

**Oracle® Communications
Diameter Signaling Router**

Feature Notice Release 5.1

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Release Content

Introduction

Diameter Signaling Router (DSR) is a core Diameter signaling and routing solution for operators' LTE, IMS, and 3G networks. This Feature Notice includes feature descriptions, provides the hardware baseline for this release, and explains how to find customer documentation on the Customer Support Site.

Feature notices are distributed to customers with each new release of software.

This Feature Notice includes the following topics:

- [*Gateway Location Application \(GLA\)*](#)
- [*P-DRA Error Message AVPs*](#)
- [*P-DRA routing to PCRF pools*](#)
- [*Support for Gx'*](#)

Gateway Location Application (GLA)

The Gateway Location Application (GLA) is a DSR Application that retrieves subscriber data stored in Policy Session Binding Repository (pSBR) provided by Policy DRA.

After a DA-MP is activated with the GLA, it receives a Request (Get Gateway Request (GGR)) generated by the Gateway Query Client (GQC), then decodes subscriber information (IMSI or MSISDN), then queries the pSBR (via ComAgent within the Gateway Query Server (GQS) or DSR). The GLA generates an Answer (Get Gateway Answer (GGA)) with subscriber information that includes the number of bindings for the subscriber, and the following information is included for each session:

- Access Point name
- PCEF FQDN
- Creation timestamp

The GLA is dependent on Policy DRA to populate data in pSBR and thus GLA will use Activation/Deactivation rules in the following conditions:

- The GLA is activated using the same mechanism as Policy DRA. It will be activated at the NOAM, and activation is performed so that it activates all SOAMs under a common NOAM.
- GLA cannot be activated unless Policy DRA is activated and PCRF-Pooling has been enabled.
- Policy DRA cannot be deactivated if GLA is activated.

When GLA is activated, Policy DRA stores all information required by GLA.

P-DRA Error Message AVPs

P-DRA Error Message AVP enhancement includes 3-digit error codes in the Diameter Error-Message AVPs that indicate which error scenarios are encountered when processing Diameter messages.

A 3-digit error code is an identifier to uniquely identify a specific error scenario (not error category) encountered in a Diameter Answer message generated by P-DRA. 3-digit codes are unique across all DSR layers (DSR connection layer, routing layer and application layer) and all DSR applications (P-DRA, RBAR, FABR etc.) for errors they represent. The ranges of 500-549 and 850-899 are for P-DRA application, while DSR connection layer, routing layer and other DSR applications use other non-overlapping ranges. Multiple errors may belong to a same error category and are associated with a same Result-Code. It is the 3-digit code that can distinguish an error from others. Users should search for the 3-digit code when a Diameter Error response is received from DSR to identify an error, if possible and available.

P-DRA routing to PCRF pools

The Policy DRA now allows selection of a set of PCRFs, called a PCRF Pool, based on the Access Point Network (APN) from which a session initiation request is originated. This allows policy signaling from a given APN to be routed to a set of PCRFs specifically designated to handle that signaling. The selection of a PCRF from within the PCRF Pool is performed using an even or weighted load distribution.

In addition, the PCRF Pooling feature supports flexible routing to divert a portion of policy traffic to a subset of the PCRF Pool for purposes of proving in a new PCRF capability or set of policies. This is done by creating a Sub-Pool, which is selected using the combination of the PCRF Pool selected (by APN) and the Origin-Host of the policy client that originated the session initiation request. This allows for routing of policy signaling from a given APN and Origin-Host to a smaller set of PCRFs on which the new capability is being introduced, thus reducing risk of unintended consequences.

When a subscriber is bound to a PCRF from the PCRF Pool chosen on the basis of APN, all sessions for that subscriber initiated from that APN are routed to that PCRF. When a subscriber is bound to a PCRF from a Sub-Pool chosen by the combination of APN and Origin-Host, all sessions for that subscriber initiated from that APN and Origin-Host are routed to that PCRF.

Backwards compatibility with the prior release of P-DRA, which only supported one pool of PCRFs, is provided by allowing all APNs to be mapped to a single PCRF Pool.

Support for Gx'

The Gx' interface is supported on the Policy DRA (P-DRA). Gx' is a binding dependent interface on the P-DRA, which supports any Gx based binding dependent interfaces that originate from the DPI/MOS elements.

In a network deploying the Gx' interface, P-DRA routes Gx' sessions to the bound PCRFs, where the Gx/Gxx sessions bind the policy clients and the PCRFs.

Resources and Services

Customer Care Center

Oracle's Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Technical Assistance Centers are located around the globe in the following locations:

Related - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

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- **Software Solutions**

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A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle's Tekelec Customer Care Center.

Customer Training

Oracle offers a variety of technical training courses designed to provide the knowledge and experience required to properly provision, administer, operate, and maintain Oracle products. To enroll in any of the courses or for schedule information, contact the Training Center at (919) 460-3064 or E-mail training@tekelec.com.

Locate Product Documentation on the Customer Support Site

Oracle customer documentation is available on the web at the Oracle Technology Network (OTN) site, <http://docs.oracle.com>. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the Oracle Customer Support site at <http://docs.oracle.com>.
2. Under **Applications**, click the link for **Communications**.
The **Oracle Communications Documentation** window opens with Tekelec shown near the top.
3. Click **Oracle Communications Documentation for Tekelec Products**.
4. Navigate to your Product and then the Release Number, and click the **View** link (the **Download** link will retrieve the entire documentation set).
5. To download a file to your location, right-click the PDF link and select **Save Target As**.