

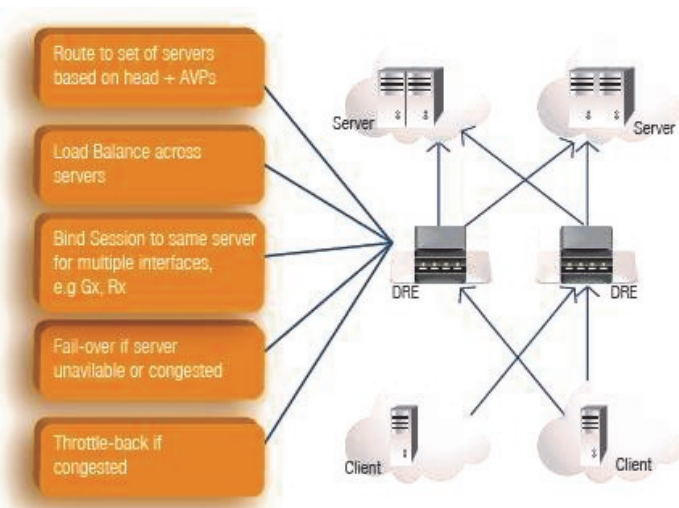
Diameter Routing Engine™

The Smarter Diameter Routing Agent

While data traffic continues to grow at an unprecedented rate, the rapid growth of Long Term Evolution (LTE) networks is causing a fundamental shift in the core network from SS7-based signaling to Diameter signaling. This has given rise to a new class of products referred to as Diameter Signaling Controllers (DSCs) that address the growth and expected congestion in signaling traffic by efficiently routing signaling information.

There are many network elements that need to interconnect using Diameter in Evolved Packet Core (EPC) and IP Multimedia Subsystem (IMS) networks as well as interconnection to legacy networks. If a network operator has more than one instance of any of the elements, the resulting point to point connections can cause congestion in the signaling plane and have even been known to cause network outages.

With the growth in the number of LTE devices and applications, the increased number of interfaces in the EPC and the migration of signaling from SS7 to Diameter, the volume of Diameter messages in the EPC has exploded. This explosion illustrates the need for a carrier-grade infrastructure to support scalability and reliability for Diameter in the EPC. For SS7 the Signaling Transfer Point (STP) was used to facilitate a carrier-grade infrastructure.



Benefits of the Diametriq DRA

- ⇒ Centralized Traffic Management and Load Balancing
- ⇒ Congestion Control
- ⇒ Failover Assurance
- ⇒ Vendor Interoperability
- ⇒ Session Binding
- ⇒ Powerful Application Selector Function for offering new LTE services

For Diameter the Diameter Routing Agent (DRA) is used for providing the same carrier-grade infrastructure in the EPC. As important as the STP was in SS7 networks, the DSC is critical to support this Diameter signaling explosion.

Traffic Management

Diameter interfaces are peer-peer with no central management resulting in a mesh with no scalability or reliability in the network. The DSS functioning as a Diameter Routing Agent (DRA) provides:

- > Flexible load balancing to enable maximum usage of servers with failover and fallback
- > Enhanced routing to enable flexible configuration of the network and independent scalability of the clients/servers
- > Session binding and congestion management with Diameter throttling

Diameter Routing Engine™

Features

- > Support for all interfaces (s6a, S9, S13, Sy, Rx, Gx, Gy, Gz, Rf, Ro, etc.)
- > Flexible rules-based routing using configurable AVPs with AVP modification
- > High availability (HA) solution on a single site giving at least 99.999% reliability
- > Geographic redundant (GR) solution across multiple sites for disaster recovery (DR)
- > Scalable to 1M messages/sec per cluster
- > Linux-based using Intel or ATCA-based server

Standards Compliance

3GPP

- ✓ Diameter Routing Agent (DRA) : TS 29.213
- ✓ Subscription Locator Function (SLF) : TS 29.228

IETF

- ✓ Diameter Relay/Proxy Agent (DRL) : RFC 3588
- ✓ Diameter Redirect Agent (DRD) : RFC 3588
- ✓ Diameter Translation Agent (TLA) : RFC 3588

GSMA

- ✓ Diameter Edge Agent (DEA) – IR.88

