**Configure Price Quote (CPQ)**

**Non-Cacheable APIs**

Salesforce provides a complete set of cart-based APIs for creating, updating and submitting carts such as Orders, Quotes, and Opportunities. These APIs are not cacheable because they perform CPQ calculations at runtime and update the state of the cart with each call.

Industries CPQ is fully hosted on the Salesforce platform. To avoid deployment problems and degradation in service quality, we recommend that the number of orders, quotes, order lines, and quote lines processed in your org not exceed the limits listed below. If your growing deployment exceeds the guidance shown in the following table, contact your account representative to understand how Salesforce can scale to meet your needs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NUMBER OF LINE ITEMS IN ORDER\*** | **NUMBER OF PRODUCTS IN SALES CATALOG** | **DEPTH OF PRODUCT BUNDLE HIERARCHY PER LINE** | **PEAK NUMBER OF API CALLS\*\* PER HOUR** | **PEAK NUMBER OF ORDERS\*\*\* PER HOUR** |
| Up to 10 | 1,500 | Up to 3 | 113,000 | 4,300 |
| 11 to 23 | 1,500 | Up to 3 | 87,500 | 3,500 |

\*The test was carried out with a catalog containing 1,500 products with an average of 12 attributes including 2 configurable attributes.

\*\*The only load in the Salesforce Org was the Industries CPQ Cart APIs

\*\*\*An order is comprised of, on average, 25 API calls during the shopping experience, from browsing to ordering.

The limits listed above are not hard limits. Salesforce tests CPQ to a higher level of throughput to ensure that unexpected high peaks are handled gracefully by the service. Your product model, number of pricing rules, number of compatibility rules, number of configuration rules, number of promotions, load, performance, and other system issues can prevent some limits from being reached. Stated limits are not a promise that the specified throughput is available in all circumstances.

Typical Shopping Funnel for Existing Customers

In this example, every new and returning customer places an order. The API calls in this example include:

* 15% New Customer Orders
* 85% Returning Customer Orders

**Cacheable APIs**

Salesforce also provides a set of cacheable APIs (also known as Digital Commerce APIs) that enable consumer shopping use cases where the user is often anonymous until well into the checkout process. These APIs cache responses by customer context in order to deliver faster response times and higher scalability than is possible using the cart-based non-cacheable APIs. These APIs also enable browsing for eligible offers without first creating a cart for the shopper.

Our CPQ Cacheable APIs are currently intended to support B2C Scenarios. While it is our intent to support various Product Catalog scenarios, it is important to note that specific guardrails must be respected to get the best performance out of these Cacheable APIs.

We recommend that the number of Baskets, Orders, and Order lines processed in your org not exceed the limits listed below. Contact your Salesforce account representative to understand how Salesforce can scale to meet your needs.

*Typical Shopping Funnel for New Prospect*

In this example, very little of the shopping traffic results in an order. The API calls in this example simulate the following shopping funnel:

* 75% Browsing Only
* 20% Browsing and Adding Items to Basket
* 05% Browsing, Adding Items to Basket and CheckOut

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NUMBER OF LINE ITEMS IN BASKETS** | **NUMBER OF PRODUCTS IN SALES CATALOG** | **DEPTH OF PRODUCT BUNDLE HIERARCHY PER LINE** | **PEAK NUMBER OF API CALLS PER HOUR (W/O DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF API CALLS PER HOUR (W/ DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF ORDERS PER HOUR (W/O DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF ORDERS PER HOUR (W DIGITAL COMMERCE GATEWAY)** |
| Up to 10 | 1500 | Up to 3 | 782,000 | 2,084,000 | 2,600 | 6,700 |
| Up to 23 | 1500 | Up to 3 | 602,000 | 1,602,000 | 1,900 | 5,000 |
| The test was carried out with a catalog containing 1500 products with an average of 12 attributes including 2 configurable attributes per product.  The test warmed up all caches ahead of time so there are zero cache misses. | | | | | | |

*Typical Shopping Funnel for Existing Customers*

In this example, every returning customer places an order, while many new prospects leave before checkout. The API calls in this example simulate the following shopping funnel:

* New Customer Orders
  + 20% Browsing Only
  + 10% Browsing and Adding Items to Basket
  + 05% Browsing, Adding Items to Basket and CheckOut
* Returning Customer Orders
  + 65% Browsing, Adding Assets and Items to Basket and CheckOut

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NUMBER OF LINE ITEMS IN BASKETS** | **NUMBER OF PRODUCTS IN SALES CATALOG** | **DEPTH OF PRODUCT BUNDLE HIERARCHY PER LINE** | **PEAK NUMBER OF API CALLS PER HOUR (W/O DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF API CALLS PER HOUR (W/ DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF ORDERS PER HOUR (W/O DIGITAL COMMERCE GATEWAY)** | **PEAK NUMBER OF ORDERS PER HOUR (W/ DIGITAL COMMERCE GATEWAY)** |
| Up to 10 | 1,500 | Up to 3 | 386,000 | 490,000 | 16,800 | 34,300 |
| Up to 23 | 1,500 | Up to 3 | 157,000 | 323,000 | 11,200 | 22,700 |
| The test was carried out with a catalog containing 1500 products with an average of 12 attributes including 2 configurable attributes per product.  The test warmed up all caches ahead of time so there are zero cache misses. | | | | | | |

**What is a CPQ Cache Miss?**

An Industries CPQ cache miss is a state in which the data requested for processing a CPQ API request is not found in the API Response Cache. (If it were found, then it would be a cache hit.)

Cache misses lead to higher response times because the CPQ API must execute the CPQ engine to calculate the response, then it generates the response and stores it in the cache.

**Frequency of Basket Cache Misses**

The frequency of cache misses is determined by the basket shape. Several factors contribute to the basket shape, including those listed here:

* Number of Dimensions (which is determined by the eligibility rules)
* Number of configurable attributes
* Number of promotions applied per product
* Number of product line item combinations

**Cache Warm-Up**

Salesforce provides automated warm-up cache responses for anonymous browsing calls (GetOffers and GetOfferDetails). Several factors contribute to the performance of cache warm-up jobs, including those listed here:

* The number of eligibility rules
* The depth of the hierarchy of products
* The number of offers in a sales catalog

**Multi-Site Quote and Order Capture**

Multi-Site Quote and Order Capture functionality enables the Energy & Utilities providers to generate Quotes and Orders for thousands of subscribers. The individual service points, premises, service accounts, or subscribers can be grouped, and the same product configuration can be applied to each group member to generate Quotes or Orders. The product configuration for each group member is then validated and priced, before submitting the Quote or Order.

The Validate & Price functionality in the Multi-Site Quote and Order Capture can process a maximum of 8800 members in a group. Therefore, when you create groups, make sure that there are no more than 8800 members in a single group.

**Enterprise Product Catalog (EPC)**

* Salesforce Security profiles are not supported.
* You must manage product attributes using Product Designer or Product Console. Do not use Salesforce Classic.
* The range for the number of Product Catalog translations in the Translation Object is up to 50,000.
* The recommended levels for Product Hierarchy is 3 to 4.
* Product Designer:
  + Recommended assigned attributes per product: 50 or fewer.
  + Objects, products, and offerings can have only one facet, which must be General Properties.

**Order Management Standard**

Industries Order Management is a fully Salesforce-hosted application. To avoid deployment problems and any degradation in service quality, we recommend that the runtime load (ie. number of orders processed in your org per hour, and corresponding complexities) not exceed the limits listed below. If your growing deployment needs to support more orders per hour, contact your Salesforce account representative to learn how Salesforce can scale to meet your demands.

All new Salesforce environments come with a default set of Platform Events and Asynchronous Apex Callouts. These resources are shared across all applications in the Salesforce environment. Industries OM makes use of both Platform Events and Asynchronous Apex Callouts to improve the overall performance of fulfillment. To achieve the volumes listed in the table below, customers may need to purchase additional Platform Events and Asynchronous Apex Callout licenses beyond the default allocations.

Fulfillment throughput will vary depending on the number of commercial line items, Fulfillment Request Lines generated during decomposition, order hierarchy, number of attributes, complexity of orchestration plans, and whether synchronous or asynchronous order submission is employed. Order Decomposition is a highly complex operation. To ensure that Salesforce governor limits are not exceeded we recommend keeping the combined number of OLIs and FRLs under 100. Note however that the actual number may vary depending on the number of attributes, complexity of the orchestration plan, and the type of order submission mechanism used (synchronous vs. asynchronous).

The following table highlights the approximate scalability of Industries Order Management for two different complexity models and the resources required for each when using Platform Events mode:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **COMMERCIAL MODEL** | | **TECHNICAL MODEL** | | **ORCHESTRATION** | **THROUGHPUT** | | **RESOURCE CONSUMPTION** | |
| Products (Root / OLI) | Attributes per Product | FRLs | Attrs per Product | Total tasks / Callouts and autotasks | Peak Orders per Hour | Avg Orders per Day | Platform Events per Day | Async Apex Callouts per Day |
| 1 / 5 | 10 | 10 | 10 | 11 / 4 | 30,000 | 150,000 | 600,000 | 600,000 |
| 1 / 15 | 10 | 20 | 10 | 13 / 6 | 20,000 | 100,000 | 600,000 | 600,000 |

The limits listed in the above tables are not hard limits. Salesforce tests Order Management to higher levels of throughput to ensure that unexpectedly high peaks are handled gracefully by the service. However, stated limits may be lower as a result of product model complexity, system configuration, overall system load, or other system issues. Industries Order Management consumes from the shared resources in your Salesforce organization. Other processing may reduce your ability to achieve the stated limits. Customers must test their configuration of OM with a realistic production background load to determine their estimated performance and scalability.

Customers are responsible for ensuring that an adequate amount of Platform Events and Asynchronous Apex Events are available for appropriate operation of the Order Management functions. For more information about Platform Events, see [Platform Events Developers Guide](https://developer.salesforce.com/docs/atlas.en-us.platform_events.meta/platform_events/platform_event_limits.htm). For more information about asynchronous Apex Events see [Apex Transactions and Governor Limits](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_gov_limits.htm).

Orchestration plans containing large numbers of orchestration items (for example, more than 80) are not recommended and may adversely affect order submission and orchestration performance. This recommendation applies to all order types, including regular orders, MACD, and supplemental orders (which often generate large orchestration plans). The recommended number of orchestration items is sometimes lower, depending on product model complexity, usage of complex conditions in scenarios and other factors. Consider using asynchronous order submission as a possible mitigation measure: [OM Standard: Optimize Large Order Submission with OrderSubmitMode](https://help.salesforce.com/s/articleView?id=ind.comms_t_om_standardoptimize_large_order_submission_with_ordersubmitmode_238943.htm&language=en_US&type=5)

Additional Notes:

* Synchronous order submission has been used for these tests
* Additional Async apex callouts and Platform Events are consumed when fulfillment system level retries occur. These tests assume all callouts were successful on the initial interaction
* Each additional Callout or Autotask instance introduced into the orchestration plan will consume an additional Platform Event and an additional Async Apex callout
* All testing has been done using JSONattribute v2. For additional information please see: JSONAttribute v2 Schema Upgrade Considerations
* A 1.5 Second average Fulfillment System latency was introduced for these tests.

**Contract Lifecycle Management**

Web Templates have the following limitations:

* Salesforce provides a feature to generate a Microsoft Word file with .docx file extension from a HTML document. Only a subset of HTML tags are supported for conversion.
* Only a three-level hierarchy of embedded web document templates is reliably-supported, and this includes the top level parent template.
* Chart-generation and dynamic-insertion of images is not supported.
* In online-generation mode, documents with up to 200 line items can be reliably-generated, assuming each line item displays five columns.
* In batch-generation mode, documents with up to 3,000 line items can be reliably-generated, assuming each line item displays five columns.
* Batch-generation of a document only downloads the document to Microsoft Word format.

Vlocity for Microsoft Word Templates with .docx file extensions have the following limitations:

* Chart-generation and dynamic-insertion of images and hyperlinks is not supported.
* A maximum of 3,000 line items items can be reliably-generated using custom-class mapping documents.
* Does not support generation of documents in batch mode.

**Document Generation**

Server-Side document generation have the following limitations:

* Size limit: You can submit up to 1000 requests per hour per org for one MB sized documents.
* Content Version daily limit: The generated documents are stored in Salesforce Content. Each org type has a daily limit (per 24 hours) on how many .docx and .pdf documents can be generated and stored. For more information, see [Content Version Limit](https://help.salesforce.com/s/articleView?id=000334861&type=1&language=en_US).
* File Storage limit: The org’s file storage limit is calculated by a base allocation based on your Salesforce org edition plus a per-user allocation multiplied by the number of standard licensed users in the organization. For more information, see [File Storage Limit](https://help.salesforce.com/s/articleView?id=sf.files_storage.htm&type=5&language=en_US).

Client-Side document generation have the following limitations:

* Content Version daily limit: The generated documents are stored in Salesforce Content. Each org type has a daily limit (per 24 hours) on how many .docx and .pdf documents that you can generate and store. For more information, see [Content Version Limit](https://help.salesforce.com/s/articleView?id=000334861&type=1&language=en_US).
* File Storage limit: The org’s file storage limit is calculated by a base allocation based on your Salesforce org edition plus a per-user allocation multiplied by the number of standard licensed users in the organization. For more information, see [File Storage Limit](https://help.salesforce.com/s/articleView?id=sf.files_storage.htm&type=5&language=en_US).

**Enterprise Sales Management**

The following table provides information regarding the maximum number of quote members and quote line items that Enterprise Sales Management can process. These limits are calculated based on the following assumptions:

* One offer with 20 child products and three levels of product hierarchy
* Five attributes of different types per product
* One eligibility rule for each product

The limits given here might vary in your org depending on your product model and any configuration that you might have performed. It's recommended that you verify these limits in your org using your own data and configuration.

|  |  |  |
| --- | --- | --- |
| **USER OPERATION** | **NUMBER** | **EQUIVALENT NUMBER OF QUOTE LINE ITEMS** |
| Maximum number of subscribers or locations that you can upload from a csv/xls file in one operation | 2,500 | N/A |
| Maximum number of subscribers or locations that you can add to a group | 1,400 | N/A |
| Maximum number of subscribers or locations that you can assign offers to | 5,000 | 100,000 |
| Maximum number of subscribers or locations for which you can view quote line items in the quote summary | 5,000 | 100,000 |
| Maximum number of subscribers or locations for which you can create an order | 2,300 | 50,000 |
| Maximum number of root assets with up to 20 child line items that you can view in the asset viewer | 1,800 | 36,000 |
| Maximum number of line items in the working cart for a single product bundle | N/A | 91 |
| Maximum number of product bundles in the working cart with each bundle consisting of up to 20 line items | 5 | 100 |
| ​Maximum number of members you can view on the Summary, Location, and Subscriber tabs as a result of the implementation of Pagination.  ​​ | 2000 | N/A |

**Advertising Sales Management**

In the Media Plan Creation workflow, you can:

* Use the Save Template feature with a maximum of 30 media placement items.
* Use the Import Placement feature to import a maximum of 125 media placement line items through a CSV file.
* Use the Clone Placement feature with a maximum of 140 placements.
* Use the Edit Placement feature with a maximum of 145 placements.