Oracle® Communications
Diameter Signaling Router

Subscriber Data Server Feature Notice Release

E57482 Revision 01

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ORACLE®

Oracle® Communications Diameter Signaling Router Subscriber Data Server Feature Notice Release

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SDS New Features

This chapter describes the new feature included with this version of SDS.

Introduction

The Subscriber Database Server/Data Processor (SDS/DP) system consists of a Primary Provisioning Site, a Disaster Recovery (DR) Provisioning Site, and up to 24 DSR Signaling Site servers with redundant DP SOAM servers and up to 10 DP blades. Each Provisioning Site has an active/standby pair of servers in a high availability (HA) configuration and a third server configured as a Query Server.

The SDS/DP system is built on the AppWorks platform, which provides the following services:

- Site-based GUI
- HA capabilities (active/standby switchover and DR switchover)
- Database functionality (replication, backup, restore)

This Feature Notice Release includes feature descriptions 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 this topic:

- *SDS IPv6 Support*

SDS IPv6 Support

SDS processes now support a single IPv4 or IPv6 address as input through the GUI on SDS Customer Provisioning interfaces (SOAP and XML) and the Management interfaces (Remote Import and Remote Export).

PDB Relay (a part of the Management interface) is used only for HLRR systems, which has no IPv6 plans, so SDS will not support IPv6 for PDB Relay.

For the SDS Connections (for example with the Customer Provisioning System), multiple IP addresses can already be configured, so simultaneous support of both IPv4 and IPv6 will be supported, even though each individual address is either IPv4 or IPv6 (not both). For any application acting as a server, this is functionally equivalent to having single addresses that can be both.

For the Remote Import and Export addresses, the IP addresses are external to the SDS/DSR system so cannot be required to define both IPv4 and IPv6 interfaces. These IP entries in SDS are easily changed back and forth between IPv4 and IPv6 and any failure caused by having the wrong address during migration can be easily recovered simply by using the correct address.

These GUI changes are located where IP addresses are entered or displayed on these screens:

Main Menu: SDS -> Configuration -> Options

Help
Wed Oct 01 19:34:49 2014 EDT

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Variable	Value	Description
Display Command Output	☐	Whether or not to display commands and responses on the GUI when provisioning data. DEFAULT = UNCHECKED
Allow Connections	☑	Whether or not to allow incoming provisioning connections. DEFAULT = CHECKED
Max Transaction Size	50 commands	Maximum number of database manipulation commands per transaction. DEFAULT = 50; RANGE = 1-100
Log Provisioning Messages	☑	Whether or not to log all incoming and outgoing provisioning messages in the command log. DEFAULT = CHECKED
Transaction Durability Timeout	5 seconds	The amount of time (in seconds) allowed between a transaction being committed and it becoming durable. If Transaction Durability Timeout lapse, DURABILITY_TIMEOUT (1024) response is sent to the originating client. The associated request should be resent to ensure that the request was committed. DEFAULT = 5; RANGE = 2-3600
Remote Import Enabled	☑	Whether or not import files are imported from a Remote Host. DEFAULT = UNCHECKED
Remote Import Mode	Non-Blocking ▼	Whether updates are allowed (Non-Blocking) or not allowed (Blocking) on all provisioning connections while the remote import operation is in progress.
Remote Import Host IP Address	fd0d:deba:d97c:41f:9a4b:e1ff:fe74:1636	The IP address (either an IPv4 or IPv6 address) of the Remote Import Host from which to periodically query for import files. 0-39 CHARACTERS
Remote Import User	root	The user on the Remote Import Host. 0-255 CHARACTERS
Remote Import Password		Password to exchange ssh keys with the remote import host. It is cleared from this table once the keys have been exchanged. 0-255 CHARACTERS
Remote Import Directory	/tmp/	The directory in which import files exist on the Remote Import Host. 0-255 CHARACTERS

Variable	Value	Description
Export Mode	Non-Blocking ▼	Whether updates are allowed (Non-Blocking) or not allowed (Blocking) on all provisioning connections while the export operation is in progress.
Remote Export Transfers Enabled	☑	Whether or not to allow export files to be copied to the Remote Export Host. DEFAULT = UNCHECKED
Remote Export Host IP Address	fd0d:deba:d97c:41f:9a4b:e1ff:fe74:1636	The IP address (either an IPv4 or IPv6 address) of the Remote Export Host to which export files may be configured to be automatically transferred. 0-39 CHARACTERS
Remote Export User	root	The user on the Remote Export Host. 0-255 CHARACTERS
Remote Export Password		Password to exchange ssh keys with the remote export host. It is cleared from this table once the keys have been exchanged. 0-255 CHARACTERS
Remote Export Directory	/tmp/	The directory in the Remote Export Host to which export files are transferred if configured. 0-255 CHARACTERS
Remote Audit Receive Window Size	500 messages	The maximum number of retrieval messages that can be received and buffered by the Provisioning Database Application on the remote system. Once this amount is reached, no more messages will be sent until acknowledgments are received from the remote system. DEFAULT = 500; RANGE = 5-2500
Remote Audit Send Message Rate	500 msgs/sec	The maximum rate (in messages/second) in which retrieval messages will be sent to the Provisioning Database Application on remote system. DEFAULT = 500; RANGE = 5-2500
Remote Audit Number Range Limit	1000 numbers	The maximum number of records that can be queried per request message. DEFAULT = 1000; RANGE = 100-100000

		DEFAULT = 1000; RANGE = 100-100000
PDB Relay Enabled	☐	Whether or not to relay successful incoming provisioning requests to a Provisioning Database Application on a remote system. NOTE: This feature requires 'Log Provisioning Messages' option to be enabled. DEFAULT = UNCHECKED
PDB Relay Primary Remote System VIP Address		The IPv4 VIP address of the primary remote system the Provisioning Database Application is running. NOTE: Changes to the VIP address do not take effect until PDB Relay is restarted. 0-15 CHARACTERS
PDB Relay Disaster Recovery Remote System VIP Address		The IPv4 VIP address of the Disaster Recovery remote system the Provisioning Database Application is running. NOTE: Changes to the VIP address do not take effect until PDB Relay is restarted. 0-15 CHARACTERS
PDB Relay Remote System Port	5873	The TCP listening port of the Provisioning Database Application on the remote system. NOTE: Changes to the TCP listening port do not take effect until PDB Relay is restarted. DEFAULT = 5873; RANGE = 0-65535
PDB Relay Receive Window Size	500 commands	The maximum number of provisioning commands that can be received and buffered by the Provisioning Database Application on the remote system. Once this amount is reached, no more commands will be sent until acknowledgments are received from the remote system. DEFAULT = 500; RANGE = 5-2500
PDB Relay Send Command Rate	500 cmds/sec	The maximum rate (in commands/second) in which commands will be relayed/sent to the Provisioning Database Application on remote system. DEFAULT = 500; RANGE = 5-2500
PDB Relay Timestamp (read-only)	2014-09-09 15:18:09	The timestamp of the last provisioning message relayed to the Provisioning Database Application on the remote system.

		Provisioning Database Application on the remote system.
XML Interface Port	5875	XML Interface TCP (unsecure) Listening Port. The TCP listening port can be disabled by setting it to 0. NOTE: Changes to the TCP listening port do not take effect until the 'xds' process is restarted. Also, you must specify a different port than the SOAP interface. DEFAULT = 5875; RANGE = 0-65535
XML Interface Idle Timeout	1200 seconds	The maximum time (in seconds) that an open connection will remain active without a request being sent, before the connection is dropped. DEFAULT = 1200; RANGE = 1-86400
Maximum XML Connections	120	Maximum number of simultaneous XML Interface client connections. NOTE: Changes to the Maximum XML Connections option do not take effect until the 'xds' process is restarted. DEFAULT = 120; RANGE = 1-120
SOAP Interface Port	5876	SOAP Interface TCP Listening Port. The TCP listening port can be disabled by setting it to 0. NOTE: Changes to the TCP listening port do not take effect until the 'xds' process is restarted. Also, you must specify a different port than the XML interface. DEFAULT = 5876; RANGE = 0-65535
SOAP Interface Idle Timeout	1200 seconds	The maximum time (in seconds) that an open connection will remain active without a request being sent, before the connection is dropped. DEFAULT = 1200; RANGE = 1-86400
Maximum SOAP Connections	120	Maximum number of simultaneous SOAP Interface client connections. NOTE: Changes to the Maximum SOAP Connections option do not take effect until the 'xds' process is restarted. DEFAULT = 120; RANGE = 1-120
SOAP Secure Mode	Unsecure ▼	Whether the SOAP Interface operates in secure mode (using SSL), or unsecure mode (plain text). NOTE: Changes to the SOAP Secure Mode do not take effect until the 'xds' process is restarted.
Maximum Transaction Lifetime	60 seconds	The maximum time (in seconds) that a transaction can remain open before automatically being rolled back if a commit or rollback is not explicitly performed. Timeout can be disabled by setting to 0. DEFAULT = 60; RANGE = 0-3600

Apply

Figure 1: Options Screen from the SDS Configuration Menu

Chapter

2

Oracle References and Services

Oracle provides a number of resources for DSR. These include the availability of product documentation online, customer training, and access to the Customer Care Center.

My Oracle Support (MOS)

MOS (*https://support.oracle.com*) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request
2. Select **3** for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:

   - For Technical issues such as creating a new Service Request (SR), Select **1**
   - For Non-technical issues such as registration or assistance with MOS, Select **2**

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

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.

Customer Training

Oracle University offers expert training on Oracle Communications solutions for service providers and enterprises. Make sure your staff has the skills to configure, customize, administer, and operate your communications solutions, so that your business can realize all of the benefits that these rich solutions offer. Visit the Oracle University web site to view and register for Oracle Communications training: *education.oracle.com/communication*. To reach Oracle University:

- In the US, please dial 800-529-0165.

- In Canada, please dial 866-825-9790.

- In Germany, please dial 0180 2000 526 (toll free) or +49 8914301200 (International).

- In Spain, please dial +34 91 6267 792.

- In the United Kingdom, please dial 0845 777 7 711 (toll free) or +44 11 89 726 500 (International).

For the appropriate country or region contact phone number for the rest of the world, please visit Oracle University's web site at *http://www.oracle.com/education/contacts*.

Locate Product Documentation on the Oracle Technology Network 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 *http://www.adobe.com*.

1. Access the Oracle Technology Network site at *http://docs.oracle.com*.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link.
   The Oracle Communications Documentation page appears with Tekelec shown near the top.
4. Click the **Oracle Communications Documentation for Tekelec Products** link.
5. Navigate to your Product and then the Release Number, and click the **View** link (the Download link will retrieve the entire documentation set).
   A list of the entire documentation set for the selected product and release appears.
6. To download a file to your location, right-click the **PDF** link, select **Save target as**, and save to a local folder.

Acronyms

This document uses some or all of the following acronyms:

CAS - Customer Access Support

DP - Data Processor

DR - Disaster Recovery

DSR - Diameter Signaling Router

GUI - Graphical User Interface

HA - High Availability

MOS - My Oracle Support

OTN - Oracle Technology Network

PDP - Permissive Dialing Period

SDS - Subscriber Database Server

SOAM - Signaling Operations, Administration, and Maintenance

SOAP - Simple Object Access Protocol

SR - Service Request

XML - eXtensible Markup Language

Glossary

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DP

Data Processor

The repository of subscriber data on the individual node elements. The DP hosts the full address resolution database.

DR

Disaster Recovery

H

HA

High Availability

High Availability refers to a system or component that operates on a continuous basis by utilizing redundant connectivity, thereby circumventing unplanned outages.

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SDS

Subscriber Database Server

Subscriber Database Server (SDS) provides the central provisioning of the Full-Address Based Resolution (FABR) data. The SDS, which is deployed geo-redundantly at a Primary and Disaster recovery site, connects with the Query Server and the Data Processor System Operations, Administration, and Maintenance (DP SOAM) servers at each Diameter Signaling Router (DSR) site or a standalone DP site to replicate and recover provisioned data to the associated components.

Subscriber Data Server

Provides new ways of accessing, extracting, and finding value from subscriber data, and thus enables

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operators to leverage the wealth of subscriber information previously fragmented all over their network. By simplifying the management of subscriber data and profiling customer behavior, the Subscriber Data Server allows carriers to exploit real-time data, deliver monetized personalized services, and even bind to third part services easily.

System Debug Services

SOAP

Simple Object Access Protocol

X

XML

eXtensible Markup Language

A version of the Standard Generalized Markup Language (SGML) that allows Web developers to create customized tags for additional functionality.