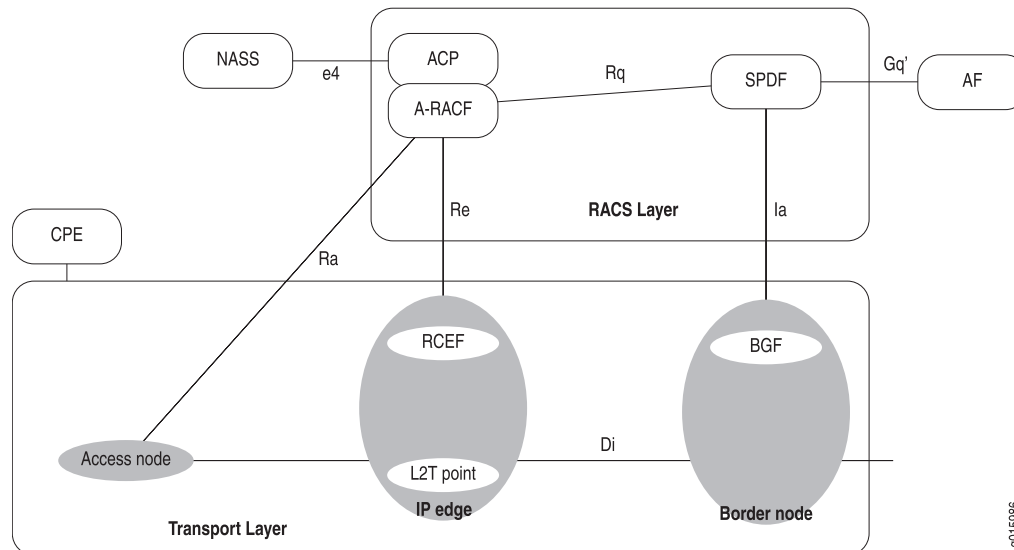


ETSI-TISPAN Architecture

TISPAN is an extension to the IMS architecture developed by ETSI to fit the specific requirements of fixed-line providers.

Figure 1 on page 1 shows a high-level view of the TISPAN architecture.

Figure 1: High-Level View of the ETSI-TISPAN Architecture



RACS Layer

The RACS layer is the TISPAN next-generation network subsystem that is responsible for elements of policing control, including resource reservation and admission control in the access and aggregation networks. The RACS layer also includes support for NAT in the access, aggregation, and core networks required to support end-to-end application-initiated sessions.

The RACS provides policy-based transport control services to applications. These services enable applications to request and reserve transport resources from transport resources from the transport networks within the scope of the RACS.

Rq Interface

The Rq interface is the interface between the SPDF and the A-RACF. The SPDF issues requests for resources in the access network through the Rq interface. These requests indicate IP QoS characteristics. The A-RACF uses the IP QoS information to perform admission control and indicates to the SPDF through the Rq interface its admission control decisions.

SPDF

The SPDF is a functional element that coordinates the resource reservations requests that it receives from the application function (the application-level controller, such as a SIP server). The SPDF performs the following functions:

- Determines whether the request information received from the application function is consistent with the policy rules defined in the SPDF.
- Authorizes the requested resources for the application function session. The SPDF uses the request information received from the application function to calculate the proper authorization (that is, to authorize certain media components).
- Provides the location of the BGF and/or the A-RACF device, in accordance with the required transport capabilities.
- Requests resources of the A-RACF.
- Requests services from the BGF.
- Hides the details of the RACS and the core transport layer from the control architecture.
- Provides resource mediation by mapping requests from application functions toward an appropriate A-RACF and/or BGF.

A-RACF

The A-RACF is a functional element that provides admission control and network policy assembly.

For admission control, the A-RACF receives requests for QoS resources from the SPDF and uses the QoS information received to perform admission control. It then indicates to the SPDF whether or not a request for resources is granted.

Access network policies are a set of rules that specify the policies that should be applied to an access line. For network policy assembly, the A-RACF:

- Ensures that requests from the SPDF match the access policies because multiple SPDFs can request resources from the A-RACF.
- Combines the requests from the SPDFs that have requested resources and ensures that the total of the requests match the capabilities of the access line.