

Oracle® Communications Order and Service Management

Release Notes

Release 7.3

E49165-01

July 2015

This document provides release notes for Oracle Communications Order and Service Management (OSM) release 7.3.

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New Features in OSM 7.3

OSM 7.3 includes new features, enhancements, and changed functionality including:

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Note: You must download and install Oracle Communications Design Studio 7.3 if you are using OSM 7.3.

Order Processing and Fallout Management Enhancements

New capabilities have been introduced to better handle rainy-day scenarios in order processing:

- Processing states have been added at both the order item level and the order component order item level. The use of processing states provides better visibility into fulfillment progress, including warnings and errors that occur during the processing of order items.
- Additional execution modes for tasks have been introduced. Failure execution modes corresponding to the existing Do, Undo, and Redo execution modes have been added. If a failure occurs in a task, the task can be transitioned to the corresponding failed execution mode, where the failure scenario can be handled. When in failed execution mode, a task can be retried or resolved. A retry operation moves the task to Received state in normal (non-failure) execution mode, whereas a resolve operation returns the task to the state it was in before it failed.
- You can configure tasks to be included in compensation while they are still in progress. This is useful for long-running tasks, so that such tasks do not delay the compensation of the fulfillment progress made so far in the order.
- When in Undo execution mode, order data is usually rolled back, but some order data can be configured to be enabled for update instead. This is useful for situations such as updating the external fulfillment state received from a downstream system.
- An order can be canceled even when it is in Completed state. This is useful in layered order management topologies where service order management or technical order management have completed their orders by the time a relevant order revision is received in central order management to amend the in-progress customer order.

Management of Multiple Orders in One Job Order

OSM now provides the capability to manage multiple orders in one encompassing order. Rather than performing operations on individual orders, you can create a job control order to perform operations on many orders. Job control orders are particularly useful in order fallout scenarios, such as retrying orders that failed due to the same root cause that you have now fixed.

This capability is primarily implemented as cartridges supplied with the product, with the introduction of a new order type called a job control order. You manage these orders in a similar way to managing regular orders, such as searching for them in the Order Management Web client and looking at job control order data to understand the job's status. The cartridges that support this functionality are installed by the OSM installer, along with the OSM server.

Enhanced User Interface in Order Management Web Client

The Order Management Web client has been enhanced to improve the user's ability to manage orders. Enhancements include:

- Two additional tabs, the **Order Items** tab and the **Order Components** tab, have been introduced in the Order Details page. These new tabs provide information about the order items and order components on the order and their relation to each other. This improvement to order navigation replaces the need for the Order Info Tree, previously at the left of the Order Details page, which is now removed.

- The new Order Item Processing States are displayed in the Summary view and in the **Order Items** tab in the Order Details page.
- Additional events have been added to the Activity area. The area has also been moved to the right side of the window. Use the **Restore Pane** button to access it.
- A View Faults page has been introduced, enabling users to search for failures for orders, order items, or tasks.
- Additional accessibility features are available that improve the usability of the Order Management Web client for those with visual or physical disabilities.

Administrator Application Functions Moved to Order Management Web Client

All of the administration functions formerly performed in the Administrator Application have been moved to the Order Management Web client.

Order Jeopardy Enhancements

Enhancements to order-level jeopardy processing now provide more flexibility. The following functionality is added to the existing jeopardy functionality:

- OSM can start, pause, resume, and stop order jeopardy timers depending on lists of order states that you configure.
- The jeopardy timer duration definition is enhanced to be more flexible.
- Run-time jeopardy configuration is now possible by using file-based jeopardy configuration called operational order jeopardy. You can change jeopardy configurations without having to redeploy the relevant cartridges, which allows you to respond to the latest operational conditions in the OSM instance.

New Waiting Order State

A new order state, the Waiting state, is introduced. This order state is for orders that have been created but have not yet started because they have blocked dependencies, such as:

- Future-dated orders
- Follow-on orders
- Child orders

Support for Data Structure Definition

A new ability to define data structures that can be extended is introduced. In Design Studio, you do this using the Data Structure Definition entity. The ability to extend from a base data structure is ideal for modeling fragments of order data that are slightly different in each order. The OSM runtime handling of these differences in order structure is called Distributed Order Template. Distributed Order Template was first introduced in OSM 7.2.4, but was restricted to order items and their dynamic parameters. This OSM functionality has also been referred to as complex data type.

Dependency Hierarchy and Sequential Execution

You can now define a new hierarchy for an order item: the Dependency Hierarchy. Child order items in this hierarchy cannot start until their parents have completed. The first order components of the child order item remain blocked until the last order component of the parent order item is completed. It is possible to use this functionality to cause the order items on an order to execute sequentially.

Online Purging of Individual Orders

You can now purge individual orders from OSM in addition to the existing ability to purge orders by partition. When purging individual orders, the orders are selected and purged using DELETE statements in the database. One of the main advantages of this is that you can purge individual orders while the system is online, whereas partition-based purging requires the system to be offline. The disadvantage of purging orders individually is that it is less efficient, requiring additional database CPU and I/O resources that may or may not be available while the online system is processing orders. See the information about managing the OSM database schema in *OSM System Administrator's Guide* for a detailed comparison of these two strategies.

Installer Enhancements

The OSM Installer has been improved. In addition to various usability and validation improvements, the following enhancements have been made:

- Oracle Coherence cluster configuration setup is included, so it is no longer a manual post-installation procedure.
- Installation of the OSM reporting interface is now included.
- Installation of job control order cartridges to server is now included.
- The third-party prerequisite component Saxon-B is replaced by Saxon-EE. Saxon-EE is installed by the OSM Installer, so you are no longer required to download Saxon-B.

Logging with Oracle Diagnostic Logging

OSM now uses Oracle Diagnostic Logging (ODL) to log its log messages instead of log4j. With ODL, the OSM diagnostic log can be viewed using Oracle Enterprise Manager, where you can view log messages that are aggregated across servers in the cluster. Enterprise Manager can also be used to set logging levels.

Order Attachments Stored in the Database

Order attachments are now stored in the database instead of on the file system. This enables them to be removed when their orders are purged.

External oms-config.xml File

The OSM runtime parameter configuration file, **oms-config.xml**, is now located by default in the home directory of the WebLogic Server domain. You can now configure the **oms-config.xml** file without unpacking and packing the **oms.ear** file or restarting the OSM server.

Ability to Use the oms_events Queue to Receive External Responses

The OSM oms_events queue, which used to be an internal queue, can now be used as a Reply-To destination to receive JMS responses from external systems. Using oms_events in this way can be simpler and more efficient in a development environment than creating a dedicated response queue. Care should be taken before using oms_events in this way in a production environment, because you lose the operational flexibility of monitoring, managing, and tuning a dedicated external response queue from a particular external system.

Cartridge Default Flag Changed to Cartridge Management Variable

The **Default** flag in the project editor for OSM has been removed. It has been replaced by the **DEFAULT_CARTRIDGE** cartridge management variable.

Product Class and Product Specification Entities Renamed

To align the names and functions of entities in OSM, in OSM 7.2.4 the Product Class entity was renamed to Product Specification, and the Product Specification was renamed to Fulfillment Pattern.

Fixes in Release 7.3

[Table 1](#) lists fixed issues and provides a brief description of the resolution.

Table 1 Fixes in Release 7.3

SR Number	Bug Number	Description
3-6462896141	16519683	Order data updates failed during amendment when the amendment requires a redo of a rule task, followed by an undo of a subprocess, followed by a redo of the rule task. This has been fixed.
3-7432391111	20013416	Order purge failed to remove order attachments. With attachments now stored in the database, this has been fixed.
3-7444179321	19790882	Performance was poor for queries against the OM_JMS_EVENT and OM_ORDER_STATE_EVENT_PENDING tables. This has been fixed.
3-7543523171	19161861	The sender plug in was creating an unnecessary correlation ID when it was used for Order Notifications, Task Events and Order Events. This correlation ID remained in the database when the order was completed. You can now ensure that this does not happen by using ackNotificationonExit in your XQuery and XSLT modules.
3-7937552251	20013310	When there were two or more automation tasks at the beginning of the process, the tasks were taking a long time to move from Received to Accepted state. This has been fixed.
3-8146229461	19162343	In the Order Management Web client, if a user used more than one Order Details field for a query, the SQL generated was inefficient. This has been fixed.

Table 1 (Cont.) Fixes in Release 7.3

SR Number	Bug Number	Description
3-8328465831	19161765	An XQuery file that was defined in the Compensation tab for a task for when the task is no longer needed was not being evaluated when the order was canceled. This has been fixed.
3-8385182141	19161985	When multiple versions of the same cartridge were deployed in the same environment, a revision order would use the default version of the cartridge instead of the version used by the original order. This has been fixed.
3-8693912451	20013300	When deploying a cartridge, a <code>com.mslv.oms.metadatabasehandler.handler.SequenceException</code> was being received. The retry logic has been updated to fix this issue.
3-8891239837	20013370	If there were multiple handlers for the same exception, only the last one would be evaluated. Now all exception handlers are evaluated.
3-8914625421	20006389	When a user updated a value in the Task Web client that caused a page refresh, the cursor focus after the refresh was set to the first data element on the page. This has been changed so that the focus is now set to the data element that was changed. The limitation for this is that in the case of a multi-instance data element, the focus is set to the first instance of the element, not the instance of the element that was changed.
3-8992777591	20013268	When a revision order was received with an unusual date (with the year greater than 4712), the year on the date was not being recorded. This caused the original order to be stuck in the Amending state. This has been fixed, and dates up to year 9999 are now supported.
3-8998458478	20065948	When a process involving a join was changed in a cartridge, and the cartridge was redeployed without changing the version of the cartridge, in-progress orders would get stuck at the join in the process. OSM now fails and rolls back deployment of the cartridge in this situation.
3-9038949051	20013887	When you submitted an order and the fulfillment pattern had a URI for the wait condition duration expression, an <code>XqueryExpressionUriRuleTypeImpl</code> exception was being received. This has been fixed.
3-9076635801	20013751	The real-time order data was not part of <code>GetOrder.Response</code> if the execution mode was <code>AmendDo</code> . This has been fixed.
3-9267849911	20013308	There was no default value for the parameter containing the attachment file system name. This caused a null pointer exception if the <code>oms-config.xml</code> file was unavailable. This has been fixed, and the parameter defaults to the default value in <code>oms-config.xml</code> even if that file is not available.
3-9381923541	20109769	The degree of parallelism in the data dictionary for some global indexes was greater than 1. This has been fixed.

Table 1 (Cont.) Fixes in Release 7.3

SR Number	Bug Number	Description
3-9506234561	19820570	In an orchestration order, if task compensation led to order completion, it caused the following exception: com.mslv.oms.OMSEException: Order complete unsuccessful. This has been fixed so that it does not attempt to complete the order when it is in the Amending state.
3-9601677191	20644219	When there were refresh and lookup behaviors associated with the same data element, and the lookup icon for that data element was clicked in the Task Web client, sometimes both behaviors would be executed at the same time, causing the client window to stop responding. This has been fixed so that the refresh behavior will only be performed after the value is selected from the lookup.
3-9638413301	20013272	OSM was recording unchanged data elements as changed data elements if they contained a special character. This has been fixed.
3-9653024101	20379650	Amendment orders were not completed when the ControlData data element was marked as not significant. This has been fixed.
3-9664768848	20015524	In an orchestration order, during compensation, adding an instance to a pivot data element was not spawning a new instance of the appropriate subprocess. This has been fixed.
3-9675972251	20272889	When a revision order was submitted, the order stopped processing in Undo mode with a numeric overflow exception in the log. This has been fixed.
3-9680427411	20631114	Data elements using the distributed order template were not being displayed in the correct localized language in the Task Web client. This has been fixed.
3-9761170241	20379670	After adding cartridges to a solution, it was no longer possible to query orders, and the following error was generated: ORA-01795: maximum number of expressions in a list is 1000. This has been fixed.
3-9807124351	20786986	Transient system errors were causing rule tasks to be set to INVALID status. This has been fixed. OSM will still record the problems as system events which are not cleared automatically, but the rule task will still be in VALID status.
3-9844289411	20304547	During an upgrade, the OSM installer updated the version parameters in the om_parameter table too early in the installation process, preventing a retry if an upgrade failed. This has been fixed by updating the parameters near the end of the installation process.
3-9872243551	20519842	Some special characters were not being displayed correctly in the Task Web client for the French language. Many characters were fixed by using Unicode escapes in the language properties file, but one required a code fix. This has been fixed.
3-9872369771	20519831	The Order Management Web client was not properly handling a space in the value of the order state. This has been fixed.

Table 1 (Cont.) Fixes in Release 7.3

SR Number	Bug Number	Description
3-9884526881	20519824	Jeopardy notifications that had a rule mnemonic (order name plus rule name) of more than 50 characters were disabled. This has been fixed so that OSM now supports mnemonics of up to 254 characters.
3-9934879401	20379561	Deployment was being slowed by the OM_EVENT_PKG.UNREGISTER_EVENTS object. This has been fixed by optimizing the SQL and stopping the event polling during deployment.
3-9996223651	20416341	External automator EJBs for tasks that had a period in their names were not being deployed. This has been fixed.
3-10019397351	20519812	OSM was not properly handling the situation when delay tasks on different order components in the same bundle had different due dates. This has been fixed.
3-10238207851	20688175	Email notification was not working for task jeopardy, order notification, and order jeopardy. This has been fixed.
3-10268105651	20617325	When a revision was received that did not require any compensation, the order could stop processing with the following error: om.mslv.oms.handler.TransactionProhibitedInStateException: Attempt to perform a transaction that is prohibited in the current order state. This has been fixed for the majority of cases by setting a value for the internal compensation start date after compensation is complete.
3-10479835131	20886801	Deployment was taking too long and was timing out. This has been fixed by optimizing the deployment code.

Fixed Issues from Patch Sets

OSM release 7.3 includes fixes and enhancements from the following patch sets:

- Order and Service Management 6.3.1 patches up to and including 6.3.1.55.2 (patch number 20599964).
- Order and Service Management 7.0.1 patches up to and including 7.0.1.19.2 (patch number 16922777).
- Order and Service Management 7.0.2 patches up to and including 7.0.2.20.0 (patch number 16627408).
- Order and Service Management 7.0.3 patches up to and including 7.0.3.29.3 (patch number 20317096).
- Order and Service Management 7.2.0 patches up to and including 7.2.0.11.0 (patch number 19718420).
- Order and Service Management 7.2.2 patches up to and including 7.2.2.5.2 (patch number 20460787).
- Order and Service Management 7.2.4 patches up to and including 7.2.4.1.5 (patch number 20676774).

Known Problems in OSM 7.3

This section describes known problems in OSM 7.3.

Application Server's CPU Consumption Per Order Increased from OSM 7.2.4.1

The OSM 7.3 application server consumes more CPU resources than the OSM 7.2.4.1 application server for the same order load. If you are currently using OSM 7.2.4.1.x and your CPU utilization is consistently at 70% or higher, Oracle recommends contacting Oracle support before upgrading to OSM 7.3 for assistance with implementation considerations.

This consideration does not apply to customers upgrading from any releases prior to OSM 7.2.4.1.x (for example OSM 7.2.4.0.x, OSM 7.2.2.x.x, and OSM 7.0.x.x).

Order-to-Activate 7.0.3 Cartridges Cannot Build After Update

After you run the migration scripts to update Order-to-Activate 7.0.3 cartridges to work with OSM 7.3, you will get build errors when you build the cartridges. For more information, see knowledge article 1949476.1, "Best Practices for Updating a Customized Solution Based on Oracle Order-to-Activate," available from the Oracle Support Web site.

Perform the following steps to work around the issue:

1. In the Design Studio workspace where you updated the cartridges, open the BroadbandServicesProvisioning project editor.
2. In the **Properties** tab, change the **Target Version** from 7.0.0 to 7.0.3.
3. Save and close the BroadbandServicesProvisioning project editor.
4. Clean and build only the BroadbandServicesProvisioning cartridge.

The build fails.

5. In the Problems view, right-click the following message and select **Quick Fix**:

```
Order and Service Management Project Error - The automationBuild.xml file in cartridge BroadbandServicesProvisioning is not the right version...
```

The Quick Fix window is displayed.

6. In the **Select a Fix** field, select **Automation Quick Fix** and click **Finish**.
7. Clean and build only the BroadbandServicesProvisioning cartridge again.

The build succeeds.

8. Perform the following steps for each of the following three cartridges: CommunicationsProvisioningOrderFulfillmentPIP, CommunicationsSalesOrderFulfillmentPIP, and VoIPServiceProvisioning.

- a. Open the project editor for the cartridge.
- b. In the **Properties** tab, change the **Target Version** from 7.0.3 to 7.0.1.
- c. Save the cartridge project.
- d. Clean and build only the cartridge you are working with.

The build fails.

- e. In the project editor for the cartridge, in the **Properties** tab, change the **Target Version** back from 7.0.1 to 7.0.3.
- f. Save and close the cartridge project.

9. Exit and restart Design Studio.
10. Clean and build only the CommunicationsProvisioningOrderFulfillmentPIP, CommunicationsSalesOrderFulfillmentPIP, and VoIPServiceProvisioning cartridges.

The build succeeds.

Cannot View the List of Database Order Purges

When you schedule a database purge for a future date, you cannot view the list of run or scheduled order purges by using the listPurges option. When you use the listPurges option, OSM instead returns the message: "There are no pending order purges."

To work around this issue, you can query or cancel the purge jobs from the database.

To query purge jobs:

1. In SQL, run the following:

```
select job, what from user_jobs where upper(what) like '%||USER||'.OM_NEW_
PURGE_PKG.PURGE_ORDERS%';
```

To cancel purge jobs:

1. In SQL, run the following:

```
exec DBMS_JOB.remove(job);
```

Insufficient Privilege Error Using Oracle Database 12c

(Bug number 20221063) After you install Oracle Database 12c, start OSM, and then enter the database administrator's credentials, you receive an error that states that the database administrator does not have sufficient privilege to log in.

To allow the system administrator sufficient privilege to log in:

1. Log in to the Oracle Database system as sysdba by running the following command:

```
sqlplus sys/ as sysdba
```

2. Enter the following:

```
SQL> GRANT CREATE ANY CONTEXT TO SYS WITH ADMIN OPTION;
```

The permission is granted and login is successful.

Revision Order Item and Order Completion Dates Are Not Calculated Properly

(Bug number 16370421) OSM creates a new orchestration plan when receiving a revision order. The revision order executes as a new order so a new order completion date and order item completion dates are calculated based on the new revision order start date.

The revision orchestration plan does not know about the base order orchestration plan until the revision order and order item completion dates are copied over from the revision order to the base order during the compensation process.

These dates are incorrect because they do not take into account the state of the current base order. OSM does not consider the part of the base order that is already executed when recalculating the order item and order completion dates. Revision compensation merges revision order and the base order orchestration plans.

OSM Does Not Support JMS Topics in Clustered Environments

In a clustered environment, OSM does not support JMS topics as a JMS destination for receiving JMS events (such as order-lifecycle-event messages).

To work around this issue, use JMS queues to receive JMS events in an OSM clustered environment.

Order Management Web Client Does Not Support Some Behaviors

(Bug number 8984469) The Order Management Web Client does not support the following behaviors:

- New line directive
- Lookups for text and numeric fields
- Table lookups
- Constraint error messages

There is no workaround for this issue.

Order-to-Activate Cartridge Compatibility

To install or upgrade the Order-to-Activate cartridges, you must ensure compatibility between the following:

- OSM software version and Order-to-Activate cartridge version
- OSM Order-to-Activate cartridge version and Oracle Application Integration Architecture (Oracle AIA) Order to Cash Integration Pack for OSM version

For details on Order-to-Activate cartridge compatibility, see knowledge article 1388662.1, "OSM - Order to Activate O2A - AIA Compatibility Matrix," on the Oracle Support Web site:

<https://support.oracle.com>

Deprecated and Removed Features

The following features have been either deprecated or removed from the feature set permanently in the OSM 7.3 release.

Legacy Dispatch Mode for Automation Plug-ins Removed

OSM 7.3 no longer supports automation plug-ins that have been built and deployed in Legacy dispatch mode. Only Optimized dispatch mode is supported.

Oracle Scripter Client Removed

Because the Reporting Interface is now installed by the OSM installer, the Oracle Scripter thick client is no longer necessary and has been removed.

Administrator Application Removed

Because the administrative functions previously performed by the Administrator Application are now located in the Order Management Web client, the Administrator Application is no longer necessary and has been removed.

Removed Support for Custom Order Update Orchestration Plan XQuery

The `oracle.communications.ordermanagement.orchestration.generation.CreateOrder` parameter has been removed from the `oms-config.xml` file. This parameter was internal only, and has now been removed.

Removed Support for Command-Line Passwords in XML Import/Export

It is no longer possible to pass an unencrypted password as a command-line argument to the XML Import/Export tool scripts. The `-p db_password` and the `-clientpassword xmlAPI_password` command-line arguments have been removed. In addition, the `database.password` and `weblogic.password` options in the `build.properties` file should not be included, and if they are included they will not be used. You must either use encrypted passwords in the `config.xml` file (using the `EncryptPassword` utility) or interactively provide the unencrypted password when prompted.

Product Specification (was Product Class) Deprecated

The Product Specification entity (which was renamed from the Product Class entity in OSM 7.2.4), is deprecated. Existing entities are supported for backwards compatibility, but new OSM Product Specifications (Product Classes) cannot be created.

This functionality is replaced by the Product entity in the conceptual model.

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>.

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E49165-01

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