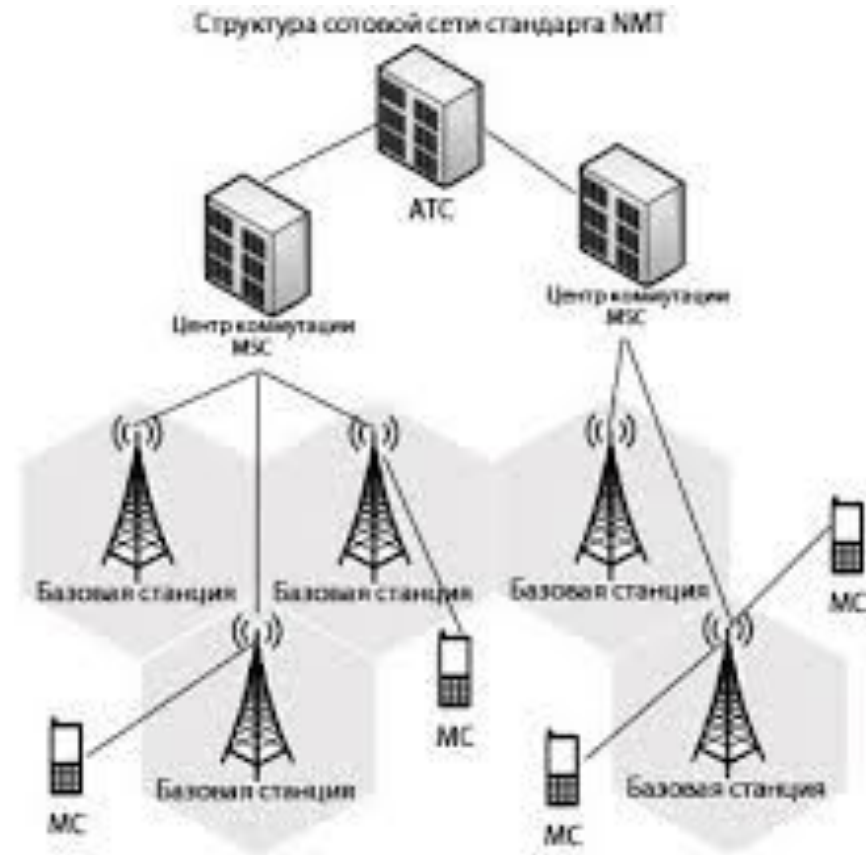
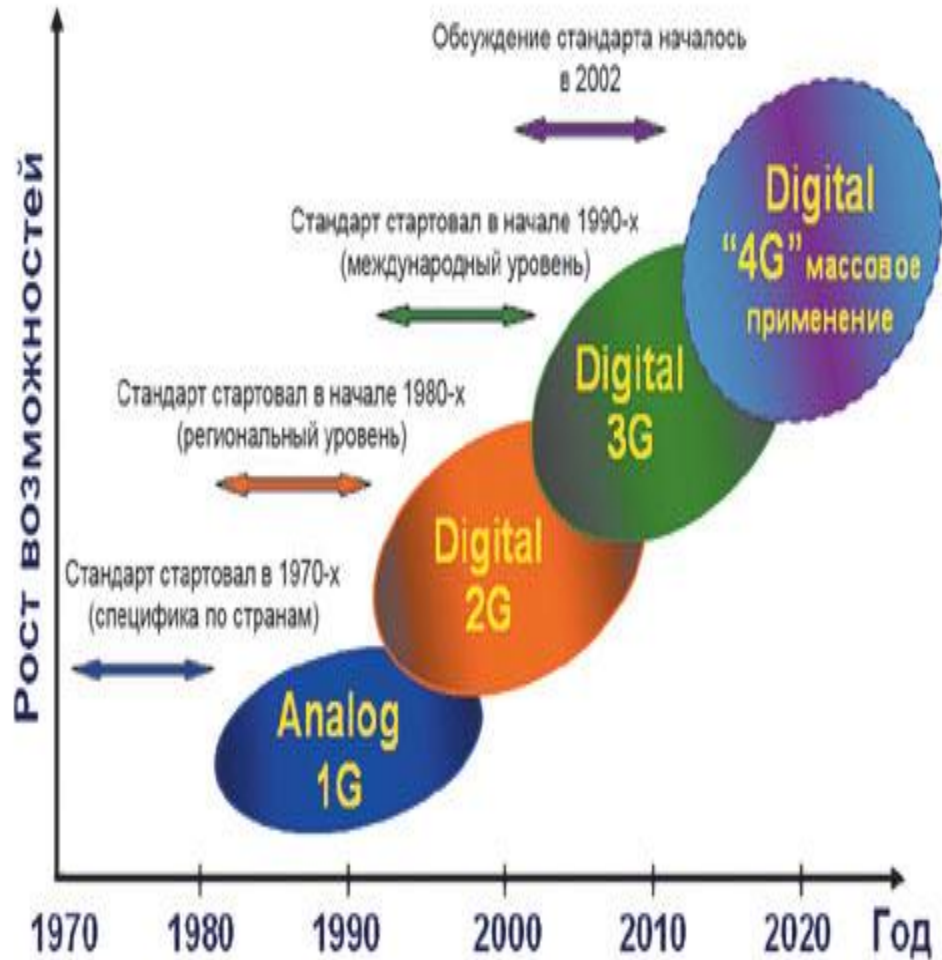
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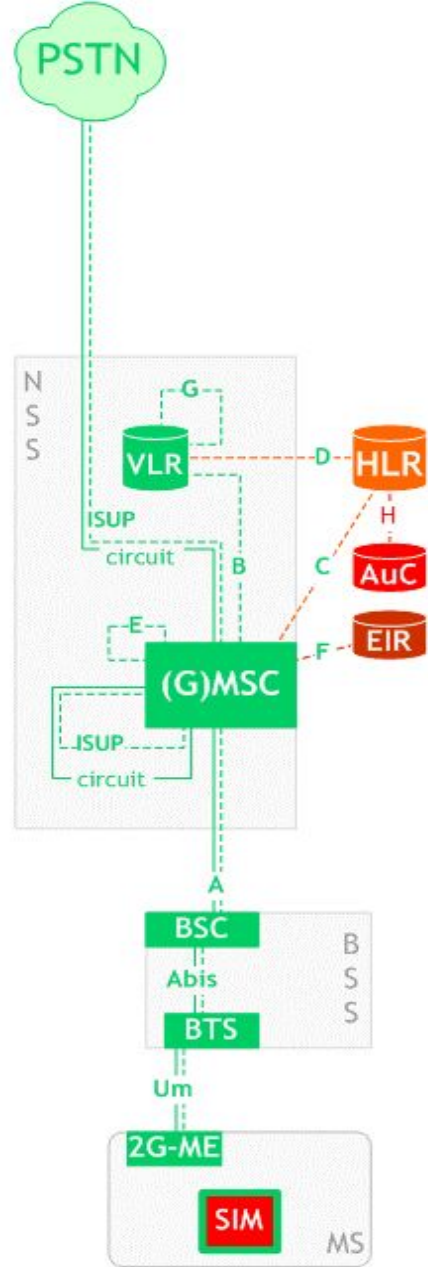
Алекса́ндр Грэйам Белл (*Alexander Graham Bell*)



1G



GSM



- AuC Authentication Centre
- BSC Base Station Controller
- BSS Base Station Subsystem
- BTS Base Transceiver Station
- EIR Equipment Identity Register
- GMSC Gateway MSC
- HLR Home Location Register
- ISUP ISDN User Part (SS7)
- ME Mobile Equipment
- MS Mobile Station
- MSC Mobile service Switching Centre
- NSS Network Sub-System
- PSTN Public Switched Telephone Network
- SIM Subscriber Identity Module
- SS7 Signaling System no. 7
- TDM Time Division Multiplexing
- VLR Visitor Location Register



GSM Phase 1

New Features:

- SMS Point-to-Point
- SMS Cell Broadcast
- Fax G3 Support
- Call Forwarding
- Call Barring

GSM Phase 2

New Features:

- ODB: Operator Determined Call Barring
- Line Identification: CLIP/CLIR/COLP/COLR
- Call Waiting / Hold
- MultiParty
- CUG: Closed User Group
- AoC: Advice of Charge
- USSD: Unstructured Supplementary Service Data

GSM Phase2+ Rel-96

New Features:

- VGCS: Voice Group Call Service
- VBS: Voice Broadcast Service
- NITZ: Network Identity and Timezone
- eMLPP: Enhanced Multi-Level Precedence and Pre-emption
- CAMEL: Customized Applications for Mobile network Enhanced Logic
- SOR: Support of Optimal Routeing
- ECT: Explicit Call Transfer
- SAT: SIM Application Toolkit
- GAD: Universal Geographical Area Description
- HSCSD: High Speed Circuit Switched Data

GSM Phase2+ Rel-97

New Features:

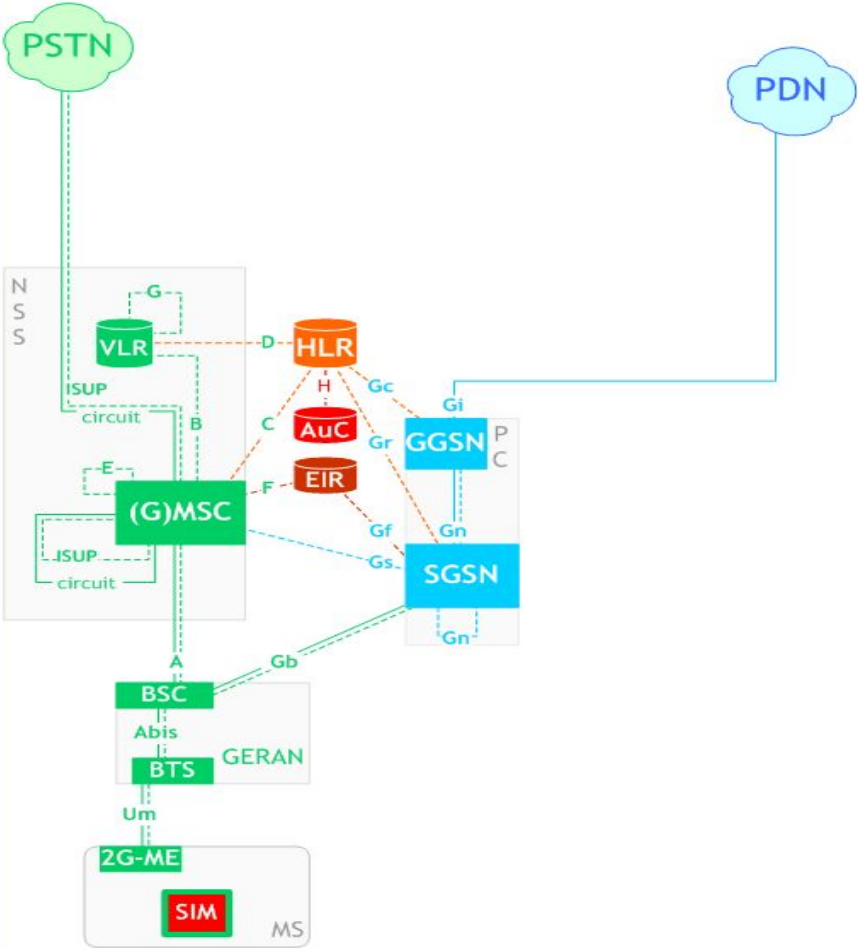
- GPRS: General Packet Radio Service
- GCR: Group Call Register (not shown)
- SIWF: Shared InterWorking Function (not shown)
- CCBS: Completion of Calls to Busy Subscriber
- CNAP: Calling Name Presentation
- TE-UE multiplexer protocol

GSM Phase2+ Rel-98

New Features:

- EDGE: Enhanced Data Rates for Global Evolution
- GERAN: GSM/EDGE Radio Access Network
- LCS: Location Services
- FIGS: Fraud Information Gathering System
- IST: Immediate Service Termination
- LI: Lawful Interception
- SoLSA: Support of Localised Service Area
- TFO: Tandem Free Operation
- CTS: Cordless Telephony System
- MNP: Mobile Number Portability
- CD: Call Deflection
- UUS: User-to-User Signalling
- MSP: Multiple Subscriber Profile
- AMR: Adaptive Multi-Rate Speech Codec

GSM+

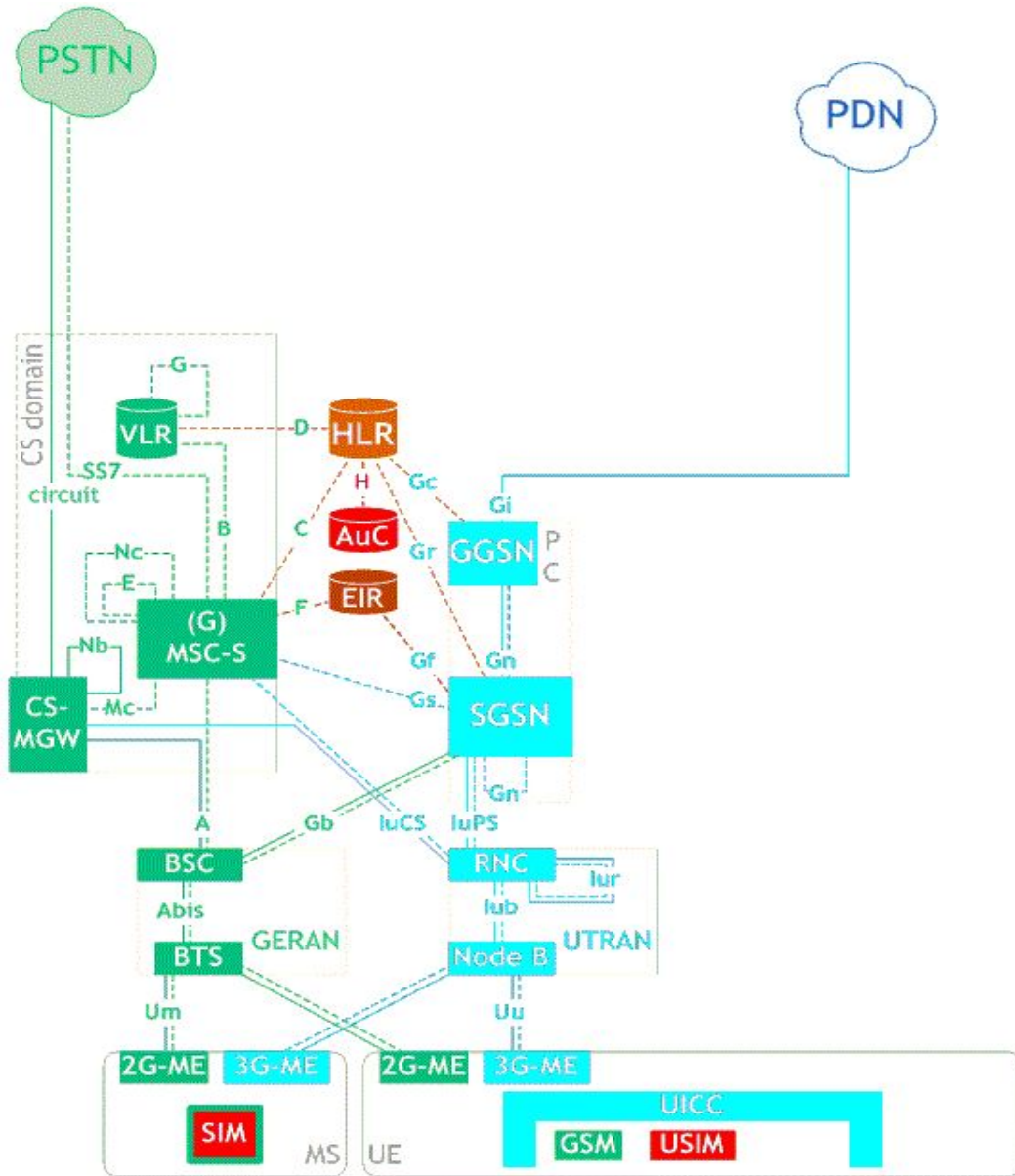


- SGSN Serving GPRS Support Node
- GGSN Gateway GPRS Support Node
- GPRS General Packet Radio Service
- PC GPRS Packet Core
- PDN Packet Data Network

New components (not shown)

- GMLC Gateway Mobile Location Center
- SMLC Serving Mobile Location Center
- LMU Location Measurement Unit
- CBC Cell Broadcast Service

3G



3GPP Rel-3

New Features:

- UTRAN: UMTS Terrestrial Radio Access Network
- MMS: Multimedia Messaging Service (stages 1, 2)
- DTM: Dual Transfer Mode
- Follow-Me
- Multicall
- Super Charger
- Kasumi Algorithm Set

3GPP Rel-5

New Features:

- IMS: IP Multimedia Subsystem
- HSDPA: High Speed Downlink Packet Access
- GTT: Global Text Telephony
- SCUDIF: Service Change and UDI Fallback

3GPP Rel-7

New Features:

- PCC: Policy Control and Charging architecture
- MTSI: Multimedia Telephony Service for IMS
- CSICS: CS/IMS Combinational Services
- UEA2 + UIA2: Confid. & Integrity Algorithms
- SDoUE: Selective Disabling of UE Capabilities
- IMS Emergency Sessions

3GPP Rel-8

New Features:

- EPC: Evolved Packet Core architecture
- E-UTRAN: (aka LTE) Radio Access Network
- eGTP: evolved GPRS Tunnelling Protocol
- SRVCC: Single Radio Voice Call Continuity
- CSFB: CS Fallback

3GPP Rel-4

New Features:

- BICC: Bearer Independent CS Core network
- Out-of-Band Transcoder Control
- PSS: Packet Switched Streaming service
- UTRA FDD Repeater
- Milenage Algorithm Set

3GPP Rel-6

New Features:

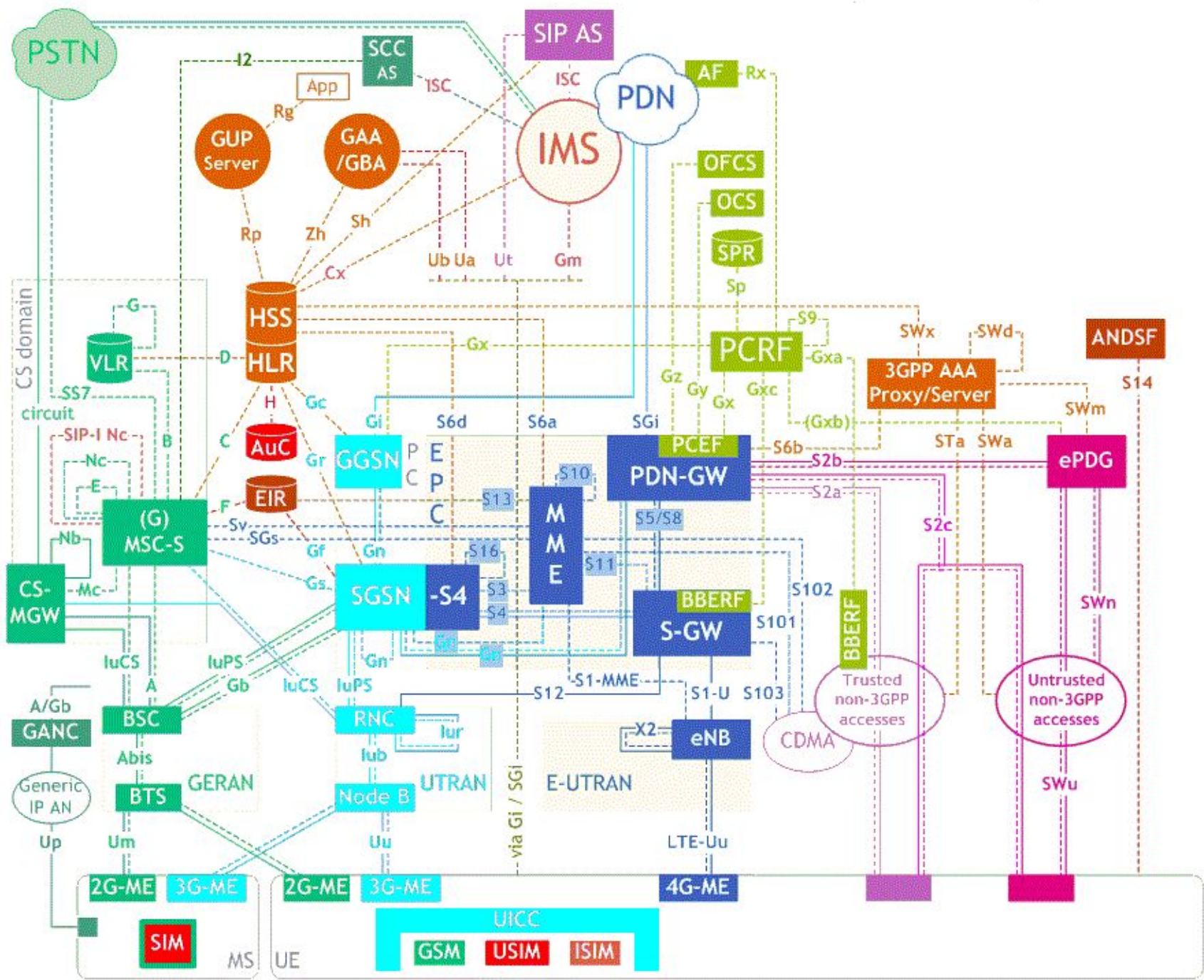
- GAA: Generic Authentication Architecture
- GBA: Generic Bootstrapping Architecture
- I-WLAN: Interworking with WLANs
- GAN: Generic Access Network
- Network Sharing
- MBMS: Multimedia Broadcast/Multicast Service

- HSUPA: Enhanced Uplink
- Presence Capability
- Speech Recognition
- GUP: Generic User Profile
- DRM: Digital Rights Management

- Voice Call Continuity between CS and IMS
- SS7 Security Gateway
- MRFC-MRFP Mp Interface (IMS)
- Support of SMS over IP

- ICS: IMS Centralized Services
- ISC: IMS Service Continuity
- PNM: Personal Network Management
- MPS: Multimedia Priority Service

4G



Спасибо за внимание!

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