



## Oracle CPQ Cloud

Update 19C

### *What's New*

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## REVISION HISTORY

This document will continue to evolve as existing sections change and new information is added. All updates appear in the following table:

Date	Feature	Notes
14 Nov 2019	<a href="#">Pre-Upgrade Considerations</a>	Update document. Removed Behavior Modification to Known Functionality section.
26 Aug 2019	<a href="#">Pre-Upgrade Considerations</a>	Update document. Added Behavior Modification to Known Functionality section.
16 Aug 2019		Created initial document.

## OVERVIEW

Oracle Configure, Price, and Quote (CPQ) Cloud enables companies to streamline the entire opportunity-to-quote-to-order process, including product selection, configuration, pricing, quoting, ordering, and approval workflows. CPQ Cloud provides a flexible, scalable, enterprise-ready solution ideal for companies of all sizes that sell products and services across direct, indirect, and e-commerce sales channels.

This guide outlines the information you need to know about new or improved functionality in Oracle CPQ Cloud 19C and describes any tasks you might need to perform for the update. Each section includes a brief description of the feature, the steps you need to take to enable or begin using the feature, any tips or considerations that you should keep in mind, and the resources available to help you.

### KEY RESOURCES

Refer to CPQ Cloud Administration Online Help for detailed descriptions and instructions.

### SECURITY & NEW FEATURES

We would like to remind you if your system has modified security structures you may need to advise your security administrator of new features you would like to implement.

### GIVE US FEEDBACK

We welcome your comments and suggestions to improve the content. Please send us your feedback at [cpqcloud\\_documentation\\_us\\_grp@oracle.com](mailto:cpqcloud_documentation_us_grp@oracle.com).

## FEATURE SUMMARY

We continue to add many new features to Oracle Cloud Applications and we now give you the option to take advantage of new functionality at a pace that suits you. The table below offers a quick view of the actions required to enable each of the new features.

Column Definitions:

**Report** = New or modified, Oracle-delivered, ready to run reports.

**UI or Process-Based: Small Scale** = These UI or process-based features are typically comprised of minor field, validation, or program changes. Therefore, the potential impact to users is minimal.

**UI or Process-Based: Larger Scale\*** = These UI or process-based features have more complex designs. Therefore, the potential impact to users is higher.

**Customer Action Required** = You MUST take action before these features can be used by END USERS. These features are delivered disabled and you choose if and when to enable them. For example,

- a) new or expanded BI subject areas need to first be incorporated into reports,
- b) Integration is required to utilize new web services, or
- c) features must be assigned to user roles before they can be accessed.

Feature	Ready for Use by End Users (Feature Delivered Enabled)			Customer Must Take Action before Use by End Users (Feature Delivered Disabled)
	Report	UI or Process-Based: Small Scale	UI or Process-Based: Larger Scale*	Customer Action Required
<b>JET Responsive Configuration UI</b>				
<a href="#">Embedded JET Configuration UI Support</a>		✓		
<a href="#">Subscription Ordering Support</a>		✓		
<a href="#">System Configuration Support</a>		✓		
<a href="#">Working Indicator</a>		✓		
<a href="#">JET Configuration UI Key Changes, Limitations, and Known Issues</a>				✓
<b>JET Responsive UI Enhancements</b>				
<a href="#">Column Resize Dialog</a>		✓		
<a href="#">Discontinue Panel Expansion and Last Tab Used Persistence</a>		✓		
<b>BML Enhancements</b>				
<a href="#">Add to Transaction Function</a>		✓		
<a href="#">Generate HMAC Message Function</a>		✓		

Feature	Ready for Use by End Users (Feature Delivered Enabled)			Customer Must Take Action before Use by End Users (Feature Delivered Disabled)
	Report	UI or Process-Based: Small Scale	UI or Process-Based: Larger Scale*	Customer Action Required
<b>Commerce Integration Enhancement</b>				
<a href="#">Create Transaction Line via Integration</a>				✓
<b>Integration Center Enhancement</b>				
<a href="#">Digital Assistant Integration Type</a>				✓
<b>Microsoft Dynamics 365 Integration Enhancements</b>				
<a href="#">Account Information Auto-Fill and Refresh Using BML Account Integration</a>				✓
<a href="#">Select Alternate Address Information from Contact List</a>				✓
<a href="#">Use Price List Items When Creating Opportunity Products</a>				✓
<a href="#">Automatically Delete Opportunity Products When Associated Quote Is Deleted</a>				✓
<a href="#">Consistent Window Behavior</a>				✓
<a href="#">Improved Button Bar</a>				✓
<a href="#">Opportunity Auto-Refresh On Save</a>				✓
<a href="#">JET Responsive UI Support</a>				✓
<b>REST API Enhancements</b>				
<a href="#">Show Parent Attribute Query Parameter for Configuration Metadata REST APIs</a>				✓
<a href="#">Configuration Metadata REST API Enhancements for Product Family Integration</a>				✓
<a href="#">Configuration Run-Time Data REST API Enhancements for Subscription Ordering</a>				✓
<a href="#">Configuration REST API Enhancements for System Configuration</a>				✓

Feature	Ready for Use by End Users (Feature Delivered Enabled)			Customer Must Take Action before Use by End Users (Feature Delivered Disabled)
	Report	UI or Process-Based: Small Scale	UI or Process-Based: Larger Scale*	Customer Action Required
<b>Salesforce Integration Enhancements</b>				
<a href="#">Allow Unquoted Opportunity Products</a>				✓
<a href="#">Automatically Deactivate a CPQ User When Linked Salesforce User Is Deactivated</a>		✓		
<a href="#">Do Not Allow Account Quotes</a>				✓
<a href="#">Mark As Active Enhancements</a>				✓
<a href="#">New Quotes Must Be Attached to a Parent</a>				✓
<a href="#">Oracle User and Oracle User Profile Time Zone Enhancement</a>		✓		
<a href="#">Win Probability and Price Optimization Analytic Support in Lightning UI</a>				✓
<b>Price Optimization Enhancements</b>				
<a href="#">Analytics List Page Enhancements</a>		✓		
<a href="#">Price Guidance Analytic</a>				✓
<a href="#">Price Guidance Gauge</a>				✓
<a href="#">Optimal Values for Transaction Lines</a>				✓
<a href="#">Win Probability for Transaction Lines</a>				✓
<b>System Configuration Enhancements</b>				
<a href="#">System Configuration Model Path</a>		✓		
<a href="#">System Configuration Support for RFQ</a>		✓		
<b>Customer Requested Enhancements</b>				
<a href="#">Automatically Save Document with Print Action</a>		✓		
<a href="#">Clone Configuration Attribute</a>		✓		
<a href="#">Document Merge</a>		✓		
<a href="#">eSignature Integration Enhancement – Sequential or Parallel Requests</a>				✓
<a href="#">Send Notification on Real-Time Integration Failure</a>		✓		

## MODERN USER EXPERIENCE

The following CPQ Cloud Release 19C enhancement leverages the rich interface and interactive capabilities available in CPQ Cloud to provide an intuitive selling experience.

- JET Responsive Configuration UI Enhancements
- JET Responsive UI Enhancements

## JET RESPONSIVE CONFIGURATION UI ENHANCEMENTS

Introduced in CPQ Cloud 19B, the JET Configuration UI provides a modernized and fully responsive user experience allowing users to view and edit Configurations across multiple device types using the same Configuration layout. The responsive design provides layouts that can flow vertically to fit within different browser display widths and features a rich set of modern UI components with built-in accessibility and mobile support.

In CPQ Cloud 19C, we enhance the JET Configuration UI by adding the following functionality.

### EMBEDDED JET CONFIGURATION UI SUPPORT

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Beginning in CPQ Cloud 19C, CPQ supports using Client-side integrations to display the JET Configuration UI within an iFrame for external integrations, such as Oracle Commerce Cloud. Client-side integrations enable the sharing of data between CPQ Cloud and a partner site. When an external user wants to configure a model, the CPQ JET Configuration UI page is embedded in an iFrame that displays within the integrated application.

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

### SUBSCRIPTION ORDERING SUPPORT

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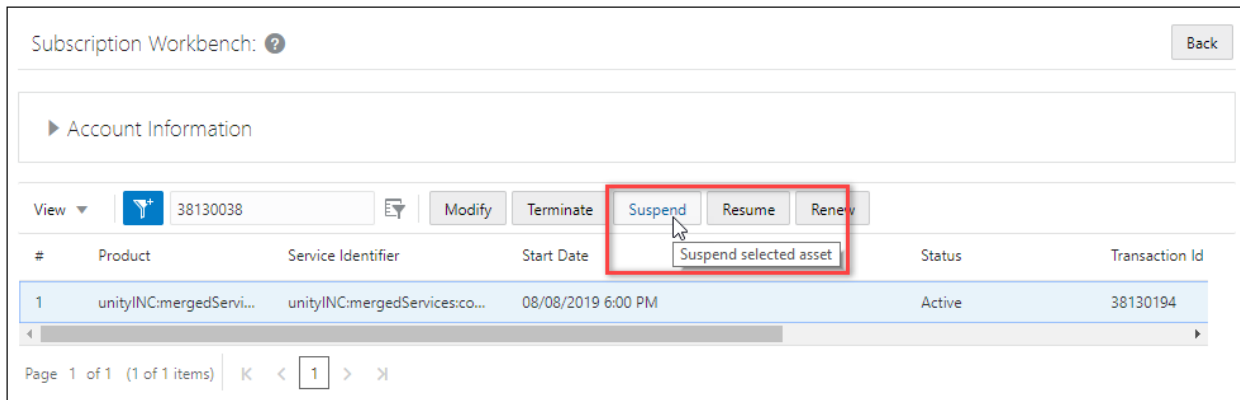
Beginning in CPQ Cloud 19C, the JET Configuration UI supports Subscription Ordering operations. For Modify operations and Follow-on Orders the user can perform Update, Start Over, Add to Transaction, Return to Transaction, and Add to Cart actions. For Reconfigure operations, the user can Cancel or Save the reconfiguration.



## Suspend Asset

After creating assets, sales users can create a modify order to can perform any of the asset actions (i.e. Suspend, Resume, Renew, Modify, or Terminate).

For example, a customer is going on vacation and they want to suspend their entertainment and internet services. The Customer Support Representative creates a new Transaction, enters the Request Date, and then clicks **Customer Assets** to open the Subscription Workbench to view active assets associated with the customer. The representative selects the appropriate asset and clicks **Suspend**.

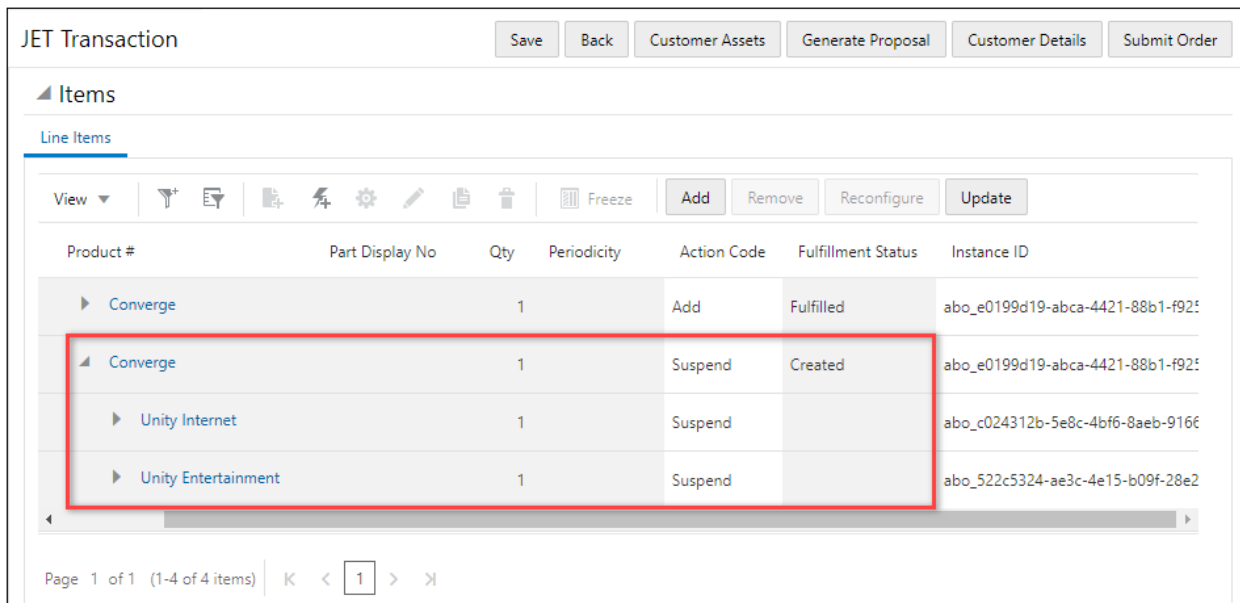


The screenshot shows the 'Subscription Workbench' interface. At the top, there is a 'Back' button. Below it is a section for 'Account Information'. A search bar contains the account number '38130038'. To the right of the search bar are buttons for 'Modify', 'Terminate', 'Suspend', 'Resume', and 'Renew'. The 'Suspend' button is highlighted with a red box, and a tooltip 'Suspend selected asset' is visible over it. Below the buttons is a table with the following data:

#	Product	Service Identifier	Start Date	Status	Transaction Id
1	unityINC:mergedServi...	unityINC:mergedServicesco...	08/08/2019 6:00 PM	Active	38130194

At the bottom of the page, it says 'Page 1 of 1 (1 of 1 items)' with navigation arrows.

The JET Transaction UI opens and the Action Codes reflect the requested changes, Unity Internet and Unity Entertainment are set to "Suspend".



The screenshot shows the 'JET Transaction' interface. At the top, there are buttons for 'Save', 'Back', 'Customer Assets', 'Generate Proposal', 'Customer Details', and 'Submit Order'. Below these is a section for 'Items' with a sub-section for 'Line Items'. A toolbar contains buttons for 'Add', 'Remove', 'Reconfigure', and 'Update'. The 'Line Items' table has the following data:

Product #	Part Display No	Qty	Periodicity	Action Code	Fulfillment Status	Instance ID
Converge		1		Add	Fulfilled	abo_e0199d19-abca-4421-88b1-f925
Converge		1		Suspend	Created	abo_e0199d19-abca-4421-88b1-f925
Unity Internet		1		Suspend		abo_c024312b-5e8c-4bf6-8aeb-9166
Unity Entertainment		1		Suspend		abo_522c5324-ae3c-4e15-b09f-28e2

The last two rows are highlighted with a red box. At the bottom, it says 'Page 1 of 1 (1-4 of 4 items)' with navigation arrows.

## Resume Asset

After the customer returns from vacation they want to resume their internet and entertainment services. The Customer Service Representative navigates to the Transaction, updates the Request Date, and then clicks **Customer Assets** to open the Subscription Workbench. The representative selects the appropriate asset and clicks **Resume**.

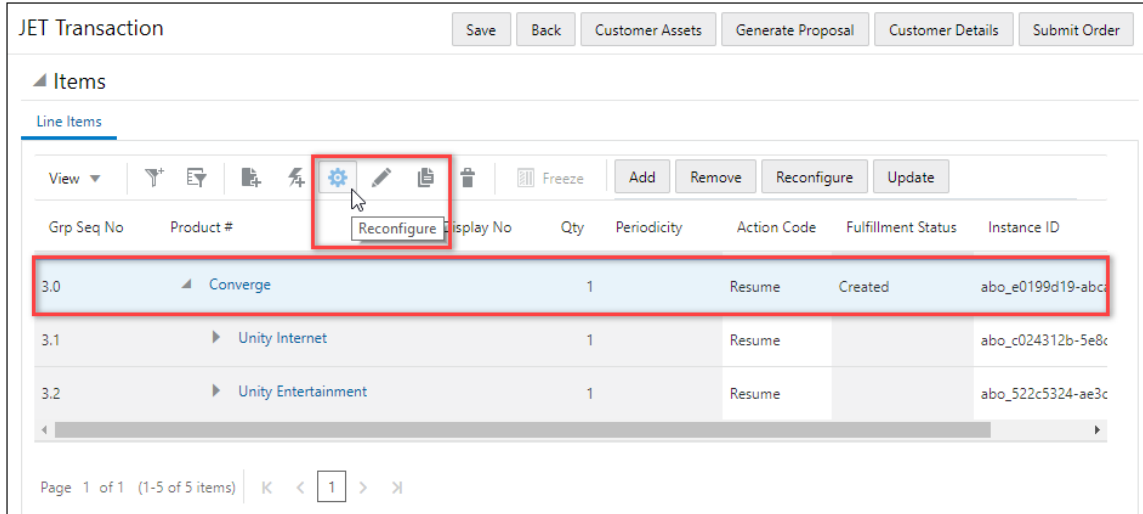
The screenshot shows the 'Subscription Workbench' interface. At the top, there is a search bar with the account number '38130038' and a 'Back' button. Below the search bar, there are several action buttons: 'Modify', 'Terminate', 'Suspend', 'Resume', and 'Renew'. The 'Resume' button is highlighted with a red box, and a tooltip is visible over it that says 'End Date' and 'Resume selected asset'. Below the buttons is a table with columns: '#', 'Product', 'Service Identifier', 'Start Date', 'Status', and 'Transaction Id'. The table contains one row with the following data: '# 1', 'unityINC:mergedServi...', 'unityINC:mergedServices:co...', '08/08/2019 6:00 PM', 'Active', and '38130194'. At the bottom, there is a pagination bar showing 'Page 1 of 1 (1 of 1 items)' and navigation arrows.

The JET Transaction UI opens and the Action Codes reflect the requested changes, Unity Internet and Unity Entertainment are set to "Resume".

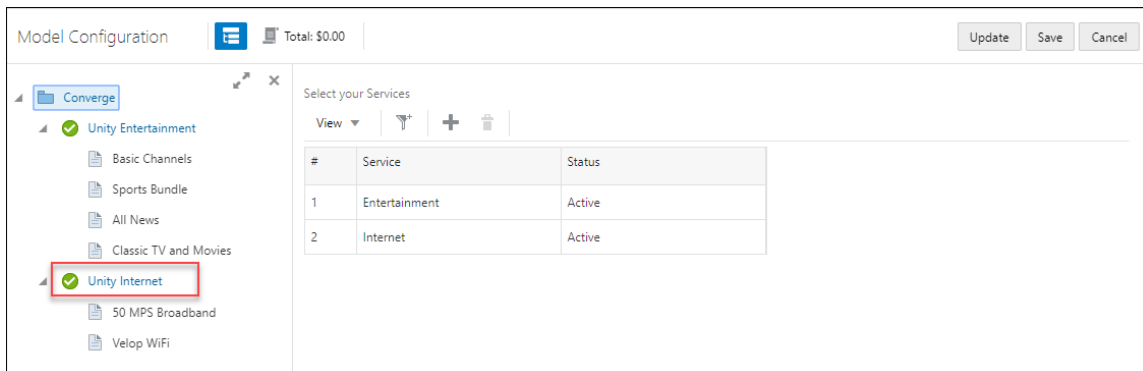
The screenshot shows the 'JET Transaction' interface. At the top, there are several buttons: 'Save', 'Back', 'Customer Assets', 'Generate Proposal', 'Customer Details', and 'Submit Order'. Below the buttons, there is a section titled 'Items' with a sub-section 'Line Items'. Below 'Line Items', there are several action buttons: 'Add', 'Remove', 'Reconfigure', and 'Update'. Below the buttons is a table with columns: 'Grp Seq No', 'Product #', 'Part Display No', 'Qty', 'Periodicity', 'Action Code', 'Fulfillment Status', and 'Instance ID'. The table contains five rows with the following data: '1.0', 'Converge', '1', '1', 'Add', 'Fulfilled', 'abo\_e0199d19-abca'; '2.0', 'Converge', '1', '1', 'Suspend', 'Fulfilled', 'abo\_e0199d19-abca'; '3.0', 'Converge', '1', '1', 'Resume', 'Created', 'abo\_e0199d19-abca'; '3.1', 'Unity Internet', '1', '1', 'Resume', 'Created', 'abo\_c024312b-5e8c'; '3.2', 'Unity Entertainment', '1', '1', 'Resume', 'Created', 'abo\_522c5324-ae3c'. A red box highlights the rows for 'Unity Internet' and 'Unity Entertainment'. At the bottom, there is a pagination bar showing 'Page 1 of 1 (1-5 of 5 items)' and navigation arrows.

## Reconfigure Asset

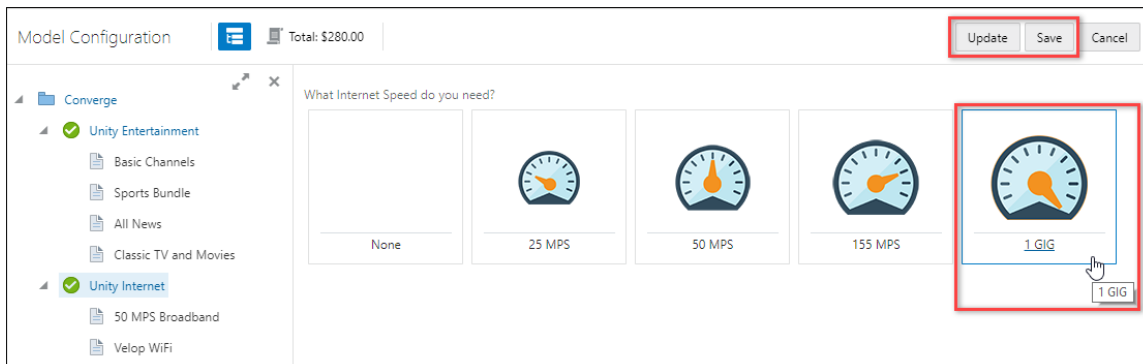
The customer also wants to upgrade their internet service. The Customer Service Representative selects the line item for the root item and clicks the Reconfigure icon.



The JET Configuration UI opens to the root system item. The representative clicks on the Unity Internet sub-model in the system navigation panel.



The Unity Internet model configuration opens. The representative upgrades the internet speed to 1 GB, clicks **Update**, and then clicks **Save**.



The JET Transaction UI opens and the Action Codes reflect the requested changes: the 50 MPS Broadband is set to "Delete" and 1 GIG Broadband and Broadband Router items are set to "Add".

The screenshot shows the JET Transaction interface with a table of line items. The table has columns for Product #, Part Display No, Qty, Periodicity, Action Code, Fulfillment Status, and Instance ID. The following table represents the data shown in the screenshot:

Product #	Part Display No	Qty	Periodicity	Action Code	Fulfillment Status	Instance ID
Converge		1		Resume	Created	abo_e0199d19-abca-4421-88b1-f92f
Unity Entertainment		1		Resume		abo_522c5324-ae3c-4e15-b09f-28e2
Unity Internet		1		Resume		abo_c024312b-5e8c-4bf6-8aeb-916f
50MPS	50 MPS Broadband	1	Per Month	Delete		abo_095abd05-7bdf-477c-95a4-46a6
velop	Velop WiFi	1		Resume		abo_3ab31091-51c2-47a6-9271-5ea6
1GIG	1 GIG Broadband	1	Per Month	Add		abo_24a60938-32f8-4c1a-ab34-6403
Router	Broadband Router	1	Per Month	Add		abo_18e2d0d2-de78-448f-b9f2-f2bf

Page 1 of 1 (1-9 of 9 items) | K < 1 > X

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

#### TIPS AND CONSIDERATIONS

##### IMPORTANT:

- The JET Configuration UI has been certified with the 19B ABO package and requires elements of that package to function properly with JET.
- To implement 19B ABO package, refer to the *CPQ 19B Asset-Based Ordering Implementation Guide*, available on [My Oracle Support Doc ID 2182966.1](#).

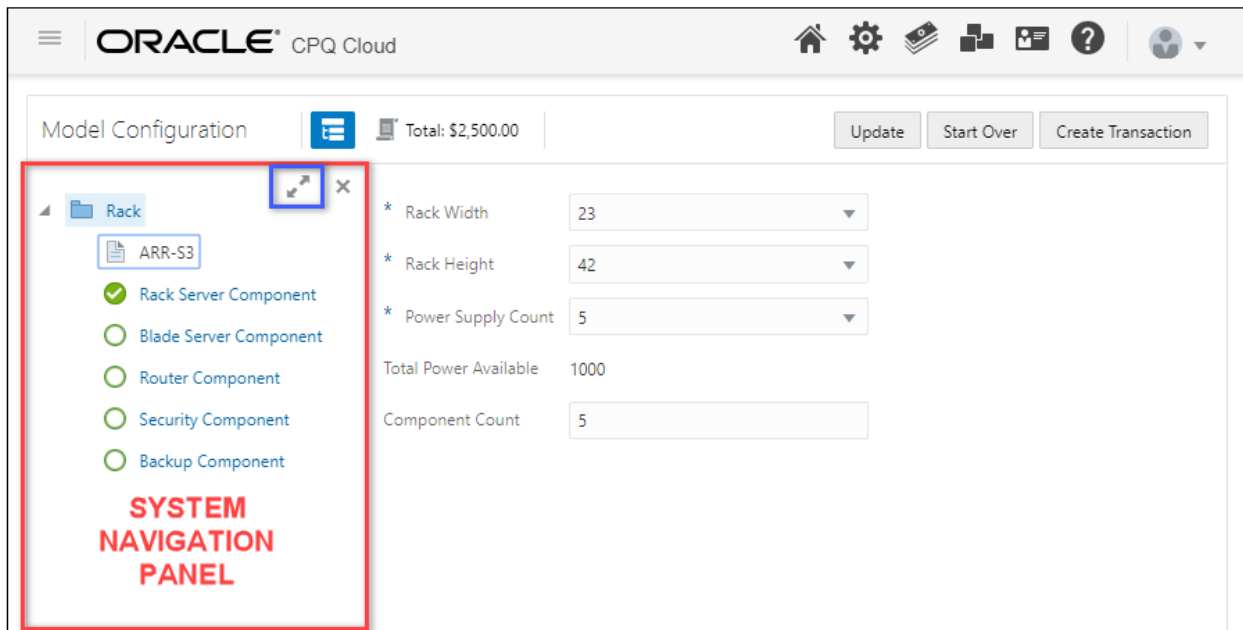
## SYSTEM CONFIGURATION SUPPORT

Beginning in CPQ Cloud 19C, the JET Configuration UI supports all features of system configurations, which are hierarchical arrangements of configurable models within a system root item. The system navigation panel contains icons to identify the status of models in the system, such as those requiring user action. The system navigation panel will display items that are valid, incomplete, invalid, and will also indicate if models have warnings or errors.

The system navigation panel is initially hidden on the JET Configuration UI. To view the system navigation panel, the user clicks on the system configuration icon.



The system navigation panel is displayed on the left side of the page. The Overlay or Push Content behavior for all JET Configuration UI sidebars is defined in the Configuration Layout Properties. To increase the size of the system navigation panel, users can click on the expand icon. The expand icon is outlined in blue in the following image.



## User Access for System Configuration in JET Configuration UI

If all Product Families included in a system are JET enabled for a system with cross-family models that are configured so a user has a mix of legacy and JET flows, the Configuration UI that is displayed for a system configuration is determined by the root model. The following table shows the Configuration UI display for mixed legacy and JET flows.

JET Configuration UI Enabled for Product Family of the Root model	User has JET Configuration UI Access Rights to the Root model	JET Configuration UI Enabled for Product Family of the Root model
Yes	Yes	JET UI displays for the entire system, including child models.
Yes	No	Legacy UI displays for the entire system, including child models.
No	No	Legacy UI displays for the entire system, including child models.

### IMPORTANT:

- When JET is enabled for the Product Family of the Root model, but not all child Product Families, users will be unable to navigate to the non-enabled child models, and an error will be displayed to the user.
- Refer to CPQ Cloud Administration Online Help for full details of how JET handles use cases involving a mixture of JET user access and enablement.

### STEPS TO ENABLE

You don't need to do anything to enable this feature.

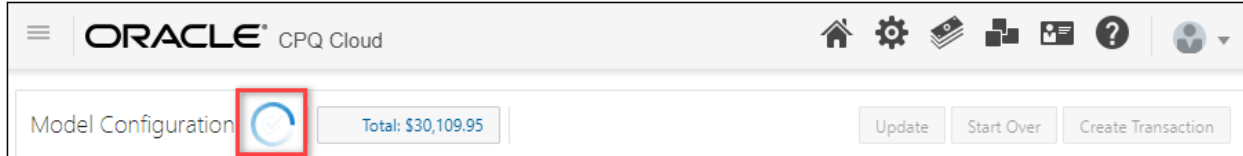
### TIPS AND CONSIDERATIONS

**IMPORTANT:** Beginning in CPQ 19C, the sidebar is always enabled to support the System Navigation Panel. In CPQ 19B, the sidebar was disabled when the JET Item List Display was set to "Bottom Panel" and the JET Price Table Display was set to "Bottom Panel" or "Hidden".

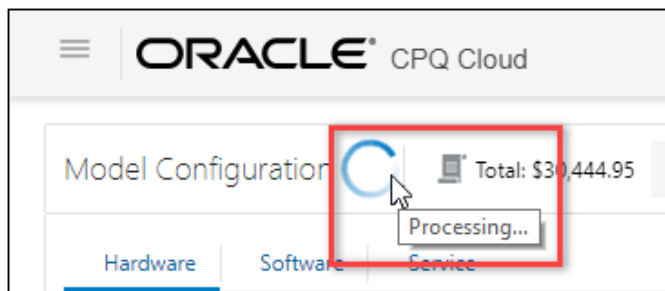
- Customers that enabled the JET Configuration UI in 19B and disabled the sidebar may experience an issue opening the System Navigation Panel after upgrading to CPQ 19C. If this error occurs, they should deploy the corresponding Product Family to resolve this issue.
- Beginning in CPQ 19C, this is not an issue for customers that initially enable the JET Configuration UI.

## WORKING INDICATOR

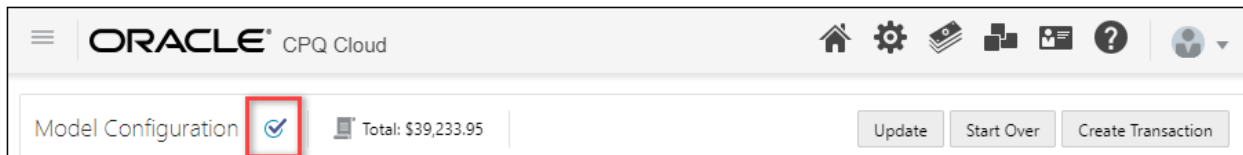
As part of CPQ's goal to provide a responsive high-performance JET UI, a Working Indicator is now displayed in the JET Configuration UI header. This provides an immediate, visual indication that the user's action has had an effect. When the user performs an action, such as clicking a button, an animated icon displays beside the page title notifying the user that the action is being processed.



A tooltip note is available on this icon to provide more details.



Some or all actions may be temporarily disabled while the system is processing, but the user is able to continue working during this time. Once completed, the indicator changes to show that the processing is complete.



## STEPS TO ENABLE

You don't need to do anything to enable this feature.

## JET CONFIGURATION UI KEY CHANGES, LIMITATIONS AND KNOWN ISSUES

---

The following list provides descriptions of key changes, limitations, and known issues present in the JET Configuration UI as of CPQ Cloud 19C.

User Interface Element	Description of Key Changes, Limitations, and Known Issues
<b>JET CSS Stylesheet</b>	JET uses a different CSS stylesheet from the legacy standard and alt stylesheets. As a result, CSS customizations may need to be refactored to work correctly with the JET Responsive Transaction UI. For additional details, refer to <a href="#">CPQ Cloud JET CSS: Branding and Styling (Doc ID 2462711.1)</a> .
<b>JET Help Text</b>	The JET Configuration UI help text does not support Rich Text, links, or HTML tags in CPQ 19C.
<b>JET HTML DOM</b>	JET uses a different Document Object Model (DOM) from legacy UI pages. As a result, JavaScript customizations to the CPQ Configuration UI may not work as in legacy UI.
<b>Configuration Integrations</b>	The JET Configuration UI does not support HTTP Post or Custom Configuration integrations in CPQ 19C.
<b>External Configurator Integration</b>	Integration of the JET Configuration UI with external configurators is not supported in CPQ 19C.
<b>Configurable Attribute Calculators</b>	The JET Configuration UI does not support configurable attribute calculators in CPQ 19C.
<b>UI Controls in Configuration Arrays</b>	Integer and Float attributes with Slider controls, and Boolean attributes with Switch display type, are not supported in Vertical and Horizontal Configuration Array sets.
<b>Search Flows, Favorites, Pending Configurations</b>	Navigation between the JET Configuration UI and Search Flow, Favorites, or Pending Configuration pages is supported, but these pages continue to display as legacy UI pages in CPQ 19C.
<b>System Navigation Panel Sidebar Behavior</b>	The navigation panel collapses when navigating between sub-models that switch between Overlay and Push Content sidebar behaviors.
<b>Image Dropdown Menus (Select Choice)</b>	Image dropdown menus using the JET "Select Choice" display option only show images in the dropdown list. Images are not displayed for the selected items.
<b>Message Display</b>	The JET Configuration UI does not support the "Bottom of Page" Message Placement option in CPQ 19C. The messages will display in the sticky header Error Panel.
<b>Layout Preview</b>	The Configuration Layout Editor Preview will not display JET-specific controls and options.

### STEPS TO ENABLE

Administrators should review JET Configuration UI Key Changes, Limitations, and Known Issues prior to implementing the JET Configuration UI.



## JET RESPONSIVE UI ENHANCEMENTS

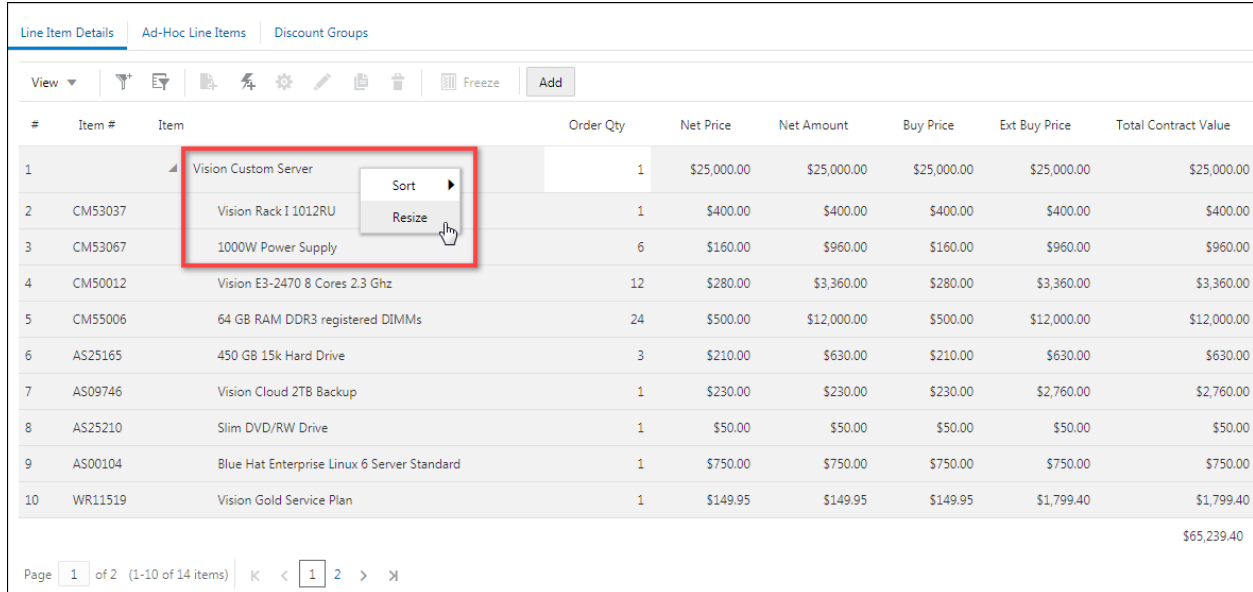
Introduced in CPQ Cloud 18C, the JET Responsive UIs provide a modernized and responsive user experience. The responsive design provides layouts that can flow vertically to fit within different browser display widths and features a rich set of modern UI components with built-in accessibility and mobile support.

In CPQ Cloud 19C, we enhance the JET Responsive UI by adding the following functionality.

### COLUMN RESIZE DIALOG

The column resize dialog is now available for all JET UI tables. The dialog provides a user-friendly method to resize columns, is much easier for tablet and phone displays, and allows users to enter a precise column width.

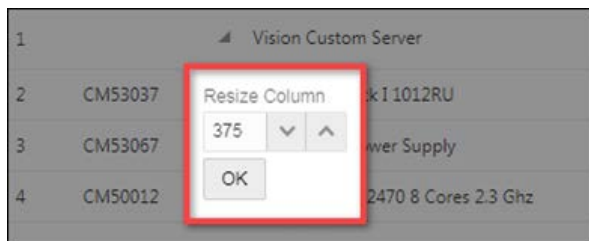
Users can right-click on the column header, select **Resize**, and then enter the column width. For tablet and phone displays, users tap and hold the column header to access the **Resize** option.



#	Item #	Item	Order Qty	Net Price	Net Amount	Buy Price	Ext Buy Price	Total Contract Value
1		Vision Custom Server	1	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00
2	CM53037	Vision Rack I 1012RU	1	\$400.00	\$400.00	\$400.00	\$400.00	\$400.00
3	CM53067	1000W Power Supply	6	\$160.00	\$960.00	\$160.00	\$960.00	\$960.00
4	CM50012	Vision E3-2470 8 Cores 2.3 Ghz	12	\$280.00	\$3,360.00	\$280.00	\$3,360.00	\$3,360.00
5	CM55006	64 GB RAM DDR3 registered DIMMs	24	\$500.00	\$12,000.00	\$500.00	\$12,000.00	\$12,000.00
6	AS25165	450 GB 15k Hard Drive	3	\$210.00	\$630.00	\$210.00	\$630.00	\$630.00
7	AS09746	Vision Cloud 2TB Backup	1	\$230.00	\$230.00	\$230.00	\$2,760.00	\$2,760.00
8	AS25210	Slim DVD/RW Drive	1	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
9	AS00104	Blue Hat Enterprise Linux 6 Server Standard	1	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
10	WR11519	Vision Gold Service Plan	1	\$149.95	\$149.95	\$149.95	\$1,799.40	\$1,799.40

Page 1 of 2 (1-10 of 14 items) < 1 2 > X

The Resize Column dialog allows users to specify the exact column width.



### STEPS TO ENABLE

You don't need to do anything to enable this feature.

## DISCONTINUE PANEL EXPANSION AND LAST TAB USED PERSISTENCE

---

In prior releases, the JET UIs would open the last tab a user viewed even when opening a new or different Transaction. The JET Transaction UI would also retain expanded panel settings. The JET UI now opens the default tab and no longer retains panel expansion settings for new sessions or Transactions.

### STEPS TO ENABLE

You don't need to do anything to enable this feature.

## ENTERPRISE PLATFORM

The following CPQ Cloud Release 19C features and enhancements cater to the needs of large, complex enterprises for a robust, integrated, and performant platform:

- BML Enhancements
- Commerce Integration Enhancement
- Integration Center Enhancement
- Microsoft Dynamics 365 Integration Enhancements
- REST API Enhancements
- Salesforce Integration Enhancements

### BML ENHANCEMENTS

The CPQ Cloud 19C introduces the following new BML functions.

#### ADD TO TRANSACTION FUNCTION

CPQ Cloud 19C supports a new BML function that allows administrator to add Models to a Transaction using BML. The "addToTransaction" function can be used to automatically add a new Transaction Line which contains a Model which is pending configuration by the sales user.

#### BML Syntax:

```
addToTransaction (items, [priceBookVarName],[resultAttributeArray])
```

#### Parameters:

Parameter	Type	Description
items	JSON Array	An array of JSON objects, used to specify the Model information and associated Configuration fields to add to the Transaction. Each item is a new Configuration Line Item.
pricebookVarName	String	A string value used for setting the Transaction Price Book. For sites with Price Books enabled, this string is required for the Transaction. If Price Books are disabled, this will default to <code>_default_price_book</code> . Example: "mycustom_price_book"
resultAttributeArray	String Array	Optional string array which contains a list of sub-document attribute variable names that you want returned after the line item is created. Example: [ "_part_quantity", "_document_number", "_price_item_price_each", "myAttribute"], Default: <code>_document_number, _part_number, _price_quantity, _price_list_price_each, _parent_doc_number</code>

## Return Type: JSON Array

### Example:

```
configAttrs1 = json(); //initial config attribute values for the first model
jsonput(configAttrs1 , "connectivity", "WiFi/Bluetooth");
jsonput(configAttrs1 , "storage", "128GB");
jsonput(configAttrs1 , "dataplan", "100GB");

modelLine1 = json(); // item values for the first model to be added
jsonput(modelLine1 , "_model_variable_name", "vario5000");
jsonput(modelLine1 , "_model_product_line_var_name", "tablets");
jsonput(modelLine1 , "_model_segment_var_name", "varioTablets");
jsonput(modelLine1 , "_price_quantity", 5);
jsonput(modelLine1 , "_price_unit_price_each": 599);
jsonput(modelLine1 , "_config_attr_values", configAttrs1);

configAttrs2 = json(); //initial config attribute values for the second model
jsonput(configAttrs2 , "connectivity", "WiFi/Bluetooth/4G LTE");
jsonput(configAttrs2 , "storage", "256GB");
jsonput(configAttrs2 , "dataplan", "100GB");

modelLine2 = json(); // item values for the second model to be added
jsonput(modelLine2 , "_model_variable_name", "vPhablet");
jsonput(modelLine2 , "_model_product_line_var_name", "phablets");
jsonput(modelLine2 , "_model_segment_var_name", "varioTablets");
jsonput(modelLine2 , "_price_quantity", 10);
jsonput(modelLine2 , "_price_unit_price_each": 849);
jsonput(modelLine2 , "_config_attr_values", configAttrs2);

items = jsonarray(); // items to added to the transaction
jsonarrayappend(items , modelLine1 );
jsonarrayappend(items , modelLine2 );

// list of attributes that we want returned
resultAttributeArray = jsonarray(["\"_document_number\"", "\"_part_quantity\"",
\"_price_item_price_each\""]);

//adds the two models above to the transaction using the default price book
resultArray = addtotransaction(items, "_default_price_book",
resultAttributeArray);

print(resultArray);
//prints a sample response which looks like this

// [{"_document_number":"2", "_price_quantity":"5",
"_price_unit_price_each":"599.00"},
// {"_document_number":"3", "_price_quantity":"10",
"_price_unit_price_each":"849.00"}]
```

### STEPS TO ENABLE

You don't need to do anything to enable this feature.

## TIPS AND CONSIDERATIONS

- The "addToTransaction" function can be executed in a BML function for any Commerce action.
- "addToTransaction" is only available for Advanced Modify Before/After Formulas on Commerce actions.
- When assigning values to Configuration attributes the following are supported: decimals, integers, currencies, dates, booleans, and strings.

## GENERATE HMAC MESSAGE FUNCTION

---

CPQ Cloud 19C adds a new BML function that allows administrators to create Hash-based Message Authentication Codes for use in securing outbound web service calls to public web services. The "generateHmacMessage" function supports five types of hashing algorithms including: SHA-256, SHA-384, SHA-512, SHA-1, and MD5.

### BML Syntax:

```
generateHmacMessage("message", "key", ["algorithm"]);
```

### Parameters:

Parameter	Type	Description
message	String	The message to be authenticated by the cryptographic has function. This is an optional parameter and an empty string is allowed. Null values are automatically converted to an empty string.
key	String	The secret key that authenticates the message between inbound and outbound web services. This parameter is optional.
algorithm	String	The designate for the secure message Authentication standard. This parameter is optional and defaults to SHA256. Valid values are: <ul style="list-style-type: none"><li>• SHA256 (Default)</li><li>• SHA384</li><li>• SHA512</li><li>• SHA1</li><li>• MD5</li></ul> <b>Note:</b> Values are case sensitive.

**Return Type:** String

**Example:**

```
key = "cfthsnkjsavjiCe=";  
algo = "MD5";  
hmac = generatehmacmessage(inputmessage, key, algo);  
print(hmac);  
//prints eaf3702517fef48d3f114f32a3c3394b
```

**STEPS TO ENABLE**

You don't need to do anything to enable this feature.

**TIPS AND CONSIDERATIONS**

- This BML function can be used with a Digital Assistant Integration. You can use BMQL to retrieve a key value from an integration that has been enabled. Refer to Digital Assistant Integration Type.
- This function may be used to "sign" callouts, such as for a JSON Web Token (JWT) signature.

## COMMERCE INTEGRATION ENHANCEMENT

Commerce Integrations are used to send or receive information from external systems when a user performs an Action. Some common examples are importing Opportunity details from a CRM, exporting Quote details from CPQ to a CRM or Order Management System or retrieving inventory or pricing information from other external resources.

The CPQ Cloud 19C introduces the following Commerce Integration enhancement.

### CREATE TRANSACTION LINE VIA INTEGRATION

---

CPQ Cloud 19C adds the ability to import line items during Integration. This can be used to import line items from an Opportunity when initially creating a Transaction. Some sales processes allow product selection on the Opportunity before it is ready to be quoted, this enhancement eliminates the need to re-enter those products once the Transaction is created.

In the Result Parser for your Import integrations you can now generate the XML for both the Transaction and Transaction Lines to be created or updated. The XSL snippet below shows the structure used when creating Line Items in addition to the Transaction.

```
<data_xml>
  <document varname="transaction">
    <!-- main document attributes go here -->
  </document>
  <document varname="transactionLine">
    <!-- sub document attributes go here -->
  </document>
  <document varname="transactionLine">
    <!-- sub document attributes go here -->
  </document>
  <!-- etc... -->
</data_xml>
```

#### Sample XSL Structure

**IMPORTANT:** In the example above, the `varname` needs to match the `varname` of the document type that you are creating.

## Adding Parts as Transaction Lines

When adding parts as Transaction Lines, the following system attributes can be set in the Result Parser.

Field	Type	Required	Description
_part_number	String	Yes	This value must be a valid CPQ Cloud part number.
_price_quantity	Integer	No	The quantity for the line item entity. This value will default to 1 if no value is provided.
_document_number	Integer	No	The document or Transaction number to add the line item. The following guidelines apply: <ul style="list-style-type: none"><li>• If empty, a new Line Item is created on the Transaction.</li><li>• If a valid document number is provided, the Line Item is updated.</li><li>• If an invalid document number is provided, an error displays.</li></ul>

### Example:

The following example will populate the Opportunity Name on a Transaction and create two Line Items with Parts.

```
<data_xml>
  <document varname="transaction">
    <opportunityName_t>
      <xsl:value-of select="//sf:Name"/>
    </opportunityName_t>
  </document>
  <document varname="transactionLine">
    <_part_number>AS85025</_part_number>
    <_price_quantity>2</_price_quantity>
    <_document_number></_document_number>
  </document>
  <document varname="transactionLine">
    <_part_number>GS5004</_part_number>
    <_price_quantity>6</_price_quantity>
    <_document_number></_document_number>
  </document>
</data_xml>
```



## Adding Configurations as Transaction Lines

When adding Configurations as Transaction Lines, the following system attributes can be set in the Result Parser.

Field	Type	Required	Description
_model_variable_name	String	Yes	The Model Variable Name
_model_product_line_var_name	String	Yes	The Product Line for the Model
_model_segment_var_name	String	Yes	The Product Family for the Model
_config_attr_values	JSON	No	A collection of initial attribute values for the Configuration. The following values are supported: decimals, integers, currencies, dates, booleans, and strings.
_price_quantity	Integer	No	The quantity for the line item entity
_document_number	Integer	No	The document or Transaction number to add the line item. The following guidelines apply: <ul style="list-style-type: none"><li>• If empty, a new Line Item is created on the Transaction.</li><li>• If a valid document number is provided, the Line Item is updated.</li><li>• If an invalid document number is provided, an error displays.</li></ul>

### Example:

The following example will populate the Opportunity Name on a Transaction and create one Line Item with an unconfigured Model that presets a few configuration attribute values.

```
<data_xml>
  <document varname="transaction">
    <opportunityName_t>
      <xsl:value-of select="//sf:Name"/>
    </opportunityName_t>
  </document>
  <document document_var_name="transactionLine">
    <_model_variable_name>vario5000</_model_variable_name>
    <_model_product_line_var_name>tablets</_model_product_line_var_name>
    <_model_segment_var_name>varioTablets</_model_segment_var_name>
    <_price_quantity>2</_price_quantity>
    <_config_attr_values>
      {
        "connectivity": "WiFi/Bluetooth/4G LTE",
        "storage": "128GB",
        "dataplan": "100GB"
      }
    </_config_attr_values>
  </document>
</data_xml>
```

## STEPS TO ENABLE

To enable this feature you need to log a Service Request (SR).

## TIPS AND CONSIDERATIONS

- When assigning values to Configuration attributes the following are supported: decimals, integers, currencies, dates, booleans, and strings.
- Unlike Transactions, any Transaction Line Items that are created or updated during this integration will not be available to subsequent integrations during the same action.
- The `_part_number`, `_model_variable_name`, `_model_product_line_var_name`, `_model_segment_var_name`, and `_config_attr_values` attributes cannot be modified on existing Line Items.
- The Price Book should be set on the Transaction, not the Transaction Line Item. If a Transaction Line Item Price Book is entered, it must match the Price Book of the Transaction. An error results if they do not match.

## INTEGRATION CENTER ENHANCEMENT

The CPQ Cloud application can integrate with different types of applications, in different ways. Some integration needs can be handled by the default functionality within the software packages themselves, with some additional configuration. Other functionality may need to be built on a custom basis, depending on the business's needs and the limitations of the software.

The Integration Center provides a centralized location to establish third party integrations with CPQ Cloud. There are many benefits to integration, including:

- Streamlining the marketing and sales processes
- Organizing and updating customer information
- Preventing manual data entry
- Removing redundant, unnecessary or tedious everyday steps

The CPQ Cloud 19C introduces the following Integration Center feature.

### DIGITAL ASSISTANT INTEGRATION TYPE

CPQ Cloud 19C adds a new integration type to the Integration Center called Digital Assistant. This integration defines the connection details for an external chatbot/messaging service. Once defined, the details can be retrieved via BML and used to send a message to the external service.

#### STEPS TO ENABLE

To create a Digital Assistant Integration within CPQ Cloud, complete the following steps:

1. Navigate to the Integration Center page.  
Admin Home > Integration Platform > Integration Center
2. Click **Create Integration**.

The screenshot shows the 'Integration Center' configuration page. On the left is a sidebar with categories: eSignature, Integration Cloud Service, Remote Approval, DataCube Integration, Contract Management, Generic Integration, Authentication Certificate, and Digital Assistant. Under 'eSignature', 'DocuSign' is selected. The main area shows configuration fields: 'Type' is set to 'eSignature', 'Vendor' is 'DocuSign', '\*Endpoint URL' is 'https://demo.docusign.net/restapi/v2', and '\*Connect Certificate' is 'democonnectdocusignnet.cer'. At the top right, there are 'Back', 'Create Integration' (highlighted with a red box), and 'Save' buttons.

3. Select **Digital Assistant** from the Type drop-down.
4. Enter a unique **Name**. This name will be the variable name for this integration.
5. Enter a **Description** for the integration.
6. Enter the **Login URL** for the external chatbot/messaging service.

**IMPORTANT:** When the Digital Assistant is enabled, the Login Domain URL is validated against the allowed\_partner\_domains list. If additional domains need to be added to the whitelist, please create an SR on [My Oracle Support](#) to add your domain to the allowed\_partner\_domains.

7. Enter the **Username** and **Password** to access the external chatbot/messaging service.
8. Enter the **Endpoint URL**. This is defined as the Inbound URL field within the external chatbot/messaging service.
9. Enter the **Client Secret**. This is defined as the Secret Key field within the external chatbot/messaging service.
10. Check the **Enable Integration** checkbox.

The screenshot shows the 'Integration Center' interface. On the left is a navigation menu with categories like 'eSignature', 'Integration Cloud Service', 'Remote Approval', 'DataCube Integration', 'Contract Management', 'Generic Integration', 'Authentication Certificate', and 'Digital Assistant'. The main area is titled 'Create Integration' and has a 'Type' dropdown set to 'Digital Assistant'. The form contains the following fields:

- \*Name: Chat Bot Service
- Description: Integration with Chat bot service
- Login URL: http://chatboxservice.com/admin/integration/991234567
- Username: username1
- Password: [masked]
- Endpoint URL: http://bots-connectors:8000/connectors/v1/tenants/chatb
- Client Secret: [masked]
- Enable Integration:

At the top right of the form are three buttons: 'Back', 'Create Integration', and 'Save'. The 'Save' button is highlighted with a red rectangular box.

11. Click **Save**.

After the Digital Assistant integration has been created, the details can be retrieved using BMQL and used in a BML integration to send messages to an external chatbot/messaging service. Example BMQL is provided below.

```
botSettings = bmql("SELECT username, endPointURI, clientSecret, description
FROM integration.digitalAssistant WHERE name = $botName");
```

**Sample BMQL for Digital Assistant**

## MICROSOFT DYNAMICS 365 INTEGRATION ENHANCEMENTS

Microsoft Dynamics 365 for Sales (CRM) customers can integrate with Oracle CPQ Cloud, allowing their users to access CPQ Cloud from an opportunity, to create new quotes, and to edit existing quotes with a seamless Single Sign-On experience. Quote data and line items are synced back to Dynamics to enable more reliable forecasts and reports.

As part of continuing improvements to the Dynamics 365 integration, the following enhancements are available with version 1.0 of the Oracle CPQ Cloud Connector for Dynamics 365 and CPQ Cloud 19C.

### ACCOUNT INFORMATION AUTO-FILL AND REFRESH USING BML ACCOUNT INTEGRATION

---

Administrators can create a BML type Account integration that automatically imports Microsoft Dynamics 365 account information into CPQ Cloud when customers create a new Oracle Quote from Dynamics 365 and allows them to refresh the account information at any time.

After creating the BML type Account integration, administrators can add the integration to the **Refresh Address** action (i.e. "\_auto\_fill\_action") and map the attributes returned by the integration to Transaction attributes. When users create a new Oracle Quote in Dynamics 365, the Refresh Address action is invoked and the mapped values are added to the Oracle Quote.

#### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to the 19C Microsoft Dynamics Migration Package and create Account Integrations. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

### SELECT ALTERNATE ADDRESS INFORMATION FROM CONTACT LIST

---

Administrators can create a BML-type Account integration that imports alternate addresses from the Contact list in Microsoft Dynamics 365 and saves the selected address information to the Bill To and Ship To address sets on the Transaction.

After creating the BML type account integration, add the integration to the **Select Alternate Address** action (i.e. "\_select\_alternate\_address\_action") and map the attributes returned by the integration to Transaction attributes. When users create or edit an Oracle Quote in Dynamics 365 and select an alternate address from the Contact list, the Bill To and Ship To address sets on the Oracle Quote are populated with the mapped attribute values.

#### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to the 19C Microsoft Dynamics Migration Package and create Account Integrations. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

## USE PRICE LIST ITEMS WHEN CREATING OPPORTUNITY PRODUCTS

---

In CPQ Cloud 19C when a Transaction is marked as Active, the Upsert Primary Quote Information integration can set an active Price List on the Opportunity and add products as Price List Items.

When users click the **Quote Is Primary** checkbox, it designates the Quote as the active Quote on the Opportunity. The Line Items on that Quote are synced to the Opportunity as Opportunity products. In prior releases, these products were marked as "Write-in Products". In this release, when a Price List is specified, the products are added as "Existing Products".

### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to the 19C Microsoft Dynamics Migration Package and modify the Line Item Upsert Integration. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

## AUTOMATICALLY DELETE OPPORTUNITY PRODUCTS WHEN ASSOCIATED QUOTE IS DELETED

---

In CPQ Cloud 19C, when users delete an Oracle Quote that is associated to an Opportunity, all of the associated Opportunity products are automatically deleted.

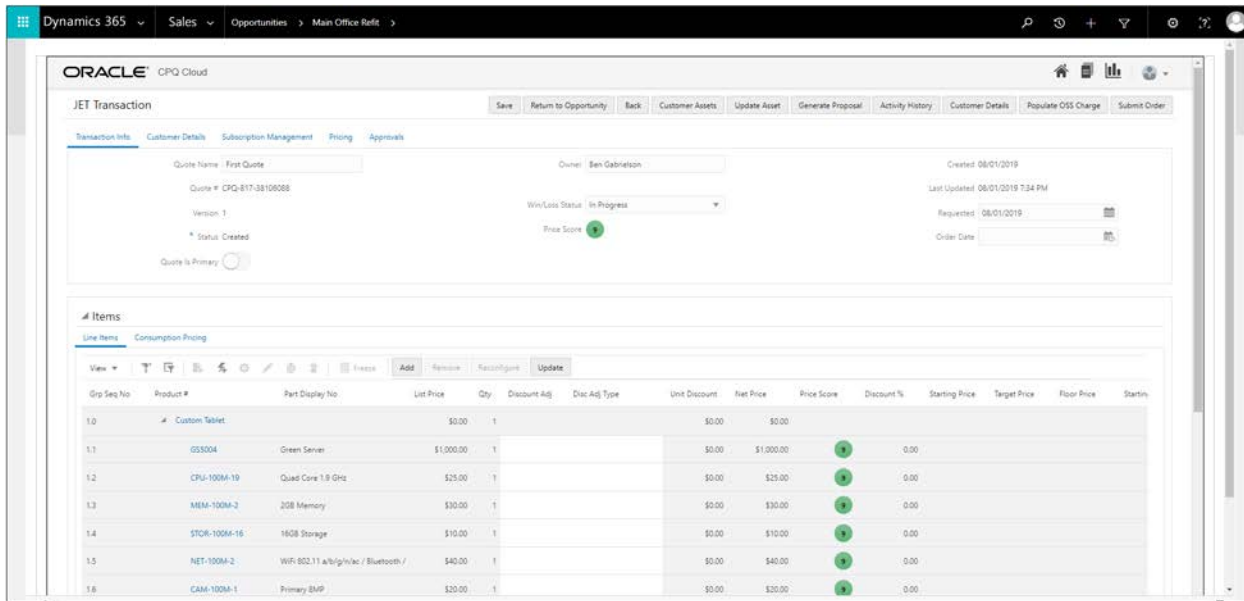
### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to version 1.0 of the Oracle CPQ Cloud Connector for Dynamics 365. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

## CONSISTENT WINDOW BEHAVIOR

---

In prior releases, when a user created a new Oracle Quote a pop-up window opened for entry of the new Quote information. When the user later edited that Quote, the Quote opened in the active window. Oracle has removed this inconsistency in 19C, so the new Quote and the edit Quote experience both open in the active window.



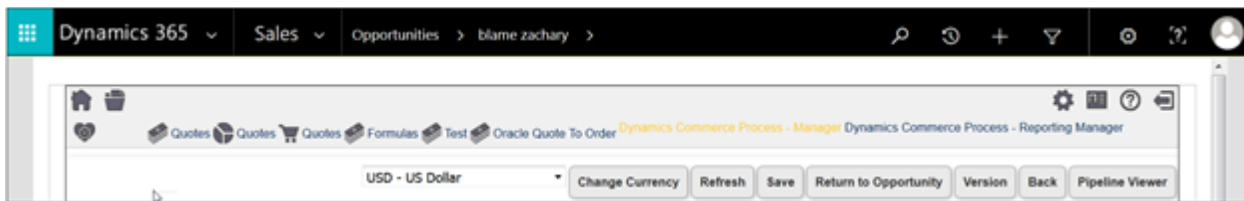
## Consistent Window Behavior

### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to version 1.0 of the Oracle CPQ Cloud Connector for Dynamics 365. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

## IMPROVED BUTTON BAR

When users created or edited Oracle Quotes in prior releases, the Dynamics button bar displayed buttons native to Dynamics 365 that were not applicable to the CPQ Cloud – Dynamics 365 integration. With the CPQ Cloud 19C enhancements, the Dynamics button bar no longer displays when users create or edit Oracle Quotes.



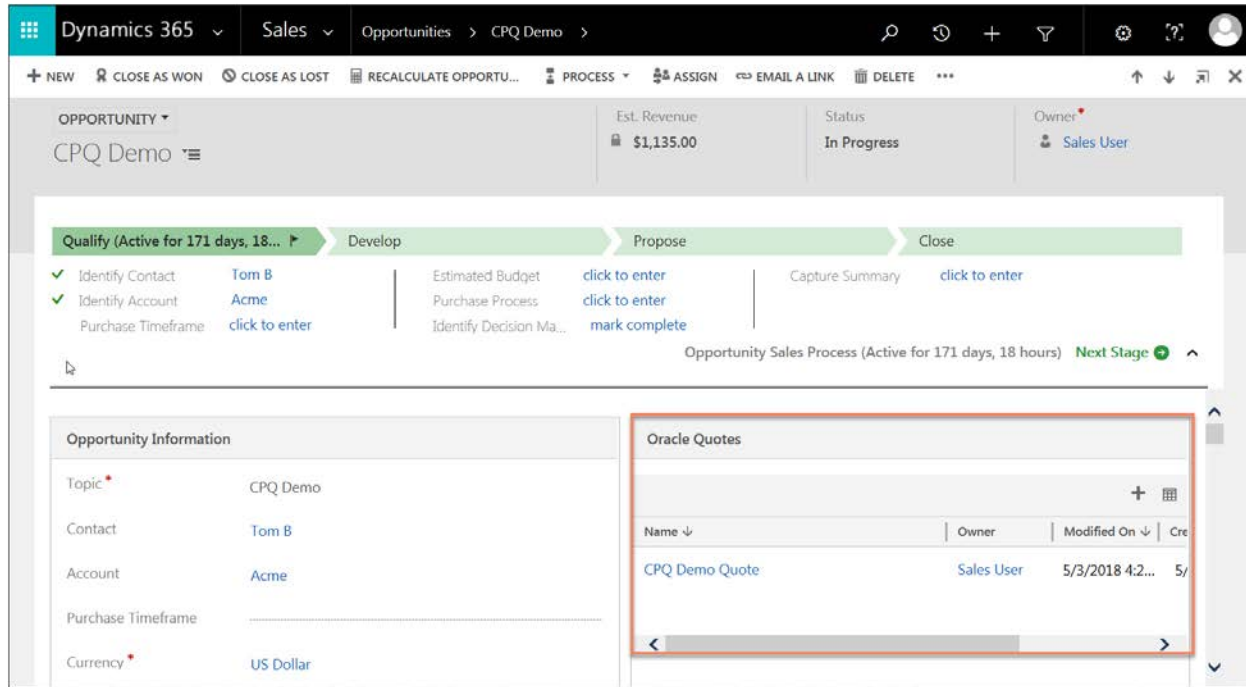
## Improved Button Bar

### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to version 1.0 of the Oracle CPQ Cloud Connector for Dynamics 365. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

## OPPORTUNITY AUTO-REFRESH ON SAVE

When users create or edit a new Oracle Quote and then later return to the Opportunity, the Opportunity auto-refreshes and displays the updated Oracle Quotes and Opportunity Products lists.



The screenshot shows the Dynamics 365 interface for an Opportunity. The top navigation bar includes 'Dynamics 365', 'Sales', and 'Opportunities > CPQ Demo'. Below the navigation, there are action buttons: '+ NEW', 'CLOSE AS WON', 'CLOSE AS LOST', 'RECALCULATE OPPORTU...', 'PROCESS', 'ASSIGN', 'EMAIL A LINK', and 'DELETE'. The main header area displays 'OPPORTUNITY CPQ Demo', 'Est. Revenue \$1,135.00', 'Status In Progress', and 'Owner Sales User'. A process flow is shown with stages: 'Qualify (Active for 171 days, 18...)', 'Develop', 'Propose', and 'Close'. Below the flow, there are task cards for 'Identify Contact' (Tom B), 'Identify Account' (Acme), 'Purchase Timeframe' (click to enter), 'Estimated Budget' (click to enter), 'Purchase Process' (click to enter), and 'Identify Decision Ma...' (mark complete). A section titled 'Opportunity Information' lists fields: Topic (CPQ Demo), Contact (Tom B), Account (Acme), Purchase Timeframe, and Currency (US Dollar). A table titled 'Oracle Quotes' is highlighted with a red box, showing a single row: 'CPQ Demo Quote' owned by 'Sales User' with a 'Modified On' date of '5/3/2018 4:2...'. The table has columns for 'Name', 'Owner', 'Modified On', and 'Cre'.

### Sample Opportunity with New Oracle Quote

#### STEPS TO ENABLE

To enable this enhancement, customers must install or upgrade to version 1.0 of the Oracle CPQ Cloud Connector for Dynamics 365. Refer to the [Integrating Oracle CPQ Cloud and Microsoft Dynamics 365 Implementation Guide](#).

#### JET RESPONSIVE UI SUPPORT

The Microsoft Dynamics 365 Integration allows sales reps to create and edit quotes from their CRM by opening the CPQ Cloud UI within Dynamics. In previous releases, only the legacy desktop UI was supported. The new version of the Dynamics Solution adds the ability to also embed the JET Responsive UI.





## REST API ENHANCEMENTS

CPQ Cloud exposes objects and data through REST APIs and RESTful standards. Exposing objects and data through REST APIs promotes simpler API calls and more robust integrations using HTTP standards. With appropriate HTTP Basic authentication, any other third-party system can query CPQ Cloud's REST APIs, get a response, and use the return data as needed.

CPQ Cloud 19C includes REST API enhancements that support the following functionality.

### SHOW PARENT ATTRIBUTES QUERY PARAMETER FOR CONFIGURATION METADATA REST APIS

---

Beginning in CPQ 19C, the "showParentAttrs=true" query parameter can be added to Configuration attribute and array set metadata REST API endpoints to return all applicable metadata inherited from parent level attributes. Prior to 19C customers had to make several REST calls to retrieve all of the inherited attributes. To retrieve all applicable attributes for a single model, they had to make REST calls to the model, Product Line, Product Family, and all Product Families.

#### URI ENDPOINT SAMPLE

For example, the following endpoint returns attribute metadata for the "ultraPowerSolutionsPackage" Model, the "servers" Product Line, the "vision" Product Family, and metadata for attributes defined for all Product Families.

```
https://sitename.oracle.com/rest/v8/productFamilies/vision/productLines/servers/models/ultraPowerSolutionsPackage/attributes?showParentAttrs=true
```

#### STEPS TO ENABLE

Review the REST service definition in the REST API guides, available from the [Oracle Help Center](#) > *your apps service area of interest* > REST API. If you're new to Oracle's REST services you may want to begin with the Quick Start section.

The Show Parent Attributes query parameter is automatically available with CPQ Cloud 19C. Administrators need to add "?showParentAttrs=true" to Configuration attribute metadata REST APIs to return parent level metadata.

## CONFIGURATION METADATA REST API ENHANCEMENTS FOR PRODUCT FAMILY INTEGRATION

CPQ Cloud 19C introduces the following Configuration metadata endpoints to support Product Family Integrations for the JET Configuration UI.

Get Product Family Integration Metadata		
<b>Description</b>	This endpoint returns metadata for the specified Product Family integration.	
<b>URI Endpoint</b>	/rest/v8/productFamilies/{prodFamVarName}/integrations/{integrationVarName}	
<b>Endpoint Parameters</b>	prodFamVarName	The variable name of a Product Family
	integrationVarName	The variable name of a Product Family integration
<b>HTTP Method</b>	GET	
<b>Request Body Parameters</b>	None	
<b>Response Body Parameters</b>	The integration action button metadata (i.e. display name and variable name) for the specified Product Family integration.	

### URI ENDPOINT SAMPLE

```
https://sitename.oracle.com/rest/v8/productFamilies/integration/integrations/integrationAction
```

### SAMPLE RESPONSE BODY

```
{
  "links": [{
    "rel": "parent",
    "href": "https://sitename.oracle.com/rest/v8/productFamilies/integration/integrations"}, {
    "rel": "self",
    "href": "https://sitename.oracle.com/rest/v8/productFamilies/integrations/integrationAction"}],
  "name": "Integration Action",
  "variableName": "integrationAction",
  "translations": {
    "items": [{
      "language": {
        "languageCode": "en",
        "languageNumber": -1
      },
      "name": "Integration Action"
    }, {
      "language": {
        "languageCode": "de",
        "languageNumber": 0
      },
      "name": "Integration Action_äößü"}]
  }
}
```

Get Product Family Integrations Metadata	
<b>Description</b>	This endpoint returns an array of all integrations defined for a specific Product Family.
<b>URI Endpoint</b>	/rest/v8/productFamilies/{prodFamVarName}/integrations
<b>Endpoint Parameters</b>	prodFamVarName    The variable name of a Product Family
<b>HTTP Method</b>	GET
<b>Request Body Parameters</b>	None
<b>Response Body Parameters</b>	An array of all integrations defined for the specified Product Family.

#### URI ENDPOINT SAMPLE

```
https://sitename.oracle.com/rest/v8/productFamilies/integration/integrations
```

#### SAMPLE RESPONSE BODY

```
{
  "items": [{
    "links": [{
      "rel": "parent",
      "href": "https://sitename.oracle.com/rest/v8/productFamilies/integration"
    }, {
      "rel": "self",
      "href": "https://sitename.oracle.com/rest/v8/productFamilies/integration/integrations/integrationAction"
    }],
    "name": "Integration Action",
    "variableName": "integrationAction",
    "translations": {
      "items": [{
        "language": {
          "languageCode": "en",
          "languageNumber": -1
        },
        "name": "Integration Action"
      }, {
        "language": {
          "languageCode": "de",
          "languageNumber": 0
        },
        "name": "Integration Action_äö&ü"
      }
    ]
  }
],
  "links": [{
    "rel": "self",
    "href": "https://sitename.oracle.com/rest/v8/productFamilies/integration/integrations"
  }]
```

## STEPS TO ENABLE

Review the REST service definition in the REST API guides, available from the [Oracle Help Center](#) > *your apps service area of interest* > REST API. If you're new to Oracle's REST services you may want to begin with the Quick Start section.

The Configuration Metadata REST API enhancements for Product Family integrations are automatically available with CPQ Cloud 19C. Administrators need to update any systems that interact with these CPQ web services to begin using these new features.

## CONFIGURATION RUN-TIME DATA REST API ENHANCEMENTS FOR SUBSCRIPTION ORDERING

---

CPQ Cloud 19C provides support for Subscription Ordering flows. Configuration Run-Time Data Configure Model and Reconfigure Model enhancements provide support for Subscription Ordering Modify, Reconfigure, and Follow-On Order actions.

### Configure Model Enhancements

The "\_configure" action is used to configure a Model with appropriate inputs and generates the configuration data. For Subscription Ordering, this action is used when modifying an asset or creating a follow-on order. Beginning in CPQ 19C, the Configure Model REST API accepts the following request body parameters for internal asset modification flows:

- **configContextKey** - a key to the global cache entry which contains the projected BOM and configuration. It is used to pass ABO package data between Commerce and Configuration.
- **rootBomItemId** – The identifier for the root BOM item.

For asset modification the "configContextKey" and "rootBomItemId" parameters are retrieved from the Modify Asset response. For follow-on orders the "configContextKey" and "rootBomItemId" parameters are retrieved from the Commerce Transaction Create Follow-On Order response.

### CONFIGURE MODEL REQUEST BODY SAMPLE (INTERNAL ASSET MODIFICATION FLOW)

```
{
  "configContextKey": "77ba84ec-8a6d-4cc1-845c-910d2515b388",
  "bsId": 21587946,
  "rootBomItemId": "BOM_SysConfigRoot",
  "criteria": {
    "expand": [ "_sysNavigationInfo" ]
  }
}
```

For external asset modification flows the Configure Model REST API accepts the following request body parameters:

- **fromPartner** - indicates that configure is requested from partner site. The value is true for client-side integrations. This value is automatically set to "true" when an assetKey is provided.
- **assetKey** – a key that uniquely identifies the asset component for the lifetime of the asset.
- **transactionDate** - the date and time that the service request needs to be processed or fulfilled. This field is optional when an assetKey is provided. This is not allowed when an assetKey is not provided.
- **transactionId** - the current Transaction identifier for external process integrations.

#### CONFIGURE MODEL REQUEST BODY SAMPLE (EXTERNAL ASSET MODIFICATION FLOW)

```
{
  "fromPartner":true,
  "assetKey": "abo_8e8f0f1f-7837-4d2f-886d-542abdac5ace",
  "transactionDate": "2019-02-06T00:00:00Z",
  "transactionId": "2341sdg"
}
```

#### Reconfigure Model Enhancements

This "\_reconfigureTxn" action is used for Model reconfiguration from the Transaction to execute the configuration rules in order to retain the previous selection and configuration data. For Subscription Ordering, this action is used when reconfiguring an asset for internal applications. Beginning in 19C, the Reconfigure Model REST API accepts the "configContextKey" request body parameter.

For asset reconfiguration the "configContextKey" parameter is retrieved from the Reconfigure Asset response.

#### RECONFIGURE MODEL REQUEST BODY SAMPLE (INTERNAL ASSET MODIFICATION FLOW)

```
{
  "configContextKey": "75366ffb-fff2-4176-b697-75cd8310f7a4",
  "bsId": 21593819,
  "documentId": 18351533,
  "documentNumber": 4
}
```

For external asset flows, the Reconfigure Model from Partner REST API provides support for Subscription Ordering flows when using the JET Configuration UI.

#### STEPS TO ENABLE

Review the REST service definition in the REST API guides, available from the [Oracle Help Center](#) > *your apps service area of interest* > REST API. If you're new to Oracle's REST services you may want to begin with the Quick Start section.

The Configuration Run-Time Data REST API enhancements for Subscription Ordering are automatically available with CPQ Cloud 19C. Administrators need to update any systems that interact with these CPQ web services to begin using these new features.

## CONFIGURATION REST API ENHANCEMENTS FOR SYSTEM CONFIGURATION

---

System configurations have a system navigation panel that contains model and part icons to show the hierarchy of a system and status icons to identify models requiring user action.

### System Navigation Status Object

The information for the system navigation panel is stored within the "\_sysNavigationInfo" resource in the Configuration Run-Time Data REST APIs. CPQ Cloud 19C adds a new "\_status" object within the "\_sysNavigationInfo" resource. The "\_status" object is a set of Boolean objects that give all the possible states of configuration for the items in the system.

The following table lists the items within the "\_status" object.

Name	Title	Description
hasWarning	Warning	The model configuration contains items that should be reviewed.
hasConstraintViolation	Constraint Violation	The model configuration has a constraint violation.
hasMissingMandatory	Missing Mandatory	The model configuration is missing mandatory items.
hasEmptyRequiredAttribute	Empty Required Attribute	The model configuration has empty required attributes.
hasError	Error	The model configuration has constrained values, missing mandatory items, or empty required attributes.
hasFailedBomReverseMapping	Failed BOM Reverse Mapping	The model configuration failed BOM reverse mapping
hasRecommendedItemChanged	Recommended Item Changed	The recommended items list changed on invocation.
hasStarted	Started	The model configuration is configured.
isIncomplete	Incomplete	The model configuration has multiple nodes and the configuration hasn't progressed to the end node
isInvalid	Invalid	The model configuration is invalid. This could be the result of invalid BOM rules or a missing configuration flow.

## SAMPLE RESPONSE BODY

```
{
  "_sysNavigationInfo": {
    "items": [{
      "items": [{
        "items": [],
        "name": "Nested Hierarchies",
        "path":
"_root$%#%$testbed:systemConfiguration:nestedHierarchies%$%$%0%$%$%0",
        "isActive": false,
        "isModel": true,
        "productLine": "testbed",
        "productFamily": "systemConfiguration",
        "model": "nestedHierarchies",
        "title": "",
        "_status": {
          "hasWarning": false,
          "hasConstraintViolation": false,
          "hasMissingMandatoryItem": true,
          "hasError": true,
          "hasFailedBomReverseMappings": false,
          "hasEmptyRequiredAttributes": false,
          "hasRecommendedItemChanged": false,
          "isInvalid": false,
          "isIncomplete": false,
          "hasStarted": false
        }
      }],
      "name": "Root System",
      "path": "_root",
      "isActive": false,
      "isModel": true,
      "productLine": "testbed",
      "productFamily": "systemConfiguration",
      "model": "nestedHierarchies",
      "title": "",
      "_status": {
        "hasWarning": false,
        "hasConstraintViolation": false,
        "hasMissingMandatoryItem": false,
        "hasError": false,
        "hasFailedBomReverseMappings": false,
        "hasEmptyRequiredAttributes": false,
        "hasRecommendedItemChanged": false,
        "isInvalid": false,
        "isIncomplete": false,
        "hasStarted": false
      }
    }
  ]
}
```



## Navigate between System Configuration Models

The system navigation panel also allows users to switch between different models within the system configuration. CPQ Cloud 19C adds the following Configuration Run-Time Data REST API service endpoint to support system configuration navigation in the JET Configuration UI.

Navigate Between System Configuration Models		
<b>Description</b>	This action is used to navigate to a different model within a system configuration.	
<b>URI Endpoint</b>	/rest/v8/config{prodFamVarName}. {prodLineVarName}. {modelVarName}/actions/_configureInSystem	
<b>Endpoint Parameters</b>	prodFamVarName	The variable name of a Product Family
	prodLineVarName	The variable name of a Product Line
	modelVarName	The variable name of the target Model
<b>HTTP Method</b>	POST	
<b>Request Body Parameters</b>	cacheInstanceId	The unique identifier for the entry of configuration data stored in the cache. This is obtained from actions that launch configuration and passed along in subsequent actions.
	targetModelPath	Path to the model to navigate to.
<b>Response Body Parameters</b>	configData	Configuration data for the target model.

### URI ENDPOINT SAMPLE

```
https://sitename.oracle.com/rest/v8/configtestbed.systemConfiguration.intermodelChild/actions/_configureInSystem
```

### SAMPLE REQUEST BODY

```
{
  "cacheInstanceId":
  "TyorT0UiW6H2ahn6Io2hm44KpkPZmpcwBgs8P7csERyRfXTpOWyOaOVpnv7XZvTH" ,
  "targetModelPath":
  "_root$%##$testbed:systemConfiguration:intermodelChild%$##$0%$##$0"
}
```

SAMPLE RESPONSE BODY

```
{
  "cacheInstanceId":
  "JPMfd0Vy7x7GsTuq7QihslWoB7P82iilzKo2wj7gIm88Q8uGO3doSEkvl6ak689s",
  "configData": {
    "rootValueToConstrain": "",
    "rootRecommendationType": {
      "value": "",
      "displayValue": ""
    },
    "triggerGrandchildRecommendation": false,
    "grandchildRecommendationType": {
      "value": "",
      "displayValue": ""
    },
    "triggerRootConstrainAll": false,
    "triggerRootHiding": false,
    "triggerRootRecommendation": false,
    "triggerGrandchildHiding": false,
    "grandchildValueToConstrain": "",
    "systemJSON": "{ \"id\": \"BOM_SysConfigRoot\", \"documentNumber\": -
1, \"conditionIndex\": 0, \"configAttributes\": { \"searchFlowArrayBoolean\": \"false\", \"
triggerGrandchildRecommendation\": false, \"constraintApplyToConfiguration\": false, \"t
riggerChildHiding\": false, \"conditionsAllPF\": false, \"includeSystemConfigAttributeMa
ppingModel\": false, \"addChildRecItems\": false, \"triggerChildConstraint\": false, \"tri
ggerChildRecommendation\": false, \"includeNestedHierarchiesSubModel\": false, \"trigger
GrandchildHiding\": false, \"includeBOMLineItemMapping\": false, \"recommendationApplyTo
Both\": false, \"searchFlowBoolean\": false, \"includeBOMAttributeMapping\": false, \"cons
traintApplyToSelection\": false, \"triggerGrandchildConstraint\": false, \"constraintApp
lyToBoth\": false, \"advancedBOMMappingRuleToggle\": false, \"stBRFiltersAllPF\": false, \"
_array_key_searchFlowArrayControl\": \"eb785060-f2f4-4847-9519-
74ea38b5e23a\", \"includeIntermodelRuleModels\": true, \"stBRFiltersPF\": false, \"includ
eStandardRecommendedItems\": false, \"recommendationsRuleOrderPFHierarchyCondition\": f
alse, \"recommendationApplyToSelection\": false, \"BOMAwareSearchFlow\": false, \"searchF
lowArrayTextField\": \"Default
Value\", \"_price_book_var_name\": \"_default_price_book\", \"recommendationApplyToConf
iguration\": false, \"triggerChildConstrainAll\": false, \"triggerGrandchildConstrainAll
\": false, \"conditionsPF\": false, \"triggerMandatoryRecItem\": false }, \"children\": [ { \"
id\": \"BOM_SysConfigIntermodelChild\", \"documentNumber\": -
1, \"conditionIndex\": 0, \"configAttributes\": { \"_price_book_var_name\": \"_default_pri
ce_book\" }, \"children\": [ { \"id\": \"BOM_SysConfigIntermodelGrandChild\", \"documentNum
ber\": -1, \"conditionIndex\": 0 } ] } ] }",
    "childConstrainAllAttribute": "",
    "triggerGrandchildConstraint": false,
    "includeIntermodelRuleGrandchild": false,
    "advancedBOMMappingRuleToggle": false,
    "childHidingAttribute": "",
    "childRecommendedAttribute": "",
    "help": "This is the Child model in the Intermodel Rule System. The section
labeled \"Root Model Rule conditions\" contains attributes that are used as
conditions on the Attributes on the Root Model labelled \"Intermodel Rule
Attributes\". The section labelled \"Grandchild Model Rule conditions\" contains
attributes that are used as conditions on the Attributes on the Grandchild Model
labelled \"Intermodel Rule Attributes\".",
    "rootValueToRecommend": "",
    "_price_book_var_name": {
      "value": "_default_price_book",

```

```

    "links": [{
      "rel": "related",
      "href": "https://sitename.oracle.com/rest/v8
/configtestbed.systemConfiguration.intermodelChild/_priceBooks"
    }]},
    "_sysNavigationInfo": {
      "items": [{
        "items": [{
          "items": [],
          "name": "Intermodel Child",
          "path":
"_root$%#%$testbed:systemConfiguration:intermodelChild%$##$0%$#%$0",
          "productFamily": "testbed",
          "productLine": "systemConfiguration",
          "model": "intermodelChild",
          "title": "",
          "isModel": true,
          "isActive": true,
          "_status": {
            "hasWarning": false,
            "hasConstraintViolation": false,
            "hasMissingMandatoryItem": false,
            "hasEmptyRequiredAttribute": false,
            "hasError": false,
            "hasFailedBomReverseMapping": false,
            "hasRecommendedItemChanged": false,
            "hasStarted": true,
            "isInvalid": false,
            "isIncomplete": false
          }
        }]},
        "name": "Root System",
        "path": "_root",
        "productFamily": "testbed",
        "productLine": "systemConfiguration",
        "model": "rootSystem",
        "title": "",
        "isModel": true,
        "isActive": false,
        "_status": {
          "hasWarning": false,
          "hasConstraintViolation": false,
          "hasMissingMandatoryItem": false,
          "hasEmptyRequiredAttribute": false,
          "hasError": false,
          "hasFailedBomReverseMapping": false,
          "hasRecommendedItemChanged": false,
          "hasStarted": true,
          "isInvalid": false,
          "isIncomplete": false
        }
      }]},
      "childConstrainedAttribute": "",
      "triggerGrandchildConstrainAll": false,
      "grandchildValueToRecommend": "",
      "triggerRootConstraint": false,
      "_isMainModelSelected": true
    },

```

```
"systemCurrentDate": "2019-07-25",
"_flow": {
  "flow": "childFlow",
  "productFamily": "testbed",
  "productLine": "systemConfiguration",
  "model": "intermodelChild",
  "allPF": false,
  "links": [{
    "rel": "self",
    "href":
"https://sitename.oracle.com/rest/v8/productFamilies/testbed/productLines/systemConf
  igation/models/intermodelChild/layouts/childFlow"
  }
]
}
```

#### STEPS TO ENABLE

Review the REST service definition in the REST API guides, available from the [Oracle Help Center](#) > *your apps service area of interest* > REST API. If you're new to Oracle's REST services you may want to begin with the Quick Start section.

The Configuration REST API enhancements for System Configuration are automatically available with CPQ Cloud 19C. Administrators need to update any systems that interact with these CPQ web services to begin using these new features.

## SALESFORCE INTEGRATION ENHANCEMENTS

The Oracle CPQ Connector for Salesforce is the next generation Salesforce integration solution for Oracle CPQ Cloud built on the Salesforce Platform. This solution makes CPQ Cloud the most advanced and powerful Lightning and Salesforce Mobile enabled CPQ solution on the market today.

As part of continuing improvements to the Salesforce integration, the following enhancements are available with version 8.2 of the Oracle CPQ Cloud Connector for Salesforce.

### ALLOW UNQUOTED OPPORTUNITY PRODUCTS

A new toggle gives administrators the option to either retain or replace any Opportunity Products that were added directly to the Opportunity, i.e. products that were not added by CPQ, when an Oracle Quote is marked as active.

#### STEPS TO ENABLE

To set the toggle to allow unquoted Opportunity Products:

1. Click on **Setup > Build > Develop**.
2. Click **Custom Settings**.
3. Click **Manage** next to the CPQ Extension Settings in the Custom Settings page.
4. Click **Edit** in the CPQ Extension Settings page.
5. Select the **Keep Unquoted Opportunity Products** checkbox.

CPQ Extension Settings Edit

Provide values for the fields you created. This data is cached with the application.

**Edit CPQ Extension Settings** Save Cancel

CPQ Extension Settings Information

Location [cpqextdev02](#)

Do Not Allow Account Quotes

**Keep Unquoted Opportunity Products**

New Quotes must be attached to a Parent

6. Click **Save**.

## AUTOMATICALLY DEACTIVATE A CPQ USER WHEN LINKED SALESFORCE USER IS DEACTIVATED

---

When a Salesforce user which has been linked to a CPQ user is deactivated that user's account will automatically deactivate in all connected CPQ sites as well.

### STEPS TO ENABLE

You don't need to do anything to enable this feature.

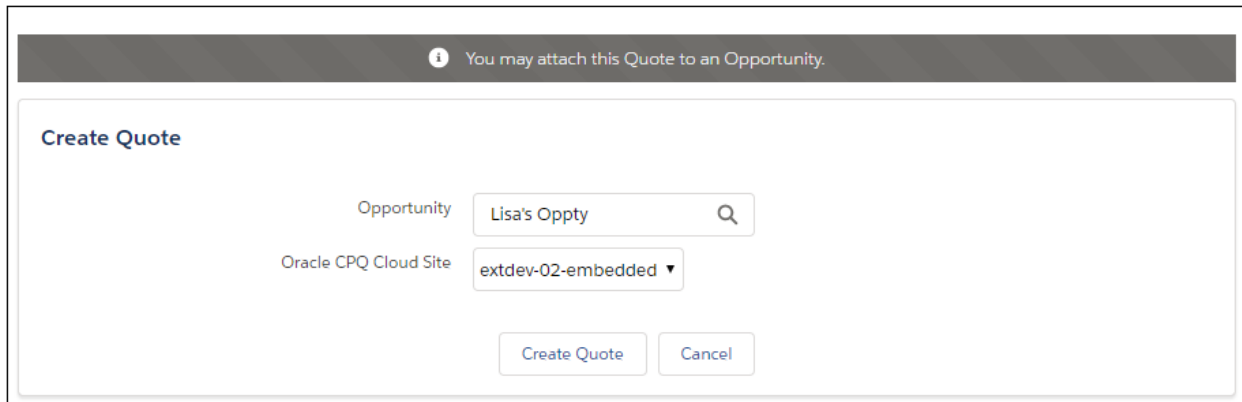
### TIPS AND CONSIDERATIONS

When a user is deactivated the Salesforce user is also unlinked from the CPQ user. If later you want to re-activate the user in both Salesforce and CPQ, you must recheck the **Link to CPQ User** checkbox on the Oracle User record.

## DO NOT ALLOW ACCOUNT QUOTES

---

A new toggle gives administrators the ability to block the creation of new Quotes that are only attached to an Account.



The screenshot shows a 'Create Quote' dialog box. At the top, there is a dark grey bar with an information icon and the text 'You may attach this Quote to an Opportunity.' Below this, the dialog is titled 'Create Quote'. It contains two main fields: 'Opportunity' with a search icon and the value 'Lisa's Oppty', and 'Oracle CPQ Cloud Site' with a dropdown menu showing 'extdev-02-embedded'. At the bottom, there are two buttons: 'Create Quote' and 'Cancel'.

When enabled users will not have the option to select an Account when creating a New Quote.

### STEPS TO ENABLE

To set the toggle to block the creation of Quotes which are not attached to an Account:

1. Click on **Setup > Build > Develop**.
2. Click **Custom Settings**.
3. Click **Manage** next to the CPQ Extension Settings in the Custom Settings page.
4. Click **Edit** in the CPQ Extension Settings page.

5. Select the **Do Not Allow Account Quotes** checkbox.

CPQ Extension Settings Edit

Provide values for the fields you created. This data is cached with the application.

**Edit CPQ Extension Settings** Save Cancel

CPQ Extension Settings Information

Location `cpgextdev02`

Do Not Allow Account Quotes

Keep Unquoted Opportunity Products

New Quotes must be attached to a Parent

6. Click **Save**.

## MARK AS ACTIVE ENHANCEMENTS

---

The Mark as Active feature has been simplified to no longer require synchronizing Price Book Entries between CPQ and Salesforce. The Mark as Active feature takes Quote Line Items and converts them into Opportunity Products. In prior versions of the CPQ Connector for Salesforce, each Quote Line Item needed to specify the correct Price Book Entry ID for the combination of product, Price Book and currency in order to successfully create Opportunity Products. This logic needed to be managed inside CPQ Cloud which was cumbersome and time consuming.

This enhancement simplifies that process by allowing the creation of Opportunity Products with any of the following values:

- Salesforce Product ID
- CPQ Cloud Part Number
- Salesforce Price Book Entry ID

### STEPS TO ENABLE

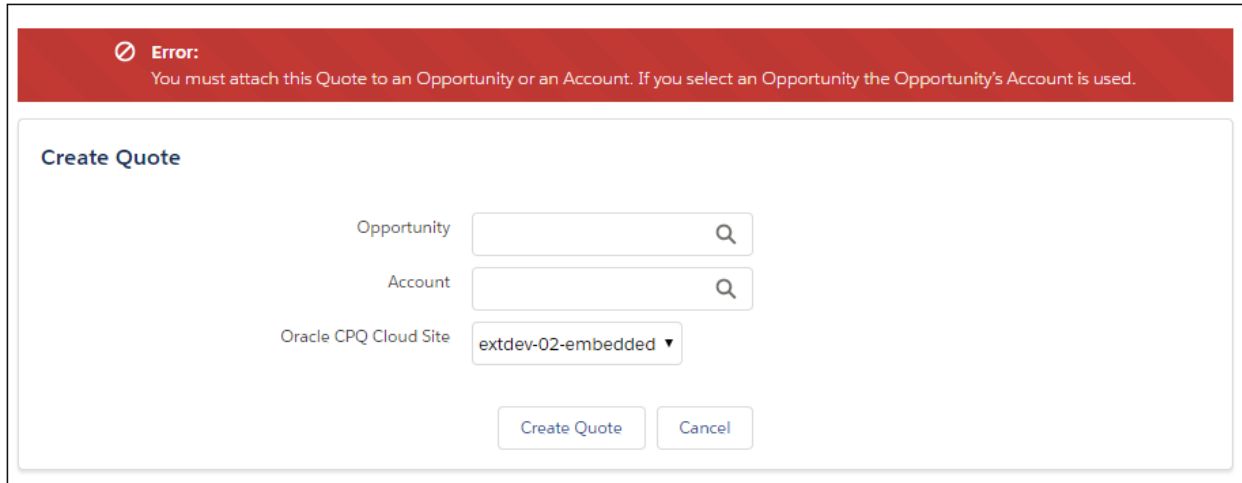
To enable this feature, administrators must modify their existing Export Integrations to supply one of the values specified above. Refer to the [Oracle CPQ Connector for Salesforce Setup Guide](#) for specific details on setting up Parts Sync and Quote Line Item Upsert.

### TIPS AND CONSIDERATIONS

- If a currency is provided on the Oracle Quote then that currency is always used when Opportunity Products are created.
- If using Multi-currency and no currency is provided, the products are created using the Opportunity's currency.
- If a Price Book ID is provided on the Oracle Quote then that Price Book is always used when Opportunity Products are created.
- If no Price Book is provided, the products are created using the default Price Book.

## NEW QUOTES MUST BE ATTACHED TO A PARENT

A new toggle gives administrators the ability to block the creation of Quotes which are not attached to either an Account or an Opportunity.



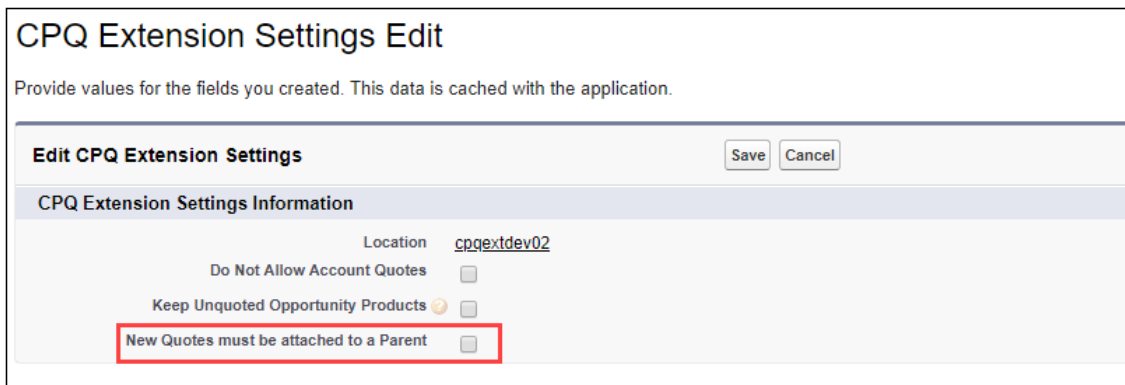
The screenshot shows a 'Create Quote' form with a red error banner at the top. The banner contains the text: 'Error: You must attach this Quote to an Opportunity or an Account. If you select an Opportunity the Opportunity's Account is used.' Below the banner, the form has three input fields: 'Opportunity' (with a search icon), 'Account' (with a search icon), and 'Oracle CPQ Cloud Site' (with a dropdown menu showing 'extdev-02-embedded'). At the bottom of the form are two buttons: 'Create Quote' and 'Cancel'.

If a user attempts to create a new quote without selecting an Opportunity or Account they are prompted with an error.

### STEPS TO ENABLE

To set the toggle to block the creation of Quotes which are not attached to either an Account or Opportunity:

1. Click on **Setup > Build > Develop**.
2. Click **Custom Settings**.
3. Click **Manage** next to the CPQ Extension Settings in the Custom Settings page.
4. Click **Edit** in the CPQ Extension Settings page.
5. Select the **New Quotes must be attached to a Parent** checkbox.



The screenshot shows the 'CPQ Extension Settings Edit' page. At the top, it says 'Provide values for the fields you created. This data is cached with the application.' Below this is a section titled 'Edit CPQ Extension Settings' with 'Save' and 'Cancel' buttons. Underneath is a section titled 'CPQ Extension Settings Information'. It contains several settings: 'Location' with the value 'cpgextdev02', 'Do Not Allow Account Quotes' with an unchecked checkbox, 'Keep Unquoted Opportunity Products' with an unchecked checkbox and a warning icon, and 'New Quotes must be attached to a Parent' with an unchecked checkbox. The 'New Quotes must be attached to a Parent' checkbox is highlighted with a red box.

6. Click **Save**.



## ORACLE USER AND ORACLE USER PROFILE TIME ZONE LIST ENHANCEMENT

This enhancement changes the way time zones are displayed on both the Oracle User page and on the Oracle User Profile pages. It also adds several new time zones and replaces several outdated time zones with an updated equivalent. This ensures that the time zone options available in Salesforce mirror the options used in CPQ Cloud.

Stored Value	Displayed Value
Africa/Algiers	(GMT+1:00 GMT+1:00) Algiers
Africa/Cairo	(GMT+2:00 GMT+2:00) Cairo
Africa/Casablanca	(GMT+0:00 GMT+1:00) Casablanca
Africa/Johannesburg	(GMT+2:00 GMT+2:00) Johannesburg
Africa/Nairobi	(GMT+3:00 GMT+3:00) Nairobi
Africa/Tripoli	(GMT+2:00 GMT+2:00) Tripoli
Africa/Tunis	(GMT+1:00 GMT+1:00) Tunis
Africa/Windhoek	(GMT+2:00 GMT+2:00) Windhoek
America/Adak	(GMT-10:00 GMT-9:00) Adak
America/Anchorage	(GMT-9:00 GMT-8:00) Anchorage
America/Bogota	(GMT-5:00 GMT-5:00) Bogota
America/Buenos_Aires	(GMT-3:00 GMT-3:00) Buenos Aires
America/Caracas	(GMT-4:00 GMT-4:00) Caracas
America/Chicago	(GMT-6:00 GMT-5:00) Chicago
America/Denver	(GMT-7:00 GMT-6:00) Denver
America/El_Salvador	(GMT-6:00 GMT-6:00) El Salvador
America/Godthab	(GMT-3:00 GMT-2:00) Godthab
America/Halifax	(GMT-4:00 GMT-3:00) Halifax
America/Indianapolis	(GMT-5:00 GMT-4:00) Indianapolis
America/Lima	(GMT-5:00 GMT-5:00) Lima
America/Los_Angeles	(GMT-8:00 GMT-7:00) Los Angeles
America/Mazatlan	(GMT-7:00 GMT-6:00) Mazatlan
America/Mexico_City	(GMT-6:00 GMT-5:00) Mexico City
America/New_York	(GMT-5:00 GMT-4:00) New York

Stored Value	Displayed Value
America/Noronha	(GMT-2:00 GMT-2:00) Noronha
America/Panama	(GMT-5:00 GMT-5:00) Panama
America/Phoenix	(GMT-7:00 GMT-7:00) Phoenix
America/Puerto_Rico	(GMT-4:00 GMT-4:00) Puerto Rico
America/Regina	(GMT-6:00 GMT-6:00) Regina
America/Santiago	(GMT-4:00 GMT-3:00) Santiago
America/Sao_Paulo	(GMT-3:00 GMT-2:00) Sao Paulo
America/Scoresbysund	(GMT-1:00 GMT+0:00) Scoresbysund
America/St_Johns	(GMT-3:30 GMT-2:30) St Johns
America/Tijuana	(GMT-8:00 GMT-7:00) Tijuana
Asia/Almaty	(GMT+6:00 GMT+6:00) Almaty
Asia/Amman	(GMT+2:00 GMT+3:00) Amman
Asia/Baghdad	(GMT+3:00 GMT+3:00) Baghdad
Asia/Baku	(GMT+4:00 GMT+4:00) Baku
Asia/Bangkok	(GMT+7:00 GMT+7:00) Bangkok
Asia/Beirut	(GMT+2:00 GMT+3:00) Beirut
Asia/Calcutta	(GMT+5:30 GMT+5:30) Kolkata
Asia/Colombo	(GMT+5:30 GMT+5:30) Colombo
Asia/Damascus	(GMT+2:00 GMT+3:00) Damascus
Asia/Dhaka	(GMT+6:00 GMT+6:00) Dhaka
Asia/Dubai	(GMT+4:00 GMT+4:00) Dubai
Asia/Ho_Chi_Minh	(GMT+7:00 GMT+7:00) Ho Chi Minh
Asia/Hong_Kong	(GMT+8:00 GMT+8:00) Hong Kong
Asia/Irkutsk	(GMT+8:00 GMT+8:00) Irkutsk
Asia/Jakarta	(GMT+7:00 GMT+7:00) Jakarta
Asia/Jerusalem	(GMT+2:00 GMT+3:00) Jerusalem
Asia/Kabul	(GMT+4:30 GMT+4:30) Kabul
Asia/Kamchatka	(GMT+12:00 GMT+12:00) Kamchatka

Stored Value	Displayed Value
Asia/Karachi	(GMT+5:00 GMT+5:00) Karachi
Asia/Katmandu	(GMT+5:45 GMT+5:45) Katmandu
Asia/Krasnoyarsk	(GMT+7:00 GMT+7:00) Krasnoyarsk
Asia/Kuala_Lumpur	(GMT+8:00 GMT+8:00) Kuala Lumpur
Asia/Magadan	(GMT+11:00 GMT+11:00) Magadan
Asia/Manila	(GMT+8:00 GMT+8:00) Manila
Asia/Novosibirsk	(GMT+7:00 GMT+7:00) Novosibirsk
Asia/Oral	(GMT+5:00 GMT+5:00) Oral
Asia/Rangoon	(GMT+6:30 GMT+6:30) Yangon
Asia/Riyadh	(GMT+3:00 GMT+3:00) Riyadh
Asia/Seoul	(GMT+9:00 GMT+9:00) Seoul
Asia/Shanghai	(GMT+8:00 GMT+8:00) Shanghai
Asia/Singapore	(GMT+8:00 GMT+8:00) Singapore
Asia/Taipei	(GMT+8:00 GMT+8:00) Taipei
Asia/Tashkent	(GMT+5:00 GMT+5:00) Tashkent
Asia/Tbilisi	(GMT+4:00 GMT+4:00) Tbilisi
Asia/Tehran	(GMT+3:30 GMT+4:30) Tehran
Asia/Tokyo	(GMT+9:00 GMT+9:00) Tokyo
Asia/Vladivostok	(GMT+10:00 GMT+10:00) Vladivostok
Asia/Yakutsk	(GMT+9:00 GMT+9:00) Yakutsk
Asia/Yekaterinburg	(GMT+5:00 GMT+5:00) Yekaterinburg
Asia/Yerevan	(GMT+4:00 GMT+4:00) Yerevan
Atlantic/Azores	(GMT-1:00 GMT+0:00) Azores
Atlantic/Bermuda	(GMT-4:00 GMT-3:00) Bermuda
Atlantic/Cape_Verde	(GMT-1:00 GMT-1:00) Cape Verde
Atlantic/South_Georgia	(GMT-2:00 GMT-2:00) South Georgia
Australia/Adelaide	(GMT+9:30 GMT+10:30) Adelaide
Australia/Brisbane	(GMT+10:00 GMT+10:00) Brisbane

Stored Value	Displayed Value
Australia/Darwin	(GMT+9:30 GMT+9:30) Darwin
Australia/Hobart	(GMT+10:00 GMT+11:00) Hobart
Australia/Lord_Howe	(GMT+10:30 GMT+11:00) Lord Howe
Australia/Melbourne	(GMT+10:00 GMT+11:00) Melbourne
Australia/Perth	(GMT+8:00 GMT+8:00) Perth
Australia/Sydney	(GMT+10:00 GMT+11:00) Sydney
Etc/GMT+12	(GMT-12:00 GMT-12:00)
Europe/Amsterdam	(GMT+1:00 GMT+2:00) Amsterdam
Europe/Athens	(GMT+2:00 GMT+3:00) Athens
Europe/Belgrade	(GMT+1:00 GMT+2:00) Belgrade
Europe/Berlin	(GMT+1:00 GMT+2:00) Berlin
Europe/Brussels	(GMT+1:00 GMT+2:00) Brussels
Europe/Bucharest	(GMT+2:00 GMT+3:00) Bucharest
Europe/Dublin	(GMT+0:00 GMT+1:00) Dublin
Europe/Helsinki	(GMT+2:00 GMT+3:00) Helsinki
Europe/Istanbul	(GMT+3:00 GMT+3:00) Istanbul
Europe/Lisbon	(GMT+0:00 GMT+1:00) Lisbon
Europe/London	(GMT+0:00 GMT+1:00) London
Europe/Minsk	(GMT+3:00 GMT+3:00) Minsk
Europe/Moscow	(GMT+3:00 GMT+3:00) Moscow
Europe/Paris	(GMT+1:00 GMT+2:00) Paris
Europe/Prague	(GMT+1:00 GMT+2:00) Prague
Europe/Rome	(GMT+1:00 GMT+2:00) Rome
Europe/Warsaw	(GMT+1:00 GMT+2:00) Warsaw
GMT	(GMT+0:00 GMT+0:00) GMT
Pacific/Auckland	(GMT+12:00 GMT+13:00) Auckland
Pacific/Chatham	(GMT+12:45 GMT+13:45) Chatham
Pacific/Enderbury	(GMT+13:00 GMT+13:00) Enderbury

Stored Value	Displayed Value
Pacific/Fiji	(GMT+12:00 GMT+13:00) Fiji
Pacific/Gambier	(GMT-9:00 GMT-9:00) Gambier
Pacific/Guadalcanal	(GMT+11:00 GMT+11:00) Guadalcanal
Pacific/Honolulu	(GMT-10:00 GMT-10:00) Honolulu
Pacific/Kiritimati	(GMT+14:00 GMT+14:00) Kiritimati
Pacific/Marquesas	(GMT-9:30 GMT-9:30) Marquesas
Pacific/Niue	(GMT-11:00 GMT-11:00) Niue
Pacific/Norfolk	(GMT+11:00 GMT+11:00) Norfolk Island
Pacific/Pago_Pago	(GMT-11:00 GMT-11:00) Pago Pago
Pacific/Pitcairn	(GMT-8:00 GMT-8:00) Pitcairn
Pacific/Ponape	(GMT+11:00 GMT+11:00) Pohnpei
Pacific/Tongatapu	(GMT+13:00 GMT+14:00) Tongatapu

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

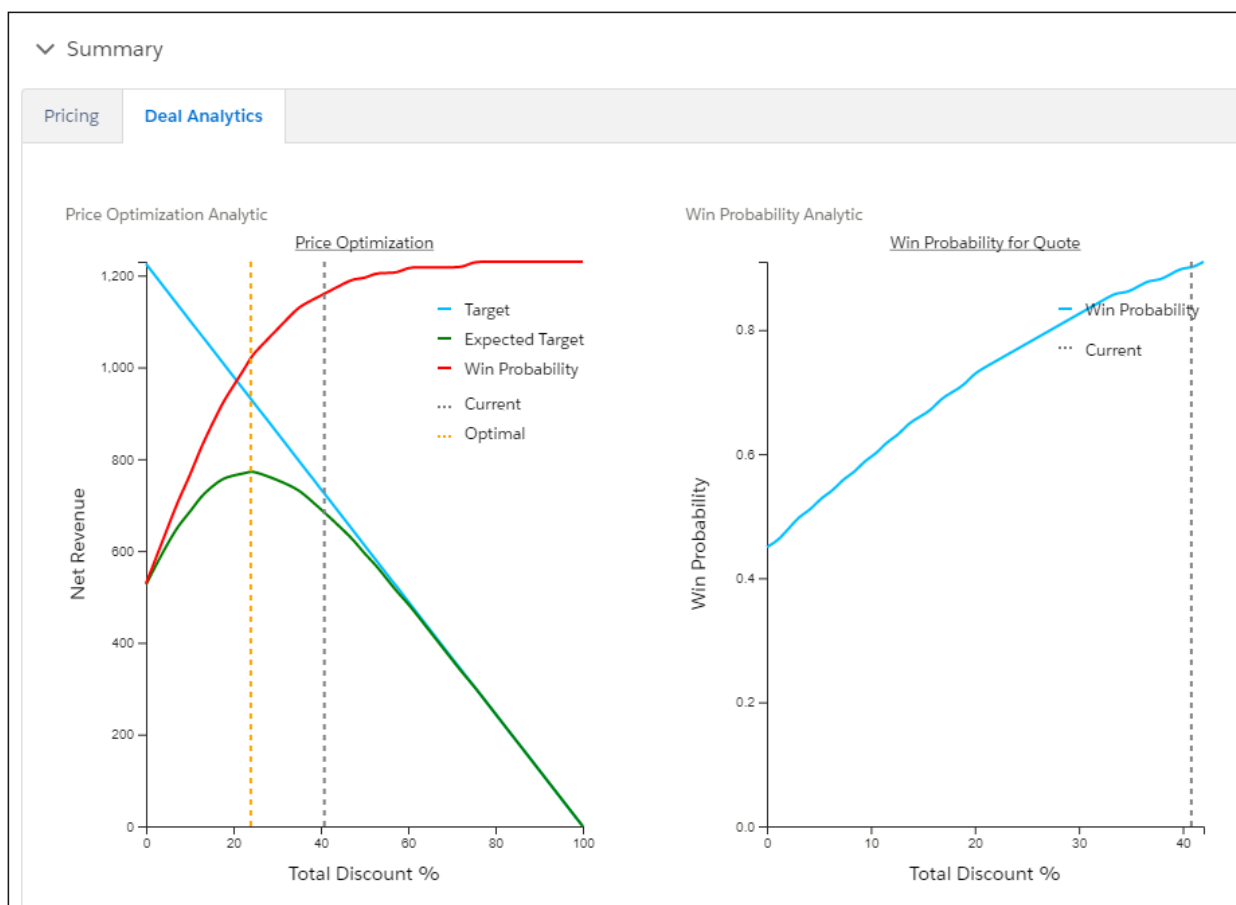
#### TIPS AND CONSIDERATIONS

Existing time zone selections will not be modified when the package is updated. Any current selections will be retained until they are updated by a user. The old values will continue to work without issue, but they will not be available for selection when creating new users.

#### WIN PROBABILITY AND PRICE OPTIMIZATION ANALYTIC SUPPORT IN LIGHTNING UI

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We have added support for Win Probability and Price Optimization charts in the Salesforce Lightning UI. These charts display predictions from the win probability and price optimization analytics provided by CPQ Cloud.



### Sample Win Probability and Price Optimization Charts

#### STEPS TO ENABLE

To enable this feature, administrators must follow the steps to enable the Win Probability or Price Optimization analytics and charts in CPQ Cloud. Additionally, administrators must follow the standard steps for adding new attributes to the Lightning Transaction UI in the CPQ Connector for Salesforce.

#### TIPS AND CONSIDERATIONS

The Win Probability and Price Optimization charts in Lightning behave differently than the same charts in the CPQ JET and legacy UIs. For example:

- The Lightning charts do not support the mouse over feature which displays the precise coordinate on the plots.
- The Lightning charts will always display the chart legend inside the chart area instead of being offset to the side.
- The Lightning charts use a fixed pixel width for the chart area.

#### KEY RESOURCES

Refer to the Deal Management article within the CPQ Cloud Online Help for additional information.

## DIFFERENTIATE

The following CPQ Cloud Release 19C enhancements pioneers the next generation selling platform:

- Price Optimization Enhancements
- System Configuration Enhancement









## PRICE OPTIMIZATION ENHANCEMENTS

Price Optimization uses mathematical analysis to predict how customers will respond to different prices for products or services in order to optimize net revenue or margin. CPQ Cloud provides out-of-the-box machine learning Price Optimization solutions and, with Update 19C adds price guidance analytics and visualization. Since CPQ Cloud customers use different metrics to determine revenue and profitability, these features support selection of custom attributes to provide an easy, code free setup. Customers with low or zero marginal costs, such as software companies, can manage the discount percentages off standard list prices, without capturing costs or margins. Customers with meaningful variable costs, such as manufacturers, can capture costs and margins in CPQ Cloud, and manage either net revenue or margin percentages.

In CPQ Cloud 19C, we enhance the Price Optimization solution by adding the following functionality.

## ANALYTICS LIST PAGE ENHANCEMENTS

CPQ Cloud 19C introduces a new user-friendly interface to create and manage analytics. The Analytics page displays all analytics for the current Commerce process. The analytic name, description, variable name, last modified, last deployed, the Commerce document, and related rules. Administrators can click on the analytic name to access the details for a specific analytic.

Analytics		Create Analytic	Back
	<b>Product Net Price vs. Qty</b> Variable Name: productNetPriceVsQty Last Modified: 07/03/2019 2:57 PM Last Deployed: 07/24/2019 11:47 AM	Commerce Document: Transaction Line Related Rules: partPriceScatterplot	☰
	<b>Price Guidance</b> Variable Name: priceGuidance Last Modified: 07/02/2019 6:46 PM Last Deployed: 07/24/2019 11:47 AM	Commerce Document: Transaction Line Related Rules:	☰
	<b>Line Discount PO</b> Variable Name: lineDiscountPO Last Modified: 07/02/2019 12:15 PM Last Deployed: 07/24/2019 11:47 AM	Commerce Document: Transaction Line Related Rules: discountOptimizationChart	 Accuracy %
	<b>Win Probability</b> Variable Name: winProbability Last Modified: 12/15/2017 3:14 PM Last Deployed: 07/29/2019 11:54 AM	Commerce Document: Transaction Related Rules: winProbabilityWithoutOptimization, analyticRelatedTest	 Accuracy %
	<b>Discount Optimization</b> Variable Name: discountOptimization Last Modified: 05/21/2018 10:17 AM Last Deployed: 07/17/2019 1:05 PM	Commerce Document: Transaction Related Rules: optimizationDiscountChart_1	 Training Failed

Training status icons are displayed for Price Optimization and Win Probability analytics to indicate the accuracy or failure of training sessions. Administrators can hover over the successful status icons to view the details of the latest successful training session.

**Win Probability**

Variable Name: winProbability  
 Last Modified: 12/15/2017 3:14 PM  
 Last Deployed: 07/29/2019 11:54 AM

Commerce Document: Transaction  
 Related Rules: winProbabilityWithoutOptimization

72  
Accuracy %

Test Accuracy: 72%  
 Training Accuracy: 69%  
 #of Won Deals: 388  
 #of Lost Deals: 282  
 Trained on: 05/21/2019 3:18 PM

Analytic drop-down menus provide quick access to copy, delete, and provide translations for analytics.

**Product Net Price vs. Qty**

Variable Name: productNetPriceVsQty  
 Last Modified: 07/03/2019 2:57 PM  
 Last Deployed: 07/24/2019 11:47 AM

Commerce Document: Transaction Line  
 Related Rules: partPriceScatterplot

- Copy
- Delete
- Translations

To create a new analytic, click Create Analytic and scroll through the filmstrip menu to view a brief description and a sample image for analytics that can be created.

**Select the Analytic to Create**

**Scatter Plot**

Visualize historical information with the Scatter Plot

- See historical trends
- Compare current vs historical values

**Win Probability**

Use machine learning to identify drivers for win probabilities.

- Predict likelihood of a Win based on historical data
- Compare Won and Lost deals to guide pricing and discounts

**Price Optimization**

Incorporate Win Probabilities as a factor to predict optimal pricing.

- View optimal discounting
- Maximize profitability

**Price Guidance**

Use past pricing analytics to provide smart price guidance.

- Visualize pricing corridor
- Reference price history



## STEPS TO ENABLE

You don't need to do anything to enable this feature.

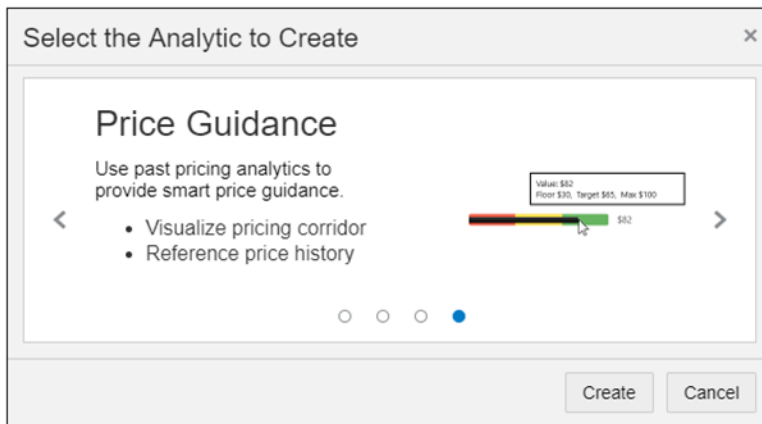
## PRICE GUIDANCE ANALYTIC

---

CPQ Cloud 19C introduces the new Price Guidance analytic that provides the ability to evaluate historical or optimization-based values to guide users on the appropriate and permitted discounts or prices for Commerce Transactions and Transaction Line documents. The Price Guidance analytic populates Commerce attributes with pricing guidance values for discount percentages or net prices. For example, a Starting, Target, and Maximum Discount can be defined for a type of quote or product to guide sales users on discounts that should be offered to the customer. After set up is complete, the guidance values can be displayed to sales users on the Transaction UI using attribute values or the Price Guidance Gauge.

### Create a Price Guidance Analytic

To create a Price Guidance analytic, navigate to Admin > Commerce Process > Analytics and click "Create Analytic". Then scroll to the Price Guidance option and click "Create".



The Price Guidance wizard opens and guides administrators through the analytic creation process.

## Name Page

On the first page, define Name, Variable Name, and Description (optional). After providing the required information, click on the Data icon to proceed to the next page.

Price Guidance: Price Guidance Save Back

1 Name 2 Data 3 Output

Choose a name for your Analytic

\* Name

\* Variable Name

Description

## Data Page

On the second page, select the applicable Commerce document (e.g. Transaction or Transaction Line). Select "Learn from Historic Pricing Data" or "Use Trained Price Optimization" for the analytic Data Source.

### *Learn from Historic Data*

When "Learn from Historic Pricing Data" is selected, administrators can add time range filters and additional data filters. When "Filter data by time range" is set to "Yes", select a target date attribute used to filter historical Transactions for the analysis and the filter Range. When "Additional Data Filters" is set to "Yes", click the "+" icon to add a filter, and then specify the following criteria: Query Attribute, Operator, Transaction Attribute, and Specified Value.

After providing the required information, click on the Output icon to proceed to the next page.

Price Guidance: Price Guidance Save Back

1 Name 2 Data 3 Output

Select the data used to train this price guidance

\* Commerce Document

\* Data Source

Filter data by time range  Yes

Date Attribute

Range

Additional Data Filters  Yes

+ Clear All

Query Attribute	Operator	Transaction Attribute	Specified Value
Transaction: Customer Segment	=	Transaction Line: Customer Segment	

## Use Trained Price Optimization

When "Use Trained Price Optimization" is selected, administrators can select the target Price Optimization analytic from an automatically populated list. After providing the required information, they click on the Output icon to proceed to the next page.

Price Guidance: Price Guidance Save Back

1 ✓ Name      2 Data      3 Output

Select the data used to train this price guidance

\* Commerce Document

\* Data Source

\* Price Optimization Analytics

## Output Page

On the third page, select one or more modify actions as Trigger Actions. When a sales user invokes a trigger action on the Commerce UI, the price guidance calculation is executed and the calculation result is stored in the Output Attributes, which are also defined on this page.

The price guidance calculation is executed after "Formula", but before "Advanced Modify - After Formula" BML.

**IMPORTANT:** When a Transaction action is selected for a Transaction Line price guidance Trigger Action, the trigger action will invoke the Transaction Line price guidance against all line items of the current quote. If a quote contains a large number of line items, performance must be validated before deploying to sales users.

## Learn from Historic Pricing Data

For analytics using "Learn from Historic Pricing Data", aggregate functions are used to calculate a price guidance value based on historic pricing data. Administrators can use the following aggregate functions for output attributes: Max, Min, Average, Percentile, Standard Deviation, or Latest. In the case of Percentile, the Percentile Value is also defined.

## Price Guidance: Price Guidance Analytic

✓ — ✓ — 3

Name
Data
**Output**

Select how the price guidance will be triggered

Trigger Action
 

Transaction Line: Optimize ✕
Transaction: Save ✕

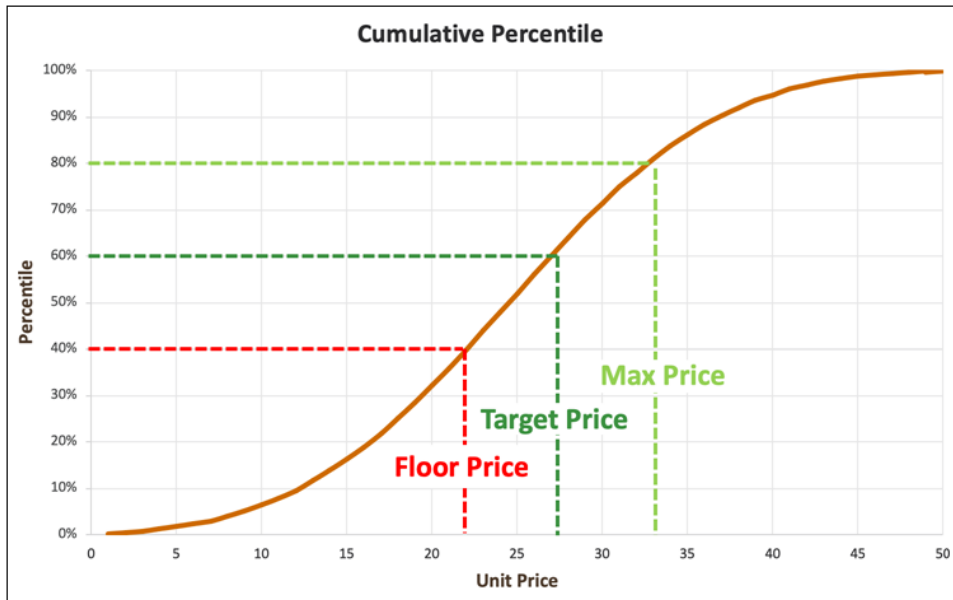
Select the commerce attributes to store the output

+ Clear All

Output Attribute	Aggregate Type	Percentile Value	Source Column	
Transaction Line: Floor Price	Percentile	40	Transaction Line : Price (Net)	✕
Transaction Line: Target Price	Percentile	60	Transaction Line : Price (Net)	✕
Transaction Line: Max Price	Percentile	80	Transaction Line : Price (Net)	✕

### Percentile Aggregates

When the Aggregate Type is Percentile, the output result is generated based on the cumulative percentile value. For example, the following graph shows the price thresholds for 40%, 60%, and 80% Percentile Values.



## Use Trained Price Optimization

For analytics using "Use Trained Price Optimization", output attributes are defined based on the ratio to the optimum price from the analytic selected on the previous page. For each output, the ratio is defined as the "Delta Percentage", then the Direction of the offset is specified as Lower Bound or Higher Bound.

Price Guidance: Price Guidance Analytic Save Back

✓ Name    ✓ Data    3 Output

Select how the price guidance will be triggered

Trigger Action: Transaction Line: Save ✕  
Transaction Line: Optimize ✕

Select the commerce attributes to store the output

+ Clear All

Output Attribute	Delta Percentage	Direction	
Minimum Discount %	25	Lower Bound	🗑️
Target Discount %	0	Lower Bound	🗑️
Maximum Discount %	25	Higher Bound	🗑️

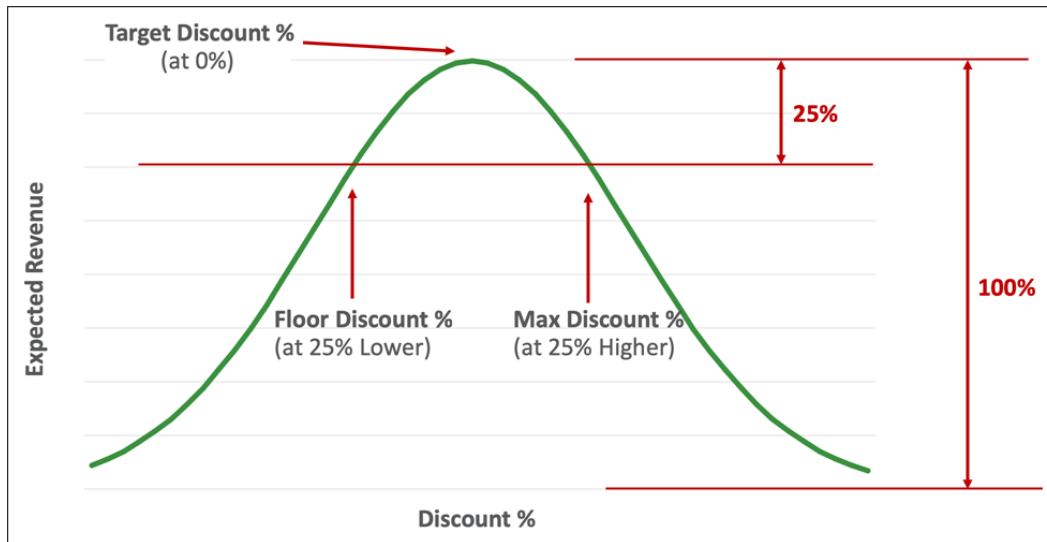
## Delta Percentages

The following price guidance values are used for the example below.

Output Attribute	Delta Percentage	Description
Floor Discount %	25	Lower Bound
Target Discount %	0	
Max Discount %	25	Higher Bound

- The Floor Discount % is at the net contribution that is 25% less than the maximum and at the lower bound side.
- The Target Discount % adjusts the target price to optimum price.
- The Max Discount % is at the net contribution that is 25% more than the maximum and at the higher bound side.

The following price optimization chart shows the discount percentage offsets.



#### STEPS TO ENABLE

The Price Guidance Analytic is automatically available for Transaction Lines with CPQ Cloud 19C. To display this new feature to sales users, administrators must perform the following tasks:

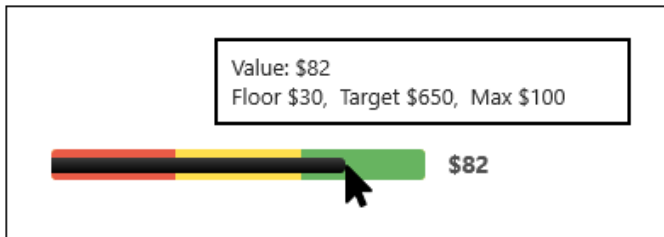
- Set up Data Columns for any attributes used as driver attributes, filter attributes, or optimizations settings.
- Define and successfully train the analytic the Price Optimization analytic when using a trained analytic to define price guidance.
- Add the HTML attribute with the analytic and any desired output attributes to the applicable Commerce layout.
- Deploy the Commerce process.

## PRICE GUIDANCE GAUGE

---

In CPQ Cloud 19C, CPQ introduces the new Price Guidance Gauge that provides the ability to create a visualization for current price or discount values at the Transaction and Transaction Line level relative to a range of acceptable values. While the gauge is intended to support pricing guidance, it can be used to depict thresholds and the desirability for any numeric values relative to a range or gradient.

Sales users can hover over the gauge to view price guidance details. Administrators define a simple or graduated scale for a price guidance gauge. A minimum of two thresholds is required, but customers can define thresholds using five color ranges with two variations for each color. When users hover over the gauge, a tooltip displays the values for each threshold. For example, the following image displays a Price Guidance gauge with three thresholds and a hover tooltip.



Transaction Line gauges, which are HTML attributes, can only be displayed in the Transaction Line Details page.

### Create a Price Guidance Gauge

Perform the following steps to define a Commerce Price Guidance Gauge.

1. Navigate to the Attribute List page for the applicable Transaction or Transaction Line document.  
Admin > Process Definition > Documents > Attributes
2. Click **Add**. The Attribute Editor page opens.
3. Enter a Label and Variable Name.
4. Select **Read-only text or HTML** from the Attribute Type menu, then click **Add**.
5. Select the **Default** tab.
6. Select the **Visualization** Default Value option.

7. Select **Bar Gauge - Horizontal** from the drop-down menu.

**Read-only text or HTML Attribute Editor (priceGauge)** Document : Oracle Quote to Order > Transaction Line

General Default Document Views Mapping

Default Value

None: No Default Entry  
 System Variable: Current Date  
 Data: Current Date Add  
 Function: Define Function  
 Transaction Analytics: Transaction analytics has not yet been defined  
 BOM Hierarchy Display: This option is unavailable for sub-document attributes  
 Visualization: None None Bar Gauge - Horizontal

Translations Apply Update Update and New Back

8. Select an attribute from the **Current Value** drop-down menu.

Visualization: Bar Gauge - Horizontal  
Current Value: Product Discount %

	Threshold	Color
1	Actual Amount	Red 1 (#e95b46)

Add Row

9. Select the **Threshold** attributes and set the **Color** values.  
Click **Add Row** to add additional threshold items.

	Threshold	Color
1	Start Discount %	Green 1 (#67b460)
2	Target Discount %	Yellow 1 (#ffdf4d)
3	Max Discount %	Red 1 (#e95b46)

Add Row

10. Click **Apply** to save the attribute settings.



## STEPS TO ENABLE

The Price Guidance Gauge is automatically available as a HTML attribute visualization Lines with CPQ Cloud 19C. To display this new feature to sales users, administrators must perform the following tasks:

- Administrators must define the Bar Gauge Visualization.
- Add the HTML attribute with the visualization to the applicable Commerce layout.
- Deploy the Commerce process.

## TIPS AND CONSIDERATIONS

- The Price Guidance Gauge is certified only for JET Transaction UI.
- Price Guidance Gauges cannot be added to the Line Item Grid, because the Line Item Grid does not support HTML attributes.

## OPTIMAL VALUES FOR TRANSACTION LINES

---

Beginning in CPQ Cloud 19C, customers can provide guidance to sales users on the optimal discount to maximize net revenue or margins on Transaction Lines. Optimal values are based upon historical Transaction data and attributes with predictive significance (also referred to as 'driver attributes'). Customers can define which attribute value will be optimized and which attributes will be populated with the results of the optimization. Administrators can derive optimal net prices from optimal discount percentage using list prices as a benchmark. After set up and the initial machine learning tasks are complete, optimal value recommendations can be presented to sales users on the Commerce UIs.

CPQ Cloud 19C simplifies the process to create Price Optimization analytics for Transactions and Transaction Lines. To create a Price Optimization analytic, administrators navigate to Admin > Commerce Process > Analytics and click "Create Analytic". They scroll to the Price Optimization option and click "Create". The "with Optimization" option is automatically selected and the Price Optimization settings are displayed when the Analytics Definition Editor opens.

Administrators can select Transaction or Transaction Line attributes when defining settings and filters for a Transaction Line Price Optimization analytic. They can also select Transaction or Transaction Line actions when defining output trigger actions. When selecting an attribute, the document name precedes the attribute or action and Transaction items are listed first.

## STEPS TO ENABLE

The Price Optimization Analytic is automatically available for Transaction Lines with CPQ Cloud 19C. To display this new feature to sales users, administrators must perform the following tasks:

- Set up Data Columns for any attributes used as driver or filter attributes, or optimizations settings.
- Define and successfully train the analytic.
- Add the HTML attribute with the analytic and any desired output attributes to the applicable Commerce layout.
- Deploy the Commerce process.

## TIPS AND CONSIDERATIONS

- Only Transaction attributes and actions are available for Transaction Price Optimization analytics.
- Even though Transaction Line Price Optimization analytics can use Transaction attributes, which are defined in Data Columns, this functionality is not available for Transaction Line Scatterplots.

## WIN PROBABILITY FOR TRANSACTION LINES

---

Understanding the Win Probability of a current price is key to maximizing the profit for a Transaction or Transaction Line. While negotiating pricing with customers, sales users need to understand how sensitive their customer will be to changing discounts and pricing, and how likely they are to buy at a particular price point or discount. The Win Probability analytic, introduced in CPQ Cloud 2017 R2, allowed sales users to predict the Win Probability of a Transaction based on historical data. CPQ Cloud 19C extends this functionality and provides Win Probability analytics for Transaction Line documents.

Administrators can select Transaction or Transaction Line attributes when defining settings and filters for a Transaction Line Win Probability analytic. They can also select Transaction or Transaction Line actions when defining output trigger actions. When selecting an attribute, the document name precedes the attribute or action and Transaction items are listed first.

The screenshot displays two side-by-side configuration panels. The left panel, titled 'Attribute Selection', has a 'Filters' section with a dropdown menu currently showing 'Transaction: Created Date'. Below this are fields for 'Duration' and 'Advanced Filters', followed by a '# Query Attribute' field and an 'Add Row' button. The right panel, titled 'Action Selection', has an 'Output' section with a 'Trigger Action' dropdown menu showing 'Transaction Line: Save'. Below this is a 'Win Probability Value Prediction Attribute' field with a list of actions including 'Transaction: Add Signature', 'Transaction: Delete Transaction', 'Transaction: Open Transaction Line', 'Transaction: Save', 'Transaction: Version Save', 'Transaction Line: Back', and 'Transaction Line: Save'.

## STEPS TO ENABLE

The Win Probability Analytic is automatically available for Transaction Lines with CPQ Cloud 19C. To display this new feature to sales users, administrators must perform the following tasks:

- Set up Data Columns for any attributes used as driver or filter attributes.
- Define and successfully train the analytic.
- Add the HTML attribute with the analytic and any desired output attributes to the applicable Commerce layout.
- Deploy the Commerce process.

## TIPS AND CONSIDERATIONS

- Only Transaction attributes and actions are available for Transaction Win Probability analytics.
- Even though Transaction Line Win Probability analytics can use Transaction attributes, which are defined in Data Columns, this functionality is not available for Transaction Line Scatterplots.

## SYSTEM CONFIGURATION ENHANCEMENT

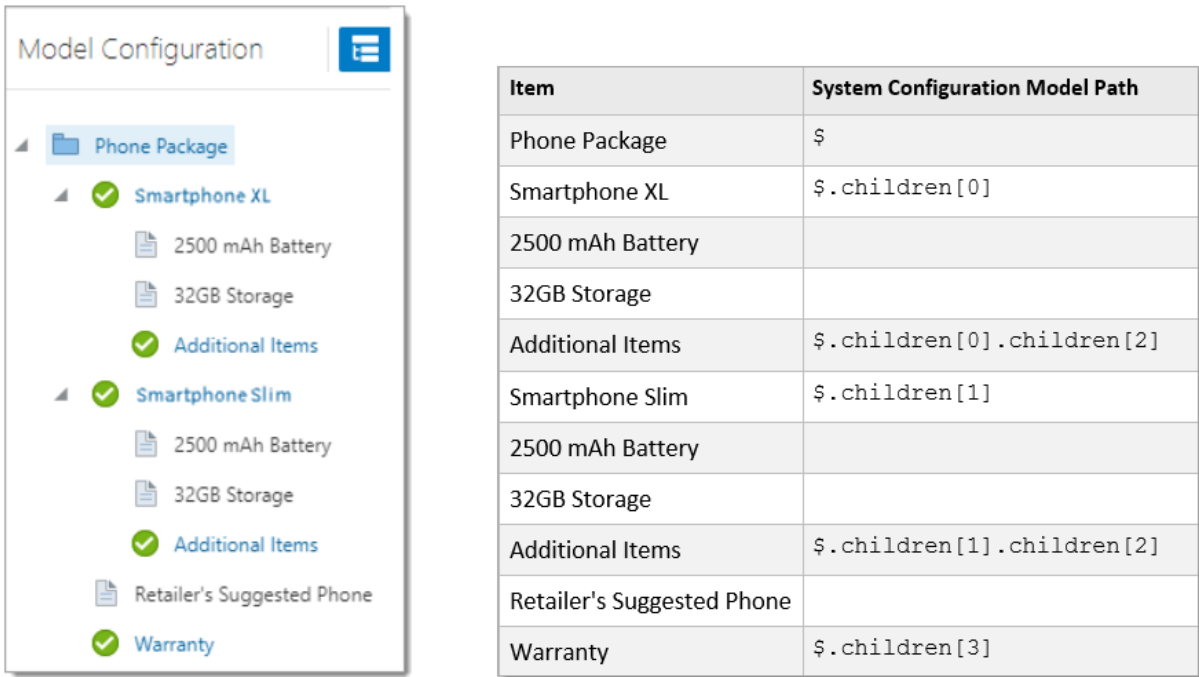
System Configuration refers to the manner in which customers use CPQ Cloud to configure and bundle the product or set of products they wish to sell using a group of related models that together define an entire system. A system is a hierarchical arrangement of connected configurable models with a system root containing all of the other models.

The following functionality is available in CPQ Cloud 19C.

### SYSTEM CONFIGURATION MODEL PATH

CPQ Cloud 19C introduces the new System Configuration Model Path (`_system_config_model_path`) system attribute to return a JSON path with the exact location of the current model in the system. "`_system_config_model_path`" returns a path that includes all of the current model's parent models and the array index associated with the current model.

The indices provided in the JSON path system attribute leverage the absolute position of the elements. They describe the BOM hierarchy path to get to the current model. Even though system configuration model paths are only returned for models, all BOM items (i.e. models and parts) get their own index in the list of children at each level of the hierarchy. The following example shows the system configuration model paths for a basic system configuration.



The screenshot shows a 'Model Configuration' interface on the left and a table on the right. The interface displays a tree structure under 'Phone Package' with two main categories: 'Smartphone XL' and 'Smartphone Slim'. Each category has sub-items: '2500 mAh Battery', '32GB Storage', 'Additional Items', 'Retailer's Suggested Phone', and 'Warranty'. The table on the right maps these items to their respective JSON paths.

Item	System Configuration Model Path
Phone Package	\$
Smartphone XL	\$.children[0]
2500 mAh Battery	
32GB Storage	
Additional Items	\$.children[0].children[2]
Smartphone Slim	\$.children[1]
2500 mAh Battery	
32GB Storage	
Additional Items	\$.children[1].children[2]
Retailer's Suggested Phone	
Warranty	\$.children[3]

Administrators can use "\_system\_config\_model\_path" in inter-model rules to retrieve a path that includes all of the current model's parent models and the array index associated with the current model. For example, a customer wants to retrieve the "color" attribute value from its direct parent model. The following code sample uses "\_system\_config\_model\_path" to retrieve the path for the parent model.

```
parentPath = stringBuilder();
pathElementSeparator = ".";
pathElementArray = split(_system_config_model_path, pathElementSeparator);
pathElementArraySize = sizeofarray(pathElementArray);
pathElementIndex = 1;
for pathElement in pathElementArray {
    if (pathElementIndex < pathElementArraySize) {
        sbappend(parentPath, pathElement, pathElementSeparator);
    }
    pathElementIndex = pathElementIndex + 1;
}
sbappend(parentPath, "configAttributes", pathElementSeparator, "color");
parentAttrVals = string[];
parentAttrVals = getsystemattrvalues(parentPath);
return parentAttrVals[0];
```

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

#### SYSTEM CONFIGURATION SUPPORT FOR RFQ

---

CPQ Cloud 19C provides system configuration support for Commerce integration quote requests, also known as Request For Quote (RFQ). Commerce integration self-service users can request a CPQ Cloud quote, thereby initiating a CPQ transaction that a sales specialist can modify, reconfigure, or discount. Once finalized in CPQ Cloud, the quote is returned to the Commerce integration for acceptance and ordering by the self-service user.

Prior to CPQ 19C, an RFQ for a system configuration created a transaction with the root model and child models, but the models were not configured. Beginning in CPQ 19C, an RFQ for a system configuration will add all configured models in the system to the transaction.

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

## CUSTOMER REQUESTED FEATURES AND ENHANCEMENTS

CPQ Cloud 19C introduces the following customer requested features and enhancements:

- Automatically Save Documents with Print Action
- Clone Configuration Attribute
- Document Merge
- eSignature Integration Enhancement – Sequential or Parallel Requests
- Send Notification on Real-Time Integration Failure

### AUTOMATICALLY SAVE DOCUMENT WITH PRINT ACTION

---

In CPQ Cloud 19C JET Responsive UI, the Save Automatically option on a Print action is enhanced so that the document is automatically saved in the file attachment attribute and is accessible to the user in a pop-up window. This enhancement prevents the user from having to perform an additional save step.

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

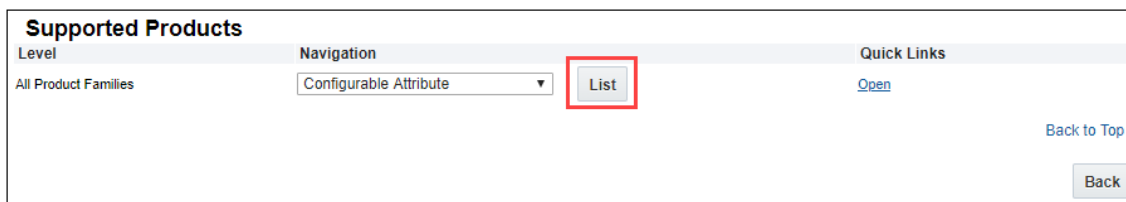
### CLONE CONFIGURATION ATTRIBUTE

---

CPQ Cloud 19C supports cloning of Configuration Attributes and all of the associated attribute properties.

To clone a Configuration attribute, complete the following steps:

1. Navigate to the Supported Products page.  
Admin Home > Products > Catalog Definition



2. Select **Configurable Attribute** from the Navigation drop-down and then click **List**. The Configurable Attributes Administration List page displays.

- From the Configurable Attributes Administration List page, perform one of the following steps:
  - Select the checkbox next to the Configuration action you wish to clone and then click **Clone**.

Configurable Attributes Administration List											All Products		
Select	Order	Name (Variable Name)	Array Type	Pricing Type	Attribute Type	Data Type	Set Type	Level	Status	Overall Status	Associated Part Number	Related Data Table Columns	Related Rules
<input type="checkbox"/>	1	<a href="#">CRM Partner URL</a> (cRMPartnerURL)	No	No	Text Field	Text	None	All Products	Inactive	Inactive			<a href="#">List</a>
<input type="checkbox"/>	2	<a href="#">CRM Partner Session Id</a> (cRMPartnerSessionId)	No	No	Text Field	Text	None	All Products	Inactive	Inactive			<a href="#">List</a>
<input type="checkbox"/>	3	<a href="#">BOM Display</a> (bOMDisplay)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	4	<a href="#">BOM Input</a> (bOMInput)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	5	<a href="#">Display Config ID</a> (displayConfigID)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	6	<a href="#">currencyCode</a> (currencyCode)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input checked="" type="checkbox"/>	7	<a href="#">CPQ Commerce Transaction ID</a> (cPQCommerceTransactionID)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	8	<a href="#">CPQ Commerce hasTabletServiceConfig</a> (string) (cPQCommerceHasTabletServiceConfig)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	9	<a href="#">CPQ Commerce hasCustomTabletConfig</a> (string) (cPQCommerceHasCustomTabletConfig)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	10	<a href="#">CPQ Commerce tabletServiceDocNum</a> (string) (cPQCommerceTabletServiceDocNumString)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	11	<a href="#">OCC User</a> (oCCUser)	No	No	Boolean	Boolean	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	12	<a href="#">ABO Action</a> (abo_action)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>
<input type="checkbox"/>	13	<a href="#">CC Site ID</a> (cC_SiteId_I)	No	No	Text Field	Text	None	All Products	Active	Active			<a href="#">List</a>

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**IMPORTANT:** Only one Configurable attribute can be selected to clone at a time. Selecting multiple attributes from the Configurable Attributes Administration List page results in an error message.

- Click on the Configurable Attribute you wish to clone. When the Text Attribute Editor page displays, click **Clone**.

All Products

**Text Attribute Editor: CPQ Commerce Transaction ID**

**General** | **Related Rules**

**Main Information**

\*Name:

Variable Name:

Data Type:

Legacy Display Type:

JET Display Type:

Array Type:

Display Order:

Description:

**Properties**

Set Type:

Required:

Hidden:

Auto Update:

Hide In Transaction:

Status:  [\[Show Start/End Dates\]](#)

**Default Data**

Default:

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The Text Attribute Editor page displays with the Name field showing "Copy Of" and a default Variable Name showing "Clone\_1".

The screenshot shows the 'Text Attribute Editor' for 'CPQ Commerce Transaction ID'. The interface is divided into several sections: 'Main Information', 'Properties', and 'Default Data'. In the 'Main Information' section, the '\*Name' field is highlighted with a red box and contains the text 'Copy Of CPQ Commerce Transaction ID'. The 'Variable Name' field contains 'cPQCommerceTransactionID\_bmClone\_1'. Other fields include 'Data Type' (Text), 'Legacy Display Type' (Text), 'JET Display Type' (Text), 'Array Type' (No), and 'Display Order' (7). The 'Properties' section includes 'Set Type' (None), 'Required' (checkbox), 'Hidden' (checkbox), 'Auto Update' (checkbox), 'Hide In Transaction' (checkbox), and 'Status' (Active). A 'Description' field with an 'Edit HTML' button is also present. At the bottom, there are buttons for 'Translations', 'Apply', 'Update', 'Update and New', and 'Back', along with a 'Back to Top' link.

4. Enter a name in the **Name** field for the new cloned attribute.
5. Enter a unique variable name or accept the default variable name in the **Variable Name** field for the new cloned action.
6. Click **Apply** to create the new cloned Configurable attribute. The Text Attribute Editor page for the new cloned Configurable attribute displays.
7. (Optional) Modify the new cloned Configurable attribute fields in the General and Related Rules tab as desired.
8. Click **Update** to save the changes to the new cloned Configurable attribute.

#### STEPS TO ENABLE

You don't need to do anything to enable this feature.

#### TIPS AND CONSIDERATIONS

The cloned Configurable attribute is available to administrators to add to a layout. The cloned attribute is not automatically added to a layout even if the original attribute is on a layout.



## DOCUMENT MERGE

In CPQ Cloud 19C, the PDF Drivers for Document Designer's .pdf output format has been enhanced. All customers now have the Multi-source Document Creation license enabled on their environments. Enhancements include but are not limited to the following:

- Customer are now able to merge PDF documents with the Document Designer template. Refer to CPQ Cloud Online Help > Document Designer >Elements >Embed Document article for details.
- Using the Keep Together property no longer clips the combined content if the bound elements have content longer than the page length. Content will gracefully flow over to the next page.
- Improved handling of font spacing.

### STEPS TO ENABLE

You don't need to do anything to enable this feature.

### TIPS AND CONSIDERATIONS

Please validate the current PDF outputs to ensure that the print output meets your expectations. If you find significant layout differences, please open a ticket on [My Oracle Support](#).

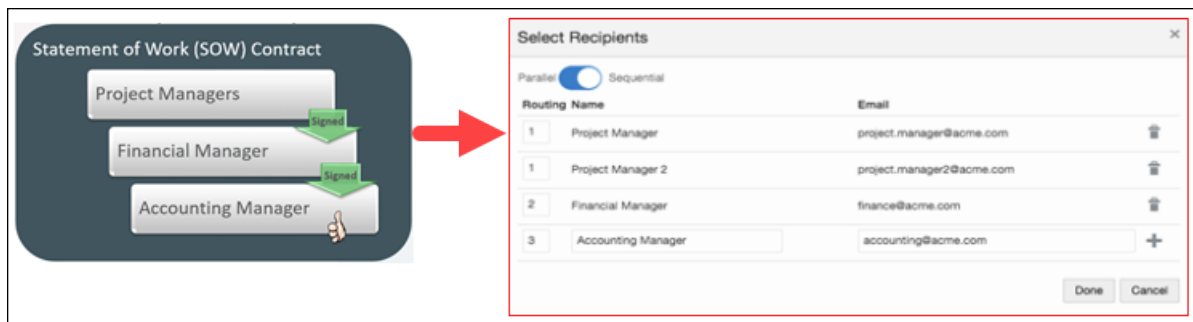
## ESIGNATURE INTEGRATION ENHANCEMENT - SEQUENTIAL OR PARALLEL REQUESTS

In CPQ Cloud 19C, DocuSign integration support has been added to designate if the eSignature request routing for a Transaction needs to be parallel or sequential. If the routing preference is sequential, the sales user can specify a sequence number for recipients to receive the signature request.

For parallel routing, all recipients receive the eSignature request at the same time.

For sequential routing, recipients receive the eSignature request in a specified order. This routing option also allows for a mixing of parallel and sequential routing. You can designate as many recipients as necessary for each sequence routing number. All recipients marked with the same routing number will receive the eSignature request at the same time.

The example below shows a document that requires a sequential eSignature routing and entry of this routing in the Select Recipients dialog box.



Sequential Routing Example

Sales users can designate DocuSign sequential or parallel eSignature routing when they are ready to request eSignatures for a document, as follows:

1. Navigate to the desired Transaction.

Document Name	Recipients	Status	Date Modified
<input type="button" value="Choose File"/>	<input type="button" value="Edit Recipients"/>	Not Sent	<input type="button" value="Request Signature"/>

2. Click **Choose File** to select a document to upload for signature.
3. Click **Edit Recipients** to select the recipients of the document. The Select Recipients dialog box displays.

Select Recipients ✕

Parallel  Sequential

Name	Email	
<input type="text"/>	<input type="text"/>	<input type="button" value="+"/>

4. Determine the eSignature routing method:
  - If the routing is Parallel, verify the button switch is set to **Parallel**.
    - a. Type the **Recipient's Name** and **Email** into the fields.
    - b. Click the add (+) icon to add a recipient or click the remove icon to remove a recipient.

Select Recipients ✕

Parallel  Sequential

Name	Email	
Lisa Jones	lisa.jones@yourcompany.com	<input type="button" value="✕"/>
Doug Williams	doug.williams@yourcompany.com	<input type="button" value="✕"/>
<input type="text"/>	<input type="text"/>	<input type="button" value="+"/>

- If the routing is Sequential, verify the button switch is set to **Sequential**.
  - a. Enter the sequential order number for each recipient under the **Order** column.
  - b. Type the **Recipient's Name** and **Email** into the fields.
  - c. Click the add (+) icon to add a recipient or click the remove icon to remove a recipient.

Order	Name	Email	
1	Lisa Jones	lisa.jones@yourcomany.com	🗑️
2	Doug Williams	doug.williams@yourcompany.com	🗑️
3	<input type="text"/>	<input type="text"/>	+

5. Click **Done**. The recipient information is saved and the Transaction information display.

Document Name	Recipients	Status	Date Modified
<input type="button" value="Choose File"/>	<input type="button" value="Edit Recipients"/>	Not Sent	<input type="button" value="Request Signature"/>

6. Click **Request Signature** to send the document to the recipients for signature.

#### STEPS TO ENABLE

DocuSign eSignature integration must be set up for the CPQ Cloud site. Administrators must notify sales users of this feature.

## SEND NOTIFICATION ON REAL-TIME INTEGRATION FAILURE

A new Retry Failed Integrations button and Email Recipient after Maximum Retry setting is added to the Real-Time Integration Settings. Administrators can set a maximum number retry fails with an Integration before an email is sent to designated recipients. Also, the Retry Failed Integrations button is added to simplify the retry process for an administrator.

To have an email sent to a recipient after the maximum real-time integration retries fail, complete the following steps:

1. Navigate to the Real-Time Integration page.  
Admin Home > Integration Platform > Integration Settings
2. Enter the email address of one or more recipients in the **Email Recipient After Maximum Retry** field.

### Real-Time Integration

**Partner Server**

Host URL:

User Name:

Password:

Enable HTTP Basic Authorization Scheme:  Yes  No

**Enable Integration**

Users:  Yes  No

**Connection Settings**

Connection Timeout (seconds):

Maximum Retries Allowed:

**Email Recipient After Maximum Retry:**

Connection Method:  Web Methods  Http Post

Transaction Id:

[View integration XML](#)  
[Send integration XML](#)

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### Real-Time Integration Logs

#	Status	Start Time	End Time	Retry Count	Result	Request Data
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**IMPORTANT:** In order for an email notification to be sent after the maximum retries fail, the Maximum Retries Allowed value must be a value greater than 1.

3. Click **Accept**.

To retry failed integrations, complete the following steps:

1. Navigate to the Real-Time Integration page.  
Admin Home > Integration Platform > Integration Settings
2. Click **Retry Failed Integrations** under the Real-Time Integration Logs section. This will retry all failed Real-Time Integrations.

### Real-Time Integration

**Partner Server**

Host URL:

User Name:

Password:

Enable HTTP Basic Authorization Scheme:  Yes  No

**Enable Integration**

Users:  Yes  No

**Connection Settings**

Connection Timeout (seconds):

Maximum Retries Allowed:

Email Recipient After Maximum Retry:

Connection Method:  Web Methods  Http Post

Transaction Id:

[View integration XML](#)  
[Send integration XML](#)

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### Real-Time Integration Logs

#	Status	Start Time	End Time	Retry Count	Result	Request Data

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**IMPORTANT:**

- Administrators may want to routinely clear failed Real-Time Integrations once network and/or connection issues are resolved.
- Once a failed Real-Time Integration is successfully connected, it is removed from the failed Real-Time Integration list.

**STEPS TO ENABLE**

You don't need to do anything to enable this feature.

## PRE-UPGRADE CONSIDERATIONS

### MIGRATION

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When migrating from one site to another using the Migration Center or Migration Packages, both sites must use the same major update. The migration of content can only occur across minor updates within the same major update. Migration across major updates cannot occur.

- “Major update” = Update 19C
- “Minor update” = Update 19C Patch 1

### RESOLVED KNOWN ISSUES

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For information on bugs fixed in Update 19C, refer to the CPQ Cloud 19C Resolved Known Issues document available on [My Oracle Support](#) and the CPQ Cloud Online Help.

### TRANSLATION

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For some system-defined messages and components, strings were removed and others added in CPQ Cloud 19C. If you have created your own implementation-specific translations of system-defined strings, some of these strings may no longer appear. Other strings may appear in English. The strings appearing in English are new and require translation.

Most of these messages and components are on the Administration side of CPQ Cloud, but you should review both your end user and administration pages before deploying your updated installation to confirm that all strings appear in the desired language.

## TRANSLATION STATUS

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CPQ Cloud supports the consumption of both single and multi-byte character sets. Submit a service request on [My Oracle Support](#) to enable your site for a new language.

For the following languages, a translation of the CPQ Cloud user interface is available for both the platform and the reference application:

- Chinese (Simplified) [China]
- Chinese (Traditional) [Taiwan]
- Czech [Czech Republic]
- Danish [Denmark]
- Dutch [Netherlands]
- English
- Finnish [Finland]
- French
- French [Canada]
- German
- Hungarian [Hungary]
- Italian
- Japanese [Japan]
- Korean [South Korea]
- Norwegian (Bokmål) [Norway]
- Polish [Poland]
- Portuguese [Brazil]
- Romanian [Romania]
- Russian [Russia]
- Spanish (Worldwide)
- Swedish [Sweden]
- Turkish [Turkey]

## POST-UPGRADE CONSIDERATIONS

Upgrade and test all test instances on Oracle CPQ Cloud 19C before upgrading to production.

### BROWSER SUPPORT

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CPQ Cloud supports all browser versions that meet the criteria of the Oracle Software Web Browser Support Policy.

If you experience issues using a supported browser version, open a ticket on [My Oracle Support](#) to resolve the issue. If an issue arises when using a supported browser, use a certified browser version until the delivery of a fix. Certified browsers are selected based on current market share and thoroughly tested to work with the current version's standard functionality.

#### Certified Browsers

##### Windows

- Google Chrome 75.x
- Mozilla Firefox 67.x
- Internet Explorer 11.x

**IMPORTANT:** Compatibility issues with the selected browsers may exist when sites contain additional JavaScript, alternate CSS, or other custom functionality. Customizations may require add-on work. Contact [My Oracle Support](#) to determine the availability of workarounds and minor fixes.

### SALESFORCE INTEGRATION SUPPORT

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Oracle officially supports version 8 and version 8.1 (installed package version 1.10 and 8.1 respectively) of the Oracle CPQ Connector for Salesforce. We also continue to support version 7.2 of the legacy Oracle CPQ Commerce Integration.

**IMPORTANT:** Previous versions of these packages are expected to continue to function; however Oracle will not address new issues that arise. We strongly encourage customers to upgrade to the latest supported version.

### TRAINING

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Please refer to the release documentation for all versions between your current version and the version to which you are upgrading to see all new functionality, resolved known issues, and functional known issues.

Refer to the CPQ Cloud Online Help to become familiar with the new features introduced in Oracle CPQ Cloud 19C. For additional help, see [My Oracle Support](#).

Verify any information not explicitly mentioned in this document as supported by the software against the product help for Oracle CPQ Cloud 19C or the Oracle CPQ Cloud Consulting team.



## ADDITIONAL INFORMATION

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For more information on Oracle CPQ Cloud, visit the [Oracle CPQ Cloud documentation](#) documentation site.

## DISCLAIMER

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The details in this document are provided for high-level informational purposes only and are not intended to function as a specification or to replace the Online Help. Upgrading to a subsequent release may require the re-deployment of Commerce Processes, Configuration, or global function settings. Modifications to integration XSL files or APIs may also be required.



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