

Oracle® Communications Billing and Revenue Management

Elastic Charging Engine Release Notes



12.0
F16760-03
December 2020

The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

ORACLE®

F16760-03

Copyright © 2012, 2020, Oracle and/or its affiliates.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface

Audience	iv
Documentation Accessibility	iv
Accessing Oracle Communications Documentation	iv

1 Release Notes

ECE 12.0 Release Notes	1-1
New Features	1-1
ECE Data Can Be Persisted in Oracle Database for High Data Resilience	1-1
Enhanced Security in ECE	1-2
Documentation Updates	1-2
Known Problems	1-3
SLM Feature Configuration Is Not Automatically Loaded into ECE	1-3
Pricing Updater Configured for High Availability Is Not Working As Expected	1-4

Preface

This guide includes information about Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) 12.0. Detailed information on the new features is included in the BRM 12.0 documentation.

Audience

This guide is intended for all ECE users.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Accessing Oracle Communications Documentation

ECE documentation and additional Oracle documentation; such as Oracle Database documentation, is available from Oracle Help Center:

- <http://docs.oracle.com>

Additional Oracle Communications documentation is available from the Oracle software delivery Web site:

- <https://edelivery.oracle.com>

1

Release Notes

This chapter describes the features introduced or enhanced in Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for the 12.0 (12.0.0.1) release. It also lists the documentation updates and known problems in this release.

Detailed information on the new features is included in the BRM 12.0 documentation.

ECE 12.0 Release Notes

This section provides information about ECE 12.0.

New Features

This section describes the new features introduced in ECE 12.0.

 **Note:**

You can integrate ECE 12.0 (12.0.0.1) only with:

- Oracle Communications Billing and Revenue Management (BRM) 12.0 Patch set 1
- Oracle Communications Pricing Design Center (PDC) 12.0 Patch Set 1
- Oracle Communications Offline Mediation Controller 12.0 Patch Set 1

ECE Data Can Be Persisted in Oracle Database for High Data Resilience

ECE now supports persistence of data. You can now persist the ECE cache data in an Oracle database. This feature enables you to perform the following:

- Create a backup of the ECE cache data (in-memory data) in the ECE persistence database (an Oracle database).
- Persist the data published or loaded into ECE in the persistence database.
- Persist the POID pool received from BRM in the persistence database for continued POID allocation.
- Deploy ECE without Oracle NoSQL Database and load the rated events directly into the persistence database.
- Store only limited data, such as customer data and balances, in the ECE cache and reload remaining data from the persistence database when required or at the time of ECE restart.
- Recover data from the persistence database automatically in case of a node failure or partition loss.

- Optionally load data from BRM, PDC, and files into the persistence database at the time of ECE restart.

This simplifies the data storage process, ensures high data resilience, and also reduces the downtime of the ECE system.

In addition, the pricing and configuration caches are now configured as near caches with their front local scheme being a size-limited local cache. The local cache uses a HYBRID eviction policy that constitutes LRU (Least Recently Used) and LFU (Least Frequently Used) policies. When the configured size-limit is reached, the entries that have been least recently or least frequently used are evicted. For information about the hybrid eviction policy for Coherence caches, see the Oracle Coherence documentation.

You can enable data persistence and create the schema and tablespaces for storing the ECE data during the ECE installation or upgrade. For instructions, see *BRM ECE Installation Guide*.

For more information on data persistence, see the discussion about managing persisted data in the Oracle database in *BRM System Administrator's Guide*.

Enhanced Security in ECE

ECE 12.0 includes the following security enhancements:

- The boundary system passwords (such as BRM password) are not stored in the files. The ECE Installer stores these passwords in the ECE Oracle wallet and ECE retrieves the information from this wallet. ECE does not create the **keystore.jks** file for securing boundary system passwords.
- Password restrictions are applied for all the passwords provided during installation.

For more information on Oracle wallet and managing passwords in the wallet, see the discussion about setting up and managing Elastic Charging Engine security in *BRM System Administrator's Guide*.

Documentation Updates

This section provides an overview of the documentation updates introduced in ECE 12.0.

The following changes have been made to the documentation:

- *BRM Elastic Charging Engine Implementation Guide* has been renamed as *BRM ECE Implementing Charging*.
- *BRM Elastic Charging Engine Extensions* document has been added as a chapter in *BRM ECE Implementing Charging*.
- The following guides now include information for ECE 12.0:
 - *BRM Concepts*
 - *BRM Security Guide*
 - *BRM System Administrator's Guide*

Known Problems

This section provides an overview of the known problems in ECE 12.0.

See the following for more information:

- [SLM Feature Configuration Is Not Automatically Loaded into ECE](#)
- [Pricing Updater Configured for High Availability Is Not Working As Expected](#)

SLM Feature Configuration Is Not Automatically Loaded into ECE

SR Number: Not applicable

Bug Number: 23031547

When you configure the Service Lifecycle Management (SLM) feature on the BRM server, the SLM feature configuration is not automatically loaded into ECE. As a result, the subscriber lifecycle states are not enabled in ECE.

To work around this problem, do the following in ECE before you start the charging server nodes:

1. Verify that the charging server nodes are not running.
2. Open the `ECE_home/occeserver/config/management/charging-settings.xml` file.
3. Locate the **lifecycleStateMappingConfiguration** section.
4. Do one of the following:
 - To enable the default subscriber lifecycle states, comment out the following lines by using the pound (#) symbol:

```
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="101" stateName="PREAMTIVE"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="102" stateName="ACTIVE"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="103" stateName="RECHARGE_ONLY"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="104" stateName="CREDIT_EXPIRED"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="105" stateName="DORMANT"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="106" stateName="FRAUD_INVESTIGATED"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.productst
ate.LifecycleState"state="107" stateName="SUSPENDED"/>
<lifecycleStateconfig-
class="oracle.communication.brm.charging.appconfiguration.beans.product
state.LifecycleState"state="108" stateName="CLOSED"/>
```

- To enable the custom subscriber lifecycle states, comment out the following lines by using the pound (#) symbol:

```
<lifecycleStateconfig-  
class="oracle.communication.brm.charging.appconfiguration.beans.productstate.LifecycleState"state="10100" stateName="ACTIVE"/>  
<lifecycleStateconfig-  
class="oracle.communication.brm.charging.appconfiguration.beans.productstate.LifecycleState"state="10102" stateName="SUSPENDED"/>  
<lifecycleStateconfig-  
class="oracle.communication.brm.charging.appconfiguration.beans.productstate.LifecycleState"state="10103" stateName="CLOSED"/>
```

5. Save and close the file.
6. On the machine on which you have ECC installed, go to the *ECE_home/occeserver/bin* directory.

7. Start ECC:

```
./ecc
```

8. Start the charging server nodes:

```
start server
```

The subscriber lifecycle states are now enabled in ECE.

Pricing Updater Configured for High Availability Is Not Working As Expected

SR Number: Not applicable

Bug Number: 28470833

When the active instance of Pricing Updater goes down while processing the pricing data, the remaining data in the queue is not processed by the standby instance and the data is lost.

To work around this problem, do the following in PDC:

Publish all the PDC pricing data (the metadata, setup, and pricing data) from the PDC database to ECE by running the following commands:

```
ImportExportPricing -publish metadata -target [ece]  
ImportExportPricing -publish config -target [ece]  
ImportExportPricing -publish pricing -target [ece]
```

This ensures that all the pricing data are processed by the currently active instance of Pricing Updater and are published to ECE.