User Data Repository

Release Notes

Release 12.4

E91181-02

August 2018

ORACLE®

User Data Repository Release Notes, Release 12.4

E91181-02

Contents

A   Oracle References and Services

List of Tables

1

Introduction

Oracle Communications User Data Repository release 12.4.0.0.0 is a major release for the 12.4.0.0.0 code stream.

These Release Notes include:

- Feature Descriptions

- Software Pack

- Documentation Pack

- Supported Hardware Baseline

- Firmware Components

- Supported Upgrade Paths

- Resolved Bugs

- Known Bugs

Directions for accessing key Oracle sites and services are also identified in the Oracle References and Services chapter.

Release notes are included in the Documentation Pack made available with every software release.

2

Feature Descriptions

Oracle Communications User Data Repository release 12.4 adds the features described in this chapter.

IPv6 Support for external provisioning interfaces (ER 19652724)

This feature enhances UDR by adding support for IPv6 addresses on external provisioning interfaces for both REST and SOAP. Remote import, remote export, and command log interfaces are also addressed. With this enhancement, UDR can be deployed exclusively with IPv6 addressing across these interfaces:

- SOAP

- REST

- Import

- Export

- Command Log Export

These platform components support IPv6 at a lower level:

- SNMP

- ComAgent

> **Note:** UDR does not support IPv6 for Ud Client.

PNRs Based on User Identity (ER 21027185)

This feature addresses an Sh compliancy gap with the Oracle Communications UDR Sh interface. It is possible for a single MPE to send separate PNRs to subscribe for notifications based on different identities. For example, one PNR might use IMSI as the user identity, and a second PNR might use NAI. If a PUR is received from one identity (say IMSI) to update the profile, then OCUDR should be able to generate a PNR associated with the second identity (NAI in this example). This applies even if the PNR is sent to the same MPE that generated the PUR.

Orchestration Support (ER 24804654)

This feature enables the orchestration of a UDR virtualized instance using a network orchestration platform. This feature allows the design-time configuration of a deployment topology, which then leads to the generation of HEAT templates that can be leveraged by the VIM to create or updated VMs associated with the application. This feature is targeted for a KVM and OpenStack environment, and leverage either of

the existing 2K Sh and 7K Sh resource profiles that have been previously benchmarked for a UDR production deployment.

Support for Customer Creatable Entity (20763488)

This enhancement adds support for creating customer specific entities using the Subscriber Entity Configuration screens. The entities can be either:

- Field Based—Similar to Profile and contains fields within a Base Field Set

- Element Based—Similar to Quota entity and contains a single Field Set within a Base Field Set. The Field Set contain fields.

The customer entities can be created as:

- Transparent or Opaque

- Pooled or Non-pooled

All custom entities support existing operations on the provisioning, Sh, import, and export interfaces. The xmlconverter is supported for transparent entities only.

HIDS Support (21445692)

This feature monitors a server for malicious activity by periodically examining file system changes, logs and monitoring auditing processes. This feature is provided by TPD 7.2.0 release. HIDS feature includes monitoring TPD and TVOE log files and ensuring the HIDS/syscheck processes are running. No other system resources (files, processes, actions, and so on) are monitored by HIDS integration.

Application Support for 3-site Redundancy (ER 22517993)

This feature integrates this capability with the highest capacity HP C-Class configuration, which consists of 4 servers plus two storage arrays at each site. Three different options exist for the hardware configuration at the third site. You can decide which option to deploy based on available hardware.

- Non-HA Half Capacity

  In this configuration, two servers and one storage array are deployed at the 3rd site. The first server is either HP G8 (with 192GB or 256GB RAM) or HP G9 (with 256GB RAM) and hosts the NOAMP. The second server (with 128GB RAM) hosts the SOAM and two MP instances. This configuration can support up to half of the rated capacity for the system, in the event that the 3rd site becomes active. Note that in this configuration, alarms will be present indicating that the system is not in an HA configuration.

- Non-HA Full Capacity

  This configuration is the same as the previous configuration except with an extra 128GB server. This additional server hosts an additional SOAM and two additional MP instances. This configuration can support the full rated capacity for the system, in the event that the 3rd site becomes active. Note that in this configuration, alarms will be present indicating that the system is not in an HA configuration.

- HA Full Capacity

This configuration has the same hardware configuration as either of the first two sites. However, in this configuration, the 3rd site cannot only support the full rated capacity of the system, but also has redundancy for the NOAMP, SOAM, and MPs.

In all of the configurations, UDR can automatically transition control to site 3 in the event that both site 1 and site 2 are lost.

TLS Support for SOAP Webservices Connections (ER 23301041)

This feature combines TLS with SOAP provisioning connections to increase the security of the interface. All existing SOAP provisioning capabilities are supported when TLS is used to secure the connection.

Provisioning Support for 5000 TPS (ER 23627141)

This feature provides a capacity characterization to support 5000 provisioning TPS on both the HP C-Class G8 with normal capacity and the HP C-Class G9 with enhanced capacity UDR hardware configurations. This feature is supported for both the REST and SOAP provisioning interfaces.

Virtualized Lab Configuration for UDR (ER 23282932)

This feature defines a set of VM resource profiles that can be used in a UDR functional lab configuration.

This feature incorporates support for the following VM resource profile for a UDR lab configuration that is leveraged for functional testing only.

- NOAMP VM - 4 vCPUs, 6GB RAM, 60GB HDD Storage

- SOAM VM - 2 vCPUs, 2GB RAM, 60GB HDD Storage

- MP VM - 4 vCPUs, 10GB RAM, 60GB HDD Storage

Larger Virtualized VM Profiles for OCUDR (ER 24804682)

This feature adds profiles that can be leveraged to increase the capacity of virtualized UDR configurations to support up to 30M subscribers with up to 25K TPS of Sh traffic and 500 TPS of provisioning traffic.

3

Software and Documentation

Oracle Communications software is available for download on Oracle software delivery website. Documentation is delivered electronically on the Oracle Help Center. Both the software and the documentation are listed in this chapter.

Software

All components are available for download from the Oracle Software Delivery Cloud (http://edelivery.oracle.com).

> **Note:** Oracle Communications UDR 12.4.0.0.0 has been removed from Oracle Software Delivery Cloud and is replaced with the updated Oracle Communications UDR release 12.4.0.1.0 software . It is recommended to use Oracle Communications UDR 12.4.0.1.0 for any upgrades or installs of Oracle Communications UDR.

> **Note:** This list is accurate at the time of release, but is subject to change. View the Oracle Software Delivery Cloud site for the latest information.

Software:

- Oracle Communications User Data Repository 12.4.0.0.0-16.14.0

- Oracle Communications Tekelec Platform Distribution 64-bit 7.5.0.0.0-88.45.0

- Oracle Communications Tekelec Platform Management and Configuration 6.5.0.0.0-65.10.0

- Oracle Communications Tekelec Virtual Operating Environment 3.5.0.0.0-88.45.0

Documentation

All documents available for download from Oracle Help Center (http://docs.oracle.com) are listed in Documentation.

> **Note:** This list is accurate at the time of release but is subject to change. See Oracle Help Center for all available documents.

- Release Notes

- Core Documentation Set

  - Enhanced Subscriber Profile Repository User's Guide

- – Operation, Administration, and Maintenance User's Guide

- – Alarms, KPIs, and Measurements Reference

- Installation, Upgrade, and Disaster Recovery Set

  - – Installation and Configuration Guide

  - – Cloud Installation Guide

  - – YAML Templates

  - – Network Interconnect Reference

  - – Network Impact Report

  - – Software Upgrade Procedure

  - – Disaster Recovery Guide

  - – Cloud Disaster Recovery Guide

- Configuration Document Set

  - – Communication Agent User's Guide

  - – Diameter Common User's Guide

  - – Diameter User's Guide

  - – Security Guide

- Provisioning Document Set

  - – SOAP Provisioning Interface Reference

  - – REST Provisioning Interface Reference

  - – Bulk Import / Export File Specification

- Licensing Information

  - – Licensing Information User Manual

4

Supported Hardware

The hardware configurations identified in this chapter comprise the hardware and server versions that have been verified with this release.

Supported Hardware

Table 4-1   Low Capacity Configurations

Hardware	Minimum RAM Configuration (per site)
2 HP G8 DL-380 RMS servers per site	2x192GB RMS, each with 12x 15K RPM HDDs
2 HP G8 DL-380 RMS servers per site	2x64GB RMS, each with 6x 10K RPM HDDs
2 HP G9 DL-380 RMS servers per site	2x256GB RMS, each with 6x 15K RPM HDDs
2-server HP G8 C-Class configuration	2x192GB blades 2xStorage array [*]
2-server HP G9 C-Class configuration	2x256GB blades 2xStorage array [*]

[*]HP G8 supports either D2200sb or D2220sb storage array. HP G9 requires D2220sb storage array.

Table 4-2   Normal Capacity Configurations

Hardware	Minimum RAM Configuration (per site)
4-server HP **G8** C-Class configuration	2x128GB blades 2x192GB blades 2xStorage array [*]
4-server HP G9 C-Class configuration	2x128GB blades 2x256GB blades 2xStorage array [*]
2 Oracle X5-2 or NX5-2 RMS servers per site	2x256GB RMS, each with 4x SSDs

[*]HP G8 supports either D2200sb or D2220sb storage array. HP G9 requires D2220sb storage array.

5

Firmware Components

The firmware components are software that is installed on the hardware. These components are listed in the Firmware Release Notice:http://docs.oracle.com/cd/E57832_01/index.htm.

Firmware Component List

The firmware documents are available from Oracle Help Center (OHC): http://docs.oracle.com/cd/E57832_01/index.htm.

Firmware Component List shows the firmware components used in this release.

Table 5-1   Release 12.4 Supported Firmware Components

Hardware	Release	Description
HP Firmware FUP	2.2.9 (minimum)*	FC
Oracle X5-2 Firmware	3.1.5 (minimum)	FC

FC - Fully Compatible

PC - Partially Compatible (Compatible but not fully functional (feature dependent))

NC - Not Compatible

N/A - Not Applicable

* UDR Release 12.4 can be used in conjunction with any supported firmware shown in the *HP Solutions Firmware Upgrade Pack (FUP), Software Centric Release Notes 2.2.9* located at: http://docs.oracle.com/cd/E52577_01/docs.60/E64917-03.pdf. This document specifies the minimum required firmware level. In many cases, it is not necessary to upgrade the firmware to the latest level.

6

Oracle Communications User Data Repository and Oracle Communications Policy Management Compatibility and Software Upgrade Paths

This chapter provides a Oracle Communications Policy Management compatibility matrix and a table of upgrade paths to Oracle Communications User Data Repository Release 12.4.

Oracle Communications User Data Repository and Oracle Communications Policy Management Compatibility Matrix

Table 6-1 shows which releases of Oracle Communications Policy Management are compatible with each release of UDR.

Table 6-1   Oracle Communications User Data Repository and Oracle Communications Policy Management Compatibility Matrix

UDR Software Release	Compatible Policy Management Software Release
10.0	10.5, 11.5, 12.1
10.2	11.5, 12.1
12.1	11.5, 12.1*, 12.2
12.2	12.1, 12.2
12.4	12.1, 12.2, 12.3. 12.4

* If UDR enterprise pools are to be deployed, then the Policy Management software must be on at least release 12.1.2. The upgrade order to get to a configuration that includes Policy Management 12.1.2 or higher along with UDR 12.1 or higher must be constructed so that a supported release combination is supported between the two. For example, if the customer is initially on UDR 10.0 and Policy Management 10.5 and needs to deploy enterprise pools, then the Policy Management must first be upgraded from 10.5 to 12.1.2, after which UDR can be upgraded from 10.0 to 12.1.

Supported Upgrade Paths

Release 12.4 has been tested for upgrade from the prior release. Verify that your currently installed release is listed on the valid upgrade path. Upgrades, including rollback capability, occur while User Data Repository remains in service and provisioning fully active.

Table 6-2   Upgrade Paths

From	To
10.0.1	10.2
10.0.1	12.1
10.2.0	12.1
10.2.0	12.2
12.1.0	12.2 , 12.4
12.2.0	12.4

7

Resolved and Known Bugs

This chapter lists the resolved and known bugs for Oracle Communications User Data Repository 12.4.0.0.0.

These bug lists are distributed to customers with a new software release at the time of general availability (GA) and are updated for each maintenance release.

Severity Definitions

The resolved and known bug tables in this document refer to bug severity levels listed in this section. Definitions of these levels can be found in the publication *TL 9000 Quality Management System Measurement Handbook*.

> **Note:** A problem report is a report from a customer or on behalf of the customer concerning a product or process defect requesting an investigation of the issue and a resolution to remove the cause. The report may be issued via any medium. Problem reports are systemic deficiencies with hardware, software, documentation, delivery, billing, invoicing, servicing, or any other process involved with the acquisition, operation, or performance of a product. An incident reported simply to request help to bring back the service or functionality to normal without the intent to investigate and provide a resolution to the cause of the incident is not a problem report.

- Critical: Conditions that severely affect the primary functionality of the product and, because of the business impact to the customer, requires non-stop immediate corrective action, regardless of time of day or day of the week as viewed by a customer on discussion with the organization such as the following:

    1. Product inoperability (total or partial outage)

    2. A reduction in the traffic/data handling capability, such that expected loads cannot be handled

    3. Any loss of emergency capability (for example, emergency 911 calls)

    4. Safety hazard or risk of security breach

- Major: Product is usable, but a condition exists that seriously degrades the product operation, maintenance, or administration, etc., and requires attention during pre-defined standard hours to resolve the situation. The urgency is less than in critical situations because of a lesser immediate or impending effect on product performance, customers, and the customer's operation and revenue such as the following:

    1. Reduction in the product's capacity (but still able to handle the expected load)

2. Any loss of administrative or maintenance visibility of the product and/or diagnostic capability

3. Repeated degradation of an essential component or function

4. Degradation of the product's ability to provide any required notification of malfunction

- Minor: Other problems of a lesser severity than Critical or Major such as conditions that have little or no impairment on the function of the system.

- Minor: No Loss of Service. Oracle severity is outside what is defined by TL 9000.

The numbered severity levels in the tables below correspond to these definitions:

- 1 - Critical

- 2 - Major

- 3 - Minor

- 4 - Minor: No Loss of Service.

  Oracle severity is outside what is defined by TL 9000.

Resolved Bugs

Release 12.4 Resolved Bugs lists bugs that are resolved in the following builds:

Table 7-1   Release 12.4 Resolved Bugs

Severity	Bug Number	Title
3	23710343	Invalid SOAP "insert PoolID" requests cause rapid udrprov memory leak
3	24331981	Unable to Create SOAP User Group with 16 valid character String as Group Name
3	24504930	abterm on Inetrep for S2-NOA while manually stopped udrbe on actiive NO
3	24565393	Diameter connections are not established intermittently
3	24571259	Thread Watchdog Failure results in apwSoapServer process restart and an abterm.
3	24664321	NO servers have not come up when Autobackup.tar file is used for DB Restore
3	25048162	OCUDR fails to retrieve subscriber on GUI with NAI having '=' and '/' characters
3	25122131	Characters ; and , in NAI key are not treated as delimiters for NaiToSdoId table
3	25129062	apwSoapServer process restart and abterm generated on Active NO Server
3	25240453	UDRBE restarted while disabling LDAP connections
3	26659158	SOAP Tx select request issue

Table 7-1   (Cont.) Release 12.4 Resolved Bugs

Severity	Bug Number	Title
3	26387205	xmlconverter failed to process while both Qutoa and DynamicQuota exist
2	25659032	PNR is being generated inconsistently on NPHO system when Pool is updated on PHO
3	26117536	MPE could not get the user status change from the PNR message
3	26659128	No PNR is generated when DQ is created via UPDATE request
2	26008115	Active NO open TCP connections to both primary and secondary IP of Ud DataSource
3	26330227	SOAP server support for Ud SOAP Notify messages
3	26926162	SPR Compatibility Issues found in REST provisioning
3	26878247	Ud Client: SOAP susbcribe request format change
3	26878110	Db inconsistency issues while processing PSO messages
3	26926171	OCUDR reponds with HTTP 200 when SOAP Notify is sent with invalid connid/msg/key
3	26926180	Ud-Client: OCUDR throws "Sub Not found" when SOAP Notify with NAI key is sent.
3	27531016	Comagent Error alarms observed during long duration run with 80% rated traffic
3	27467940	Exception thrown in GUI for UdClientExceptions measurement export
4	27251999	Unable to create any entity for a subscriber with NAI having "=" via GUI.

Customer-Known Bugs

Release 12.4 Customer-Known Bugs lists known bugs in this release.

Table 7-2   Release 12.4 Customer-Known Bugs

Severity	Bug Number	Title	Customer Impact/Workaround
3	25880854	Prov. Call Failures with SOAP Auth feature enabled when traffic >=70% HWT load	When SOAP authentication is enabled and traffic is run with higher TPS and with CPU load increasing 70%, some SOAP calls are failed.
3	24795994	Multiple processes are restarted generating abterm due to switchover.	No system impact. Occurs randomly and recovers automatically.

Table 7-2   (Cont.) Release 12.4 Customer-Known Bugs

Severity	Bug Number	Title	Customer Impact/Workaround
3	25602555	Process Status Element(Memory Used(%) and Memory Used(Total)) not showi	The **Status & Manage > Processes** screen does not list the realtime CPU and Memory Utilization of some processes (depending on the source coded for each process). **Workaround:** You can still see the CPU and Memory utilization from Measurement Reports or can verify the same from individual servers.
3	23755367	Observed apwSoapServer and Imysqld process restarts on MPs after reboot	No system impact. Occurs randomly and recovers automatically.
3	25378665	Alarm is not generated when the HIDS baseline is deleted	No system impact.
3	25651015	Observed that randomly httpd core file generated while deleting DNS configurati	No system impact. Occurs randomly and recovers automatically.
3	26951777	Export File Download Links are broken for KPIs	No system impact. **Workaround:** The export files can be accessed from file management area.

Oracle References and Services

This chapter describes how to obtain help, where to find related documentation, and provides other general information.

My Oracle Support

My Oracle Support is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support 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 My Oracle Support registration and opening a support ticket.

My Oracle Support 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 Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) 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 Help Center site at http://docs.oracle.com.

2. Click `Industries`.

3. Under the Oracle Communications subheading, click the `Oracle Communications documentation` link.

   The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."

4. Click on your Product and then the Release Number.

   A list of the entire documentation set for the selected product and release appears.

5. To download a file to your location, right-click the `PDF` link, select `Save target as` (or similar command based on your browser), and save to a local folder.

Locate Product Release Software on the Oracle Software Delivery Cloud Site

Oracle Communications software is available for electronic download at the Oracle Software Delivery Cloud site, https://edelivery.oracle.com. Only authorized customers with a valid password may download software from the site.

For directions on downloading the software and other information about using this site, click **FAQ** in the top right corner.