



Oracle Commerce-CPQ

Integration Guide

## Disclaimer

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

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## Executive Overview

Oracle provides a range of industry leading products to help organizations sell to and service their customers, while providing exceptional customer experience. Oracle views customer experience in terms of a never-ending cycle of assisting customers to research and purchase items or services, and then providing support to those customers. As shown in the following diagram, the cycle of attracting, selling, servicing, and retaining customers is an ongoing process and requires consistent interaction with the customer base.



Two key elements of the Oracle solution are Oracle Commerce and Oracle CPQ. Oracle Commerce is an industry leading commerce solution that orchestrates the user experience during the research, selection, and purchase process. Oracle CPQ Cloud (Configure, Price, and Quote) helps merchants to quickly generate sales quotes and proposals and sell more sophisticated (configurable) products in a manner that is fast and easy for the customer.

The integration detailed in this guide brings together the capabilities of Oracle Commerce and Oracle CPQ Cloud to provide a unified solution for businesses to meet their customers need for a flexible sales process that includes:

- Incorporating CPQ product configuration in the Oracle Commerce selection process.
- Incorporating CPQ quoting workflows into Oracle Commerce order fulfillment process.

## Feature Objective

**Phase 1** of the integration addressed the quoting functionality and leverages the ‘Quoting Framework for Commerce’ capabilities included in the Oracle Commerce 11.1 release details of which are included in the [What’s New in Oracle Commerce 11.1](#) document on [My Oracle Support](#).

This phase delivered the following capabilities:

1. Request Quote. Ability for purchaser (Oracle Commerce user) to request a quote for their order as part of the fulfillment process.
2. Complete Quote. Ability for merchant (CPQ user) to review quote requests from Oracle Commerce including full order details and purchaser notes. The CPQ user can provide a quote including amount, percentage or price override at the item level. In addition the CPQ user can update line item quantities as part of the quoting process.
3. Review Quote. Ability for purchasers to review quoted orders including updates to orders and notes from merchant.

4. Re-request quote. Ability for purchaser to resubmit the order for further quote including any explanatory notes to the merchant.
5. Accept quote. Ability for purchaser to accept a quote and checkout the order based on the quoted pricing.
6. Reject quote. Ability for purchaser to reject a quote and effectively cancel the order.

**Phase 2** of the integration included the product configuration functionality and leveraged the 'Configurator Framework for Commerce' capabilities included in the Oracle Commerce 11.2 release.

This phase delivered the following capabilities:

1. Include Configurable SKUs. The ability to offer CPQ configurable products or SKUs on an Oracle Commerce site. This allows the creation and definition of the configurable SKU.
2. Display Configuration option. The ability to display a 'Configure' option to the purchaser where an item must be configured before purchase.
3. Configure item. Ability for the purchaser to configure items as part of the Oracle Commerce selection process including display of the options available, pricing per item and dynamic execution of configuration rules/validity checks etc. ultimately resulting in a configured item that can be added to an order.
4. Request Quote for Configured item. Ability for the purchaser to include configured SKUs in orders submitted for quote.
5. Quote for Configured item. Ability for merchant to review quote requests from Oracle Commerce including full details of any configured items included in orders. The merchant has the ability alter the configuration of the item as part of the quoting process.

## Integration Overview

The reference integration enables Oracle Commerce (OC) customers to integrate with their CPQ solution by:

### Quote

#### **Request Quote**

- Purchaser selects to request a quote for an order.
- OC first invokes CPQ login web service to get the CPQ session Id.
- A new transaction is created in CPQ.
- Order Status is updated to reflect that a request for quote has been submitted.

#### **Complete Quote**

- Merchant reviews request in CPQ and provides quote.
- Quote is created in CPQ and submitted to OC.
- In OC the order and price details are updated in OC to reflect the quote provided.
- Order Status is updated to reflect that order has been quoted.

#### **Accept Quote**

- Purchaser reviews quote provided by Merchant.

- Purchaser selects to accept quote.
- Order Status is updated to reflect quote has been accepted.
- Order fulfillment process is completed.

### **Request Re-Quote**

- Purchaser reviews quote provided by Merchant.
- Purchaser selects to request further quote from merchant.
- Order Status is updated to reflect that a request for re-quote has been submitted.

### **Reject Quote**

- Purchaser reviews quote provided by merchant.
- Purchaser selects to reject the offer from the merchant.
- Order Status is updated to reflect that quote has been rejected.

## Configure

### **Product configuration carried out via configurator page of CPQ.**

- OC first invokes CPQ login web service to get the CPQ session Id.
- OC passes the session id along with other parameters like model, segment, productLine etc. that are need for opening the CPQ configurator page.
- OC shows the configurator page of CPQ, in reference app of CPQ using iframe.

### **Synchronizing the Product configured in CPQ to the Commerce cart**

- Customer completes the configuration of product.
- OC exposes a rest web service call to CPQ for adding the item to cart in OC.
- CPQ invokes the Add Configurable Item to Order web service which creates a Configurable commerce item and adds it to the current order.
- CPQ also includes the configuration xml in the payload.
- The flow gets redirected to Cart page where the configurable item is displayed.

### **Editing the configured product**

- Customer can edit the configured item before submitting the order or before requesting for a quote.
- During edit, OC sends the commerce item id of the current item and other parameters that are required to load the existing Configuration in CPQ .
- CPQ loads the page with current configuration of the item. Customer makes changes to the configuration and completes the configuration.
- CPQ invokes the Add to cart REST service of OC by passing the line id (commerce item id) along with other parameters in the payload.

- The commerce item specified is updated with the new information given in the payload

### **Requesting Quote for Orders containing configured products**

- Customer clicks on “Request for quote” button in cart summary page, post completing the configuration.
- OC and CPQ enhance the existing capability of request for a quote developed as part of CPQ- Phase 1 to support RFQ for a simple product, configurable product or combination of both.
- In addition to the existing create transaction and update transaction calls , for each of the configured item in the cart CPQ configure web service will be invoked.

### **Synchronizing the quote for configurable products from CPQ to Commerce**

- CPQ generates the quote for request for quote from OC.
- OC enhances the capability of sync quote rest service call developed as part of CPQ- Phase 1 to support sync for simple product, a configurable product or combination of both.
- CPQ sends the quote information to OC by making a rest web service call to OC.

### **Requesting Re-Quote for Configurable product**

- Customer clicks on “Request Re-quote” button in cart summary page for a quoted order.
- OC and CPQ enhance the existing capability of request for a re-quote developed as part of CPQ- Phase 1 to support request for re-quote for a simple product, a configurable product or combination of both.

### **Accepting a quote for Configurable product**

- Customer clicks on "Accept Quote" button for accepting the quote and placing the order.
- OC and CPQ enhances the existing capability of accept quote developed as part of CPQ-1 to support accept quote for a simple product, a configurable product or combination of both.

### **Rejecting a quote for Configurable product**

- Customer clicks on "Reject Quote" button for rejecting the quote.
- OC and CPQ enhances the existing capability of reject quote developed as part of CPQ-1 to support reject quote for a simple product, a configurable product or combination of both.

### **Synchronizing Order Status**

An order containing any combination of simple or configured items submitted via OC can be fulfilled or cancelled in CPQ.

### **UI changes to accommodate Configurable products [Changes for IFrame, Shopping cart view to show configurable products in Commerce etc] in Reference Application**

- OC modifies the UI for accommodating details of configurable products in Motorprise pages.

- OC creates a provision for embedding the CPQ configurator page in an i-frame.
- Cart summary page modified to view the child items of a configurable product.

## Oracle Commerce Configuration

### Pre-Requisites

The CPQ module has been tested with OC 11.2. Refer to the pre-requisites shown below for its installation.

**Note:** *The quoting functionality has also been tested on OC 11.1 but the configuration functionality requires OC 11.2.*

- Java JDK 1.7.0\_11 (or later). Ensure that the JAVA\_HOME and JAVA\_HOME/bin variables are set in your path correctly.
- A supported application server, such as JBoss or WebLogic. Consult the Oracle Commerce Platform Installation and Configuration Guide for more information.  
In this guide we will use a WLS 12c version 12.1.3.0.0 application server.
- WebLogic server version 12c version 12.1.3.0.0 should be installed and running.
- Contact CPQ team and ask the details of Big Machines server which needs to be configured with OC 11.2 after the installation of CPQ module.

### Installation

The CPQ integration module is distributed as a ZIP package and can be downloaded from the Oracle Software Delivery Cloud @ <https://edelivery.oracle.com>

#### 1. Install Oracle Commerce 11.2

- Run the respective REL build for OC 11.2
- Choose Locale and followed by clicking “Next”.
- Accept the License Agreement and click “Next”
- Choose the folder to install your OC Platform and click “Next”
- Click “Select All” then click “Next”
- Choose “Oracle WebLogic” and click “Next”
- Choose the folders where your WLS and JDK are installed and click “Next”
- Click “Install”

#### 2. CPQ Reference build

- Create a CPQ folder in DYNAMO\_ROOT e.g. /work/service/ATG/ATG11.2
- Copy the CPQ zip file downloaded from oracle support site in the same CPQ folder.
- Check DYNAMO\_HOME variable is set correctly e.g.  
DYNAMO\_HOME=/work/service/ATG/ATG11.2/home
- Unzip the CPQ zip file by giving the below command  
unzip OCCPQIntegration11.2\_<LatestLabeledbuild>.zip



- After unzipping the file delete the zip file by giving the below command  
`rm -rf OCCPQIntegration11.2_<LatestLabeledbuild>.zip`  
 PS: its good practice to delete the zip file once unzipped in the CPQ folder.

### 3. Configure via CIM

#### a) Run CIM

- I. Navigate to your ATG home folder (e.g. “/work/service/ATG/ATG11.2/home”).
- II. Navigate to the “bin” (e.g. “/work/service/ATG/ATG11.2/home/bin”) subfolder and run “./cim.sh”
- III. Set the Administrator Password (e.g. Admin123)

#### b) Product selection:

The following products should be selected (NOTE: selected items are marked with ‘\* ’):

##### \*[1] Oracle Commerce Platform -

Includes, optionally, data warehouse components

##### \*[2] Oracle Commerce Site Administration -

Includes Commerce Platform and Content Administration

##### [3] Oracle Commerce Platform-Guided Search Integration -

Includes Commerce Platform. Select this option when Commerce Guided Search is used.

##### \*[4] Oracle Commerce Core Commerce -

Includes Commerce Platform and Content Administration. Optional: data warehouse components, Preview and Merchandising UI

##### [5] Oracle Commerce WebCenter Sites Extensions -

Includes Commerce Platform and Commerce CAS Reader.

##### \*[6] Content Administration -

Includes Oracle Commerce Platform. Optional: Preview

##### [7] Oracle Commerce CAS Reader -

Includes Commerce Platform. Select this option when Commerce Platform is used to import data to Commerce CAS.

##### \*[8] Oracle Commerce REST -

RESTful Web Services

##### [D] Done

#### c) Do not Choose any AddOns :

- [1] Reporting
- [2] Staging Server
- [3] Dedicated Lock Servers
- [4] Single Sign On (SSO)
- [5] Preview Server

- [6] Merchandising UI
- [7] Abandoned Order Services
- [D] Done

Select zero or more > D

d) Include Demo Application:

- [1] Quincy Funds Demo
- \*[2] MotorPriseJSP
- [D] Done

Select zero or one > D

e) Choose datasource

- \*[1] Non-Switching Datasource
- [2] Switching Datasource

f) Select application server

- a. Oracle Weblogic Online (Either Production or Developer Mode)
- b. Enter path to your WLS folder, e.g.  
“/work/service/Oracle/Middleware/Oracle\_Home/wlserver” and then domain path  
“/work/service/Oracle/Middleware/Oracle\_Home/user\_projects/domains/base\_domain”
- c. Enter URL to admin server, e.g. “t3://localhost:7001”
- d. Enter username/password to admin server: weblogic/weblogic1
- e. Re-enter password and Perform Validation. Validation should be successful, WLS is up and running.

g) In this guide we will use Oracle DB. We should create 2 schemas: publishing and production which should be created before database configuration process starts.

## DATABASE CONFIGURATION

### Publishing (for example)

Enter User Name > pkt5CPQ\_Pub

Enter Password > \*\*\*\*\*

Re-enter the password > \*\*\*\*\*

Enter Host Name > busgt3407.us.oracle.com

Enter Port Number [[1521]] > <<Click Enter to accept the default port>>

Enter Database Name > utf8112

Enter Database URL

[[jdbc:oracle:thin:@busgt3407.us.oracle.com:1521:utf8112]]>

Enter Driver Path > /work/service/download/instantclient\_11\_2/ojdbc6.jar

Enter JNDI Name [[ATGPublishingDS]] >

Connection to database is successful

Create the schema for it

Import the data by giving the password for Merchandising & Publishing admin User

Importing ( 1 of 5 ) /CIM/tmp/import/management-import1.xml:  
 /DAS/install/data/dynAdminRepo.xml to /atg/dynamo/security/AdminSqlRepository  
 /DPS/InternalUsers/install/data/das-security.xml to /atg/userprofiling/  
 InternalProfileRepository

“All imports completed successfully.”

Production (for example)

Enter User Name > pkt5CPQ\_Prod

Enter Password > \*\*\*\*\*

Re-enter the password > \*\*\*\*\*

Enter Host Name > busgt3407.us.oracle.com

Enter Port Number [[1521]] ><<Click Enter to accept the default port>>

Enter Database Name > utf8112

Enter Database URL

[[jdbc:oracle:thin:@busgt3407.us.oracle.com:1521:utf8112]]>

Enter Driver Path > /work/service/download/instantclient\_11\_2/ojdbc6.jar

Enter JNDI Name [[ATGProductionDS]] >

Connection to database is successful

Create the schema for it & followed by Importing data.

Importing ( 1 of 3 ) /CIM/tmp/import/nonswitchingCore-import1.xml:  
 /DAS/install/data/dynAdminRepo.xml to /atg/dynamo/security/AdminSqlRepository  
 /DCS/install/data/returnData.xml to /atg/commerce/custsvc/CsrRepository

“All imports completed successfully.”

- h) After the completion of database configuration of both production and publishing server, complete the OPSS security followed by Server Instance Configuration shown as below:

## **SERVICE INSTANCE CONFIGURATION**

### **Configure publishing server:**

#### Publishing Server General Configuration – REQUIRED (for example :)

Enter Production Lock Server Hostname > busgt0515.us.oracle.com

Enter Production Lock Server Port [[9012]] > <<Click Enter to accept the default port>>

Instance Management – REQUIRED

Add Server Instance

Publishing with a Server Lock Manager: Minimum 1 Required

Enter Server Instance Name: atg\_publishing\_lockserver

Choose Default Port Binding port

Enter HTTP Port [[7003]] > ><<Click Enter to accept the default port>>

Enter HTTPS Port [[7004]] ><<Click Enter to accept the default port>>

Enter Site HTTP Port [[7003]] ><<Click Enter to accept the default port>>

Enter RMI Port [[8860]] ><<Click Enter to accept the default port>>

Enter DRP Port [[8850]] ><<Click Enter to accept the default port>>

Enter File Deployment Port [[8810]] > <<Click Enter to accept the default port>>

Enter File Synchronization Deploy Server Port [[8815]] ><<Click Enter to accept the default port>>

Enter Lock Server Port [[9010]] ><<Click Enter to accept the default port>>

### **Configure production server:**

#### **Production Server General Configuration – REQUIRED (for example:)**

Enter Default MDEX Host Name [[localhost]] >

Enter Default MDEX Port Number [[15000]] >

Instance Management - REQUIRED

Add Server Instance

Production with a Server Lock Manager : Minimum 1 Required

Enter Server Instance Name : atg\_production\_lockserver

Use Custom Port Binding. Ports 01

Enter HTTP Port [[7103]] ><<Click Enter to accept the default port>>

Enter HTTPS Port [[7104]] ><<Click Enter to accept the default port>>

Enter Site HTTP Port [[7103]] ><<Click Enter to accept the default port>>

Enter RMI Port [[8861]] ><<Click Enter to accept the default port>>

Enter DRP Port [[8851]] ><<Click Enter to accept the default port>>

Enter File Deployment Port [[8811]] ><<Click Enter to accept the default port>>

Enter Lock Server Port [[9012]] ><<Click Enter to accept the default port>>

This will complete the configuration of the 2 Instances of both production and publishing respectively.

i) Application Assembly & Deployment

Accept default values on all steps.

j) Quit CIM

**4. Verify server instances created**

- a. Navigate to your ATG home folder ( for e.g. “/work/service/ATG/ATG11.2/home”)
- b. Change directory to “servers” subfolder. There are 2 servers we’ve just created:
  - i. atg\_production\_lockserver
  - ii. atg\_publishing\_lockserver

**5. Rebuilding production EAR file with CPQ module & its deployment.**

- a. Log into the Weblogic server UI which is `http://<ATG hostname>:<port>/console`)
- b. Go to ‘Environment’ -> ‘Deployments’ and delete `atg_production_lockserver.ear`
- c. Later go to this location `/work/service/ATG/ATG11.2/home/cimEars` & delete `atg_production_lockserver.ear`.
- d. Now in order to create a new ear file ,run assembler command from below location `/work/service/ATG/ATG11.2/home/bin`

```
./runAssembler -server "atg_production_lockserver"
"/work/service/ATG/ATG11.2/home/../../home/cimEars/atg_production_lockserver.ear" -m
MotorpriseJSP DafEar.Admin DPS DSS ContentMgmt DCS.PublishingAgent REST
PublishingAgent CPQ
```
- e. Go to ‘ `/work/service/ATG/ATG11.2/home/cimEars`’ and the newly built production ear file should be there
- f. Go back to the Weblogic server & go to ‘Environment’ -> ‘Deployments’
- g. Add the new production ear files e.g. add ‘`atg_production_lockserver.ear`’ as follows:
  - I. Click on the ‘Install’ button
  - II. Ensure the Path is set to `/work/service/ATG/ATG11.2/home/cimEars` , click on the ‘`atg_production_lockserver.ear`’ checkbox then click on the ‘Next’ button
  - III. ‘Choose targeting style’ leave as the default selected option ‘Install this deployment as an application’ and click on the ‘Next’ button
  - IV. ‘Select deployment targets’ screen click on the ‘`atg_production_lockserver`’ checkbox and then on the ‘Next’ button
  - V. Under ‘General’ tab add text ‘.ear’ to the trailing part of ‘`atg_production_lockserver`’ .The tab should be now ‘`atg_production_lockserver.ear`’ and at the bottom of the page click on the ‘I will make the deployment accessible from the following location’ checkbox then click on the ‘Finish’ button.

## Starting of Servers and configuring CPQ server details

Go to /work/service/Oracle/Middleware/Oracle\_Home/user\_projects/domains/base\_domain/bin/ & hit the below commands to run production and publishing servers respectively.

```
./startManagedWebLogic.sh atg_production_lockserver
```

```
./startManagedWebLogic.sh atg_publishing_lockserver
```

After production server starts successfully, refer the below url which should open Motorprise application which assures the successful installation of CPQ build.

<http://<hostname>:<Prod-http-port>/cpqIntegration>

Now in order to configure CPQ server details create a Configuration.properties which should have the below content

#the CPQ sever

```
environmentName=<cpq_environment>
```

(machine name of CPQ environment. Along with domainName it makes up the hostName)

```
domainName=<domain_name>
```

(domain name of CPQ environment)

```
cpqEndPoint=<cpq_protocol>://<cpq_environment>.<domain_name>
```

```
cpqApp=v1_0/receiver
```

```
loginApp=v1_0/receiver
```

```
soapLoginProtocol=<cpq_protocol>
```

(can be http or https)

& place this Configuration.properties file in below locations after creating 'integration' and 'cpq' folders respectively.

```
/work/service/ATG/ATG11.2/home/servers/atg_production_lockserver/localconfig/atg/integration/  
cpq
```

```
/work/service/ATG/ATG11.2/home/localconfig/atg/integration/cpq
```

## 6. Creation of Configurable Products

- a. Create a configurable sku in Motorprise by running the startSQLRepository command.(eg. startSQLRepository -s import -m CPQ -repository /atg/commerce/catalog/ProductCatalog -import D:\BMI\CPQ-II\CC\_99.xml)
- b. Create the pricing for the configurable items using startSQLRepository command

(For eg. startSQLRepository -s import -m CPQ -repository  
/atg/commerce/pricing/priceLists/PriceLists –import D:\BMI\CPQ-II\CC\_Pricing.xml)

## 7. Steps to add "CPQIntegrationUser" role for any Commerce user

- a. Go to OC Business Control Center by referring the below url and click on External Users in the Commerce Merchandising section.  
http://<hostname>:<Pub-http-port>/atg/bcc
- b. Under External user go to "ROLES" section and create a new role named as "CPQIntegrationUser" and hit SAVE button.
- c. Now Go to "USERS" section and search for the respective Commerce user for whom the permission had to be given and assign the above role to that user and save it.

## 8. Permissions for OC Motorprise user

- a. Go to OC Business Control Center by referring the below url and click on External Users in the Commerce Merchandising section.  
http://<hostname>:<Pub-http-port>/atg/bcc
- b. Go to "USERS" section and click "COMMERCE" tab. Open the link 'Shipping Address' or 'Billing Address' which needs to be updated.
- c. Provide the required fields namely 'First Name'/'Last Name' etc and hit SAVE button. After doing any of the two changes(Adding Role/Updating Shipping/Billing Address) in BCC perform below step:
- d. Go to below location & hit the "invalidateCaches" method  
http://<hostname>.us.oracle.com:<prod-port>/dyn/admin/nucleus/atg/userprofiling/ProfileAdapterRepository/

## 9. Configuring the CPQ related variable names

For configuring the CPQ related variable names like process\_var\_name, var\_name etc., update the below properties of component atg/integration/cpq/webserviceclient/QuoteWebService/

Sample format for values are given here.

- a. For creating transaction
  - attribute=\_document\_number
  - processVarName=oraclecpqo
  - varName=transaction
- b. For update transaction
  - documentNumber=1
  - buyerCompanyName=pm

supplierCompanyName=pm  
currencyPreference=USD  
documentName=Transaction  
transactionName=Oracle Commerce Transaction  
documentVarName=transaction  
actionVarName=\_update\_line\_items  
rejectActionVarName=rejectQuote  
reRequestActionVarName=requestForRequote  
acceptActionVarName=saveQuote

## 10. Updating CPQ system Credentials

For saving the CPQ system credentials use the OPSS framework and do the below steps

- a. Ensure OPSS security is selected during CIM execution
- b. Go to the below component in the dyn admin

<http://<hostname>:<prodport>/dyn/admin/nucleus/atg/dynamo/security/opss/csf/CredentialStoreManager>

CPQ Web service credentials:

- a. Select the Action as "Create Login Credential" from the dropdown.
- b. Provide the Map name as "CPQCredentialsMap".
- c. Provide the key name as "cpqWebServiceCredentials" and give the CPQ web service user name and password.
- d. Click on "Submit Credentials"

CPQ SSO credentials:

- a. Again select the Action as "Create Login Credential" from the dropdown
- b. Provide the Map name as "CPQCredentialsMap".
- c. Provide the key name as "cpqSsoCredentials" and give the CPQ sso user name and password.
- d. Click on "Submit Credentials"

Note: Later, if the password or username needs to be updated, delete the credential and recreate it using the above steps

Select the Action as "Delete Credential"(to delete the selected credential) or "Delete Credential Map"(to delete the complete credential map)



## CPQ Configuration

CPQ configuration will require

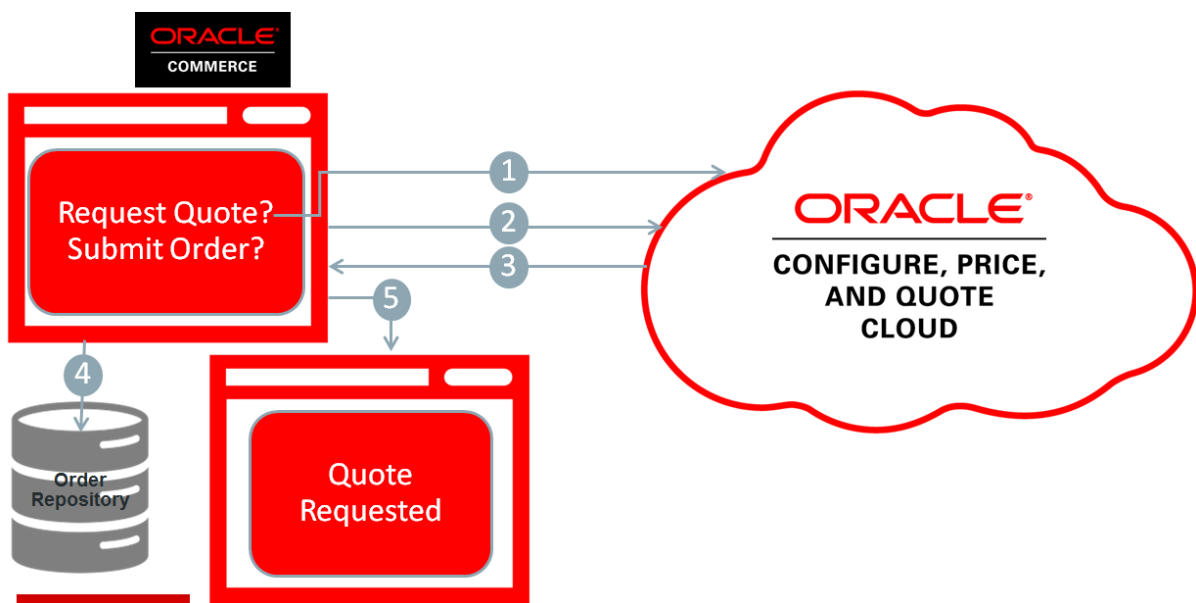
- Enabling guest logins in CPQ
- Defining API payloads to OC
- Defining an endpoint URL to which the user will redirect upon configuration

Full details of the CPQ configuration are available in the CPQ Guide on [My Oracle Support](#)

## Architecture

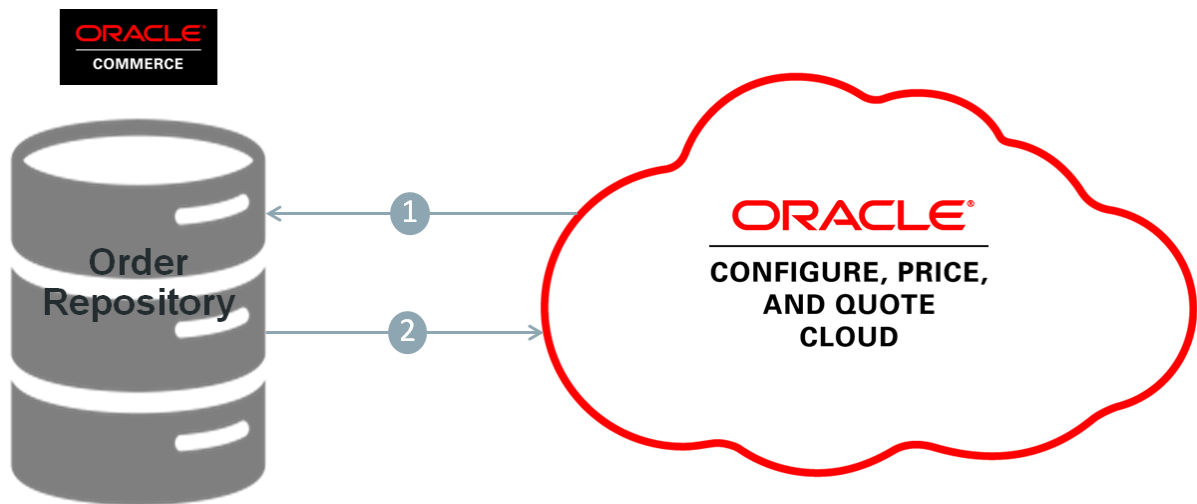
Quote

Request for Quote



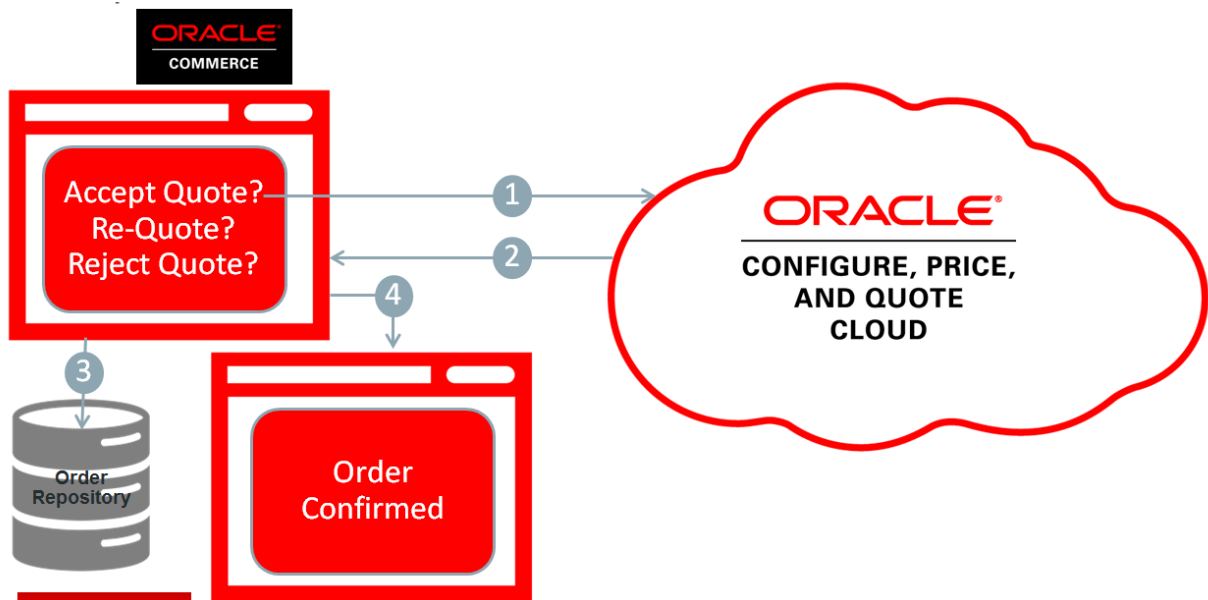
1. In Order Submission Page when the customer chooses to request for quote, following SOAP web services of CPQ are invoked for requesting a quote.
  - Login – Returns the CPQ session Id
  - CreateTransaction – creates the transaction in CPQ and returns its Id.
  - Configure (for each configurable item) – Add the item to the transaction
  - UpdateTransaction – Update the line item details like quantity, shipping address, billing address etc.
2. For each configured item in the order, Configure web service of CPQ is invoked which adds the item to the CPQ transaction.
3. CPQ returns the success/failure of web service call.
4. On success, order is changed as "Pending\_Quote" in OC. On failure error message is displayed to the customer
5. Success page is displayed to the customer with order number

Sync Quote



1. CPQ generates the quote for the request it has received from OC.  
CPQ invokes rest web services of OC to sync the quote to OC. It is a three step process
  - a. getSessionConfirmationNumber: CPQ makes a web service call to OC for establishing a session.
  - b. login: CPQ makes a web service call to login into the OC system.
  - c. completeQuote: CPQ makes a web service call to send the generated quote details to OC, this will be synced to OC. Order status will be changed to Quoted.
2. OC sends success message to CPQ if the CPQ transaction is successfully synced with OC order.

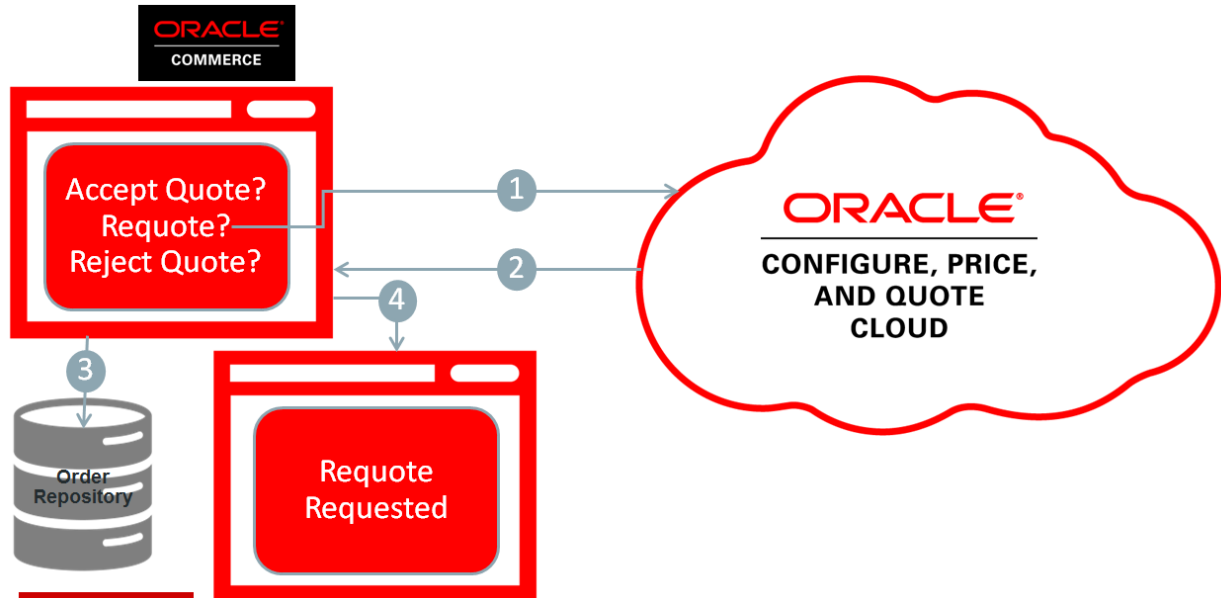
#### Accept Quote



1. In Order Details Page Customer chooses to accept the quoted order, SOAP web service of CPQ is invoked for informing the acceptance to CPQ.
2. CPQ returns the success/failure of web service call.

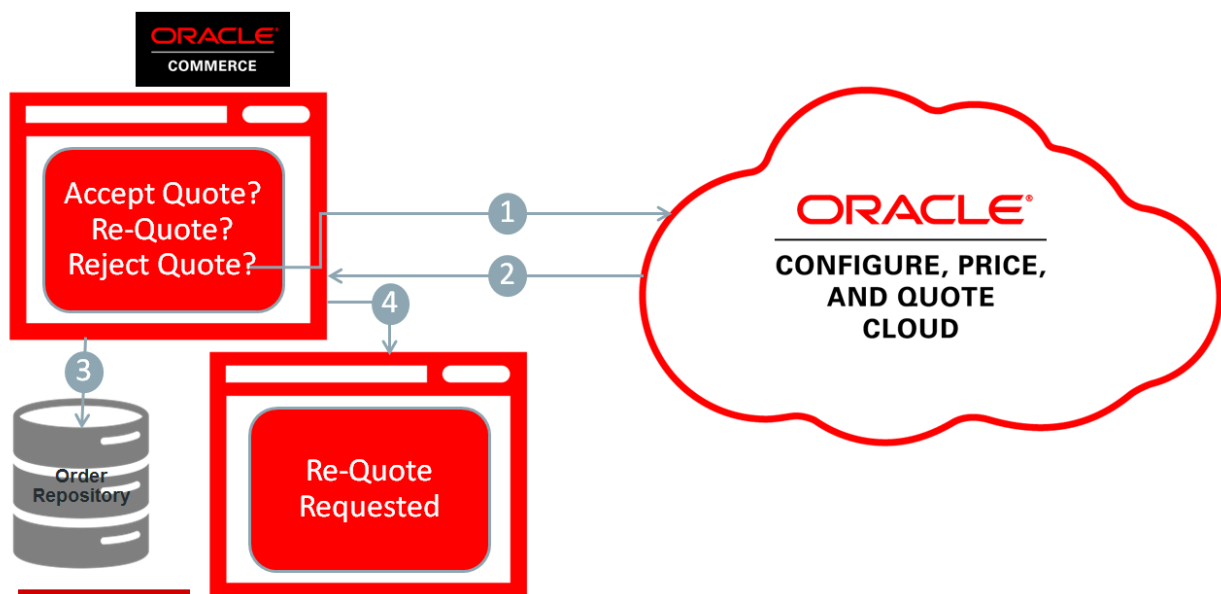
3. On success, order is changed as “SUBMITTED” in OC. On failure error message is displayed to the customer.
4. Order confirmation page is displayed to the customer.

#### Request Requote



1. In Order Details Page Customer chooses to ask for a further quote, SOAP web service of CPQ is invoked for requesting a requote.
2. CPQ returns the success/failure of web service call.
3. On success, order is changed as “Pending\_Quote” in OC. On failure error message is displayed to the customer.
4. Success page is displayed to the customer.

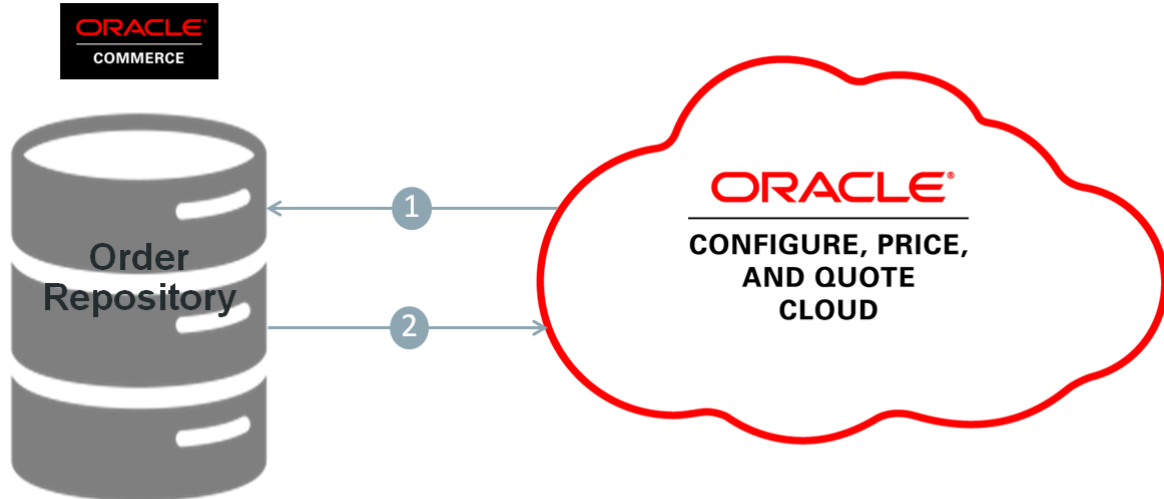
#### Reject Quote



1. In Cart Summary Page Customer chooses to reject the quoted order, SOAP web service of CPQ is invoked for informing the rejection of quote to CPQ.
2. CPQ returns the success/failure of web service call.

3. On success, order is changed as "REJECTED\_QUOTE" in OC. On failure error message is displayed to the customer.
4. Reject Quote success page is displayed to the customer.

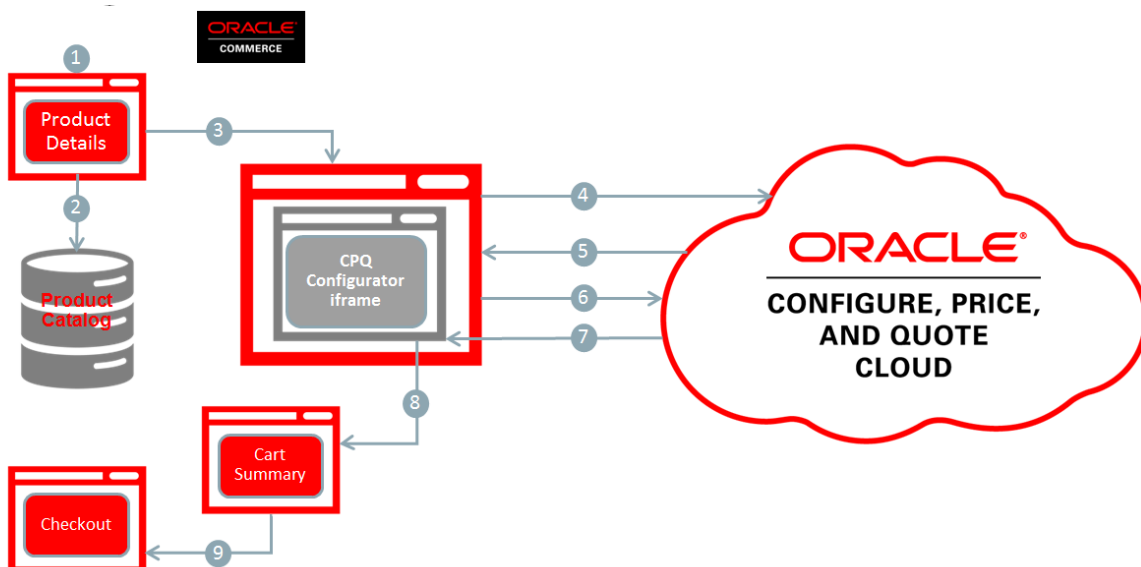
**Cancelling or Fulfilling Process in CPQ**



1. Accepted quote by customer can be fulfilled or cancelled at CPQ side. During fulfillment or cancellation, CPQ informs OC by invoking a rest web service call.  
 For fulfilled order, order gets updated with status "Shipped" in OC.  
 For cancellation, order gets updated with status "Removed" in OC.
2. OC sends response message to CPQ.

**Configure**

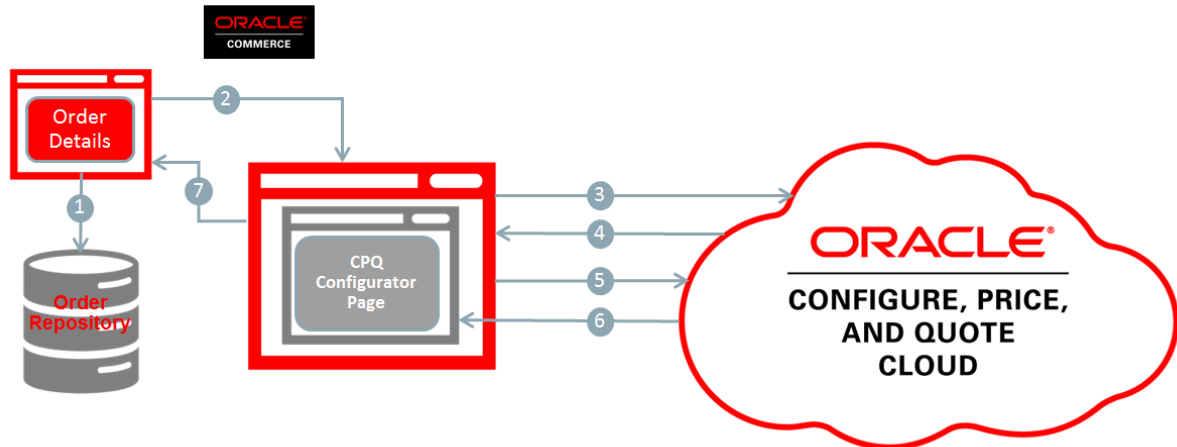
**Configure**



The configuration of configurable product will take place in configurator page of CPQ itself. Integration will include the configurator page of CPQ in Oracle Commerce using I-frame.

1. Customer views a product details / add to cart page
2. The Product Catalog is checked to see if the SKU requires configuration. If so a 'configure' button is rendered, and if not, an 'Add To Cart' button is rendered.
3. If the SKU requires configuration, the customer is redirected to a configuration page.
4. CPQ login web service call is invoked to get the sessionId.
5. CPQ returns the session id.
6. The CPQ configurator page is opened by passing the below parameters in form submission  
Target Url: <CPQ\_EndPoint>/commerce/new\_equipment/products/model\_configs.jsp
  - Username
  - Segment
  - Model
  - product\_line
  - org-Id
  - sessionId
  - sso
  - \_first\_time
  - \_variable\_name\_punchin
  - OCSessionId
  - sessionConfirmationNumber
7. CPQ hosts an iframe which is embedded in the Oracle Commerce configuration page. The customer performs the configuration. When they finish, they select 'Add to Cart'.
8. CPQ calls the Oracle Commerce REST API AddConfigurableItemToOrder to update the OC order with the new item. CPQ also sends the configuration xml in the payload which will be stored in Oracle Commerce Repository. The user is redirected to the Cart Summary page, where the commerce item structure in the order is used to render the page.
9. The user can check out and submit the order or go for request for quote flow

## Reconfigure



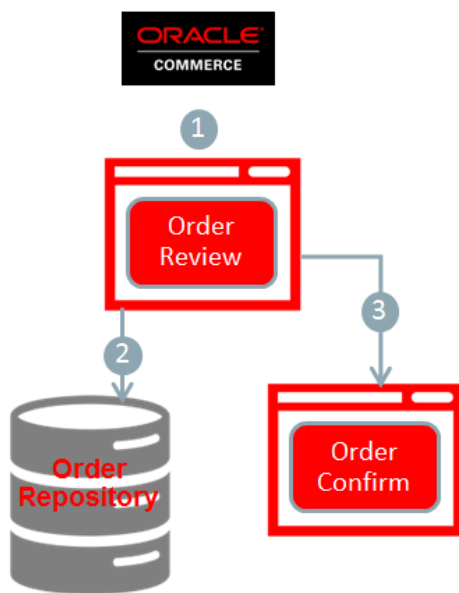
1. Customer clicks on Re-Configure button that is present next to the configurable item in the cart page. The configuration xml for that configurable commerce item is fetched from which the details for loading the existing configuration can be sent to CPQ.
2. Customer is redirected to Edit configuration page.
3. CPQ login web service call is invoked to get the sessionId.
4. CPQ returns the session id.
5. CPQ configurator page with existing configuration is opened by passing the below parameters in form submission

Target Url: <CPQ\_EndPoint>/commerce/new\_equipment/products/model\_configs.jsp

- Username
- Segment
- Model
- product\_line
- org-Id
- sessionId
- sso
- \_first\_time
- \_variable\_name\_punchin
- OCSessionId
- sessionConfirmationNumber
- <\_variable\_name> (values fetched from Configuration xml)  
(i.e processor= sku20001  
memory\_RAM=sku20007)

6. Existing configuration is loaded in CPQ i-frame which is embedded in the Oracle Commerce configuration page. The customer performs the configuration. When they finish, they select 'Add to Cart'.
7. CPQ calls the Oracle Commerce REST API AddConfigurableItemToOrder to update the OC order with the new configuration.

## Checkout and Submit



1. Customer chooses to place the order by clicking on “place order” button.
2. On success, order is submitted in OC. On failure error message is displayed to the customer.
3. Order confirmation page is displayed to the customer

## CPQ APIs Used

### CPQ i-frame implementation

The configurator page of CPQ is opened in iframe that is embedded in Oracle Commerce.

The following parameters are submitted to CPQ in form submission

- Username
- Segment
- Model
- product\_line
- org-Id
- sessionId
- sso
- \_first\_time
- \_variable\_name\_punchin
- OCSessionId
- sessionConfirmationNumber

During re-configuration flow along with above parameters, the entire attributes name and its value for that configurable item are sent to CPQ

### CreateTransaction

This SOAP web service of CPQ is invoked to create the transaction in CPQ end for non configurable items

### Configure

This SOAP web service of CPQ is invoked for each configurable item in the cart and it adds the configurable item to the CPQ transaction.

### UpdateTransaction

This SOAP web service of CPQ is invoked to update certain details like requested quantity, billing address, shipping address, action to be done etc. by passing the given transaction id in the payload.

## Oracle Commerce APIs Used

This integration makes use of the following REST APIs of Oracle Commerce

### AddConfigurableItemToOrder

This web service exposed by Commerce mainly focuses on creating a configurable item in Commerce and adding it to the order.

### GetSessionConfirmationNumber

This service provides a unique session number that prevents any malware entry into the Commerce system. This session confirmation number is added in the request header in all the succeeding web service calls

### Login

This service is called to login to the Commerce Motorprise Application with the external user. This external user should be assigned 'CPQ Integration User' role in Commerce

### CompleteQuote

This web service exposed by Commerce mainly focuses on synching the quote details from CPQ system into Commerce. This web service will be called each time the quote/order status is changed in CPQ

## Conclusion

The capabilities provided by this reference integration allow businesses to better serve their customers by providing a quick and easy customer experience for purchasing complex configurable products and supporting an order quoting workflow in tandem with the existing checkout workflow.

## Support

Oracle is unable to provide support for your changes, customizations or extensions made to the Oracle Commerce/CPQ Reference Integration Pack code, or for any implementation issues that arise from such changes

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