Propel Integration

Contents

Introduction

Propel is a self-service catalog web application that exposes services provided by back end systems for consumption. Propel can be integrated with HPE Cloud Service Automation (CSA), so that the CSA offerings, catalogs, and marketplace layers are replaced by corresponding micro-services running in Propel.

This document describes basic concepts of the CSA-Propel integration, describes the use cases provided by the integrated solution, and provides technical details such as the adapter layer and CSA public APIs. The solution limitations are documented at the end of this document.

Basic concepts

The following concepts are enumerated and then described in detail later in this document:

- CSA takes care of resource provider definition, service design creation, fulfillment execution, and service instance and subscription management.
- Propel exposes service offerings based on CSA service designs. Propel manages catalogs and organizations, and publishes the service offerings in the Propel Shop for service consumers.
- Service instance and subscription are held in CSA but are also mirrored in Propel, so that service consumers can view and manage their purchased services.
- CSA and Propel communicate using a Service Exchange (SX) middle layer with an adapter designed specifically to interact with CSA.

CSA role

In the integrated solution, CSA plays the role of fulfillment engine. It exposes a set of APIs that provide capabilities to realize a service design and manage the running service. Service designs must be created and published in CSA and resource providers that are capable of providing the required resources must be configured.

Resource providers must be organized in CSA environments and assigned to the default catalog for the organization in order to identify organization resource providers during fulfillment from Propel. In this way the CSA-Propel integration supports multitenancy for resource providers.

When a service design is fulfilled, a service instance and service subscription are created in CSA. Both entities are linked to the service design directly. There is no service offering in CSA. Both the instance and the subscription can be managed with lifecycle and public actions from the CSA Management Console.

Propel role

Propel provides a customer-facing user interface to manage organizations and to publish services for each organization. The organization administrator can publish service offerings that are fulfilled by a back end system such as CSA. Back end systems are called *suppliers* in Propel. The service offerings (which are called service designs in CSA) are loaded from suppliers using a catalog aggregation process and exposed to consumers in the Propel Shop. Realized services can be managed using services.

Service Exchange middle layer

When Propel communicates with a back end system, it uses Service Exchange (SX) as a translation layer. There is specific adapter implemented in SX for each type of back end system. The adapter knows how to translate messages going back and forth and what API should be invoked on the back end system when a specific event or operation is initiated from Propel.

Environment configuration

The CSANG adapter supports Propel 2.20 and can be configured for CSA 4.60, CSA 4.70 and CSA 4.80. In document we will use CSA 4.70+ notation to identify both CSA 4.70 and CSA 4.80 versions, as there were no major changes.

The CSANG adapter supports Propel 2.20 and can be configured for CSA 4.60 and CSA 4.70+. The difference between CSA versions is that CSA 4.60 has its own IdM instance, while CSA 4.70+ can be configured to use either Propel's IdM instance, or its own IdM instance. The integration style is selected in CSANG Supplier configuration.Installation and configuration guides for CSA and Propel are available from HPE Software Support Online at softwaresupport.hpe.com.

Propel 2.20 and CSA 4.60

In this integration, both Propel 2.20 and CSA 4.60 have its own IdM instances. The CSANG adapter is distributed as part of Propel 2.20, For CSA 4.60 you must apply a 4.60-hotfix. Contact support for this hotfix.

It is necessary to establish trust (exchange certificates) between CSA and Propel as described in Appendix B: Establishing trust between CSA and Propel.

In CSA 4.60, organizations and users are created as result of Propel request processing. Organizations are created without authenticator, so it is not possible to sign in to the organization, but it is possible to see the organization and users in the Operation view.

For exact product versions please refer to Table 1. Integration Matrix

Table 1. Integration Matrix

Integration	CSA version	Propel version
Propel 2.20 and CSA 4.60 with Private IdM Instances		
	CSA 4.60 Patch 1 + 4.60-hotfix	Propel 2.20
	CSA 4.60 Patch 1 + 4.60-hotfix	Propel 2.20 Patch 1

Propel 2.20 and CSA 4.70+ Sharing Propel IdM instance		
	CSA 4.70	Propel 2.20
	CSA 4.70 Patch 1 + 4.70-hotfix	Propel 2.20 Patch 1
	CSA 4.80	Propel 2.20 Patch 2
Propel 2.20 and CSA 4.70+ with private IdM instances		
	CSA 4.70 Patch 1 (+4.70-hotfix optional)	Propel 2.20
	CSA 4.70 Patch 1 (+4.70-hotfix optional)	Propel 2.20 Patch 1
	CSA 4.80	Propel 2.20 Patch 2
4.60-hotfix – please contact support for this hotfix		
4.70-hotfix – can be downloaded from https://patch-central.corp.hpecorp.net/crypt-web/protected/viewContent.do?patchId=QCCR1D230895_-_UNABLE_TO_ORDER_CATALOG_IN_PROPEL_WITH_SHARE		

Propel 2.20 and CSA 4.70+ sharing Propel IdM instance

This integration supports the case, where CSA and Propel are distributed and deployed as one application, so both CSA and Propel are sharing the same provider organization, and consumer organizations.

In this integration, CSA 4.70+ uses the IdM instance from Propel 2.20. See Appendix A: Configuration for CSA 4.70+ to use IdM from Propel 2.20.

The CSANG adapter is distributed with Propel 2.20.

It is necessary to establish trust (exchange certificates) between CSA and Propel as described in Appendix B: Establishing trust between CSA and Propel.

For exact product versions please refer to Table 1. Integration Matrix

Propel 2.20 and CSA 4.70+ with private IdM instances

This integration supports the case where one Propel is used as portal for many CSA instances – a consumer organization in Propel is accessing one or more CSA instances.

In this integration, both CSA 4.70+ and Propel 2.20 use private IdM instances. Setup must follow following rules:

- Propel IdM instance defines all consumer organizations.

- Each CSA IdM instance defines only consumer organizations which will be using CSA from Propel.

- Organization defined by Propel IdM instance and corresponding CSA IdM instance must be configured similarly so,

- o User will be authenticated by both IdM instances.

- o User will be granted corresponding Propel/CSA permissions as listed in Table 2. Roles and Permissions.

- Provider organizations are not integrated.

The CSANG adapter is distributed with Propel 2.20.

It is necessary to establish trust (exchange certificates) between CSA and Propel as described in Appendix B: Establishing trust between CSA and Propel.

For exact product versions please refer to Table 1. Integration Matrix.

Examples:

- Two consumer organizations are accessing dedicated CSA instances

  In this scenario there are two CSA instances (CSA-1, CSA-2) dedicated for each organization (ACME-1, ACME-2). Users of the organizations are requesting fulfillment in dedicated CSA instances (i.e., ACME-1 in CSA-1, and ACME-2 in CSA-2).

  Note: CSA-1, CSA-2, and Propel do not share provider organization.

  Setup:

  - o Consumer organization ACME-1

    - Is defined in Propel IdM. Users are granted corresponding Propel permission only

    - Is defined in CSA-1 IdM. Users are granted corresponding CSA permission only

    - In Propel organization has defined supplier CSA-1

  - o Consumer organization ACME-2

    - Is defined in Propel IdM. Users are granted corresponding Propel permission only

    - Is defined in CSA-2 IdM. Users are granted corresponding CSA permission only

    - In Propel organization has defined supplier CSA-2

- Two consumer organizations sharing CSA instances

  In this scenario there is one CSA instances (CSA-shared) dedicated for two organizations (ACME-1, ACME-2). Users of ACME-1 and ACME-2 are requesting fulfillment in shared CSA-shared instance.
  Note that CSA-share and Propel do not share provider organization.

  Setup:

  - o Consumer organization ACME-1

    - Is defined in Propel IdM. Users are granted corresponding Propel permission only

    - Is defined in CSA-1 IdM, and CSA-shared IdM. Users are granted corresponding CSA permission only

    - In Propel organization has defined suppliers CSA-1 and CSA-shared

  - o Consumer organization ACME-2

- Is defined in Propel IdM. Users are granted corresponding Propel permission onl.

- Is defined in CSA-2 IdM, and CSA-shared IdM. Users are granted corresponding CSA permission only

- In Propel organization has defined suppliers CSA-2 and CSA-shared

Configure dynamic property pricing support

The CSANG adapter allows you to use prices defined by dynamic subscriber option properties in CSA. In this case, CSA acts as an external pricing system for Propel. To enable it, change the configuration of the Propel catalog */opt/hp/propel/catalog/config.yml* as shown here:

```
pricing:
  strategies:
    - type: ORDER
      adapterClass: com.hp.propel.cat.sxpricing.SxPriceCalculator
      scope: GLOBAL
    - type: CATALOG_ITEM
      adapterClass: com.hp.propel.cat.sxpricing.SxPriceCalculator
      scope: GLOBAL
    - type: REQUEST
      adapterClass: com.hp.propel.cat.sxpricing.SxPriceCalculator
      scope: GLOBAL
    - type: SERVICE_INSTANCE
      adapterClass: com.hp.propel.cat.sxpricing.SxPriceCalculator
      scope: GLOBAL
```

Then restart the Propel catalog service (*service catalog restart*). You must also configure the supplier accordingly. See Supplier section.

Configure synchronization interval

Propel synchronizes CSA changes in a given interval. The default interval is 30 seconds.

To change the interval, complete the following steps:

1. Edit the file *META-INF/adapter.properties*, which can be found in the file */opt/hp/propel/sx/WEB-INF/lib/sx-adapter-csa-ng-1.1.0-SNAPSHOT.jar* on the Propel server.

   You must use a utility that allows you to edit a file in a JAR file.

2. Change the value of the property *adapter.csang.change.listener.delayBeforeNextRun*, which is the interval in seconds.

   The default synchronization interval is 30 seconds.

3. Restart the Propel SX service:

   ```
   service jetty-sx restart
   ```

End-to-end scenario

This section describes a common end-to-end scenario starting with creating a service design through publishing offerings to service management. Users with different roles perform different actions during this process. The process and the actions are elaborated in detail in the following text. It is assumed that you have installed Propel 2.20, CSA 4.70+ (4.60), and configured both as described in

Environment configuration.

Consumer Organization Setup

You must create and configure consumer organizations using IdM Admin UI in Propel. This is the Identity tile in the Propel dashboard for a user from the Provider organization. The following table lists the required permissions that must be assigned to the Consumer and Organization Administrator roles. Note that the roles must be assigned to the corresponding groups.
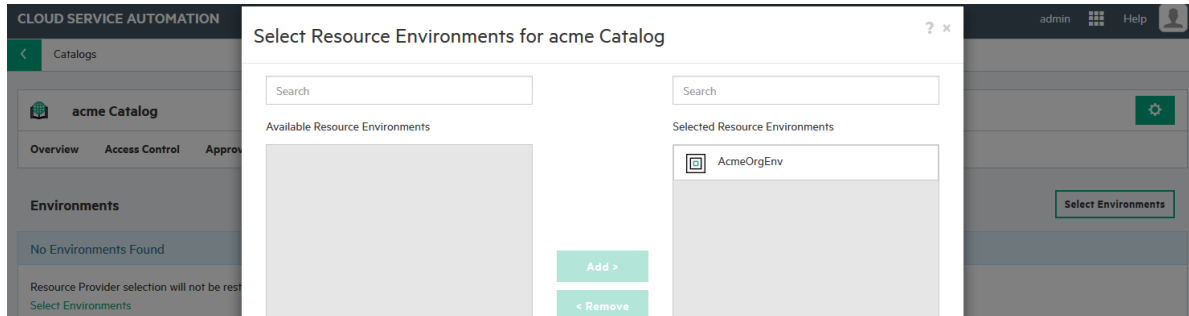
Table 2. Roles and Permissions

Consumer Organization Roles	Propel Permissions	CSA Permissions
Consumer	Catalog Shopper (CONSUMER) CSA Role for REST API access (ROLE_REST) Support Users (SUPPORT)	CSA Service Consumer (SERVICE_CONSUMER)
Organization Administrator	Aggregation Manager (AGGREGATION_ADMIN) Catalog Administrator (CATALOG_ADMIN) Catalog Shopper (CONSUMER) CSA Role for REST API access (ROLE_REST) Notification Administrator (NOTIFICATION_ADMIN) Organization IdM Administrator (IDM_ADMIN) Subscription Admin (SUBSCRIPTION_ADMIN) Supplier Administrator (SUPPLIER_ADMIN)	Consumer Business Users (CONSUMER_BUSINESS_ADMINISTRATOR) CSA Consumer Organization Administrator (CONSUMER_ORGANIZATION_ADMINISTRATOR)

Resource Providers and Environments

For CSA provider integration, it must be possible to associate organizations with environments and resource providers like in a CSA-only scenario.

1. Create resource providers and environments.

2. From the Catalog area in CSA, associate the default catalog for the selected organization with the environments.

CSA 4.60

- Associating resource providers with an organization is not supported. All resource providers are used for each organization.

Service Design

The service designer is responsible for designing service blueprints in CSA. Two approaches are supported: topology and sequence designs. Service design creation methodology is different for each of these two types, but both types of designs can be exposed in the Propel Shop.

Creating a service design is not described in detail in this paper. See the online help for CSA to learn more about how to design a service in CSA. Remember that resource providers must be defined in CSA as well.

Before a service design is exposed to Propel, it should be tested first and subscriber options should be defined. When the design is ready for the consumption layer, the service designer persona can publish the design. Note that this is exactly same process for both exposing the service through the CSA Marketplace Portal and the Propel Shop. Moreover, a service can be published in both catalogs at the same time: a service offering can be created in CSA and exposed through the CSA Marketplace Portal and the service design can serve as a blueprint for a Propel service offering published in the Propel Shop.

Only a published service design can be exposed through Propel, so do not forget to publish the service design when it is ready for consumption. Propel can be set up to load all service designs published in CSA or to load only published designs with a specific tag. Use these service design tags to mark only those designs that are intended to be exposed through Propel.

Subscriber Options

Subscriber options allow you to customize an exposed service. They are defined in the service design by the service designer. When a service design is published and loaded into Propel, subscriber options are translated into service options that are available for consumers in the Propel Shop.

CSA comes with a rich structure of subscriber options, including editable properties and drop-down lists with static and dynamic values provided by a script (JSP or JavaScript). Moreover, a dynamic list of values for a property can be populated based on the value of another property, or based on the context of the user who orders the service in the CSA Marketplace Portal. Service options in Propel reflect the subscriber options in CSA. All types of properties are supported

in the Propel Shop, with the exception of dynamic property values based on user context Server side ([TOKEN:), portal ([PORTAL:) and client ([CLIENT:) tokens are supported in CSA-Propel integration for parameters of dynamic operations.

Connecting Propel to CSA

Propel must be configured to connect to CSA. Note that every organization defined in Propel is a stand-alone tenant. The administrator for a specific organization configures the connection to CSA and this configuration only affects this organization.

The configuration is split into two steps: a supplier definition and an aggregation configuration.

Supplier

There are several types of suppliers supported by Propel. They are called Backend System Types and they are related to specific adapters installed into SX.

To configure the CSA instance as a supplier, follow these steps:

1. Log in to Propel as the administrator of an organization. In case of seeded Consumer organization, just go to **https://<propel-hostname>:9000/org/CONSUMER** and log in using orgadmin/propel credentials.
2. Go to Suppliers and add a new CSANG supplier. Select the type of CSA system (CSA 4.60,CSA 4.70+ shared IdM, or CSA 4.70+ private IdM) and enter the required parameters.
   - Propel must have access to CSA designs, dynamic property values, requests, subscriptions, and instances. Propel uses an integration account created in CSA. The CSA admin account can be used as the integration account, if desired.
   - CSA APIs require an IDM token. With CSA 4.60, Propel must reach the CSA IDM to acquire the token for the integration user. Propel uses an IDM integration user to achieve that. You can use idmTransportUser account that comes with CSA 4.6 IDM. With CSA 4.70+, the instance IdM installed with Propel is used.
   - The CSANG adapter supports CSA pricing based on CSA dynamic properties (JSP/JS) of subscriber option properties. To use it, set the Pricing Service option to **Self**, otherwise set to **None**.
   - The Currency and Period options are used for the pricing because CSA dynamic properties do not supply them.

Aggregation

The aggregation is set up on top of the supplier that was configured in the previous section. The aggregation definition can be created on the Catalog Connect page and consists of selecting a supplier and filling an optional query filter. In case of CSANG supplier, all published service designs are loaded from CSA and a catalog item is created for each. The query filter can restrict the set of designs to aggregate by specifying a service design tag, so only the service designs associated with that tag will be aggregated to Propel.

The service design aggregation can be either manual or automatic. Manual aggregation is triggered on demand by user interaction. Automatic aggregation spawns a process that checks CSA every 30 seconds for changes and automatically propagates the changes to Propel.

Catalog items are created in Propel when the aggregation process (manual or automatic) is executed. Catalog items refer to service designs published in CSA.

Publishing Offerings

Service offerings are catalog items created in Propel as a result of the aggregation process. The administrator of the organization can further tune the catalog items. Service options that are generated based on the underlying service design subscriber options can be edited. You can set default values, hide or reorder options. Pricing for the catalog item can be defined same as other aspects, such as access control, approvals and attachments.

The administrator of the organization can publish service catalog items in different Propel catalogs within the organization and each published copy of the offering can be set up differently, such as different default values, pricing, access control, approvals and attachments. After the catalog item is published in a catalog, consumers with access to that catalog and offering can order it in the Propel Shop.

Shopping for Services

The Propel Shop is the place where consumer users go to shop for services. Consumers can order services in the Propel Shop based on access rights. The service order and checkout process is straightforward. A consumer user can customize the service using available options and either check out instantly or put the service into a cart and continue shopping. Like in CSA Marketplace Portal, it is possible to use group ownership and term or recurring subscription.

Propel allows users to order multiples of each customized service with the same options selected (cart). Propel sends multiple requests for every item in the cart.

Propel sends one or more order requests to CSA. Each request contains information about the service, options, requester and organization. CSA accepts the request, then creates the organization and user if they do not exist already to mirror the requester and initiates the service fulfillment. The resulting service instance and subscription belongs to the same user and organization in CSA as in Propel.

Managing Services

The information about the service instance and subscription is automatically synchronized from CSA back to Propel, so that the consumer user can view the service and instance details in Propel. The service can be changed (name, periods), terminated (cancel), transferred ownership, or modified (like in CSA Marketplace Portal) from the Propel Service view. Public actions can be invoked on the service instance (more precisely, on instance components) as well. Each modification or action invocation posts a request to CSA, where the request is fulfilled and the result is synchronized back to Propel.

Operations

Consumer users purchase and manage services using the Propel Shop. However, if something goes wrong, an operator can access the low-level information about the service fulfillment using the CSA Management Console. The operator can drill-down into the Operations Orchestration flow execution details and figure out the problem.

The CSA Management Console displays service subscriptions and instances that were initiated from Propel in similar fashion as it does subscriptions and instances initiated from the CSA Marketplace Portal. The difference is that the Propel subscriptions are based on service designs and the information about corresponding service offerings stays in Propel only and is not available in the CSA Management Console.

Technical Details

Technical details for the CSA – Propel integration are described in this chapter. CSA exposes a number of public HTTP APIs to load service designs, post requests for fulfillment, and periodically check for changes in the related data. See *Cloud Service Automation API Guide* for more information.

Service Design API

- GET https://[host]:[port]/csa/api/service/design
- POST https://[host]:[port]/csa/api/service/design/filter
- GET https://[host]:[port]/csa/api/service/design/[designID]
- GET https://[host]:[port]/csa/api/option-model/[optionModeID]

These endpoints list service designs, search for designs using a filter, get the design detail, and get the design option model. All endpoints require basic authentication header. A user with sufficient privileges must be used. The usage, parameter and payload descriptions are available in the swagger documentation published on the running CSA instance at https://[host]:[port]/csa/apidocs.jsp

Propel uses these endpoints to list designs and aggregate them in the form of offerings that can be published to the Propel Shop.

Request API

- POST https://[host]:[port]/csa/api/consumption/v2/request

  The request API is a versatile interface for service fulfillment and management. It is used by Propel to realize and manage services purchased by customers in the Propel Shop.

  An X-Auth-Token is required to call the request endpoint. The X-Auth-Token can be retrieved from IDM service using an IDM integration user (aka idmTransportUser). Get the token for a user with sufficient privileges to post request into CSA.

  The following requests are supported: order, action execution, modification and cancelation. Each request has its own specific body. All those requests are posted on the same endpoint:

- POST https://[host]:[port]/csa/api/consumption/v2/request/?onBehalf=[username]&onBehalfOrg=[orgname]

  The request parameters are described in the following table.

Parameter	Description
[username]	User name of the request owner. In case the user does not exist in the system, it is created automatically.
[orgname]	Name of the organization the user described above belongs into. If the organization does not exist, it is created automatically. Organizations created in this way have *(Propel)* suffix in their display name.
[orgname]	Name of the organization the user described above belongs into. If the organization does not exist, it is created automatically. Organizations created in this way have *(Propel)* suffix in their display name.

  The result of the request creation is the request ID that can be used to get the request detail containing information about related subscription and instance.

- GET https://[host]:[port]/csa/api/consumption/v2/request/[requestID]

Order Request

The order requests initiates a design/offering fulfillment resulting in an active subscription and running service instance. Both subscription and instance are owned by the request owner.

Order Request Body

```
{
"action": "ORDER",
"subscriptionName": "POR00057-PR00058 Fullfilment demo design 1.0.0",
"contextId": "8fe9cd96521604720152164876730f",
"subscriptionDescription": "",
"startDate": "2016-01-06T09:57:47.000Z",
"endDate": "2017-01-06T09:57:47.000Z",
"fields": {
  "field_8fe9cd96521604720152164918d6011b": true,
  "field_8fe9cd965216047201521650b47d013c": "1"
        }
}
```

contextId	UUID of an artifact that is the subject of the fulfillment. The artifact can be either a service design or a service offering.
Fields	Input values for option model properties. It is a flat list of pairs [*ID: value*] representing selected options and property values.
field_[id]	ID of the field. A field can be an option or property in option model. To get the field IDs, load the option model details using an option-model API described in Service Design API section. Selected options have value *true*. Properties have the actual set value.

Action Request

The action request initiates a public action execution on an existing service subscription.

Action Request Body

```
{
"action":"sample_xpath_query_ed84cf566f5b43d899f7f6dfd0eb017e",
"contextId":"8fe9cd96521604720152165f1aea0218",
"subscriptionId":"8fe9cd96521604720152165ec7c60199",
"fields": {}
}
```

Action	ID of the public action that should be executed.
contextId	UUID of an artifact the action is invoked on. The artifact is the component resource binding in this case.
subscriptionId	ID of the service subscription the action is executed on.

Modification Request

The modification request changes an existing service subscription. The subscription end date, selected options, name and description can be changed. Note that Propel lacks the capability to change options selected during the initial order.

Modification Request Body

```
{
"action": "MODIFY_SUBSCRIPTION",
"contextId": "8fe9cd96521604720152165ec7c60199",
"subscriptionName": "POR00057-PR00058 Fullfilment demo design 1.0.0",
"subscriptionDescription": "",
"endDate":"2017-01-06T22:59:55.000Z"
}
```

ContextId	UUID of an artifact to modify. The artifact is the service subscription in this case.

The cancelation request terminates an existing service subscription and cancels the running instance.

Cancelation Request Body

```
{
"action": "CANCEL_SUBSCRIPTION",
"contextId": "8fe9cd96521604720152165ec7c60199"
}
```

ContextId	UUID of an artifact to cancel. The artifact is the service subscription in this case.

Checking for Changes

There are published endpoints that provide a way to effectively check for changes made to artifacts stored in CSA. This is used for data synchronization between CSA and Propel. An endpoint exists for synchronization of data related to service designs aggregated as offerings into Propel

- GET https://[host]:[port]/csa/api/service/design/published/changes

Since this is an endpoint within the service design API, the same rules apply. Refer to the swagger documentation for more information.

After a request for fulfillment is placed, Propel is checking for updates of the request itself and of the related service subscription and instance. Consumption V2 API exposes the endpoints

- GET https://[host]:[port]/csa/api/consumption/v2/request/changes
- GET https://[host]:[port]/csa/api/consumption/v2/subscription/changes
- GET https://[host]:[port]/csa/api/consumption/v2/instance/changes

The list of changes within a specific time frame can be requested using parameters:

from	Optional. Beginning of the time frame, inclusive. Format: yyyy-MM-dd'T'HH:mm:ss.SSS'Z'
to	Optional. End of the time frame, exclusive. Format: yyyy-MM-dd'T'HH:mm:ss.SSS'Z'

Example: …/service/design/published/changes?from=2016-01-08T12%3A56%3A27.389Z

Dynamic Properties

Propel calls an API to fetch values for dynamic properties.

- POST https://[host]:[port]/csa/api/consumption/v2/property/[propertyID]

```
{
"offset": "0",
"limit": "50",
"language": "en_us"
}
```

Known Problems and Limitations

There are several issues with the CSA – Propel integration that are not addressed in this release.

Propel and CSA shared IdM Instance Integration requires cleanup of Propel IdM

Sharing Propel IdM with CSA requires cleanup of Propel IdM, so all organizations are removed and replaced with organizations from CSA. We advise that you integrate Propel and CSA immediately after installing both products.

See Appendix A: Configuration for CSA 4.70+ to use IdM from Propel 2.20.

Propel Service does not show Price

Issue was fixed for Propel 2.20 Patch 1 - CSA 4.70 Patch 1 integration.

If external pricing is enabled for Propel and dynamic property prices are used for CSA, then zero (0) price is displayed for Propel service details created from a CSA aggregated design.

Generally:

CSA-Propel integration does not support full integration of CSA pricing, because CSA defines pricing for offerings, but only CSA designs are aggregated to Propel. The adapter provides limited pricing integration – only prices returned as part of values of CSA dynamic properties of CSA subscription option properties. Because dynamic properties do not return either currency or period, this data must be configured as part of the supplier in Propel.

CSA Organization Management UI does not display all Organization Details

The Propel Idm Admin UI (Identity) is preferred for managing organization, because the CSA organization UI is limited.

Many CSAs to one Propel integration is not Supported

Issue was fixed for Propel 2.20 Patch 1 - CSA 4.70 Patch 1 integration.

Many CSAs to one Propel is not supported because only one provider organization is allowed, but each CSA has its own provider organization.

Transfer Ownership Request marked as Failed

Issue was fixed for Propel 2.20 Patch 1 - CSA 4.70 Patch 1 integration.

In some cases, transfer ownership request is marked as failed, but owner was changed successfully. The new owner is displayed in service detail in Propel.

Shop and Services tiles are displayed in Propel dashboard for administrators

In some cases, the Shop and Services tiles are displayed for administrator. When accessing it, an access denied message is displayed. To hide the tiles, remove the *administrator* group from the *CSA Service Consumers* role.

Appendix A: Configuration for CSA 4.70+ to use IdM from Propel 2.20

Complete the following steps to configure CSA 4.70+ to run with Propel 2.20. These steps are required for CSA 4.70+ and Propel 2.20 integration.

Warning: All Propel IdM data will be removed during this step. If organization/groups/… were created in Propel, they will be lost.

We recommend that you integrate CSA 4.70+ with Propel IdM as soon as possible after installation.

Table 3. Default passwords

Description	User	Password
Propel provider organization in CSA	admin	propel
Propel consumer organization in CSA	consumer	propel
	consumerAdmin	propel
	orgadmin	propel
	idmTransportUser	idmTransportUser
Propel server	root	Propel2015

Configure CSA and Propel

Table 4. CSA configuration

Item	Change	Comments
csa.properties	```...
securityIdmTransportUserPassword=idmTransportUser
securityAdminPassword=propel
...```	Set passwords for the idmTransportUser and admin users according to Propel IdM configuration. Default passwords are listed above. Both passwords are set in csa.properties, but these passwords are generated or explicitly set during CSA installation. csa.properties is located in <CSA>/jboss-as/standalone/deployments/csa.war/WEB-INF/classes.
csa.properties	```...
csa.provider.es.exists=true
csa.provider.es.idmURL=https://{FQDN}:9600/idm-service
csa.provider.es.authPassword=propel
...```	Set the csa.provider.es.idmURL property to the URL for the IdM service in Propel. The Propel IdM service is running on the Propel server at port 9600 with idm-service context (FQDN stands for Fully Qualified Domain Name). For example, https://propelhost:9600/idm-service.
applicationContext-security.xml	```<beans:bean id="idmConfig"
class="com.hp.ccue.identity.rp.IdentityServiceConfig">```	Edit applicationContext-security.xml, which is located in <CSA>\jboss-

| | ```
...
<beans:property name="hostname"
value="{FQDN}"/>
<beans:property name="port" value="9600"/>
...
``` | as\standalone\deployments\csa.war\WEB-INF\applicationContext-security.xml.<br><br>In idmConfig bean, set the hostname property to the Propel server FQDN and set the port property to 9600. |
| keystore | ```
<csa-jre>/bin/keytool -import -alias propel -
file <path>/propel_host.crt -keystore <csa-
jre>/lib/security/cacerts
``` | Import the Propel certificate to the CSA JRE.<br><br>Obtain a certificate for Propel:<br><br>1. Copy /opt/hp/propel/security/propel_host.crt from the Propel server to the CSA server.<br><br>   You can also go to a Propel UI page (https://{FQDN}:9000/org/Provider) and download the certificate using a web browser.<br><br>2. Import the Propel certificate by running keytool - see the example.<br><br>   <csa-jre> must be the path to the JRE used by CSA. This is the JRE you chose when you installed CSA.)<br><br>3. During import you will be prompted for the keystore password ( *changeit* by default ) and whether you trust to the certificate. |
| Restart CSA | | |

Table 5. Propel configuration

Item	Example	Comments
Import CSA roles to Propel IdM		Copy csa__4.7__seed_data.json from the CSA server to the Propel server: 1. On the CSA server, the file is at <CSA>\jboss-as\standalone\deployments\idm-service.war\WEB-INF\classes\seeded\csa__4.7__seed_data.json. The file is generated during CSA installation but it can also be created manually using the CSA OrgMigrationTool (located in

		<CSA>\Tools\OrgMigrationTool directory).

2. On the Propel server, the target directory is /opt/hp/propel/idm-service/idm-service.war/WEB-INF/classes/seeded.

3. If you don't want IdM branded as CSA, remove the organization metadata:

```
{
    "operation":"ADD_OR_UPDATE",
    "type": "organizationMetadata",
    "names":{
        "organizationName":
"Provider"
    },
    "attributes": {
        "key": "portalTitle",
        "value": "Cloud Service
Automation",
        "public": true
    }
}
``` |
| Clean Propel IdM database | ```
DROP TABLE IF EXISTS "schema_version"
CASCADE;
DROP TABLE IF EXISTS "trust" CASCADE;
DROP TABLE IF EXISTS "abstract_user" CASCADE;
DROP TABLE IF EXISTS "abstract_user_metadata"
CASCADE;
DROP TABLE IF EXISTS "metadata" CASCADE;
DROP TABLE IF EXISTS "groups" CASCADE;
DROP TABLE IF EXISTS "keystoneconfiguration"
CASCADE;
DROP TABLE IF EXISTS
"abstract_user_representation" CASCADE;
DROP TABLE IF EXISTS "baseauthconfiguration"
CASCADE;
DROP TABLE IF EXISTS
"abstract_group_metadata" CASCADE;
DROP TABLE IF EXISTS
"abstract_group_representation" CASCADE;
DROP TABLE IF EXISTS "ldap_group_rep"
CASCADE;
DROP TABLE IF EXISTS "organizations" CASCADE;
DROP TABLE IF EXISTS "permission" CASCADE;
DROP TABLE IF EXISTS "ldap_ou_group_rep"
CASCADE;
DROP TABLE IF EXISTS "database_group_rep"
CASCADE;
DROP TABLE IF EXISTS
"user_group_database_rep" CASCADE;
DROP TABLE IF EXISTS "calculated_group_rep"
CASCADE;
DROP TABLE IF EXISTS
``` | Clean the Propel IdM database:

1. Log in to the Propel server and execute the following commands:

   ```
   su postgres
   psql idmdb
   ```

2. Run the commands in the example column (to the left) to drop all tables from the database.

3. Ensure that no IdM table is in the database:

   ```
   select tablename from
   pg_tables where schemaname =
   public'; ...
   ```

   The result should be empty. |

| | ```
"calculated_group_criterion" CASCADE;
DROP TABLE IF EXISTS "ldap_configuration"
CASCADE;
DROP TABLE IF EXISTS "jaas_configuration"
CASCADE;
DROP TABLE IF EXISTS "saml_configuration"
CASCADE;
DROP TABLE IF EXISTS "ws_trust_configuration"
CASCADE;
DROP TABLE IF EXISTS "user_attribute_mapping"
CASCADE;
DROP TABLE IF EXISTS "token_store" CASCADE;
DROP TABLE IF EXISTS "permission_role"
CASCADE;
DROP TABLE IF EXISTS "abstract_group"
CASCADE;
DROP TABLE IF EXISTS "roles_groups" CASCADE;
DROP TABLE IF EXISTS
"seeded_specific_version" CASCADE;
DROP TABLE IF EXISTS "abstract_user_profile"
CASCADE;
DROP TABLE IF EXISTS
"authentication_user_key_name" CASCADE;
DROP TABLE IF EXISTS "roles" CASCADE;
DROP TABLE IF EXISTS "saml_message_store"
CASCADE;
DROP TABLE IF EXISTS "user_group_rep"
CASCADE;
DROP TABLE IF EXISTS "ldap_roster_history"
CASCADE;
DROP TABLE IF EXISTS "base_lock" CASCADE;
``` | |
| Add CSA seeded users to Idm | ```
Edit idm-service.war/WEB-
INF/classes/provider-users.properties and add
these lines:
csaReportingUser=ENC(s1APyYsGDh9dPTpW9BJ6TTR7
LVo87Y8Wbz6GRpWRa3MNTRTAUKVKJDYKEe78fI7U)
ooInboundUser=ENC(Ndk7RtdttaPeaYWBfBzFP2i3lb+
o0I1a1ndrxaImq08=)
csaTransportUser=ENC(m0GW0uEzSDybQB9Djh2icGuz
UQhPz8O4WgGqb6v2s18=)
codarIntegrationUser=ENC(6syOp8LDCPPtJIhCC/b7
N66qvo10LtvStSS3X/TwTu0=)
``` | Following are example values (not encrypted) of CSA integration user definitions.<br><br>It is preferred to copy corresponding user definitions from [CSA]\jboss-as\standalone\deployments\idm-service.war\WEB-INF\classes\provider-users.properties to reflect passwords selected during installation.<br><br>```
csaReportingUser=cloud,ROLE_REST
,ROLE_DYNAMIC,enabled
ooInboundUser=cloud,ROLE_REST,en
abled
csaTransportUser=cloud,ROLE_REST
,enabled
codarIntegrationUser=cloud,ROLE_
REST,enabled
``` |
| Restart Propel IdM | ```
service idm restart
``` | Log in to the Propel server and execute the statement in the column to the left. |

MPP Configuration (optional)

Changes described in this chapter are needed only if you want to still use MPP for provisioning instead of Propel.

Go to the <mpp>/portal/conf directory and edit the mpp.json file:

1. Update the property's *idmProvider/url* value to *https://<propel-FQDN>:9600*.

2. In the same file and section set *idmProvider/strictSSL* to false.

3. Set the idmProvider/password value to *idmTransportUser*.

```
"idmProvider": {
    ...
    "url": "https://pue-hulk-lipovy.hpeswlab.net:9600",
    "password": "idmTransportUser",
    "strictSSL": false,
    ...
  },
```

Appendix B: Establishing trust between CSA and Propel

Certificates between CSA and Propel must be exchanged in order to establish mutual trust.

Importing the Propel certificate to CSA

Steps:

1. On the Propel server, copy */opt/hp/propel/security/CA.crt* to CSA server

2. On the CSA server, import Propel certificate to the CSA keystore, which is found at *<CSA>\openjre\lib\security\cacerts.*

   ```
   keytool  -importcert  -file CA.crt  -alias  Propel_CA  -keystore cacerts  -trustcacerts
   ```

   The default CSA keystore password is *changeit.*

3. Restart the CSA service

Importing CSA certificate to Propel

Steps:

1. On the CSA server, go to the JVM security directory (*<CSA>\openjre\lib\security\cacerts*).

2. Export the CSA certificate:

   ```
   keytool -exportcert -file CSA.crt -keystore cacerts -alias csa
   ```

   The default CSA keystore password is *changeit.*

3. Copy CSA.crt to the Propel server.

4. On the Propel server, import certificate to Propel trust store:

   ```
   keytool  -importcert  -file CSA.crt  -alias  Supplier_CSA  -keystore
   /opt/hp/propel/security/propel.truststore   -trustcacerts
   ```

The default Propel truststore password is *propel2014*

5. Restart Propel SX:

```
service jetty-sx restart
```

Appendix C: CSA and Propel Subscription Status

CSA service instance status is propagated into Propel and is reflected on the subscription request. Following table summarizes the CSA status reflected on Propel.

LFC	CSA Status		Propel Status	
	Subscription Status	Service Instance Status		Comments
Basic Service LFC Flow				
	Pending	Reserved	Pending / In progress	Service Request sent, CSA is fulfilling the request
	Pending	Deploying	Pending / Deploying	
	Active	Online	Active	Service is online – ready for use
	Cancelled	Cancelling	Cancelled / Cancelling	Service is being cancelled
	Cancelled	Offline	Cancelled	Service was cancelled
Service Modification				
	Active	Modifying	Active / Modifying	Component action invoked
Service Action Invoke				
	Pending	Modifying	Active/In progress: "[Action name]"	Subscription action invoked
Failures				
	Terminated	Failed	Terminated / Failed	Error reported during termination in CSA
	Active	Public Action Failed	Active / Public Action Failed	Component's Action Failed

Document Change Notes

Date	Description
July 2016	Original release of document
Sep 2016	Added "Appendix C: CSA and Propel Subscription Status" section for QCCR1D231067
Sep 2016	Updated for Propel 2.20 Patch 1 and CSA 4.70 Patch 1 releases for QCCR1D231067
Jan 2017	Updated to Propel 2.20 patch 2, and CSA 4.80.

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Documentation updates

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