Anhang 2

Liste von Funktionen der Komponenten von 5G-Netzen gemäß § 6 Abs. 4

Zugangsnetz
(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)

4G-Basisstation  Evolved Node B (eNodeB, eNB)
Home  eNodeB Subsystem (HeNS)

(gemäß 3GPP TS 38.401 V16.0.0 (2019-12), NG-RAN; Architecture description)

5G-Basisstation  gNB inklusive gNB Central Unit (gNB-CU) und gNB Distributed Unit (gNB-DU)

Paketvermitteltes Kernnetz
(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)

3GPP  Authentication, Authorization and Accounting (AAA) Proxy
3GPP  Authentication, Authorization and Accounting (AAA) Server
Access  Network Discovery and Selection Function (ANDSF)
Application  Front Ends (AFE)
Application  Function (AF)
Border  gateway (BG)
Closed  Subscriber Group (CSG) List Server
Closed  Subscriber Group (CSG) Subscriber Server (CSS)
Equipment  Identity Register (EIR)
Evolved Packet Data Gateway (ePDG)
Home  Agent (HA)
Home  Subscriber Server (HSS)
Local  Gateway (L-GW)
Mobility Management Entity (MME)
Packet  Data Gateway (PDG)
Packet  Data Network Gateway (PDN GW) inklusive PDN GW Control Plane (PGW-C) und PDN GW User Plane (PGW-U)
Policy and Charging Rules Function (PCRF)
Security Gateway (SEG)
Serving Gateway (S-GW) inklusive S-GW Control Plane (SGW-C) und S-GW User Plane (SGW-U)
Signalling  Gateway Function (SGW)
User Data Repository (UDR)
WLAN  Access Gateway (WAG)

(gemäß 3GPP TS 23.501 V16.3.0 (2019-12), System architecture for the 5G System (5GS))

5G-Equipment  Identity Register (5G-EIR)
Access and Mobility Management Function (AMF)
Application  Function (AF)
Authentication  Server Function (AUSF)
Charging  Function (CHF)
<table>
<thead>
<tr>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>DataNetwork (DN)</td>
</tr>
<tr>
<td>Intermediate Management Function (LMF)</td>
</tr>
<tr>
<td>NetworkData Analytics Function (NWDAF)</td>
</tr>
<tr>
<td>NetworkExposure Function (NEF)</td>
</tr>
<tr>
<td>NetworkRepository Function (NRF)</td>
</tr>
<tr>
<td>NetworkSlice Selection Function (NSSF)</td>
</tr>
<tr>
<td>Non-3GPP InterWorking Function (N3IWF)</td>
</tr>
<tr>
<td>Policy Control Function (PCF)</td>
</tr>
<tr>
<td>Security Edge Protection Proxy (SEPP)</td>
</tr>
<tr>
<td>Service Communication Proxy (SCP)</td>
</tr>
<tr>
<td>Session Management Function (SMF)</td>
</tr>
<tr>
<td>Short Message Service Function (SMSF)</td>
</tr>
<tr>
<td>Trusted Non-3GPP Gateway Function (TNGF)</td>
</tr>
<tr>
<td>UE radio Capability Management Function (UCMF)</td>
</tr>
<tr>
<td>Unified Data Management (UDM)</td>
</tr>
<tr>
<td>Unified Data Repository (UDR)</td>
</tr>
<tr>
<td>Unstructured Data Storage Function (UDSF)</td>
</tr>
<tr>
<td>UserPlane Function (UPF)</td>
</tr>
<tr>
<td>Wireline Access Gateway Function (W-AGF)</td>
</tr>
</tbody>
</table>

**IP Multimedia Subsystem (IMS)**

*(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)*

<table>
<thead>
<tr>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Transfer Control Function (ATCF)</td>
</tr>
<tr>
<td>Access Transfer Gateway (ATGW)</td>
</tr>
<tr>
<td>Breakout Gateway Control Function (BGCF)</td>
</tr>
<tr>
<td>Call Session Control Function (CSCF) inklusive Emergency CSCF (E-CSCF), Interrogating CSCF (I-CSCF), Proxy CSCF (P-CSCF) und Serving CSCF (S-CSCF)</td>
</tr>
<tr>
<td>Cellular Text Modem (CTM) inklusive CTM Special Resource Function (CTM-SRF)</td>
</tr>
<tr>
<td>Emergency Access Transfer Function (EATF)</td>
</tr>
<tr>
<td>Home Subscriber Server (HSS)</td>
</tr>
<tr>
<td>IMS Access Gateway (IMS-AGW)</td>
</tr>
<tr>
<td>IMS Media Gateway (IMS-MGW)</td>
</tr>
<tr>
<td>Interconnection Border Control Function (IBCF)</td>
</tr>
<tr>
<td>IP Multimedia Service Switching Function (IM-SSF)</td>
</tr>
<tr>
<td>Location Retrieval Function (LRF)</td>
</tr>
<tr>
<td>Media Gateway Control Function (MGCF)</td>
</tr>
<tr>
<td>Media Resource Broker (MRB)</td>
</tr>
<tr>
<td>Multimedia Resource Function Controller (MRFC)</td>
</tr>
<tr>
<td>Multimedia Resource Function Processor (MRFP)</td>
</tr>
<tr>
<td>Open Service Access Service Capability Servers (OSA SCS-s)</td>
</tr>
<tr>
<td>Service Centralization and Continuity Application Server (SCC AS)</td>
</tr>
</tbody>
</table>
Dienstkomponenten
(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)

Bearer Bearer Binding and Event Reporting Function (BBERF)
Broadcast-Multicast Service Centre (BM-SC)
Cell Broadcast Centre (CBC)
Cell Broadcast Entity (CBE)
Customised Applications for Mobile network Enhanced Logic (CAMEL) Service Environment (CSE)
Evolved Serving Mobile Location Centre (E-SMLC)
Gateway Mobile Location Centre (GMLC)
Generic User Profile (GUP) Server
Group Communication Service Application Server (GCS AS)
IP-Short-Message-Gateway (IP-SM-GW)
MachineType Communication- Authentication, Authorization and Accounting (MTC-AAA)
MachineType Communication-InterWorking Function (MTC-IWF)
Mission Critical Push To Talk Application Server (MCPTT AS)
Multi-cell/multicast Coordination Entity (MCE)
Multimedia Broadcast Multicast Service Gateway (MBMS-GW)
Packet Flow Description Function (PFDF)
Packet Switched Streaming Service Server (PSS Server)
Proximity-based services (ProSe) Function
Radio Access Network (RAN) Congestion Awareness Function (RCAF)
Service Capability Exposure Function (SCEF)
Short Message Service Router
Short Message Service Service Centre (SMS-SC)
Subscription Profile Repository (SPR)
TCP Proxy Function
Traffic Detection Function (TDF)
Traffic Steering Support Function (TSSF)
Web Real-Time Communication (WebRTC) Web Server Function (WWSF)

Number Portability
(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)

Mobile Number Portability/Signalling Relay function (MNP-SRF)
Number Portability Database (NPDB)

Lawful Intercept
(gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture)

Administration Function (ADMF)
Law Enforcement Monitoring Facility (LEMF)
Mediation and Delivery Function (MDF)
Charging und Billing

gemäß 3GPP TS 23.002 V15.0.0 (2018-03), Network architecture

Billing Domain
Charging Data Function (CDF)
Charging Gateway Function (CGF)
Offline Charging System (OFCS)
Online Charging Function (OCF)
Online Charging System (OCS)

Network Function Virtualisation (NFV), Network Slicing, Software Defined Networking (SDN) und Management and Network Orchestration (MANO)

gemäß ENISA Threat Landscape for 5G Networks, Version 1.0, November 2019

Element Management (EM)
Network Function Lifecycle Management
Network Functions (NF)
Network Services Catalogue
Network Slice Management Function (NSMF)
NFV Audit Database (NFV-AUD-DB)
NFV Infrastructure (NFVI)
NFV Instances repository
NFV Orchestrator (NFVO)
NFV Security Controller (SC)
NFV Security Manager (NSM)
NFV Security Monitoring Database (NFVSecM DB)
NFV Security Services Agent (SSA)
NFV Security Services Provider (SSP)
NFVI Resources repository
NFVI Security Manager (ISM)
NFVI-based Security Function (ISF)
Operations Support System/Business Support System (OSS/BSS)
Physical Security Function (PSF)
SDN Application
SDN Controller
SDN Resource
Security Element Manager (SEM)
Security Monitoring Analytics System
Virtual Network Functions (VNF)
Virtual Security Function (VSF)
Virtual Security Function VNF Catalog Database (VSF-VNF-CAT)
Virtualised Infrastructure Manager (VIM)
VNF Catalogue
VNF Manager (VNFM)
Multi-access Edge Computing (MEC)
gemäß ENISA Threat Landscape for 5G Networks, Version 1.0, November 2019

Customer facing service (CFS) portal
MEC host inklusive MEC applications, MEC platform und Virtualisation infrastructure
MEC host level management inklusive MEC platform manager und Virtualised Infrastructure Manager (VIM)
Multi-access edge orchestrator
User application life-cycle management (LCM) proxy

Physische aktive Vermittlungs- und Übertragungssysteme

Richtfunk, Switches, Router etc

Komponenten mit physischen Rechner-, Speicher- und Netzwerkressourcen
Server, Cloud-Speicher etc

Telecommunication Management
gemäß 3GPP TS 32.101 V15.0.0 (2017-09), Telecommunication management; Principles and high level requirements)

Element Manager (EM)
Domain Manager (DM)
Network Manager (NM)
Network Management Layer Service (NMLS)