Introduction

Diameter is the essential signaling protocol in today’s LTE and IMS telecom networks. With more nodes and interfaces in the flat, All-IP network, signaling traffic is exploding. Whether it is for Policy and Charging applications, AAA registration or roaming/mobility management, the importance of Diameter signaling is rising on a daily basis. The Diameter Routing Agent (DRA) including a DEA for roaming relieves that congestion.

The Adax Diameter Router (ADR) runs the Aricent Diameter Software Framework and is a complete Diameter Router product with both DEA and DRA functionality for a variety of solutions including MME, SGW, PGW, and PCRF.

The ADR is available as a standalone box solution that integrates the Aricent Diameter DRA and DEA software with the Adax Application Ready Platform containing Adax PacketRunner ATCA blades and Adax Pkt-AMC modules to deliver a completely flexible and scalable Diameter Router solution. The Adax Diameter Router is also available on a PCIe card, AMC module or ATCA blade for customers to integrate with their own equipment or other Adax products such as the Adax Signaling Gateway. All of these options provide a complete carrier-grade solution and the distributed architecture means that High Availability options are also available according to your network requirements.

Diameter Router

The Diameter Router can be deployed as a relay, proxy or redirect agent. It supports up to 207,000 messages per second in the basic redundant mode and 230,000 messages per second in the non-redundant mode for proxy functionality. It can be configured as a Diameter Routing Agent for PCRF discovery and also for HSS and OCS selection in LTE, as a 3GPP Diameter routing agent or a GSMA Diameter Edge Agent (DEA). All of the major LTE and IMS interfaces are supported including Sh, Cx, Dx, Ro, Rf, CCA, NASREQ,EAP, Wx, Wm, Gx, Rx, Tx, Gq, S6a, S6d, S7, S13, and Sgi.

SS7-based 2G and 3G Networks

Service Providers will continue to deploy legacy networks alongside LTE for some time. This need to interconnect different networks demands multi-protocol solutions that combine and connect divergent circuit and packet switching architectures. The Adax Signaling Gateway (AdaxGW) supports legacy SS7 connections to any SIGTRAN Ethernet connection and the Adax Diameter Router on an AMC module can be integrated in to the AdaxGW or legacy third party equipment. A future release of the ADR will also support the 3GPP TR 29.805 IWF between MAP-based and Diameter-based interfaces.

Integrated Solution

The availability of the Adax Diameter Router on complete 1U or 2U systems, Adax ATCA Packet Processing blade, or individual AMC and PCIe modules offers the broadest range of platform support for ATCA, Rack Mount Servers, and Blade Servers. Running standard Linux makes for ease of portability between the platforms.

Key Benefits

- The Adax Diameter Router delivers robust, high-speed, DRA and DEA functions for any network node. The result is excellent Diameter routing performance and unparalleled ease of integration and use.
- The ADR scales extremely well using the multi-core architecture of the Octeon processors on the Adax Pkt2-PCIe card, Pkt-AMC modules and PacketRunner ATCA blade.
- The ability to support Diameter messages over several interfaces in a single system provides a flexible solution that can be deployed across the network reducing cost of ownership.
- Can be deployed as an IETF Diameter agent, 3GPP Diameter Routing Agent (DRA), or GSMA Diameter Edge Agent (DEA).
- Designed to 3GPP and IETF specifications with an easy-to-use management interface ensures that the Adax Diameter Router can be quickly configured and field deployed.
- Distributed architecture providing Carrier-Grade features including high capacity, fault tolerance, scalability, load sharing, redundancy, and support for TCP/SCTP/TLS and IPv4/IPv6.
- High availability through 1:1 active-standby redundancy configuration based on proven Adax hardware and Aricent’s High Availability Framework. Support for more than 200,000 messages per second in basic configuration with redundancy and multithreaded design with configurable number of sessions built-in.
- Field-ready, carrier-grade Diameter Router designed for scalability, flexibility and reliability with easy management and proven interoperability.
Adax is an industry leader in high performance packet processing, security, and network infrastructure for the All-IP network delivering a highly flexible set of protocol controllers, packet processing boards, software protocols, and integrated systems. Adax meets today’s challenges of performance, scalability, cost-effectiveness and high availability with solutions for LTE networks and beyond whilst reducing CAPEX and OPEX.