LCN Compass Policy Control Interfaces

Introduction

LCN focuses on the Evolved Packet Core - the packet core of the next generation mobile networks. We develop protocols, interfaces and solutions for the EPC infrastructure.

Even as radio technologies evolve to offer ever increasing bandwidths to subscribers, operators find themselves in an unenviable situation. They end up investing more on spectrum and infrastructure, but their revenues fail keep pace. Further, higher subscriber bandwidth lead to congestion in the network, resulting in poor customer experience.

Policy control of the network offers a promising solution to these twin problems. By prioritizing the traffic based on a host of criteria, new revenue streams can be generated. By better admission control and bandwidth allocation, congestion in the network can be controlled.

LCN offers pre-built standard components to help equipment vendors and OSS/BSS developers develop standards-compliant policy control products.

LCN Compass Policy and Charging Control Interfaces

LCN Compass Policy Control Interfaces implement Diameter based control interfaces for policy and charging control, as defined by 3GPP TS 23.203 and related standards. The interfaces are available as user-friendly APIs.

The interfaces use LiteCore Compass Diameter base stack to communicate with the remote application. Alternatively, they can be integrated with other 3rd party Diameter implementations.

These interfaces have been developed using Compass ABNF Parser and Code Generator. This allows LCN to quickly support new releases of standards. Available interfaces include

Rx – Between Application Function (AF) and Policy and Charging Rules Function (PCRF). Allows application servers to participate in policy control. A key component of IP Multimedia Subsystem (IMS).

Gx – Between Policy and Charging Enforcement Function (PCEF) and PCRF. Used by PCRF to have dynamic control over the 3GPP access network.

Gxx – Between Bearer Binding and Event Reporting Function (BBERF) and PCRF. Used by PCRF to dynamically control QoS parameters for non-3GPP access.

S9 – Between PCRFs in the home network and the visiting network. Allows H-PCRF exercise dynamic policy control in roaming scenario.

Gy – Between PCEF and On-line Charging System (OCS), allowing Service Data Flow based credit control.

Gz – Between PCEF and Off-line Charging System (OFCS), providing off-line billing support.

The following diagram shows the supported interfaces.

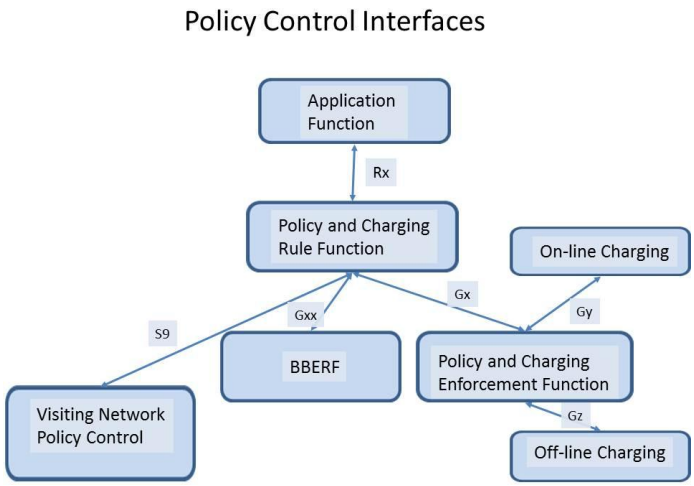

Figure 1 Policy Control Interfaces from LCN

Product Description

The following diagram shows the structure of the API. The interfaces, along with lower layers, hide all protocol details.

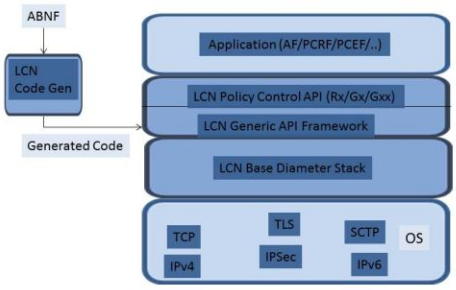

Figure 2 Policy Control Interfaces – Product Architecture

Product Features

- Simple APIs hiding protocol details and complexity
- Customizable call-back mechanism
- Server and client side implementation
- Thread safety for scalable application development
- Professional services for any customization of your special requirements

Advantages

Compass family of products offers standard interfaces as building blocks to OEMs building 3GPP functional elements. These interfaces are available as simple C-callable APIs. These have been built over LCN's standard compliant diameter implementation. With these APIs, OEMs can focus on building their core functionality. Advantages are,

- Reduced complexity of the development project
- Reduced time-to-market
- Considerable cost savings
- Reduced interoperability issues with other products
- Reduced integration efforts

Specifications and Standards Compliance

RFC 3588, Diameter Base Protocol

RFC 3539, AAA Transport Profile

RFC 4005, Diameter Network Access Server Applicaiton

RFC 4006, Diameter Credit Control Application

3GPP TS 23.203 Rel 10, Policy and Charging Control Architecture

3GPP TS 29.212 Rel 10, Policy and Charging Control over Gx Reference Point

3GPP TS 29.214 Rel 10, Policy and Charging Control over Rx Reference Point

3GPP TS 29.215 Rel 10, Policy and Charging Control over S9 Reference Point

3GPP TS 32.240, Rel 10, Charging Architecture and Principles

Transport : TCP and SCTP

Protocol: IPv4 and IPv6

Contact

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