



International Telecommunication Union



NGN Focus Group Resource and Admission Control

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TR-RACF - Functional Requirements and Architecture for Resource and Admission Control in Next Generation Networks

- Covers procedures for the control of QoS (including resource reservation, admission control and gate control) , control of NAPT and Firewall traversal.
- Admission control involves checking authorisation based on user profiles, SLAs, operator specific policy rules, and resource availability within access and core transport.
- Within the NGN architecture, the RACF acts as the arbitrator for resource negotiation and allocation between Application Functions and Transport Functions.
- Similar to ETSI but wider scope than TISPAN Release 1 (e.g. including core network control and inter-domain PDF-PDF communication).

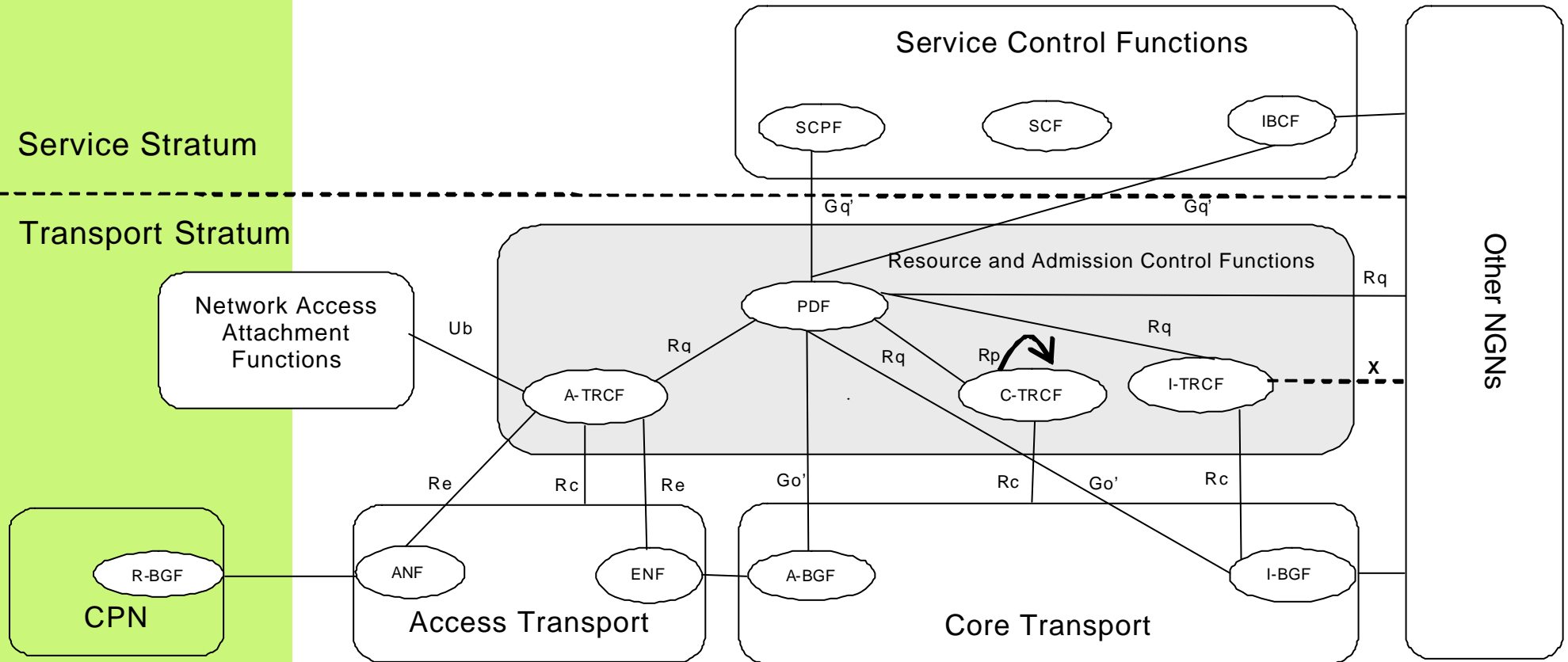




Generic Resource and Admission Control Functional Architecture

Service Stratum

Transport Stratum





- R-BGF - Residential Border Gateway Functional entity
- CPN - Customer Premises Network
- ANF - Access Node Functional entity
- ENF - Edge Node Functional entity
- SCPF - Session Control Proxy Functional entity
- SCF - Session Control Functional entity
- IBCF - Interconnection Border Control Functional entity
- PDF - Policy Decision Functional entity
- A-TRCF - Access Transport Resource Control Functional entity
- C-TRCF - Core Transport Resource Control Functional entity
- I-TRCF - Interconnection Transport Resource Control Functional entity
- A-BGF - Access Border Gateway Functional entity
- I-BGF - Interconnection Border Gateway Functional entity





Network Access Attachment Functions (NAAF)

- Dynamic provision of IP address and other user equipment configuration parameters.
- Authentication of user access network, prior or during the IP address allocation procedure.
- Authorisation of user access network, based on user profiles.
- Access network configuration, based on user profiles.
- Location management.





Resource and Admission Control Functions

Function	Description	Location
QoS Mapping - Technology Independent (QMTI)	Maps the service QoS parameters received from the SCF to network QoS parameters (transport technology independent)	PDF
Final Decision Point (FDP)	Performs the policy decisions in terms of network resources and admission control, based on request information from the SCF	PDF
IP Packet Marking Control (IPMC)	Decides on the packet marking and remarking of flows	PDF
NAPT Control (NAPTC)	Controls network address translation for both near end NA(P)T and far end NA(P)T	PDF
IP Gate Control (IPGC)	Controls the opening and closing of a gate. A gate is defined by, for example, an IP 5-tuple.	PDF, A-TRCF
QoS Mapping - Technology Dependent (QMTD)	Maps the network QoS parameters to transport technology dependent QoS parameters (transport technology dependent).	TRCF
Technology Dependent Decision Point (TDP)	Performs technology-dependent policy decision.	TRCF
Technology-Dependent Gate Control (TDGC)	Controls the opening and closing of a gate. A gate is defined by, for example, an IP 5-tuple and additional link-layer attributes	TRCF
Network Topology Maintenance (NTM)	Collects and maintains the network topology, e.g., from routing	TRCF
Network Resource Management (NRM)	Collects and maintains the resource status information	TRCF
Element Resource Control (ERC)	Controls resources at the element level (such as control of policing and shaping)	TRCF

ITU-T WORKSHOP On Next Generation Networks
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Issues

- o Inter-operator domain boundaries
- o Addition of PDF to access network
- o Inclusion of core network selection

