

Solution Design Document

Prepared for Gates Corporation

Atlas Project

By

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In

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|  |  |
| --- | --- |
|  | Commerce  Configuration  Approvals  Documents  SFDC Integration  Other Integrations |

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# 

# 1 Version Control

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| --- | --- | --- |
| Date | Author | Description |
| 3/23/2018 | Michael Martin | First Draft |
|  |  |  |

# 

# 2 Document Overview

## 2.1 Overview

This document is capture the functional business requirements and the integration of these requirements to the Oracle CPQ Cloud solution. The document will address each major discipline of Oracle CPQ Cloud including the following areas of the application.

### 2.1.1 Section Overview

|  |  |  |
| --- | --- | --- |
| Section | Title | Key Objectives |
| 2 | Document Overview | Overview of the document and the key objectives of the document. |
|  |  |  |

### 2.1.2 Requirements Traceability

Sections X through Y will contain a requirements traceability matrix where applicable. The intent of this matrix is to ensure that the solution captures the desired requirements documented by Business, and IT over the course of the Requirements Gathering Phase.

|  |  |  |
| --- | --- | --- |
| ID | Requirement Description | Reference |
|  |  |  |
|  |  |  |

## 2.2 Purpose

The purpose of this document is to inform the business of the new process that will be used to generate quotes for Atlas. Through high fidelity mockups, diagrams, text, and data representations the reader will be able to gain an understanding of how the final product will behave, look, and feel. In addition, there have been several key decisions captured. The decisions captured through hours of design workshops, small group meetings, and discussions will be documented here. This is document will serve as the main source of truth for the state of the application throughout the design process.

## 2.3 Audience

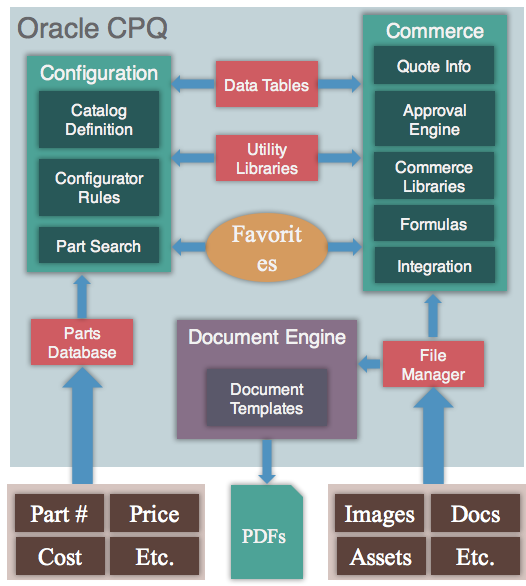
The intended audience of this document is primarily the business stakeholders, although there is technical information as a part of this document. We intentionally limit the amount of technical information unless it is consumable by a non-technical audience.

# 3 Solution Overview

## 3.1 Oracle CPQ Cloud

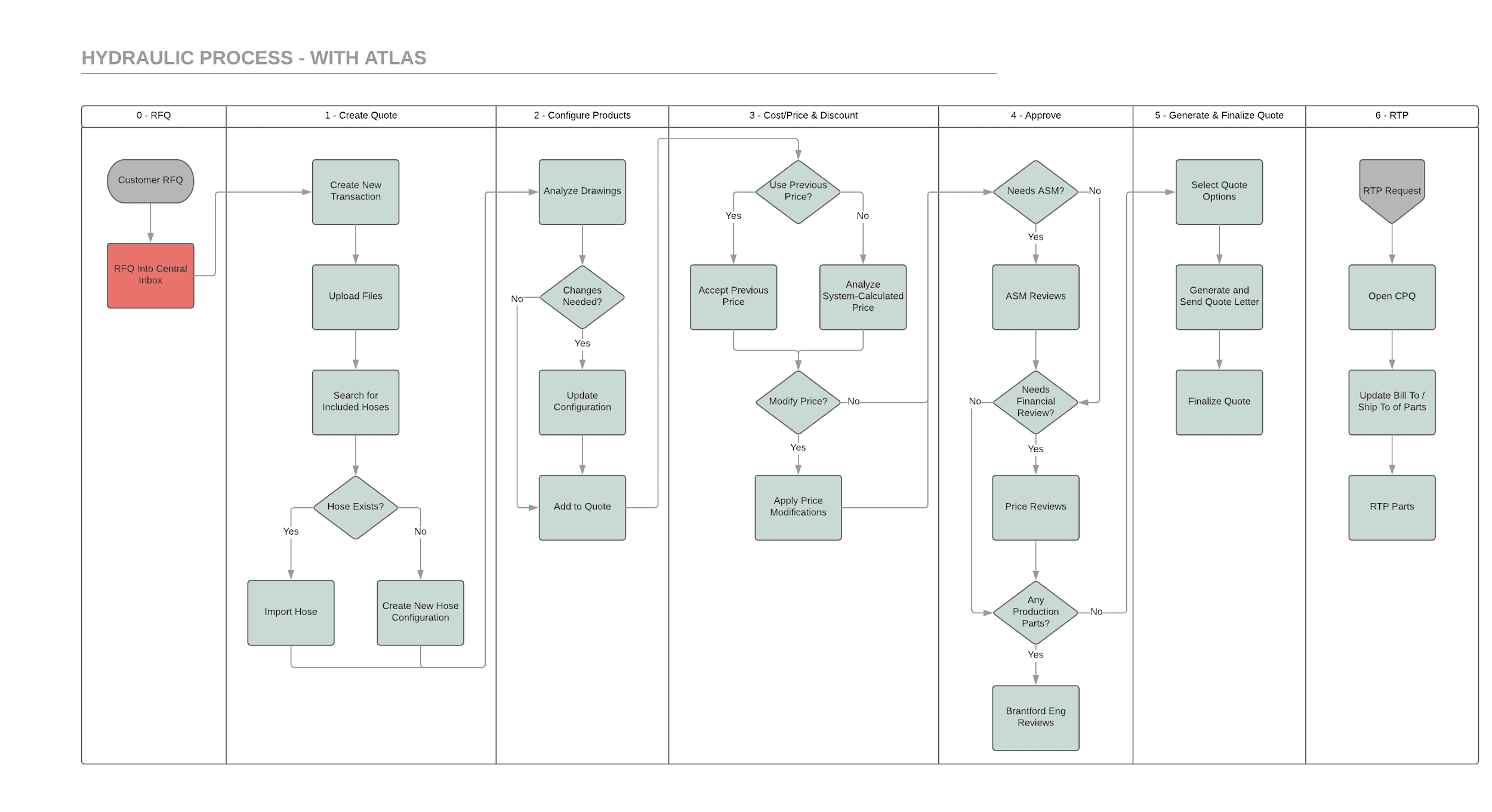
The Oracle CPQ Cloud application allows users to configure, price, and quote products to Gates Corporation's end customers. The basic process that Quoters will follow in the application is as follows:

## 3.2 Solution Map



# 4 Business Process Flows

## 4.1 Total System Flow



The total system process flow for the IOE process is diagrammed above. After a customer RFQ comes in there are 6 main sub-processes that take place:

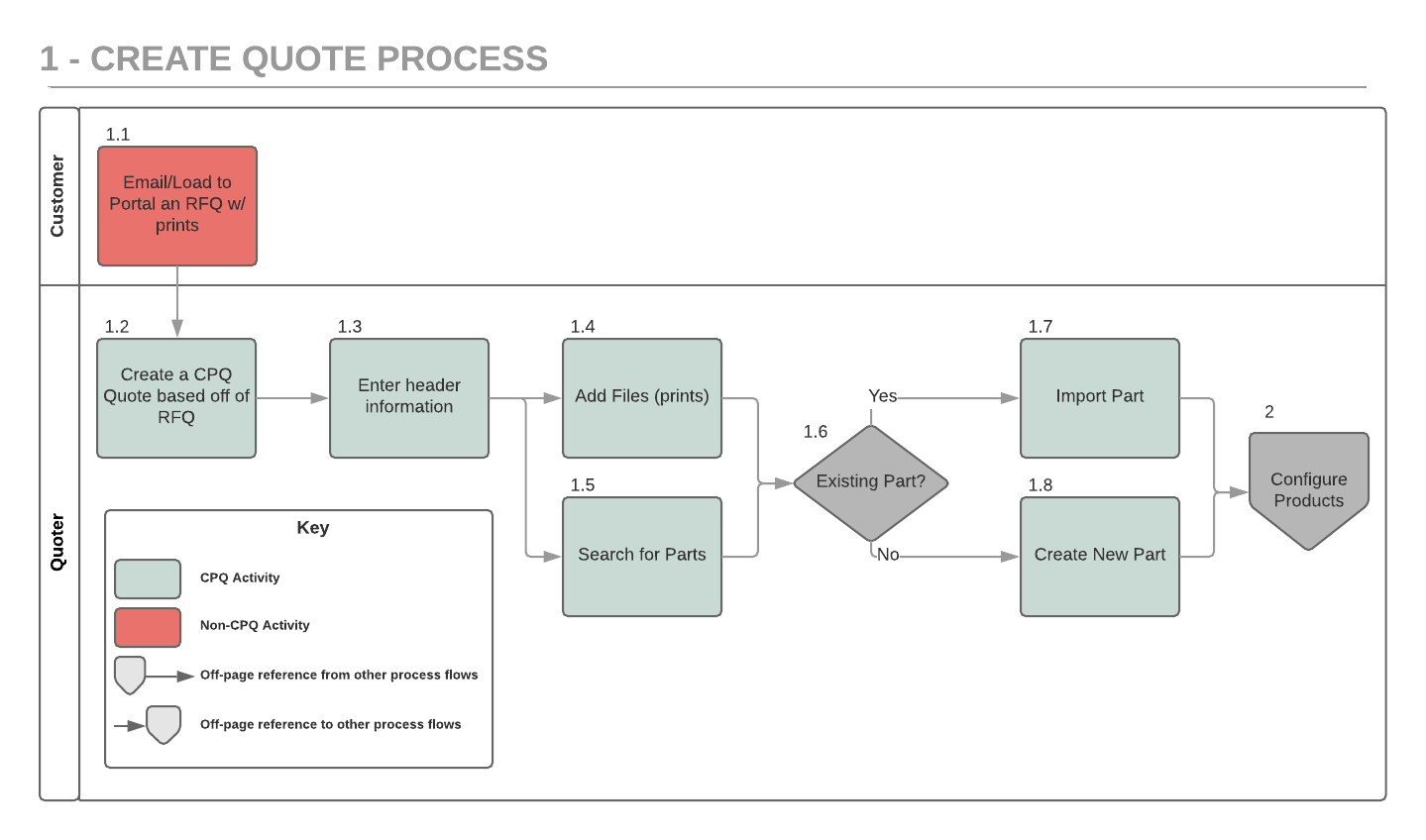
1. Create Quote
2. Configure Products
3. Cost / Price & Modify
4. Approve & Finalize
5. Generate Quote
6. Roll to Production

## 4.2 Individual Sub-Process Flows

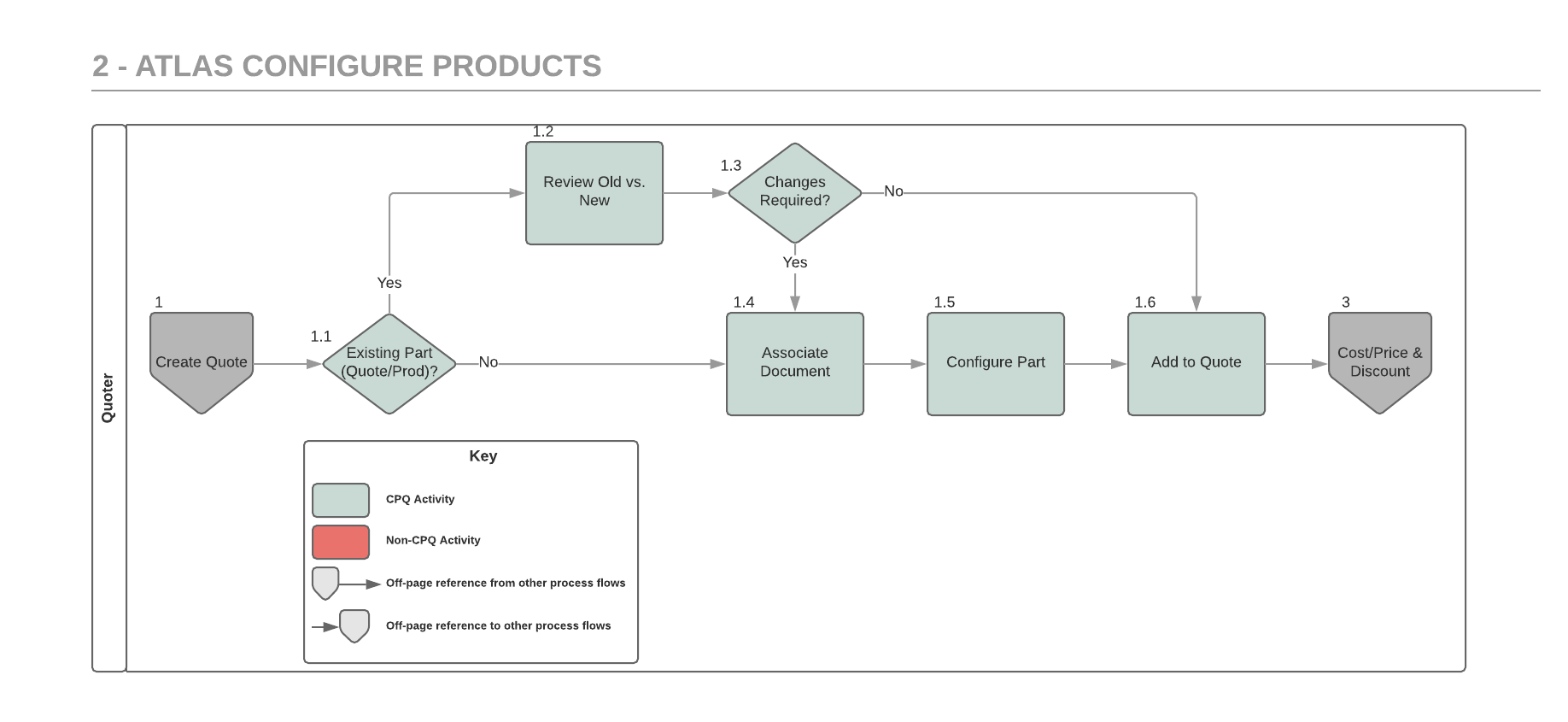
Each individual sub process can be blown out into a more detailed flow diagram. This section seeks to show the process flows in individual flow charts, each with supporting wireframes to explain how users will step through the system.

### 4.2.1 Create Quote

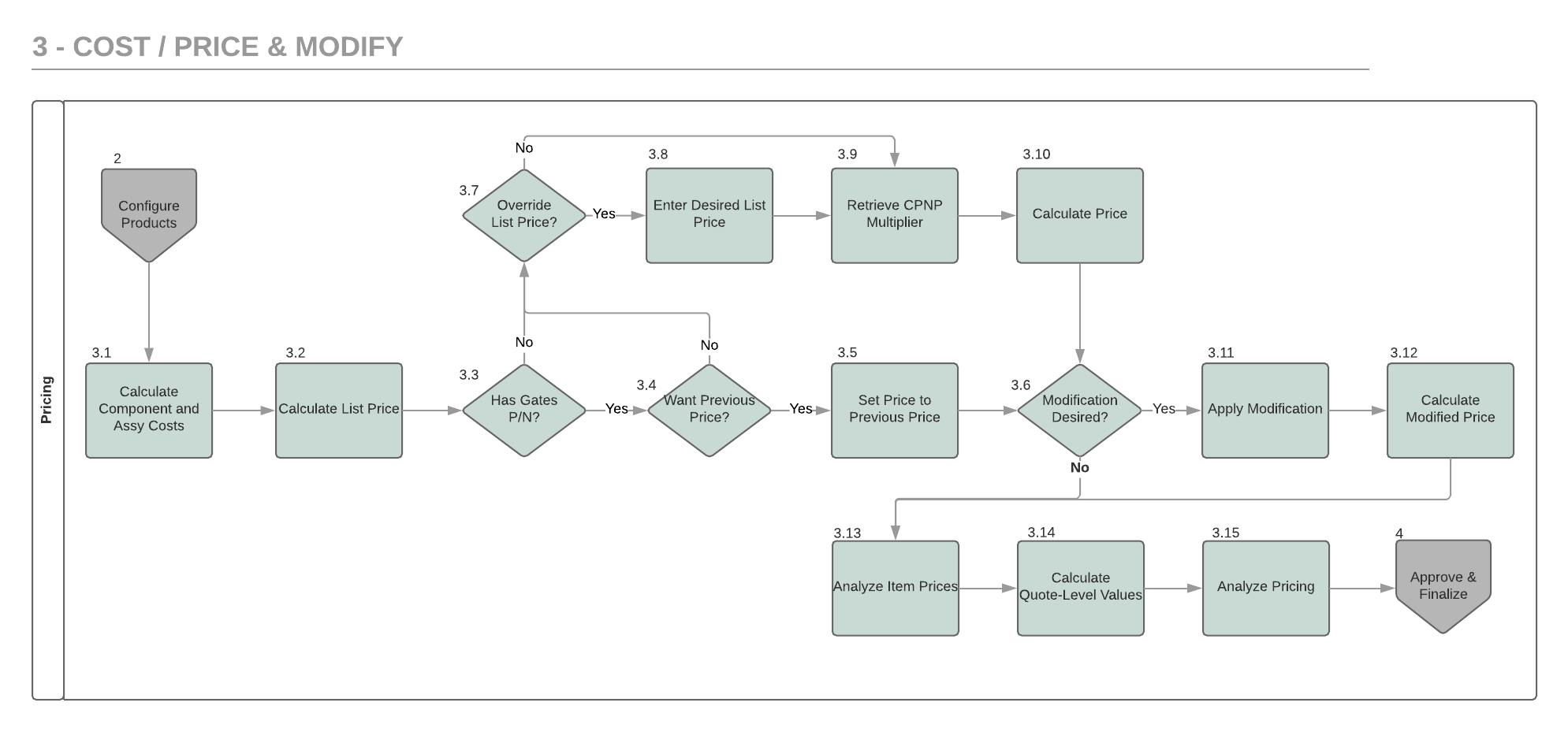
Below is the workflow diagram for creating a quote.



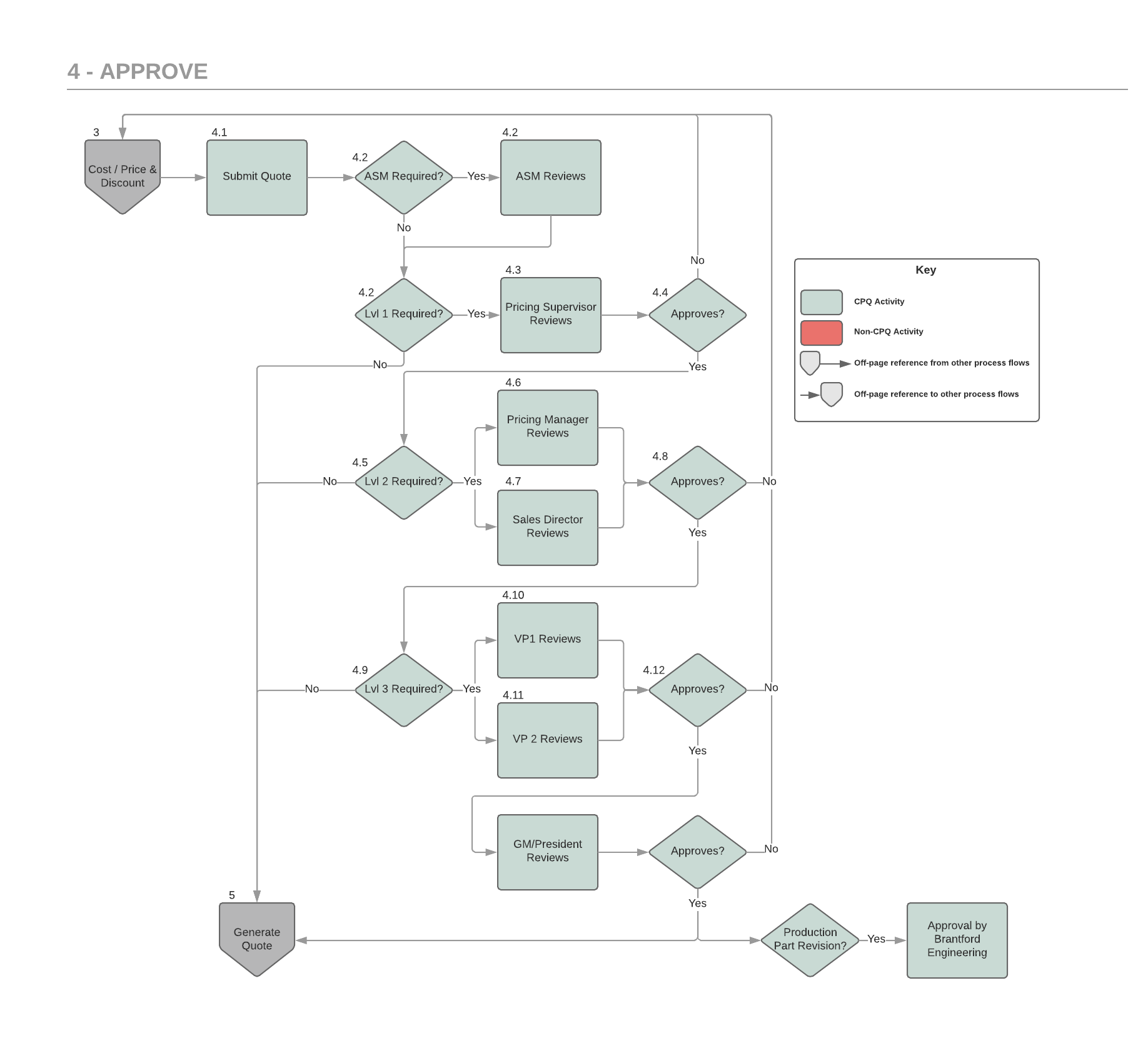
### 4.2.2 Configure Products



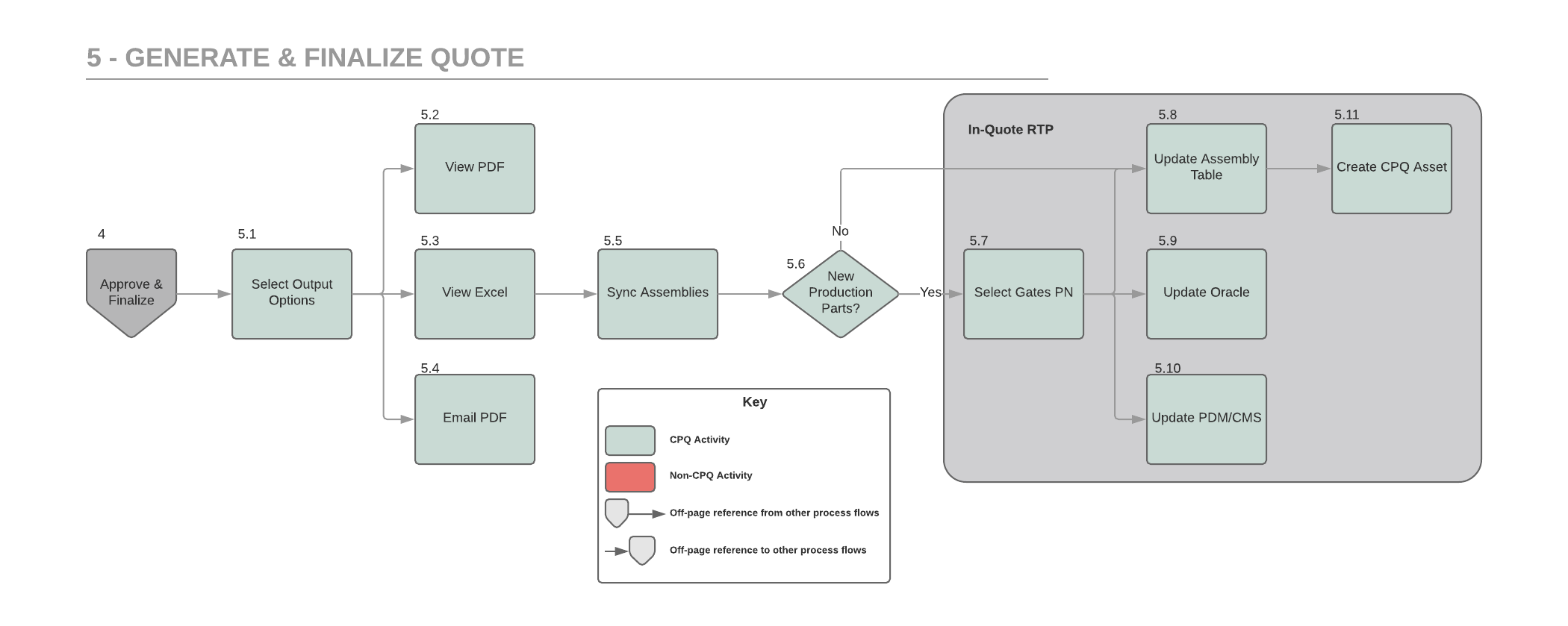
### 4.2.3 Cost / Price & Modify



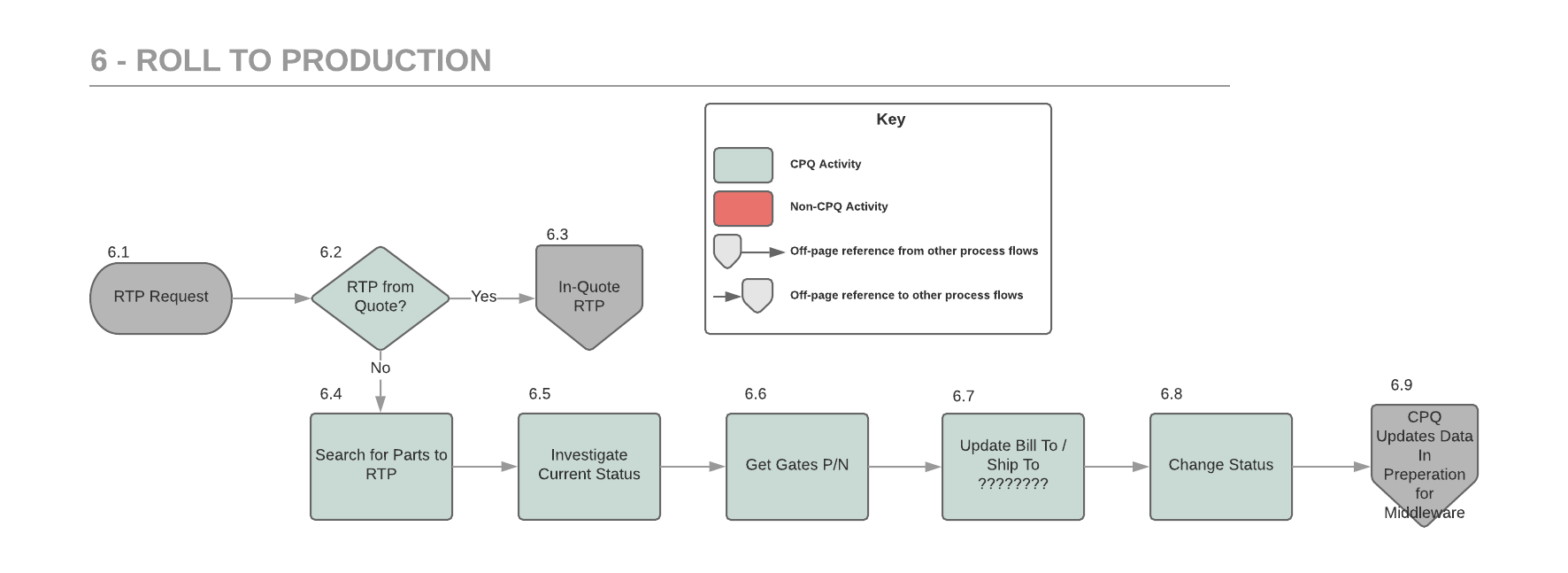
### 4.2.4 Approve & Finalize



### 4.2.5 Generate Quote



### 4.2.6 Roll to Production



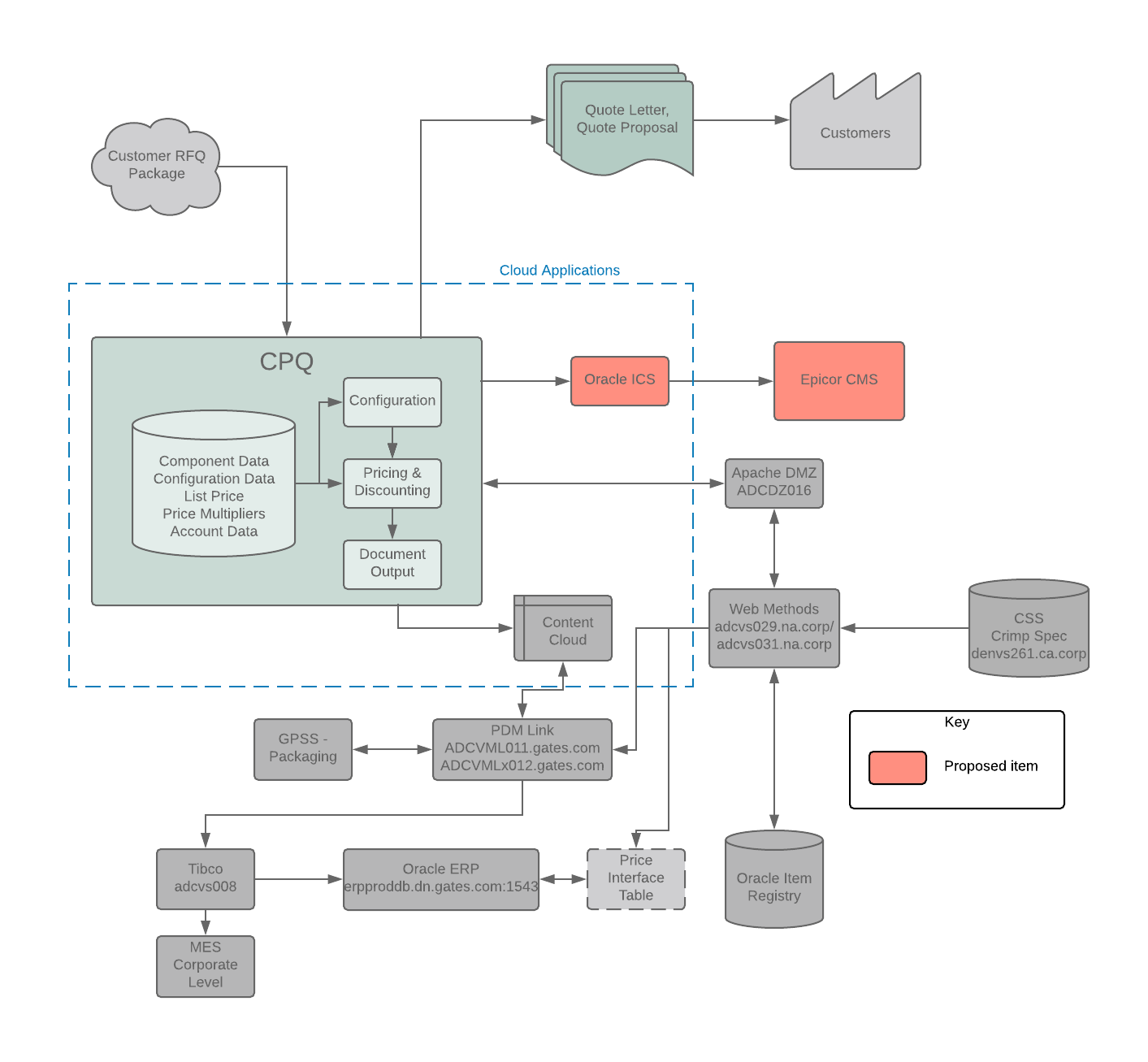
# 5 Technical Architecture

## 5.1 Overview

Oracle CPQ Cloud is designed from the ground up with robust integration capabilities to allow the organization to access data via Service Oriented Architecture over REST and SOAP APIs. From the business context, this means that Oracle is specifically engineered in a manner that allows systems that are already in-place to easily access data inside Oracle - other systems can easily obtain data simply by making a call to Oracle through an application API. Additionally, the Oracle CPQ Cloud platform can make requests for data from other systems over HTTPS. The technical architecture section is design to demonstrate the integrations to Gates Corporation's existing infrastructure.

## 5.2 Technical Architecture Diagram

The Curved Project of Gates’ Oracle CPQ Cloud system integration project is primarily centered around replacing the DDL engineering configurator with Oracle CPQ Cloud and moving pricing and quoting from Oracle ERP to CPQ Cloud. There will also exist integration points to various other systems that support the quotation of Curved Hoses and Assemblies - Item Registry, PDM Link, Oracle ERP, and Epicor CMS.

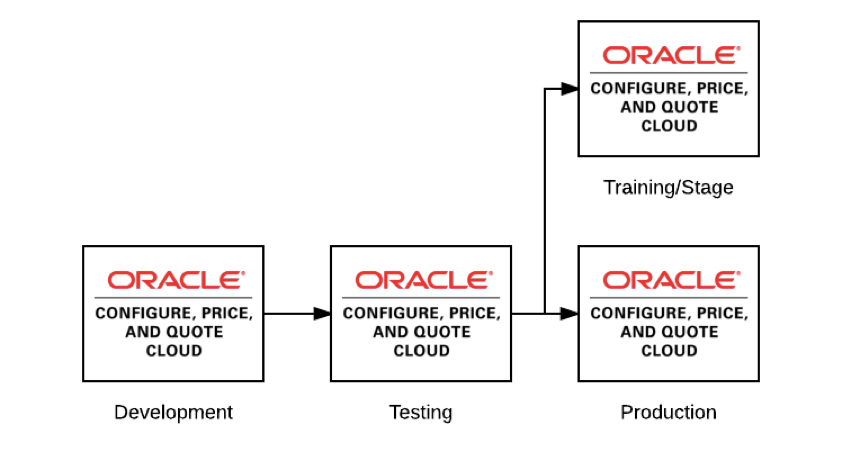


## 5.3 Environment Strategy

### 

### 5.3.1 Environment Architecture

Oracle CPQ Cloud will have four integrated environments to support Development, Testing (Manual / Automated), Staging/Training, and Business Production use. Changes made to data tables can be reflected directly in the environment without compiling code. Updates to specific application areas that require code compilation will require migrations between the Development, Test, Stage, and Production environments.



### 5.3.2 Development Environment

The Development environment is for developers only. It is where Cirrus and Gates developers create and deploy new code and perform unit tests. This environment is not guaranteed to be stable and not intended for Gates end users. Developers are expected to run sufficient unit tests and regression tests on newly developed code prior to migration to the Testing environment.

### 5.3.3 Testing Environment

The Testing environment is for developers and Gates internal testers. Once code is deployed here, Gates testers can run through test cases and use cases and regression tests, ensuring that the newly-developed code works as intended and does not break existing functionality. Gates is expected to sign off on new functionality prior to migration to the Training and Production environments. No updates of compiled code can be completed here; all changes must be made in development and migrated via CPQ Cloud's migration center.

### 5.3.4 Training Environment

The Training environment acts as a clone for the production environment. It and the Production environments are the most stable environments. While the training environment has all the stability and functionality of the Production environment, it does not have any production data and can act as a "playground" for training new users and/or testing production-level code without introducing unnecessary data in the Production system.

### 5.3.5 Production Environment

The Production environment is the protected environment in which users create quotes. This is where active and historical quotes reside and where Gates users spend their time. Absolutely no code or data can be changed directly in this environment.

# 6 User Experience

## 

## 6.1 Gates Corporate Branding

Wherever possible, Gates logos will exist in the site, replacing the Oracle branding and logos. Areas where this occurs includes:

* Login screen
* Content Cloud loader widget
* Bottom corner of admin screens

# 7 Data

## 7.1 Native Data Objects

Oracle CPQ Cloud contains several native objects to support the implementation of configured CPQ.

## 7.1.1 Products

The native products object within Oracle CPQ Cloud that captures information about components and legacy (pre-Oracle CPQ) assemblies. This object captures information related to component items and relevant component item information.

For the Atlas implementation, price and cost will no longer be stored in the Parts Database. See section 10 on the new price and cost functionality.

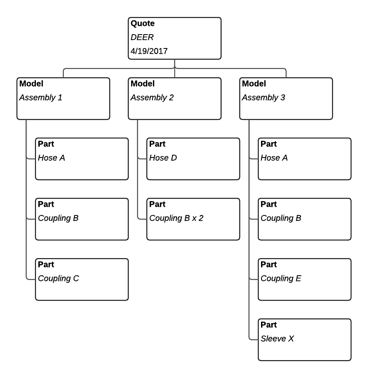
|  |  |  |
| --- | --- | --- |
| **Name** | **Variable** | **Type** |
| **Part Number** | \_part\_number |  |
| **Part Description** | \_part\_desc |  |
| **Price** | price |  |
| **Parent** | *\_part\_custom\_field1* | String |
| **Child** | *\_part\_custom\_field2* | String |
| **Cost** | *\_part\_custom\_field3* | Float |
| **Part Custom Field 4** | *\_part\_custom\_field4* | String |
| **Part Custom Field 5** | *\_part\_custom\_field5* | String |
| **Part Custom Field 6** | *\_part\_custom\_field6* | String |
| **Part Custom Field 7** | *\_part\_custom\_field7* | String |
| **Part Custom Field 8** | *\_part\_custom\_field8* | String |
| **Part Custom Field 9** | *\_part\_custom\_field9* | String |
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| **Part Custom Field 16** | *\_part\_custom\_field16* | String |
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| **Part Custom Field 18** | *\_part\_custom\_field18* | String |
| **Part Custom Field 19** | *\_part\_custom\_field19* | String |
| **Part Custom Field 20** | *\_part\_custom\_field20* | String |

### 7.1.2 Quotes

Quotes are the package in which a product or service offering is presented to the user. This includes header and customer information, specific configuration lines, discounts and pricing. From each quote the user can drill into the specific configurations to get more detail.

### 7.1.3 Quote Lines

Each quote has zero or more "quote lines". A quote line is a line item in the quote. Within CPQ Cloud there are two levels of quote lines: models and parts. Models contain references to configuration data and contain parts.



### 7.1.4 Accounts

Accounts is a tool for supporting customer management in Oracle CPQ Cloud. Accounts can be added manually, individually or bulk, or through integration. This information is useful when creating customer specific rules in Configuration and when bringing in customer account information into commerce.

The native Accounts functionality will be removed for the Atlas implementation. Users will choose Bill To and Ship To values from drop down menus in Commerce.

## 7.2 Data Tables

Data tables are Oracle CPQ Cloud's native way of storing persistent, supplemental data within the platform. For the Gates implementation, these data tables will support configuration rules and logic; pricing and multipliers; and approval triggers and routing.

### 7.2.1 Configuration

No new configuration tables are required.

### 7.2.2 Commerce/Pricing

|  |  |  |
| --- | --- | --- |
| **Data Table Name** | **Description** | **Maintained By** |
| **ListPricesIFF** | Stores price lists for all products, including price lists for non-American markets; also includes price overrides | Gates administrator |
| **Costs** | Stores costs for all products, including lists fo rnon-American markets | Gates administrator |
| **PricingMultipliers** | Stores multipliers based on CPNP/Bill To & Parent/Child combinations | Gates administrator |

### 7.2.3 Commerce/Approvals

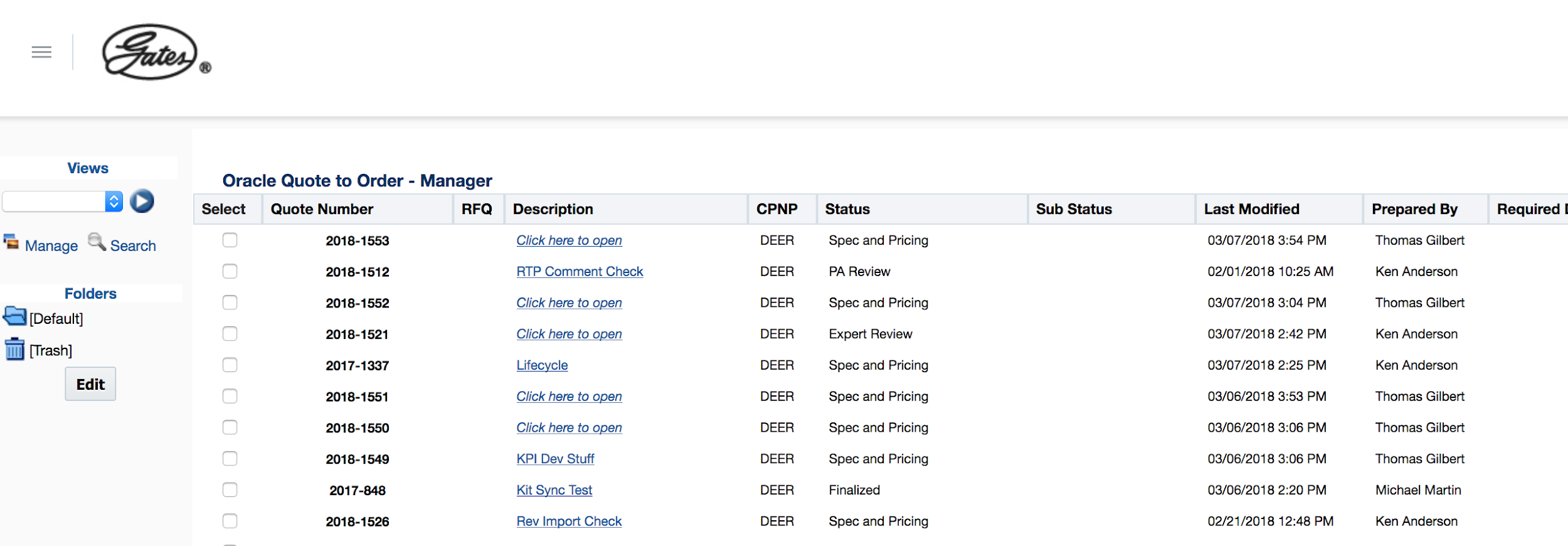
No new commerce/approval tables are required.

# 8 Quote Creation

This section explains the configuration flow for the IOE process. While the aftermarket process is similar, there are some differences. Subsection 8.7 goes over those differences.

## 8.1 Transaction Manager

The transaction manager houses all current and historical quotes within the CPQ Cloud system. This is the main entry point for creating new quotes or for viewing quotes that are still in progress or require expert remediation.



### 8.1.1 Transaction Manager Headers

The transaction manager consists of customizable headers that give users information about the quotes on the screen. These headers are used for display and search purposes; users can create customized searches (views) that filter on header criteria and display the headers that are most relevant.

The headers for Atlas include:

* Quote Number
* RFQ
* Description
* CPNP
* Status
* Sub Status
* Last Modified
* Prepared By
* Required Date
* Total Quote Volume
* Received Date
* # of Assemblies

## 8.2 Creating a New Transaction

When creating a quote, users must provide the following information:

* CPNP

Users can optionally provide:

* Bill To Identifier: Constrained based on the chosen CPNP
* Ship To Identifier: Constrained based on the chosen Bill To

These three values allow for the quote to:

* Enable CPNP-based configuration rules
* Choose the correct plant for labor route determination
* Use the correct price list
* Calculate net price using the correct multipliers and product price overrides

## 8.3 Editing an Existing Quote

The Gates quoting process is highly collaborative. It is essential that it be easy for users to quickly search for and edit relevant quotes.

No changes in the process for editing an existing quote are needed to enable Atlas quotes.

## 8.4 Creating Hoses vs. Importing Hoses

Users can add hoses to a quote in one of two ways: through creation of net new assemblies or through importing of existing hoses (for review, revisions, etc.).

The main difference between Atlas and legacy Gates functionality is that users can import hoses that do not have part numbers and are not in production state. All hoses -- quotes, production, etc. -- can be imported for iteration and reconfiguration.

Within the hose search functionality of CPQ, the following fields will be modified:

* Source
  + A new value -- CMS -- will be added to the allowed values of PDM and CPQ.

### 8.4.1 CMS-Sourced Hoses

CMS is a new system that contains BOM and route data of legacy Atlas hoses. Users must be able to revise and update the hoses contained in CMS.

The process for updating hoses in CMS is similar to that for hoses in PDM. CPQ will not have the detailed configuration data, but will be loaded with basic information prior to go-live. Users will see hoses that originate in CMS (see section 8.4 above) and will know to create the hose from scratch.

Like for hoses originating from PDM, CPQ will automatically fill in the following fields when a user starts to configure a hose that was pre-loaded from CMS:

* Lifecycle State
* Gates PN

# 9 Configuration

CPQ allows users to create any number of hose configurations onto a single quote.

The hose configuration process for Atlas is largely the same as for the initial Pilot project. Differences exist to support the data needed by the CMS system and are mostly related to labor routes.

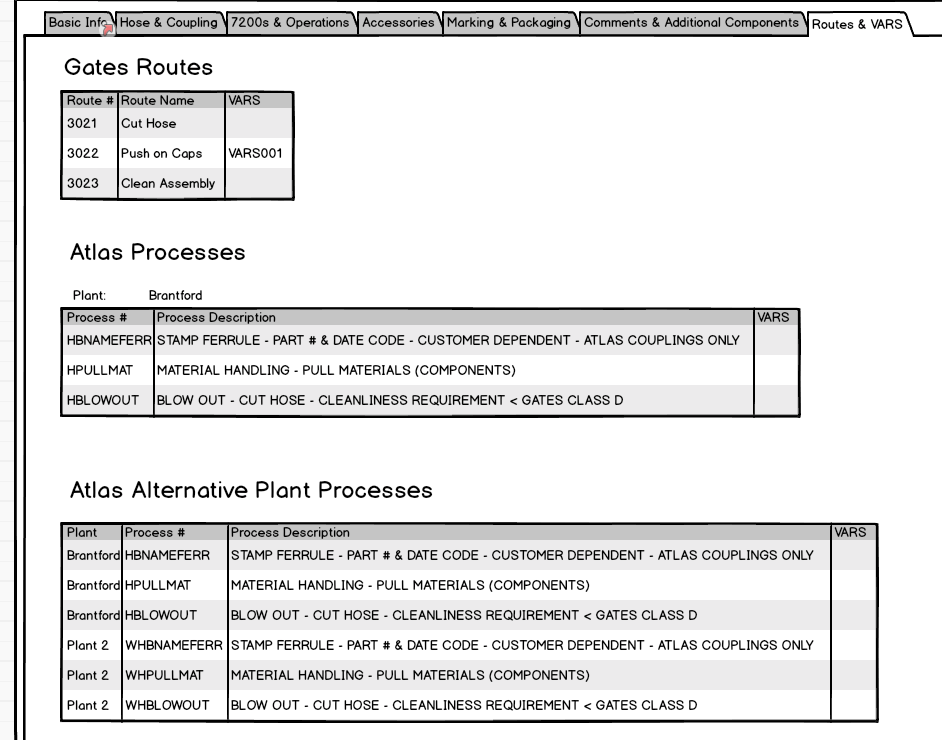
## 9.1 Hoses with Atlas Components

Users can configure hoses with Atlas components. No significant changes in the configurator will be needed. Gates will load all necessary data to the requisite tables; this will allow users to create hoses with Atlas components using the same configuration logic that already exists for the Gates assemblies.

## 9.2 Labor Routes and VARS Summary

For all hoses, this tab displays all the labor routes and – if they exist – the associated VARS within the assembly. This tab is read-only and intended for verification purposes. The information shown includes:

* Labor Route
* Associated VAR (if it exists)
* Associated part number



### 9.2.1 Automatic Selection of Labor Routes and VARS

CPQ Cloud can automatically select the labor routes needed to build a hose for the plant in which that hose will be built. CPQ will have an admin-maintained table that maps CPNPs or Bill Tos to manufacturing facilities for the purpose of selecting labor routes.

For all hoses, CPQ Cloud uses the data in Gates’ standard operations table to analyze the configured assembly and determine necessary labor routes for that assembly. Each assembly will have two calculated labor routes -- one set for Gates plants and one for a single Atlas plant determined by the customer and/or location. Labor routes for additional Atlas locations will be determined for the sake of calculating cost and will not be displayed to the user.

It is necessary that Simplus manually update the standard operations table in CPQ to support the Atlas routes, and this table must be manually maintained by Gates when routes are created, updated, or removed.

# 10 Pricing and Costing

Pricing calculations remain largely the same, though the schema supporting those calculations change for Atlas. Costing takes an entirely different strategy and is explained below.

## 10.1 Pricing Overview

Oracle CPQ calculates prices for this Atlas project in largely the same way it did in the pilot.

* A component starts with a list price per customer/market
* A multiplier is applied to modify the price
  + For a particular product for a particular customer, there can exist a price override that trumps list price and any modifiers
* Users can further discount or uplift the price on a per-quote basis

The major modifications for this implementation include:

* Updating the data schema for list price and multipliers
  + The List Price table now includes pricing override values as well as effectivity dates
  + Multipliers can be applied for CPNP and/or Bill To values and also have effectivity dates
  + Costs will be moved from the parts database into its own separate table
  + See the Appendix for the pricing data schemas
* Modifications to code to account for changes in the pricing schema

### 10.1.1 Pricing a Component

To price a component, CPQ will perform the following:

* Select the correct List Price for the component
  + This will be based on the component number and the customer
  + Each customer maps to either a USD or CAD list
* Check if an override exists for the quoted CPNP/Bill To for this component
  + If an override exists, use that value and move on to price the next component
* Check if a multiplier exists for any of the scenarios below, starting with the scenario at the top. If a multiplier exists, use that multiplier and move onto the next step:
  + Matching Child value (e.g. M3K) & matching Bill To
  + Matching Parent value (e.g. Hose) & matching Bill To
  + Matching Child value & matching CPNP
  + Matching Parent value & matching CPNP
* Multiply the list price of the component by the multiplier if the multiplier exists. Otherwise just use the list price.
  + This value is the per unit Net Price.
* Multiply the per unit Net Price quantity, making sure to make any conversions if necessary, e.g. from inches to feet.

### 10.1.2 Pricing an Assembly

To calculate the price of an assembly, sum the net prices of all the constituent components.

### 10.1.3 Modifying Price

There is no change in process for modifying the price of a component or an assembly for Atlas.

## 10.2 Costing Overview

Oracle CPQ Cloud provides automatic costing of hydraulic hoses based on the individual material costs and Labor.

### 10.2.1 Gates Costing

The legacy Gates Costing calculation will be removed, and instead all assemblies will use the Atlas approach described below.

### 10.2.2 Atlas Costing - Overview

Costs for Atlas (and Gates) hoses are composed of two major components: Material Cost and Manufacturing Cost.

Material Cost: The material cost of an assembly is the summation of the material costs of the components in that assembly. The material cost of a component is a property of that component and the location where it will be used in manufacture.

Manufacturing Cost: Manufacturing cost is a function of the labor processes needed to put together the assembly. This is a function of the labor steps needed and the labor rates for the plant where it would be assembled.

Total Cost: The total cost for a hose is a summation of all the individual component material costs and the manufacturing cost for the assembly.

### 10.2.3 Atlas Costing - Material Cost

The cost of each component is a property of the component and the plant where it will be used for assembly; these costs are stored in the Costs data table (see Appendix).

Upon quoting, CPQ will retrieve the material costs from the Costs table for calculation of the total material costs of each quoted assembly.

### 10.2.4 Atlas Costing - Manufacturing Cost

Manufacturing cost for an assembly is a function of the labor processes needed to build that assembly.

For each labor route there is a setup and run standard time.

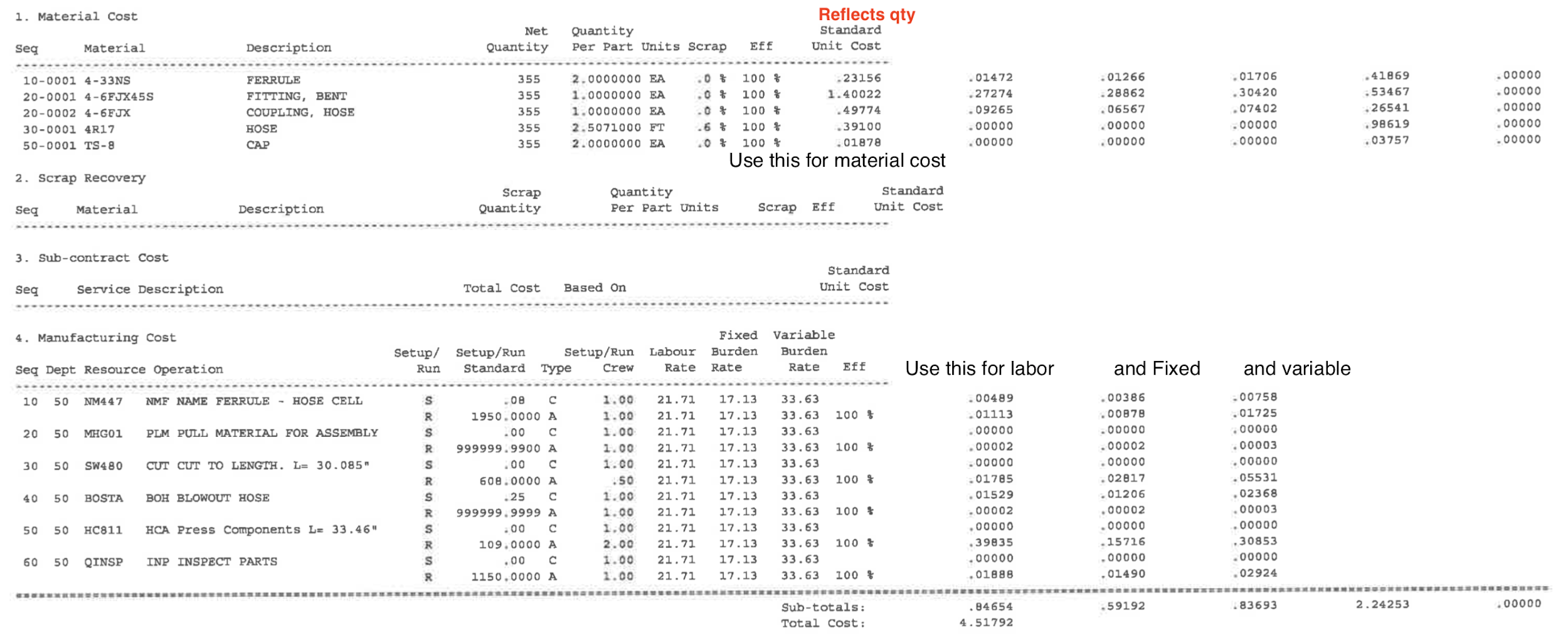
Setup: This represents the total amount of time it takes to set up for that route, in hours.

Run: This represents the total number of units that can be processed in an hour.

There is also a setup/run crew size, which specifies the number of men needed for the process.

Each plant has a set Labor Rate, Fixed Burden Rate, and Variable Burden Rate. These rates help to calculate the total manufacturing cost for each process and the total manufacturing cost of the hose.

Each quote has a Standard Quantity, or the number of units expected to be made per month. This standard quantity is a factor for determining the manufacturing cost of an assembly. For assemblies that have an EAU specified, the Standard Quantity is 1/12th that value. If no EAU is specified, that value comes from a value stored within CPQ.



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#### 10.2.4.1 Manufacturing Example

Standard Quantity: 355.0

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Operation | Setup/Run | Setup/Run Standard | Setup/Run Crew | Labor Rate | Fixed Burden Rate | Variable Burden Rate |
| Name Ferrule | Setup | 0.08 | 1.00 | $21.71 | $17.13 | $33.63 |
| Run | 1950.00 | 1.00 | $21.71 | $17.13 | $33.63 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Operation | Setup/Run | Setup/Run Standard | Setup/Run Crew | Labor Cost | Fixed Burden Cost | Variable Burden Cost |
| Name Ferrule | Setup | 0.08 | 1.00 | **$.00489** | $.00386 | $.00758 |
| Run | 1950.00 | 1.00 | **$.01113** | $.00878 | $.01725 |

Note that in the example above, the setup cost is amortized across the entire standard quantity run. So:

0.08 hrs \* $21.71 / 355 = **$.00489**

The run cost is per hose, so:

$21.71 per hour / 1950 units per hour = **$.01113**

#### 10.2.4.2 Full Example

For this example we’ll use the following data:

|  |  |
| --- | --- |
| Product | Cost |
| Hose01 | $2.00 / ft |
| Coupling01 | $1.43 / ea |
| Coupling02 | $1.23 / ea |
| Sleeve01 | $0.50 / ft |
| VARS0002 | $0.00 / ea |

|  |  |  |  |
| --- | --- | --- | --- |
| Labor Route | Labor Cost | Variable Burden | Fixed Burden |
| Pull Material | $0.01 | $0.00 | $0.03 |
| Cut to Length | $0.04 | $0.06 | $0.03 |
| Blowout Hose | $0.02 | $0.02 | $0.04 |

In the table above, assume that we have already calculated the total setup and run costs for each labor process for each assembly.

The costs for this assembly and its associated components:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Product | Part | Qty | TPC | Fixed | Variable |
| Assembly |  |  | $7.66 | $0.10 | $0.08 |
|  | Hose01 | 2 ft | $4.00 |  |  |
|  | Coupling01 | 1 ea | $1.43 |  |  |
|  | Coupling02 | 1 ea | $1.23 |  |  |
|  | Sleeve01 | 1.5 ft | $0.75 |  |  |
|  | VARS0002 | 1 ea | $0.00 |  |  |
|  | *Pull Material* | *1 ea* | *$0.04* | *$0.03* | *$0.00* |
|  | *Cut to Length* | *1 ea* | *$0.13* | *$0.03* | *$0.06* |
|  | *Blowout Hose* | *1 ea* | *$0.08* | *$0.04* | *$0.02* |

In the table above, the items in italics would not show in the line item grid. See section 10.2 on Cost in the User Interface for how users see and use costs in the tool.

### 10.2.5 Multiple Plant Costs

Normally, each assembly is made from a single plant, and so the cost of that assembly is determined by that particular plant. Gates needs the ability to calculate costs associated with all plants in which that assembly can be built. Displaying these costs is optional, but CPQ needs the ability to do it.

Multiple plant costs are calculated by CPQ and displayed outside of the Line Item Grid in the Additional Cost Detail section of the quote. Read section 10.3.2 below for details.

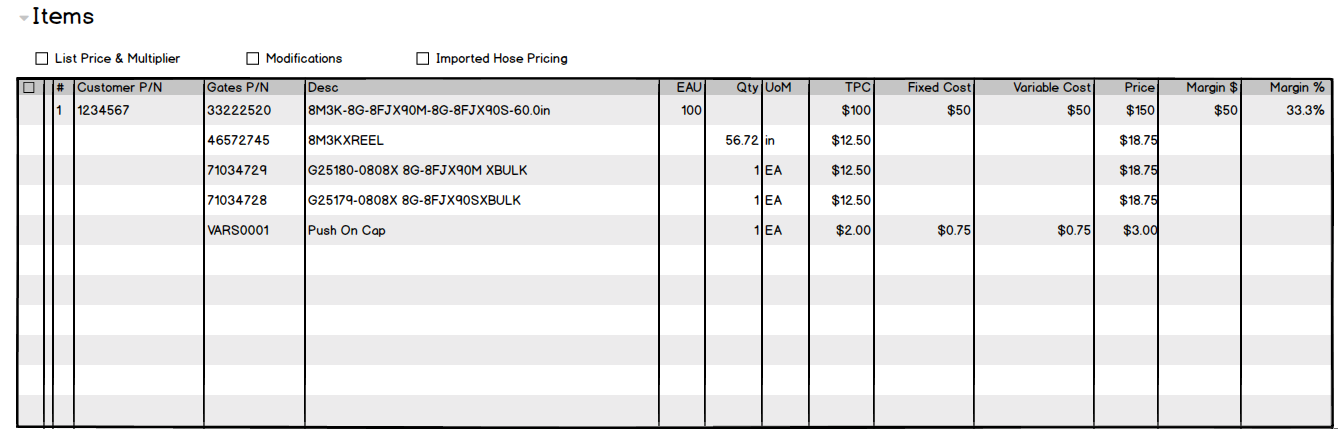
## 10.3 Cost in the User Interface

Because of the large amount of cost data necessary for display in CPQ, there are multiple ways in which users can look at and analyze cost.

### 10.3.1 Line Item Grid

In the Line Item Grid (LIG), each Assembly will have a column for Fixed, Variable, and Total Costs. Components will have values populated only for Total costs.

A check box will exist above the LIG that will allow the user to hide all cost columns to aid with LIG readability.



Explanations for the values given to each field are in the table below:

|  |  |  |
| --- | --- | --- |
| Type | Sub Type | TPC |
| Component | BOM Item | Component Cost |
| VARS | N/A |
| Assembly |  | Component Costs +  Labor Costs |

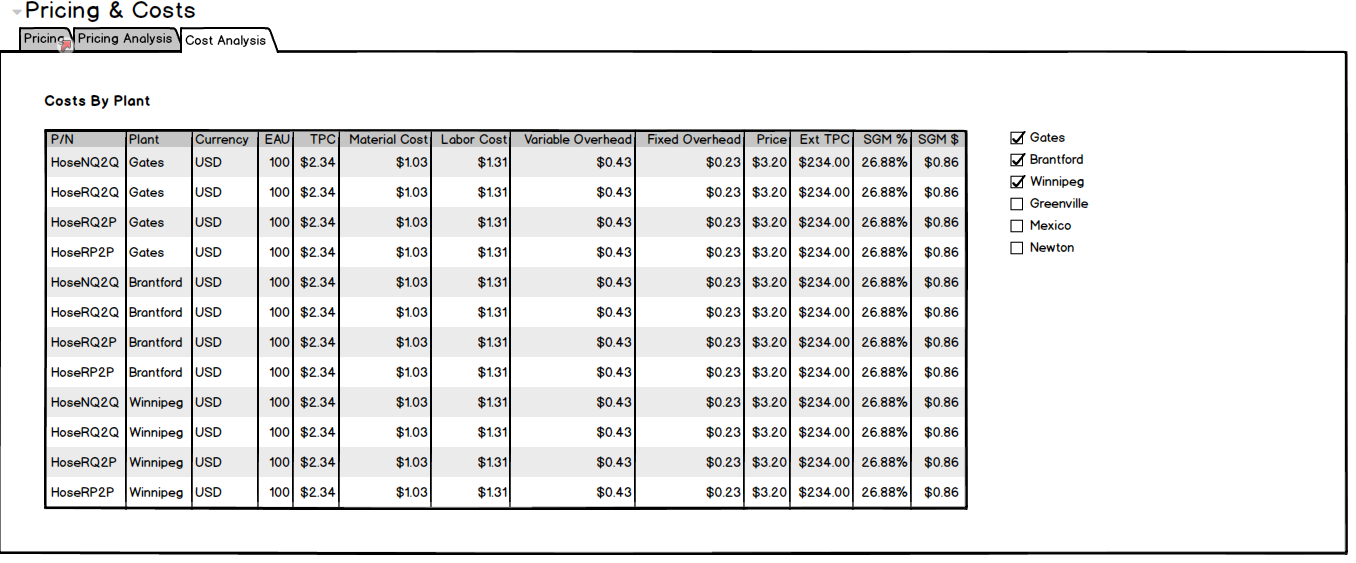
### 10.3.2 Additional Cost Detail

An additional section of the Quote will display detailed cost information for the various plants in which the assemblies can be built.

This separate part of the Quote displays information including:

* EAU
* Price
* TPC
* Material Cost
* Labor Cost
* Variable Overhead
* Fixed Overhead
* Ext TPC
* Ext Price
* SGM %
* SGM $

Users can select from any of the available plants; any plants for which an assembly cannot be made will have “N/A” values for their costs.

[[1]](#footnote-0)

The Cost Analysis section shows any number of plants at a time. Users can select their plants from a checklist and click “Display Costs” to render the costs for those plants.

# 11 Kits

Kits are created and priced like they are for Gates legacy kits. They are costed very much like how assemblies are costed

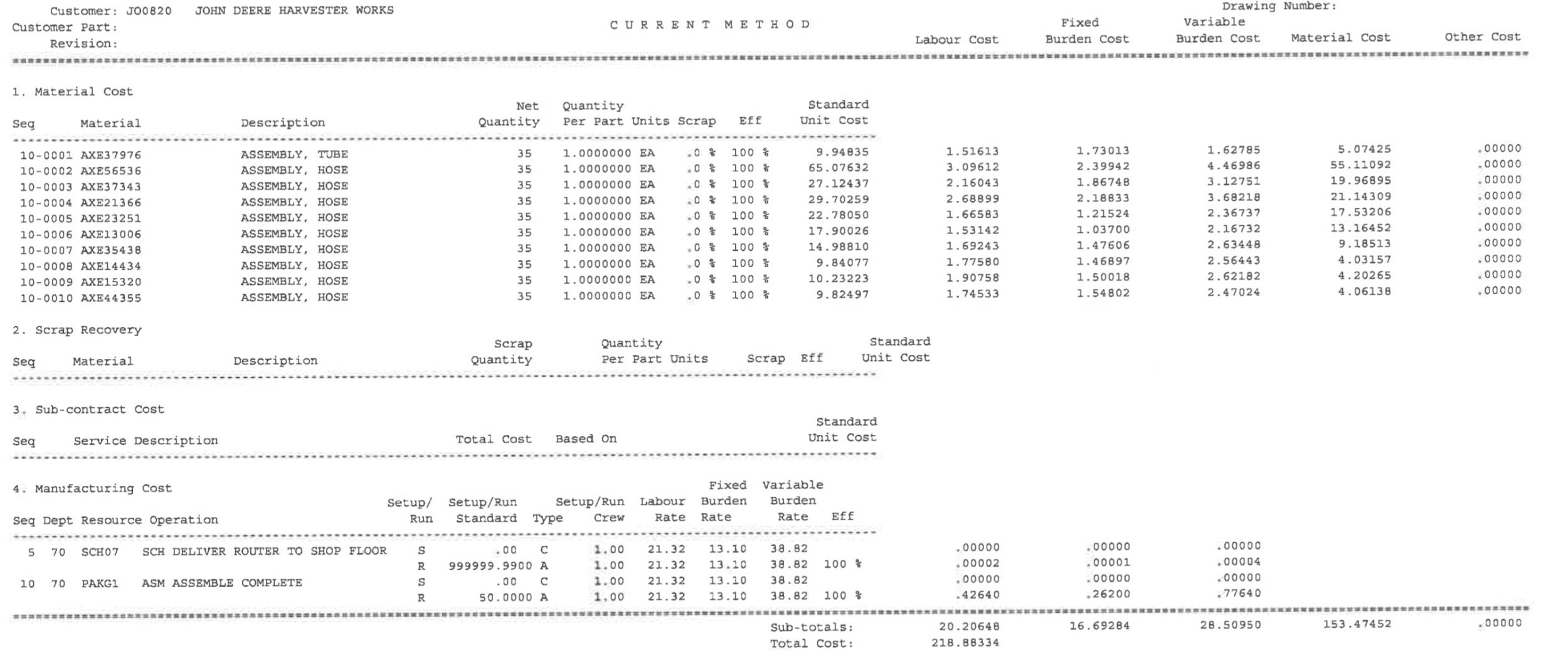
## 11.1 Kit Labor

Unlike the Pilot, CPQ for Atlas will include a few labor routes for kits. These labor routes are chosen using the same process that labor is chosen for hoses. The plant in which the kit will be put together drives the labor routes needed for that kit. The standard operations table will house the data necessary for making those determinations.

## 11.2 Kits Costs

The cost of a kit is the summation of the cost of its component assemblies and the cost of the labor needed to create the kit.

The labor needed for a kit is determined by the plant in which it will be made -- chosen by CPNP or Bill To the same as hose plants are chosen. Costs are calculated based on that plant’s labor and burden rates.



# 12 Workflow and Approvals

Oracle CPQ Cloud empowers quoters to create their own quotes, configure valid products, calculate prices deterministically, apply price modifications, and generate PDF proposals without needless interruptions in flow or offline workflows.

The powerful approvals engine within CPQ Cloud provides managers the oversight needed to control the prices quoted to customers. If a user tries to finalize a quote with a price deviation beyond his or her allowed threshold, the system routes that quote to the necessary approvers.

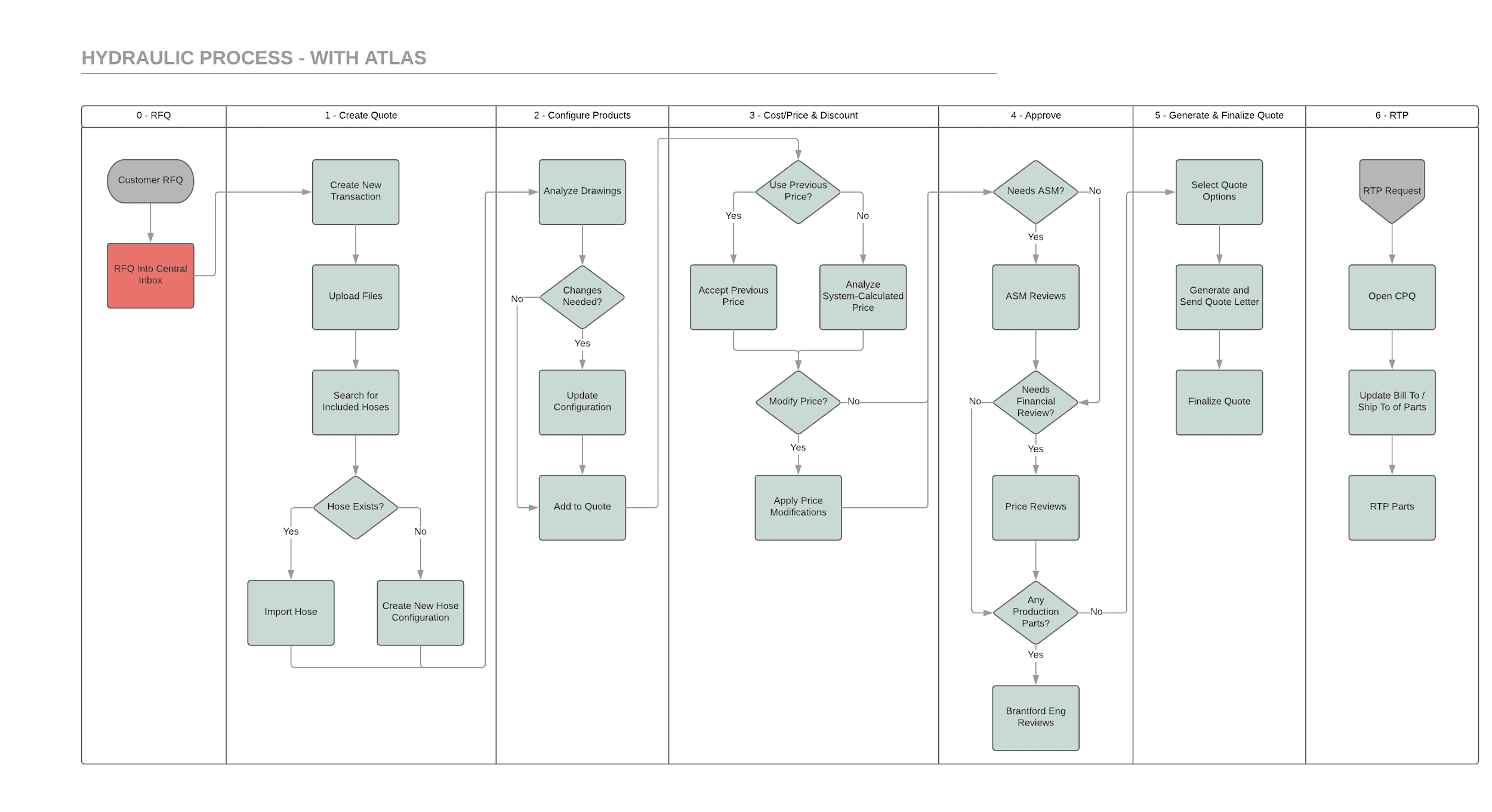
## 12.1 Quote Workflow

Oracle CPQ Cloud provides the tools necessary to support a rigorous, extensible, and trackable quote workflow framework - within which users can create, edit, review, and finalize quotes and their constituent assemblies.

This section explains the workflow and approvals for the Gates Hydraulic hose process. While the aftermarket process is similar, there are some differences. Subsection 12.3 goes over those differences.

### 12.1.1 Overall Quote Workflow

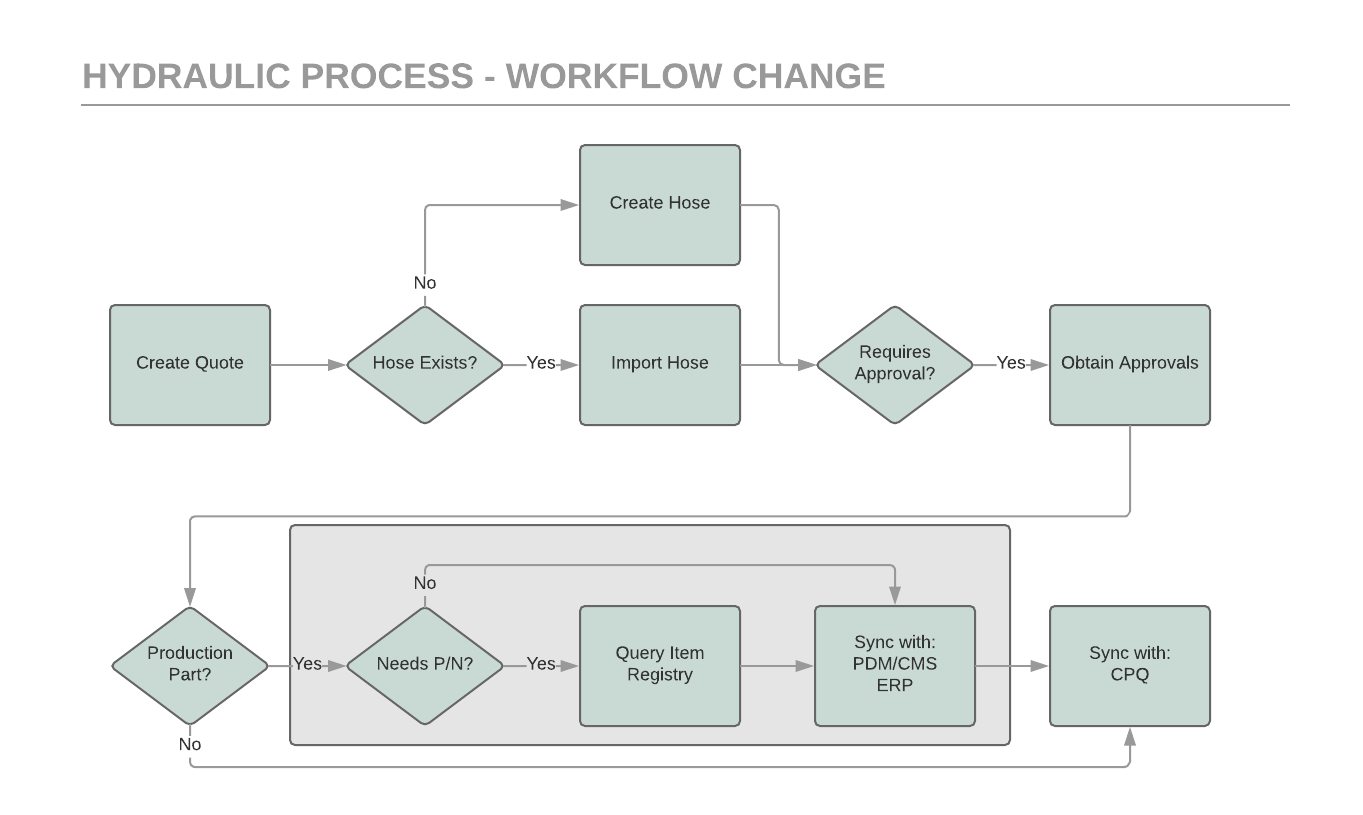
The overall quote workflow is as follows:



There are nine different steps a quote can be in. They are:

* Start / Document Upload
* Spec and Pricing
* ASM Review
* Financial Review
* Approved
* Rejected
* Submitted

The workflow to enable Atlas will be modified to allow quotes (and products) to be synced and saved prior to them being assigned a Gates Part Number, sent to PDM/CMS/ERP, and productionalized.



The workflow steps in the grey box above represent the changes in the Atlas flow. Only items that are ready for production and need a part number will go to Item Registry. All production items will go to PDM/CMS and ERP.

### 12.1.2 Creating a Quote

Creating a quote remains largely the same for Atlas. The differences are listed below:

* When searching for existing products, the source for items currently only in CMS will be labeled as “CMS”

### 12.1.3 Configuring Products

Configuring products remains largely the same. The differences are listed below:

* Imported products can include those that have not been assigned a part number and do not exist in PDM
* Products without a Part Number will not have a part number imported

### 12.1.4 Syncing Assets with CPQ

The following changes are required:

* Assets can sync to CPQ under the following conditions
  + When a quote is finalized, regardless of if the containing products have a part number or their quote status
  + When a product is RTP’d -- we will retrieve a part number if the product does not already have oneIf a product has already been synced and “assetized”, any further syncs and updates do not create a new asset but rather update the existing asset

### 12.1.5 Item Registry Request

The following changes are required:

* An item registry request for a quote is only made if a product is in a “Production” state and does not yet have a Part Number
  + This is likely an uncommon use case, as most products will go through the quoting process in the “Quote” stage and then will be moved to “Production” through the RTP process. The next time they are brought into a reconfiguring process they will have already been made into Production.
* An item registry request must occur during the RTP process for any products that do not have a Part Number
  + During the RTP process, CPQ must obtain a part number and assign it to the asset

### 12.1.6 Integration to PDM

* PDM is updated for products under the following conditions:
  + The product is in a Production or Canceled lifecycle state
  + The product is in any state and has a Product Number
* In the RTP process, PDM is updated as normal

### 12.1.7 Integration to CMS

* Items will only be marked as ready for integration to CMS once they have been moved to a production state by the quoting process or via RTP
* See Section 14.3 on CMS integration

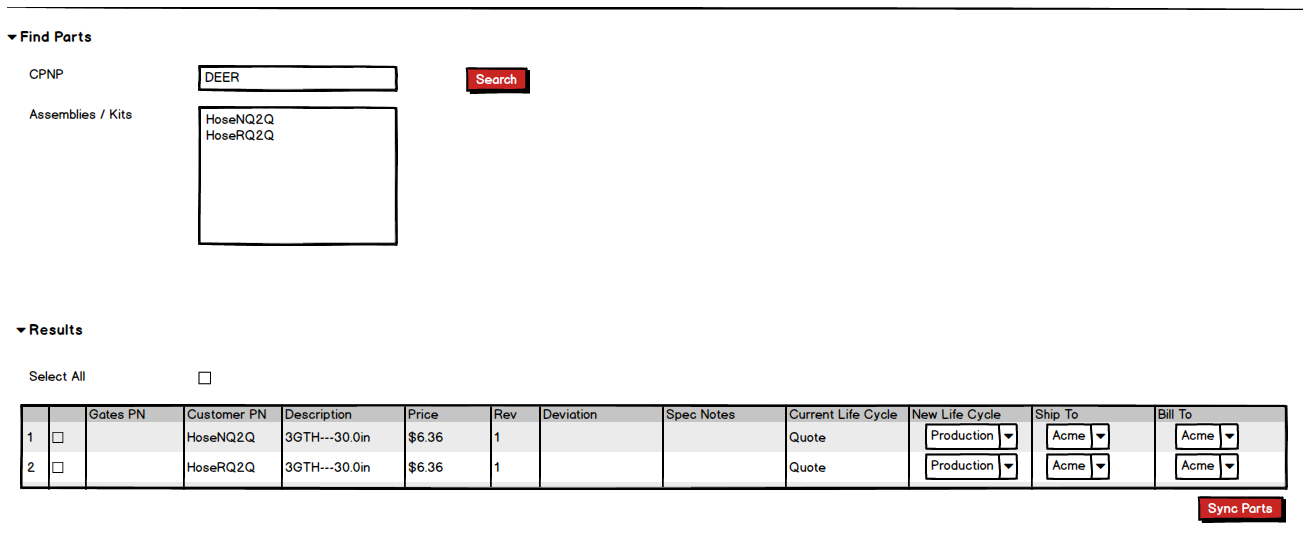
### 12.1.8 Integration to Oracle ERP

* ERP is updated for products under the following conditions:
  + The product is in a Production or Canceled lifecycle state
  + The product is in any state and has a Product Number
* All products that are RTP’d are updated in ERP via a web service call to ERP

### 12.1.9 Roll to Production

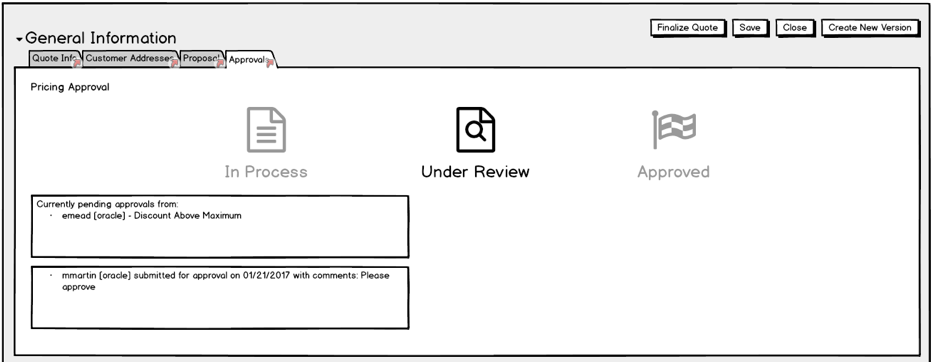
The following are required for the Roll to Production functionality:

* Use of the current RTP tool built by the Simplus MS team which works as follows:
  + User searches by Customer Part or Gates Product number for the hoses and kits that will be RTP’d
  + The user can select from the list of matching parts which will be RTP
  + For each selected item, the user can select a new status, Bill To, and Ship To
    - The Bill To will be filtered off of the selected CPNP and the Ship To will be filtered off of the Bill To
    - These fields will be blank if no Bill To/Ship To was chosen and will reflect the values chosen during the quotation process if they were set at that time
  + For any parts that are “Atlas only” parts, users must first create those parts in CPQ before attempting to modify their statuses
  + User clicks “Sync Parts” to kick off the RTP process
* When a product is RTP’d, the following occurs
  + If a product number is required, it will be retrieved from the Item Registry
  + PDM is updated with the BOM
  + ERP is updated with prices
  + For Gates-produced products, PDM is updated with Routes
  + For Atlas-produced products, CPQ sends BOM and Route information to CMS
    - Gates lifecycle states are converted to corresponding CMS status:
      * Production -> Active
      * Quote/Cancelled -> Inactive



## 12.2 Approvals

Approvals in this context refers to the financial review quotes must go through if CPQ Cloud determines that a review is necessary. It is assumed that prior to submitting a quote for review, the quote owner has added and/or configured all assemblies, has applied any discounts needed, and is ready to finalize the quote.



### 12.2.1 Submit for Approval

While configuring items and applying discounts, Oracle CPQ Cloud constantly evaluates the quote for any financial approval triggers. If the quote will trigger an approval, CPQ Cloud displays this requirement in the "Approvals" tab. This information helps the quote owner understand the implications of his or her discount choices.

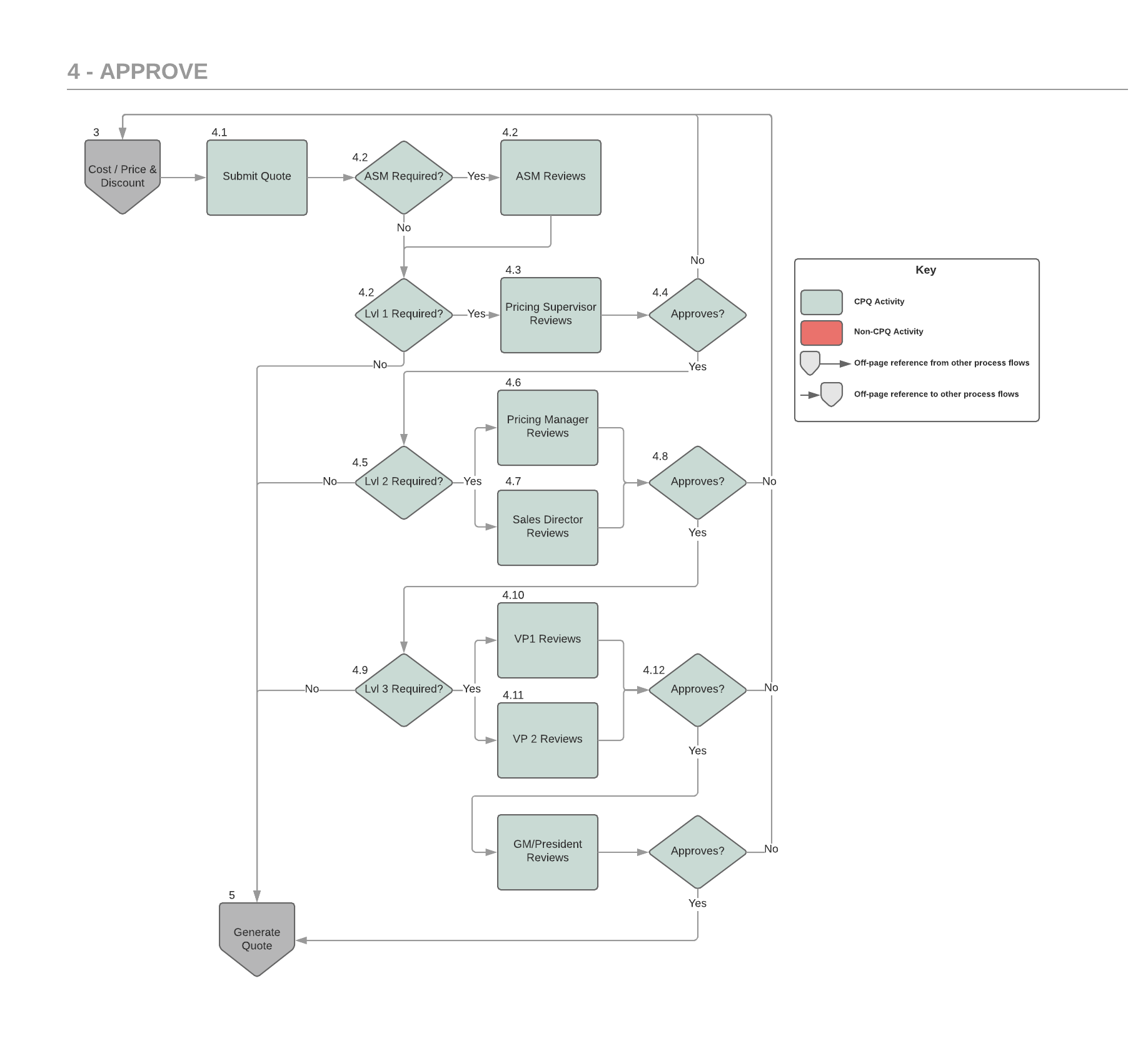
When the Pricing Analyst is done with a quote, he or she clicks the "Submit" button to finalize the quote. Oracle CPQ Cloud evaluates one final time if the quote requires approvals. If it does not, the quote is finalized without manager review. If it requires review, the user must enter a submission note on the quote and the approval process takes place.

### 12.2.2 Approval Triggers

Oracle CPQ Cloud allows Gates to define custom triggers/thresholds for quote financial approvals. The additional triggers for Atlas are laid out below:

* <30% margin goes from Pricing Analyst to Pricing Manager and skips the Pricing Supervisor
* Any quote that routes to VP1 & VP2 also go through to the GM/President level

### 12.2.3 Approval Routing



A table within Oracle CPQ Cloud determines the routing for a quote - the approvers associated with each quote submitter. This approach allows for a multi-regional implementation where a quote routes to different managers depending on the quote submitters group, region, reporting structure, etc.

Approvals are a hybrid parallel/serial approach.

* Level 1
  + Pricing Supervisor
* Level 2
  + Pricing Manager
  + Sales Director
* Level 3
  + VP1
  + VP2

The process is serial in that e.g. Level 2 approvals are not required until Level 1 has been completed.

### 12.2.4 Approver Actions

Approvers review quotes for financial viability using the margin calculations and other deal health metrics on the quote. Approvers can make one of two actions:

* Approve
  + If the quote needs subsequent approvals, CPQ Cloud notifies the next approver in line
  + If the quote needs no further approval, CPQ Cloud marks the quote as finalized and the quote is ready for sending to the customer; the quote submitter receives an email that the quote has been approved
* Reject
  + The quote moves to the “Rejected” step
  + The quote submitter receives an email that his or her quote has been rejected and needs further work

### 12.2.5 ASM Review Required

If the quote creator requires ASM review, he or she marks the quote as such. Upon submission of the quote, the quote first goes to the ASM (before any of the pricing management review). This means:

* The ASM receives an email with basic quote information and a link to the quote
* The ASM can review the quote for pricing and/or other content and values

The ASM can allow the quote to continue through the remainder of the review process or go back to the submitter for further work or can make changes into the quote directly.

If the ASM does not approve within 24 hours the quote automatically goes through the remainder of the review process.

### 12.2.6 Approval History Tracking

Oracle CPQ Cloud keeps a detailed history of the quote approval process. For each action taken (Submit, Approve, Reject) CPQ Cloud records:

* Username of actor
* Action taken
* Timestamp
* Any comments left

### 12.2.7 Approval Emails and Mobile Approvals

When a quote creator submits a quote that requires review, Oracle CPQ Cloud automatically sends an email to each individual approver in sequence. These emails include:

* Quote-level Info
  + Margin %/$
  + Deal Size
  + Deviation $/%
  + Notes
  + URL to quote
* Hose-level info
  + Part Number
  + Description
  + Modified List Price
  + Requested Price
  + Deviation $/%
  + Margin % (and $ if EAU entered)

### 12.2.8 Smart Approvals

When a quote makes it through a low-level approval but is rejected by a higher-level approval, it can be automatically routed past the level that had already approved it. This is a process known as “Smart” approvals. An example process is as follows:

1. User includes enough deviation to trigger approvals for levels 1, 2, and 3
2. Quote is approved by level 1
3. Quote is approved by level 2
4. Quote is rejected by the level 3 approver
5. Quote submitter provides further work on quote and resubmits
6. Quote bypasses levels 1 and 2 and goes straight to level 3

A quote will skip levels and use the “Smart” approval functionality if the deviation and impact is equal to or less than the deviation and impact from the original submission.

ASM review does not follow the Smart approval process. If a quote submitter explicitly requests ASM review the quote will always go through that step of the process.

## 12.3 Performance Reporting

This implementation requires the ability to report against the quote cycle time and time needed for each step of the quotation process.

These include:

* Quote Creation
* Spec & Pricing
* Approval
* Quote Generation
* Total Time

# 13 Documents

## 13.1 Language

All quotes will use American English.

## 13.2 Document Options



Users can choose from many document options to include or exclude including:

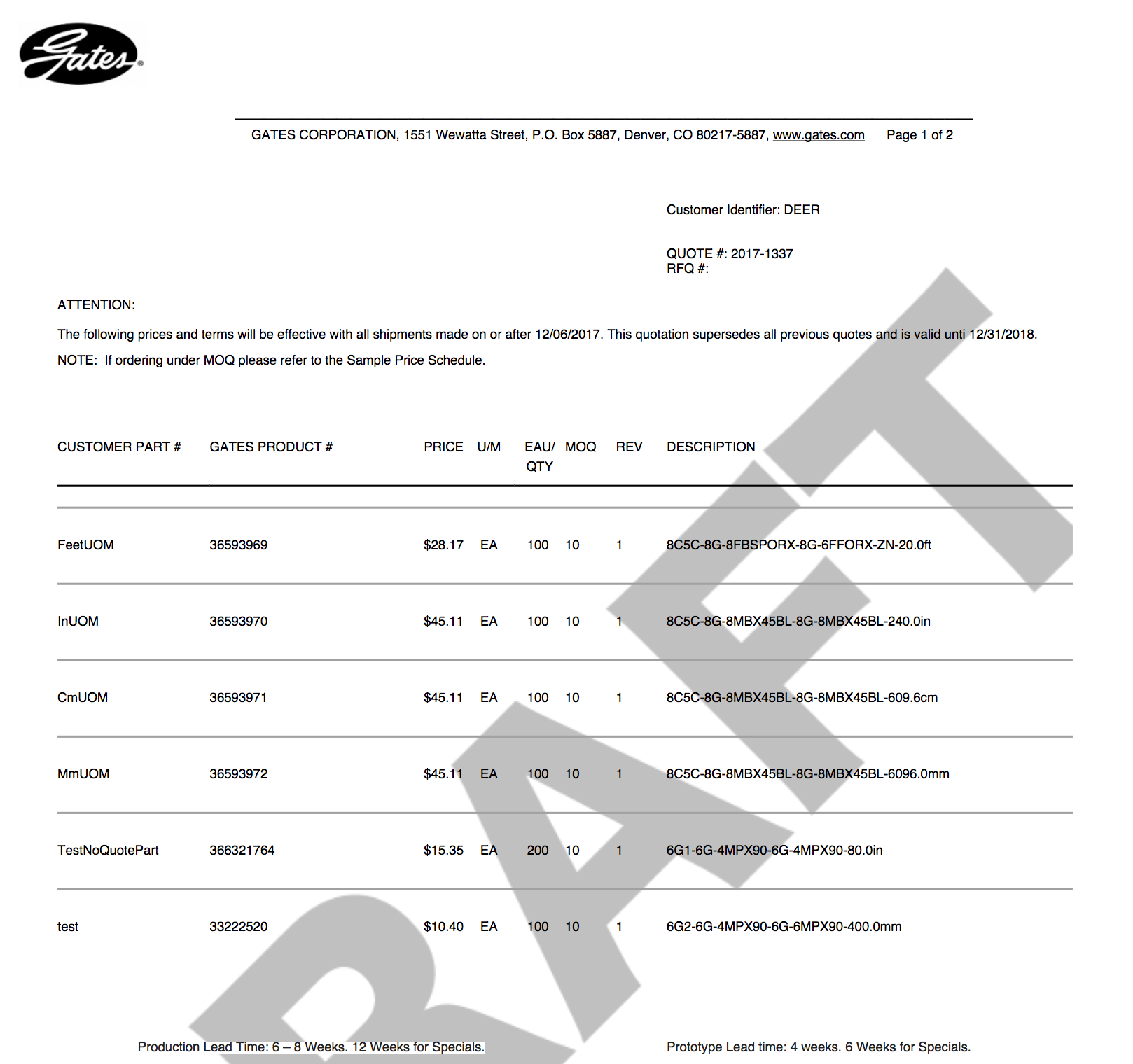
* Showing Components/Child Parts
* Showing Labor/Routes
* Choosing from one of many shipping locations
  + These will be updated for the Atlas implementation to reflect the new plants
* Choosing from one of many predefined notes
* Showing a custom-created note

### 13.2.2 Document Types

Quote will be able to documents in PDF and Excel fomats only

### 12.2.3 PDF Output

The PDF output document is based entirely on the current Gates Hydraulic document output.



#### 12.2.3.1 PDF Header-Level Fields

* Letterhead: Automatically rendered by CPQ Cloud
* Customer Name: From selected customer
* Notes: Optional, manually-entered by quote owner
* Note: Optional, manually-selected from drop-down menu by quote owner
* CPNP: From manually-entered CPNP or selected customer
* ATTENTION: Manually entered contact or from selected customer
* Quote #: Generated by CPQ Cloud
* RFQ#: Manually entered by quote owner
* Quote Comment (not shown above): Manually entered by quote owner
* Expiration date: Snapped to the next year and a half mark
  + If Quote date is before June 30, goes to Dec 31 of next year
  + If Quote data is after June 30, goes to June 30 of year after next
* Shipping Location: Manually selected by quote owner from a drop-down menu in the quote screen

Note that the draft watermark will still appear as long as the quote hasn’t been submitted and approved. Once a quote is approved the draft watermark will no longer appear, even if the quote contains assemblies with no product number.

#### 13.2.3.2 PDF Hose-Level Fields

* Customer Part #: Manually entered by quote owner
* Gates Product #: Generated and retrieved from Item Registry
* Price: Assembly Unit Price after discount
* U/M: EA for assemblies
* EAU/Qty: Manually entered by quote owner
* Rev: Manually entered by quote owner
* Description: Automatically generated from configurator

#### 13.2.3.3 PDF Component/VARS-Level Fields

* Customer Part #: Blank. Does not apply for components
* Gates Product #: Product number
* Price: Component unit price after discount
* U/M: UoM for specific component
* EAU/Qty: Automatically calculated by configurator
* Rev: Blank. Does not apply for components
* Description: Automatically pulled from component database

### 13.2.4 Excel Output

The Excel Output uses the same header- and hose/component-level fields but saves them in Excel format

#### 13.2.4.1 Editing Excel

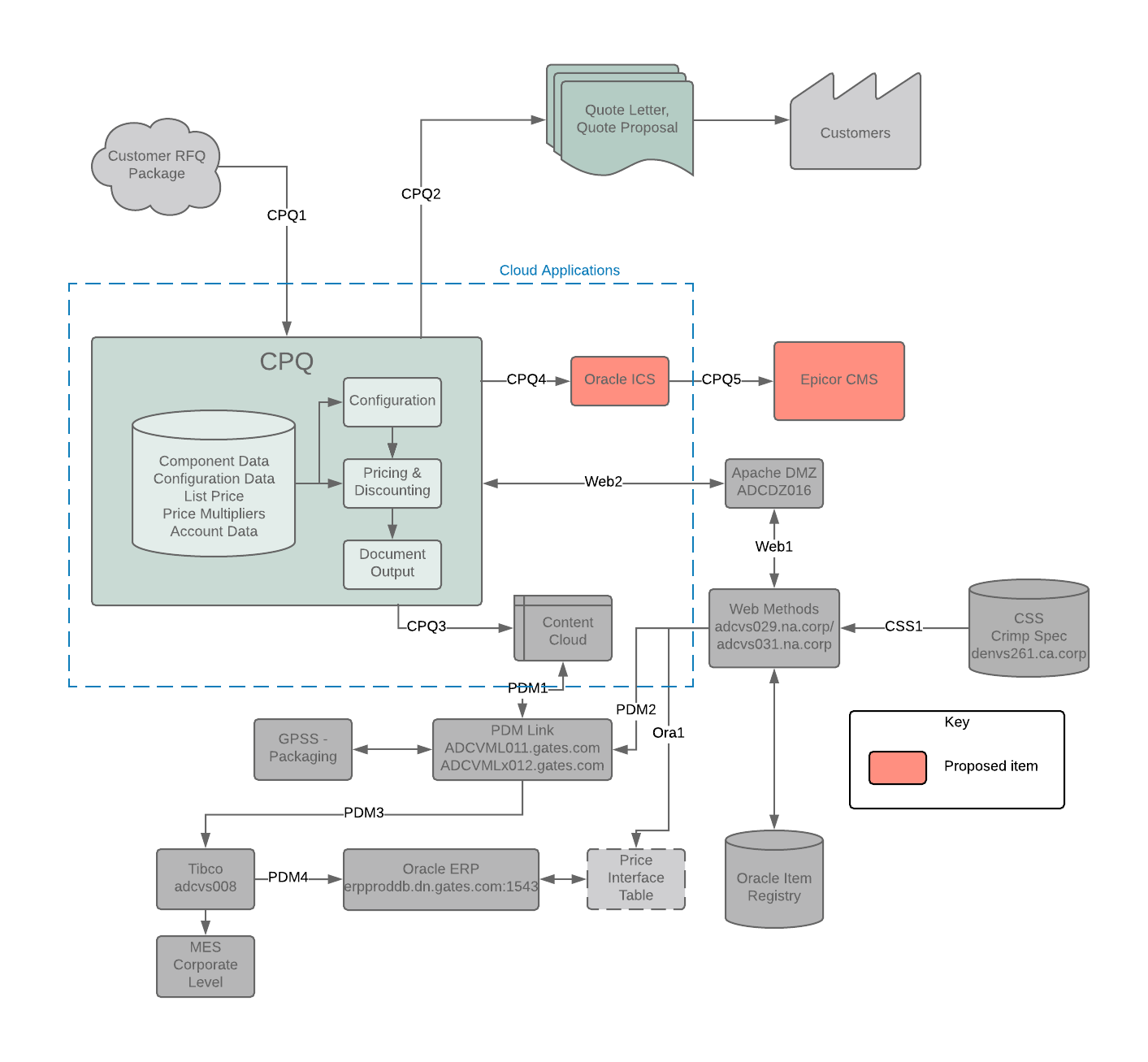
Users can save the Excel output document to their local machine for editing. The excel document will not use formulas but rather uses explicit values for any summation fields. Users can modify the output document and add formulas, rows, columns, fields, etc. as needed.

# 14 Integrations

Oracle CPQ Cloud allows for myriad integrations to various other systems via the internet.

## 14.1 Overall Architecture

Below is the overall architecture for the Atlas integration:



The following sections explain the details of the various systems and connections

### 14.1.1 System Elements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Diagram Element | System Owner | System Name | Dev Server Name | Prod Server Name | Additional Details |
| **Customer RFQ Package** | Spec Team | Manual Process | N/A |  | Users enter RFQ package details into CPQ manually |
| **CPQ** | Simplus | Oracle CPQ Cloud | test3gates | gates.bigmachines | Cloud-based platform. Users provisioned by Gates admin. |
| **Quote Letter** | Simplus | Oracle CPQ Cloud | test3gates | gates.bigmachines | PDF or Excel document can be emailed or saved to local machine |
| **Oracle ICS** | Simplus/Oracle | Oracle Integration Cloud Service | tbd | tbd | PaaS for passing BOM, labor, price, and cost data from CPQ to CMS |
| **Epicor CMS** | Epicor | Epicor CMS |  |  | IBM AS/400 servers |
| **Apache DMZ** | Nafeez | Gates DMZ machine | ADCDZ017 | ADCDZ016 | Windows servers |
| **webMethods** | webMethods Team | webMethods | denvs311/313.na.corp | adcvs029/031.na.corp | Windows servers |
| **CSS/Crimp Spec** | Srni | CSS | denvs261.na.corp | denvs261.na.corp | SQL DB Server |
| **PDMLink** | Hari | PDMLink | ADCVML015.gates.com & ADCVMLX014.gates.com | ADCVMLX011.gates.com and ADCVMLx012.gates.com | |
| **Tibco** | Hari | Tibco | adcvs008 | adcvs013 |  |
| **Oracle ERP** | Rajesh | Oracle EBS | erpdev2db.dn.gates.com:1596 | 3 | Dev Instance Name : ERPDEV2, Prod Instance Name : ERPPROD |

### 14.1.2 Connections

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Connection Element | Owner | Protocol | Port | Authentication Mechanism | Additional Details |
| **PDM1** | Hari | https | 8080 | Basic/base64Encrypted | REST API Call |
| **PDM2** | Hari | http | 80 | BASIC | REST API Call |
| **PDM3** | Hari | JMS/EMS/SOAP | PDMLink Master Server TCP://7222 | ERP DB Authentication | Tibco rendezvous/SOAP |
| **PDM4** | Hari | ODBC | Oracle ERP Database server SQL port |  |  |
| **Ora1** | Raj | TCP/IP |  | ID/PW | Webmethods uses EAI\_USER to connect to Oracle through preconfigured JDBC thin driver in webMethod |
| **CPQ1** | Michael | HTTPS |  | Username and password | Login to CPQ directly using username and pw |
| **CPQ2** | Michael | Email | Opportunistic over port 25 |  |  |
| **CPQ3** | Michael | HTTPS | 8080 | Basic/base64Encrypted | REST API Call |
| **CPQ4** | Michael | HTTPS | 7002 | Basic/base64Encrypted | SOAP Web Services API Call |
| **CPQ5** | Michael | HTTPS | 443 (or Epicor secure port) | Basic/base64Encrypted | REST and/or SOAP Web Services |
| **CSS1** | WebMethods Team | https | 1433 | User Credentials | JDBC Adapter configured with UN/PW |
| **WEB1** | WebMethods Team | http | 5555 | anonymous |  |
| **WEB2** | Nafeez | https | 7080 | Certificates installed on OCPQ | Uses standard SSL certificate for authentication provided by GeoTrust company |

## 14.2 PDM Link

The integration with PDM Link remains unchanged from the initial pilot.

## 

## 14.3 Oracle ERP

The integration with Oracle ERP remains unchanged from the initial pilot.

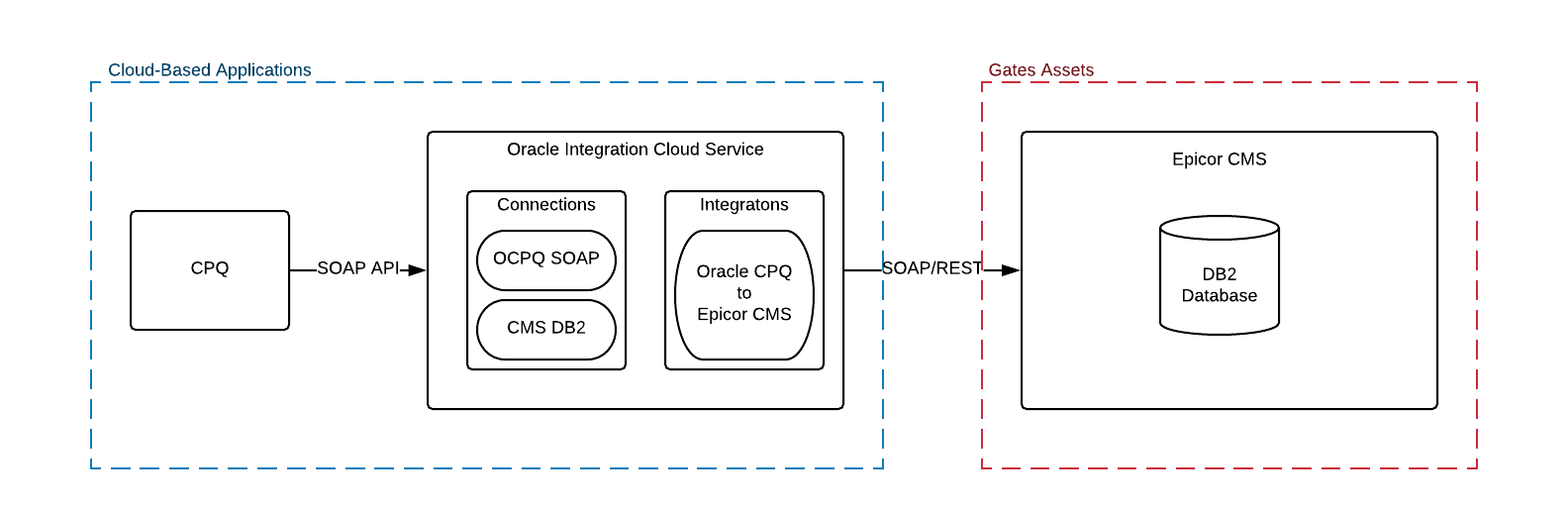
## 14.4 CMS

CMS is Atlas’s Manufacturing Execution System and needs BOM, pricing, and routing information about the assemblies quoted by CPQ.

The integration to CMS uses real-time integration via Oracle Integration Cloud Service (ICS). When a quote has transitioned to the final step, CPQ will send to CMS any products that are in production or have product numbers.

Each call into CMS will contain 1-10MB of data, and these calls will occur several times per hour on average. At peak times CMS may see 100MB of traffic per hour.

### 14.4.1 Architecture Diagram



### 14.4.2 Integration Details

|  |  |
| --- | --- |
| **Method of Communication** | HTTPS via Oracle ICS |
| **Endpoint/URI** | tbd |
| **Synchronous/Asynchronous** | Synchronous |
| **Frequency** | By request of user (upon marking a quote as “Finalized”), generally several times per hour |
| **Scope** | Multiple assemblies per session |
| **Operations** | Load Routing Info  Load Item Info  Load BOM Info  Load Global Info  Load Price Info  Load Notes Info |
| **Payload** | Into ICS: an XML of 1-10MB in size  Into CMS: one or more SOAP/REST API calls 0.1-1.0MB in size |
| **Response** | XML containing status and message for each of the assemblies sent |

### 14.4.3 Oracle Integration Cloud Service (ICS/OIC)

#### 14.4.3.1 Security

Oracle Integration Cloud Services (ICS) serves as an integration platform that sits between CPQ and Epicor CMS. All of Oracle’s Cloud Services adhere to Oracle Software Security Assurance (OSSA).

ICS is deployed in Tier IV Data Centers across 4 locations in North America (Chicago, Ashburn, Austin, and Toronto) and 4 location sin Europe (Linlithgow, Slough, Amsterdam, and Frankfurt).

ICS uses a broad range of tools for protection, including McAfee IntruShield. All servers, firewalls, network, and storage devices use IDPS software and Antivirus Software at all ingress and egress points and are scanned by SIEM, Cyber-security, and malware prevention software.

More detailed information can be found here: http://www.ateam-oracle.com/wp-content/uploads/2016/05/ICS-Security-and-Compliance\_v1.0.pdf

#### 14.4.3.2 Ownership and Control

Oracle ICS is a cloud-based Platform as a Service (PaaS) product. It is the responsibility of Gates IT to procure and manage the licenses. Gates IT (Tomas Forsgren) will retain admin rights of the platform and allow access to Simplus support consultants as needed.

While the platform is owned and administered by Gates IT, initial setup and continued maintenance of the ICS platform falls under the responsibility of Simplus through a Managed Service contract.

# 15 Users

## 15.1 User Management

Gates Corporation will manage users via the Oracle CPQ Cloud administration platform. All users will be created, updated, and managed through CPQ Cloud.

### 15.1.1 User Types

There are two large categories of users in Oracle CPQ Cloud: Full Access and Sales User.

|  |  |  |
| --- | --- | --- |
| **Function/Module** | **Full Access User** | **Sales Agent User** |
| **View, Create, Modify Users** | With Permission |  |
| **Product Definition and Catalog Definition** | With Permissions (permission granted by default) |  |
| **Data Tables** | With Permissions (permission granted by default) |  |
| **Remaining Admin Modules** | X |  |
| **Remaining User Side Modules** | X | X |

#### 15.1.1.1 Full Access User

Full Access users have access to quotes and to the administration platform of CPQ Cloud. Generally, developers and superusers/administrators are Full Access Users.

Full Access Users are the only users that can create/edit/and modify other users.

#### 15.1.1.2 Full Access User with Modified Permissions

It is possible to create a Full Access User with limited (modified) permissions. They are limited to specific areas, e.g. editing capabilities for specific data tables or configurators. A Full Access User with Modified Permissions cannot update code for the commerce process, i.e. the “quote”.

Gates will have two types of Full Access users: Administrators and Super Users

|  |  |  |
| --- | --- | --- |
| **Function/Module** | **Administrator** | **Super User** |
| **View, Create, Modify Users** | X |  |
| **Product Definition and Catalog Definition** | X |  |
| **Data Tables** | X | Configurator and Pricing Only |
| **Remaining Admin Modules** | X | X |
| **Remaining User Side Modules** | X | X |

#### 15.1.1.3 Sales User

Most users within CPQ Cloud will be Sales Users. Sales Users cannot access the administration platform and cannot create, edit, or modify other users.

### 15.1.2 Provisioning a New User

Full Access Users can create new users and modify current ones using CPQ Cloud’s administration platform. The process to create a new user is as follows:

1. Navigate to the administration platform and click on the Users icon
2. Click “Add”
3. Provide a Login, email address, and fist name; all other fields are optional
   1. You can also create a password for the new users, but it is generally best practice to leave the password blank and allow CPQ Cloud to randomly generate a password for the user
4. Click “Add”
5. CPQ Cloud sends an email to the new user with information on how to login to Oracle CPQ Cloud with their new credentials
   1. It is recommended that new users change their system-generated passwords to something more memorable as soon as possible
   2. It is also recommended that new users create and answer their security question so that they can have their passwords reset if they ever lose them.

### 15.1.3 Deactivating a User

Full Access Users can mark users as Inactive. An inactive user still exists within CPQ Cloud but does not count towards the license count and cannot login to CPQ Cloud. To mark a user as inactive:

1. Navigate to the administration platform and click on the Users icon
2. Select the users that need to be marked as inactive
3. Click "Inactivate"

To re-activate a user. Follow steps 1 & 2 above and then click "Activate".

### 15.1.4 Forgot Username/Password

Users that forget their username and/or password can request to have their passwords reset via email. Users need to provide their email address as well as answer a security question that he or she set up.

## 15.2 Profiles

Profiles – or participant profiles – are what allow Oracle CPQ Cloud to control user access rights to quotes. Profiles control who can access each quote at each step and what those users can see, edit, and do within the quote.

There will exist four participant profiles across the steps of the quoting process. They are:

* Administrator
* Manager/ASM
* Pricing Specialist
* Quoter

### 15.2.1 General Strategy

Gates employs a highly collaborative quoting process and so there is not much differentiation between the various types of users. Administrators – who can see, edit, and do just about anything – have special privileges that other users do not. But Managers and Quoters share similar access rights across all quotes.

### 15.2.2 Administrator

Users that fall into the administrator profile can see, do, and access just about everything within a quote at any time. Very few people will be given administrator rights; these are generally people who will be tasked with troubleshooting quotes and/or updating and migrating code.

Administrators can also view special administration-only fields that provide detailed data about the quote that normal users would not need to see.

### 15.2.3 Manager

Users who fall under the manager profile can review the quote during financial approvals and make approval and reject decisions.

Managers have access to all quotes and can open any of them. Specific managers can approve and rejects quotes that await their approval; approval routing is explained in a previous Approvals section of this document.

### 15.2.4 Pricing Specialist

Users who fall under the pricing specialist profile have read/write access to all quotes. Furthermore, they can override system-derived prices and costs where needed. These are generally pricing analysts in IOE quotes and PMs in Aftermarket transactions.

### 15.2.5 Quoter

Users who fall under the quoter profile have general read/write access to all quotes. These are generally engineers and someone in this profile would never be asked to approve a quote.

## 15.3 Groups

While profiles specifically control access rights on quotes, groups have a more generalized purpose. Groups can be mapped to profiles, but they can also act as approvers for quote workflow; the group(s) a user is in can drive configurator behavior; groups can drive quote behavior; and more.

Users within Oracle CPQ Cloud can belong to one or many groups depending on the needs of the application. Cirrus will create groups for the regions, profiles, and additional special groups to allow for future scalability in the application.

### 15.3.1 Superuser/Administrator

Users within the Superuser group have access to the highest privileges. These users have full access rights to all quotes always. They are trained CPQ administrators and developers.

### 15.3.2 ASM

Any user considered an ASM falls into this group. As of now, no special functionality exists for these users.

### 15.3.3 Manager

Any user considered a manager falls into this group. As of now, users in this group will fall into the Manager profile.

### 15.3.4 Price Specialist

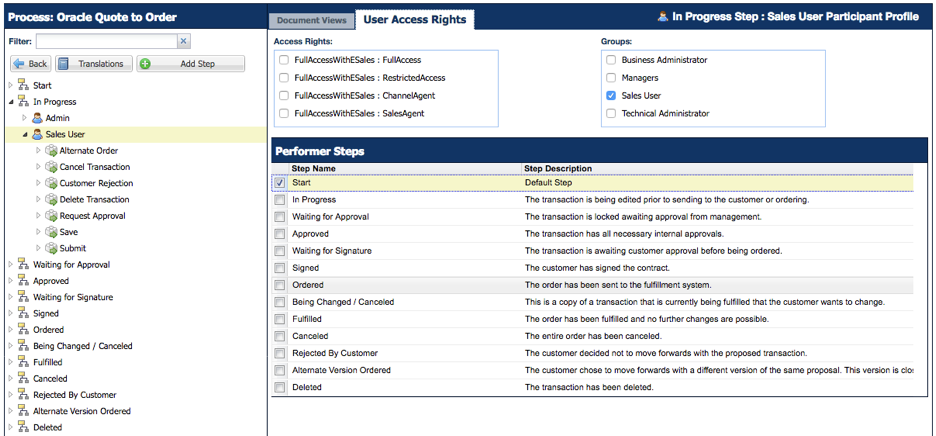
Any user considered a price specialist falls into this group. Price specialists are quoters who are also able to modify system-derived prices and costs where needed. Users in this group will fall into the Price Specialist profile.

### 15.3.5 Engineer

Any user considered an engineer. Engineers are responsible for providing the detailed configuration data for the hoses on the quote.

## 15.4 Permissions

Quote permissions are defined during each step of a quote’s lifecycle. CPQ Cloud allows for an incredibly robust and detailed approach to permissions in a quote, down to each individual field.



The screenshot above shows the administration area for defining quote access for users within the system. It is for informational purposes only and does not reflect the setup that would be in use for the Gates Pilot implementation.

### 15.4.1 Steps

Quote steps are the discretized "stages" of a quote's lifecycle. A quote can only be in one step at a time, and the step it is in drives the way users interact with it.

Within each step, we set up the profiles that define the read/write access of users using the system. A user can fall into a profile based on his or her:

* User Type
* Group
* Performer Step (Not used for Gates)

Note that in each step, Administrators can archive quotes. These archived quotes are never truly deleted, but they can be archived so they are not available to other users.

#### 15.4.1.1 Start / Document Upload Step

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Profile | Included User Types | Included Groups | Open Quote | Edit Quote | Modify Price / Cost | Archive Quote |
| **Administrator** | Full Access |  | X | X | X | X |
| **Pricing Specialist** |  | Price Specialist | X | X | X |  |
| **Quoter** | Sales Agent |  | X | X |  |  |

#### 15.4.1.2 Spec and Pricing Step

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Modify Price / Cost** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X | X |
| **Pricing Specialist** |  | Price Specialist | X | X | X |  |
| **Quoter** | Sales Agent |  | X | X |  |  |

#### 15.4.1.3 ASM Review Step

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Modify Price / Cost** | **Approve Quote** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X | X | X |
| **Manager** |  | ASM | X | X |  | X |  |
| **Pricing Specialist** |  | Price Specialist | X | X | X |  |  |
| **Quoter** | Sales Agent |  | X | X |  |  |  |

#### 15.4.1.4 Financial Approval Step

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Modify Price / Cost** | **Approve Quote** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X | X | X |
| **Manager** |  | Manager | X | X |  | X |  |
| **Pricing Specialist** |  | Price Specialist | X | X | X |  |  |
| **Quoter** | Sales Agent |  | X | X |  |  |  |

#### 15.4.1.5 Approved Step

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X |
| **Manager** |  | Manager | X | X |  |
| **Pricing Specialist** |  | Price Specialist | X | X |  |
| **Quoter** | Sales Agent |  | X | X |  |

#### 15.4.1.6 Rejected Step

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X |
| **Manager** |  | Manager | X | X |  |
| **Pricing Specialist** |  | Price Specialist | X | X |  |
| **Quoter** | Sales Agent |  | X | X |  |

#### 15.4.1.6 Finalized Step

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Profile** | **Included User Types** | **Included Groups** | **Open Quote** | **Edit Quote** | **Archive Quote** |
| **Administrator** | Full Access |  | X | X | X |
| **Manager** |  | Manager | X | X |  |
| **Pricing Specialist** |  | Price Specialist | X | X |  |
| **Quoter** | Sales Agent |  | X | X |  |

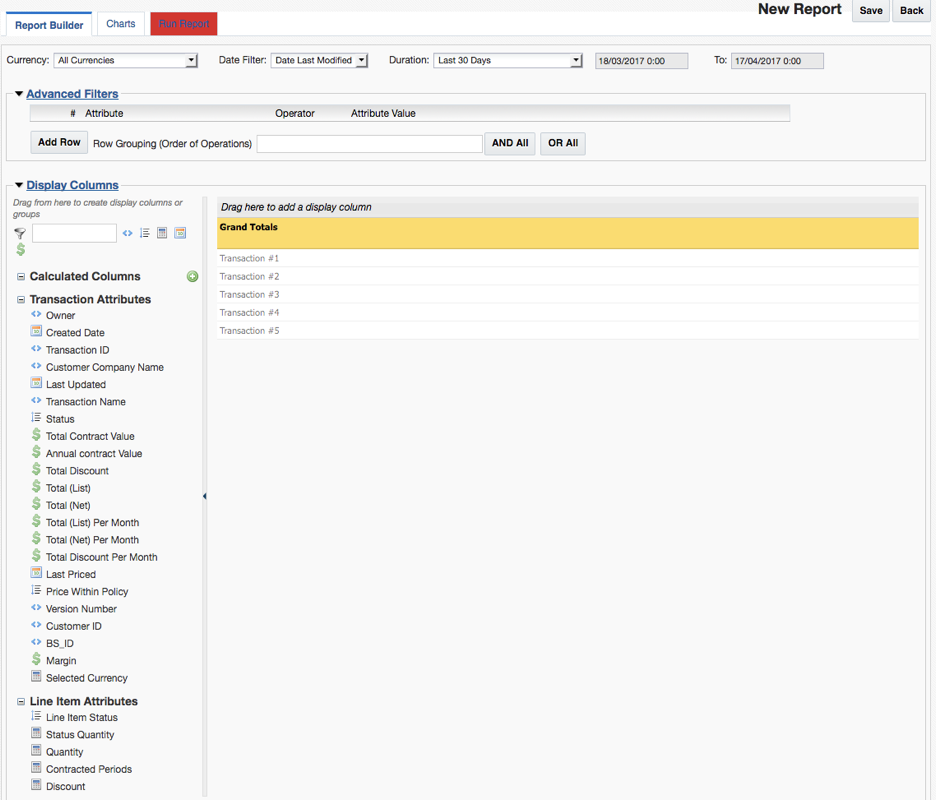
#### 

# 16 Reports

Oracle CPQ Cloud contains a reporting module capable of reporting on Quote- and assembly-level information. Users can access the module and create report templates based on metrics of interest. These templates can be saved for future use.

## 16.1 Native Reporting

The native reporting module exists within the CPQ Cloud administration platform. Users can create their own reporting templates and run reports as needed.



### 16.1.1 Creating a Report

Users create a report with the following steps:

1. Define filter criteria for the report
   1. E.g., a regional manager may only wish to run a report for the quotes that fall within her region
2. Drag and drop fields into the display columns
   1. Users can place quote- and assembly-level fields into the display columns
   2. Users can also create groups of data for grouping and sorting purposes
      1. E.g. a regional manager may wish to group quotes by the employees that report to her
3. Configure charts if desired
   1. Set the X and Y axes for preparing charts with the data
4. Run the report
   1. Oracle CPQ Cloud provides a basic view of the report contents
5. Download the report
   1. Oracle CPQ Cloud allows users to download the raw report data to CSV for editing, viewing, and analyzing via Excel.
6. Save the report
   1. Saving the report allows the user to run the report again in the future.

### 16.1.2 KPIs/Metrics

Reports in CPQ Cloud can be created from specific quote- and assembly-level fields known as data columns. CPQ Developers can make specific fields data columns so that they can be used for the purposes of reporting.

#### 16.1.2.1 Quote Cycle Time

There exist seven major metrics for measuring quote cycle time. Oracle CPQ Cloud will automatically calculate these values for each quote. They are the times between:

* Date received and date given to engineering
* Date given to engineering and submitted to the pricing team
* Submitted to pricing team to given to ASM for review (if needed)
* Submitted to ASM to submitted to financial review (if needed)
* Submitted to financial review to quote approved (if needed)
* Quote approved to print PDF
* Date received to print PDF

#### 16.1.2.2 Quote Price Deviations

Quote price deviations are also metrics of interest for Gates. Oracle CPQ Cloud will automatically calculate for each quote:

* Quote deviation % (assuming EAU of 1 for all assemblies in the quote/package)
* Quote impact (using the supplied EAU)

## 16.2 BI Compatibility

Oracle CPQ Cloud has robust integration capabilities, including the ability to feed data into a BI system for running complex Business Intelligence analytics.

Though it has not been defined for this Hydraulic Hose pilot, CPQ Cloud can push any data entered into or calculated by CPQ Cloud to a BI system. No development is required for real-time BI updating of the quote.

This approach of allowing external BI systems to run complex analyses is considered best practice, as these tools are purpose built for business analytics and can use data fed to it from disparate data sources - not just from CPQ Cloud.

# 17 Appendix

## 17.1 ListPrices

Schema

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Data Type | Description | Example Data |
| Product | String | Product number for this record | 7230001 |
| CPNP | String | ALL: Applies to all CPNPs  [XXXX]: A price override for XXXX for the product | ALL  DEER |
| PriceList | String | Name of price list | CANADA  USA |
| Price | Float | If CPNP = ALL, the list price of the product  If CPNP != ALL, the override price of the product in CAD | 2.61 |
| EffectiveFrom | String | The effective start date in YYYY-MM-DD format | 2018-01-31 |
| EffectiveTo | String | The effective end date in YYYY-MM-DD format | 2018-12-31 |

Example Data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Product | CPNP | PriceList | Price | EffectiveFrom | EffectiveTo |
| 72723001 | ALL | USA | 1.60 | 2018-01-31 | 2020-12-31 |
| 72723005 | ALL | USA | 2.56 | 2018-01-31 | 2020-12-31 |
| 72724001 | ALL | USA | 0.18 | 2018-01-31 | 2020-12-31 |
| 72724001 | DEER | USA | 0.14 | 2018-01-31 | 2020-12-31 |
| 72724005 | ALL | USA | 0.78 | 2018-01-31 | 2020-12-31 |
| 72723001 | ALL | CANADA | 0.91 | 2018-01-31 | 2020-12-31 |
| 72723005 | ALL | CANADA | 2.56 | 2018-01-31 | 2020-12-31 |
| 72724001 | ALL | CANADA | 0.18 | 2018-01-31 | 2020-12-31 |
| 72724001 | DEER | CANADA | 0.14 | 2018-01-31 | 2020-12-31 |
| 72724005 | ALL | CANADA | 0.78 | 2018-01-31 | 2020-12-31 |

## 17.2 Costs

Schema

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Data Type | Description | Example Data |
| ProductNumber | String | The product number | 72370001 |
| LocationType | String | The type of location | COUNTRY |
| Location | String | The location/plant | USA  CANADA  MEXICO |
| Currency | String | Cost currency | USD  MXN  CAD |
| Cost | Float | The material cost of the component | 1.23 |

Example Data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ProductNumber | LocationType | Location | Currency | Cost |
| 7273001 | COUNTRY | USA | USD | 0.23 |
| 7273001 | COUNTRY | CANADA | CAD | 0.28 |
| 7273001 | COUNTRY | MEXICO | MXN | 0.29 |

## 

## 17.3 Multipliers

Schema

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Data Type | Description | Example Data |
| CustomerLevel | String | Determines if the record is for a CPNP or BillTo | CPNP  BillTo |
| CustLevelId | String | Id of the customer | CP00001  BT00001 |
| CustLevelName | String | Name of the customer | DEER  DEER Desmoine |
| ProductLevel | String | Determines if the record is for a parent or a child | Parent  Child |
| ProdLevelVal | String | Parent or child value | Hose  M3K |
| MultiplierVal | Float | Multiplier value | 0.11 |

Example Data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CustomerLevel | CustLevelId | CustLevelName | ProductLevel | ProdLevelVal | MultiplierVal |
| CPNP | CP00001 | DEER | Parent | Cap Plug | 0.13 |
| CPNP | CP00001 | DEER | Parent | Coupling | 0.21 |
| CPNP | CP00001 | DEER | Parent | Hose | 0.14 |
| BillTo | BT00001 | DEER Desmoine | Child | M3K | 0.08 |
| BillTo | BT00002 | DEER Brantford | Child | M4K | 0.09 |
| CPNP | CP00001 | DEER | Parent | Labor | 0.75 |

1. Note that the column order in this image is incorrect. Use the order in the list above. [↑](#footnote-ref-0)