



HP Cloud Service Automation 3.20

What's New?

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High-Level Themes

Cloud Service Management Console Dashboard

A new look and feel for the Cloud Service Management Console featuring a dashboard for simplified navigation.

Service Design Enhancements

- A management system for the component types used to model software, platforms, and infrastructure services. This system features the inheritance of properties, so that a derived component type called *Virtual Server* will inherit properties from its base component type *Server*.
 - Templates and template management features to create a library of reusable building blocks that can be used to compose complex services.
 - The ability to export and import artifacts associated with a component palette from one instance of HP CSA to another.
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Content Portability

The ability to export and import artifacts associated with a service design from one instance of HP CSA to another (such as from a development environment to a test environment), or to do an “in place” update of service designs on the same machine.

Intelligent Resource Utilization

- The ability to define resource pools with single or composite resources.
 - APIs for pool management for both utilization and capacity.
 - Validation of provider access upon initial configuration.
 - The ability to dynamically update the capacity of resource pools.
-

Enhanced Service Experience

- Improved syntax validation for subscriber input, including the ability to define valid input and to require specific properties for subscriber options. For example, when users enter IP addresses as part of their requests, validate that the entry follows the pattern of an IP address.
 - Group ownership for subscriptions, allowing a group of users to own and manage a shared subscription.
 - Dynamic service option properties that can cascade and consume the results of the previous dynamic service option properties.
 - Ability to delete multiple subscriptions and requests in the Cloud Subscriber Portal.
 - A date filter for subscriptions and requests, plus the ability to filter requests for resource usage information for service instances.
-

Integrations and REST APIs

External integrations for many HP CSA features including a new set of APIs for service offerings and documents that are attached to service offerings, catalogs, categories, organizations, approval policies, and access points.

Platform Improvements

Support for Single Sign-On (SSO), Redhat Enterprise Linux, and enhanced high-availability support with Microsoft SQL clusters. Also, a new pause and resume feature for more robust error handling.

United States Federal Compliance

Support for FIPS 140-2 Compliance capability, certificate-based Common Access Cards (CAC), IPv6 support, validation for SQL injection and cross-link scripting, and a title bar security banner.

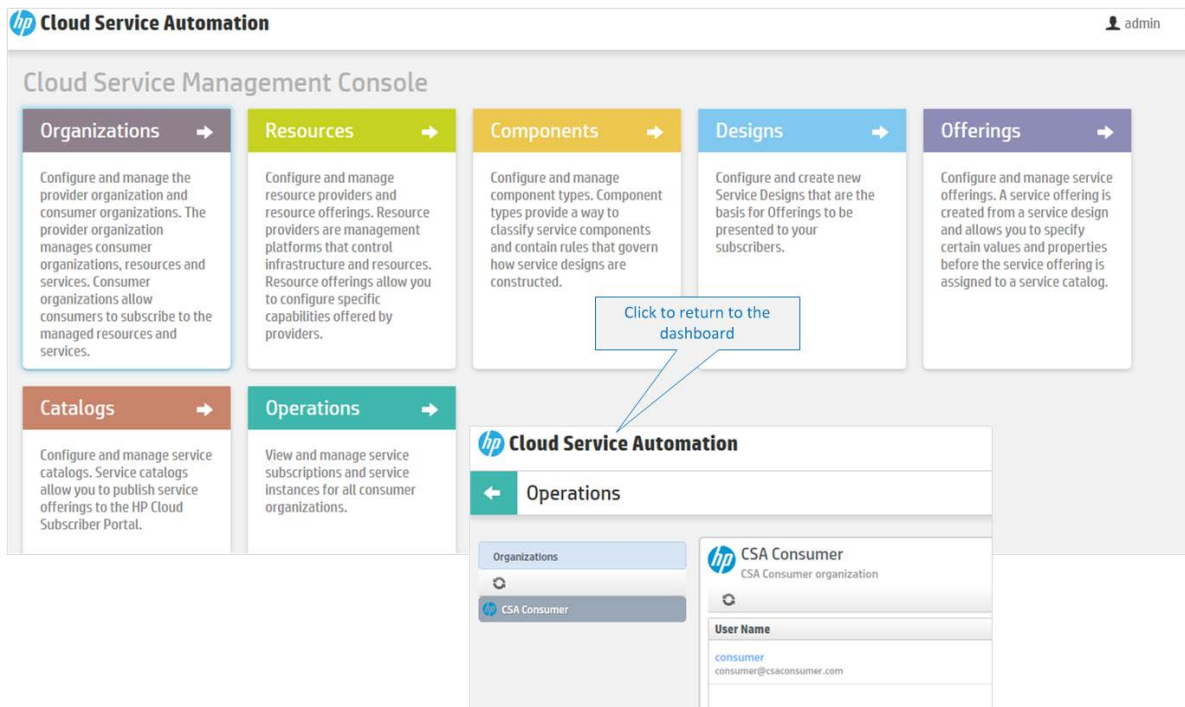
Cloud Service Management Console Dashboard

What is the Cloud Service Management Console?

Software that provides an HP CSA design and administration interface. The Cloud Service Management Console is designed to support the following user roles: CSA Administrator, Resource Supply Manager, Service Business Manager, Service Designer, and Service Operations Manager. For more information, see the *HP Cloud Service Automation Concepts Guide*.

The new look and feel for the Cloud Service Management Console features a dashboard designed for both tablet and desktop environments. The dashboard serves as a launching point for HP CSA work areas, furnishing a central location for user interactions with a simplified “hub and spoke” navigational structure.

Depending on your assigned user role, you can use the Cloud Service Management Console dashboard to access the configuration and management tasks shown below. You can always click **Cloud Service Automation** in the title bar to return to the dashboard.



Service Design Enhancements

What is a Service Design?

A blueprint for an orderable service. A service design includes a hierarchy of service components, plus resource bindings, subscriber options, lifecycle actions, and custom properties, as defined by the Service Designer. For more information, see the *HP Cloud Service Automation Concepts Guide*.

To simplify the design process, service designs can be constructed using a *palette* of design components types. Service Designers can specify properties, property values and relationships in a component type. These specifications provide the initial starting point when a Service Designer creates a component of that type in a service design. You can further accelerate the design process with *templates*—reusable property and lifecycle specifications based on a component type.

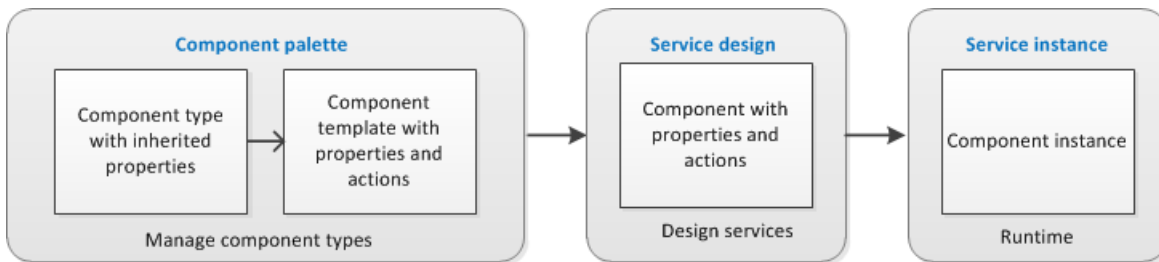
This flexible and open design model also allows you to import and export component palettes, so you can reuse those component types and templates on another system. And to leverage your existing investment, service designs are now backwards compatible; service designs from HP CSA Release 3.01 and HP CSA Release 3.10 can be used with HP CSA 3.20.

The Components User Interface

What is a Component Type?

A component type provides the starting point when creating a service component during service design. The service designer must select a component type when adding a new service component to a service design. The component type defines the properties and initial property values of the service component and constrains the relationships that the service component can assume within the service design. For more information, see the Cloud Service Management Console online help.

You use the Components area of the Cloud Service Management Console to manage [component types](#), [component templates](#) and [component palettes](#). To understand how these features work together, it is helpful to think of the design process in stages. The first stage is the task of creating component types and templates; the second that of creating service designs. Finally at runtime, the service instance is instantiated, along with service components based upon component types and templates that have been previously modeled.



Components →

Configure and manage component types. Component types provide a way to classify service components and contain rules that govern how service designs are constructed.

Along with component palettes containing types and templates, the new Components user interface provides the following features:

- Standardized vocabulary with component types supporting default properties
- Inheritance of component types (properties, relationships)
- Portability of component palettes (export and import)
- Backward compatibility with existing service designs
- Model alignment with TOSCA

Component Types

A component type contains definitions that describe how service designs can be constructed:

- **Properties** – A base set of attributes to be used and edited when creating a service component within a service design.
- **Constraints** – Rules that specify suitable relationships between components within a service design hierarchy and between components and resource offerings. Constraints replace the association constraints in previous versions of HP CSA.

With component type constraints, a component type influences the hierarchy of service components in a service design. For example, HP CSA ships an *Infrastructure Service* component type that constrains the child component types when modeling an infrastructure service. In a service design, when you add a child to a component of type *Infrastructure Service*, HP CSA only offers child components from the following types: *Server*, *Server Group*, or *Virtual Network*.

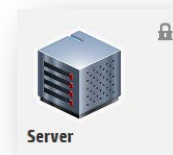
With resource category constraints, a component type specifies the resource offering categories suitable for binding to components of its type. In the Designer, you can add resource bindings to a component of type *Infrastructure Service* only from the following resource categories: *Application*, *Compute*, *Configuration Management*, *Infrastructure*, *Monitoring*, *Network*, or *Storage*.

HP CSA allows you to create your own component types and also ships with a number of out-of-the-box component types that can be customized according to your needs. See below for a partial view of out-of-the-box component types, as shown in the Components area of the Cloud Service Management Console.

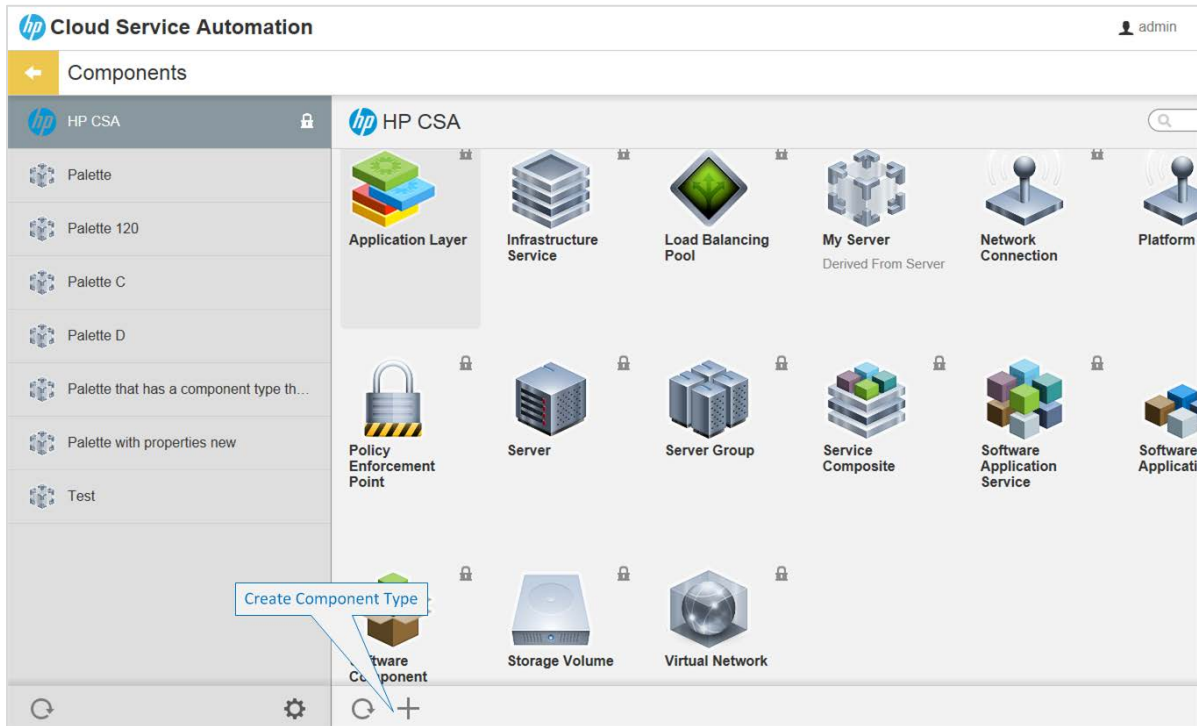
Component types are essential to the service design process, providing a number of flexible options. The Service Designer can:

- use the out-of-the-box component types with default properties,
- include additional templates in an existing component type, and
- clone new component types from existing or out-of-the-box types, which in turn can be adapted for new service designs

Component type definitions are hierarchical, so that properties can be inherited. For example, suppose you start with the *Server* component type. Note that a lock icon is associated with this out-of-the-box component type, indicating that it cannot be modified or deleted. Now you create a new *Virtual Server* component type, specifying *Server* as *Virtual Server*'s base component type. When you do this, *Virtual Server* inherits the properties and constraints of the *Server* base component type through a parent/child relationship. The default values of properties inherited from *Server* can be changed or deleted in *Virtual Server*, and new properties and constraints can be added to *Virtual Server*.



By basing components on a shared, standard component type system, an organization can leverage a standardized design vocabulary and reusable content. HP CSA's customizable components types expedite the design process and accelerate your time-to-value.



Component Templates

Feature description A component template is a specialized customization of a component type that can be used during service design creation. A template inherits properties from the base component type; however, you can override the inherited property values within the template, or add more properties as necessary. In addition, you can add lifecycle actions to a component template, providing the initial settings for the service lifecycle. You can create templates for locked components, allowing customization without affecting the base component type.

Why is this important? Component templates simplify service design creation by grouping predefined properties and lifecycle actions. Templates can be stored, saved, and reused. They can also be exported as part of a [component palette](#).

Try this! Cloud Service Management Console: **Components** > **HP CSA** palette > **Server** component type > **Templates** tab > **Create Component Template** +

For more information See *Components* in the Cloud Service Management Console online help.

hp Cloud Service Automation admin Assistance Logout

Components

My Server Component Type

General Properties Constraints **Templates**

Component Templates
The following list includes the component temp

Templates

My Template

Create Component Template

Base Component Type
My Server

Display Name *
[Text Field]

Description
[Text Field]

Image
[Image Icon]

Default Settings
Consumer Visible ?

Pattern ?

Create **Cancel**

Type unique template name here

Create Component Template

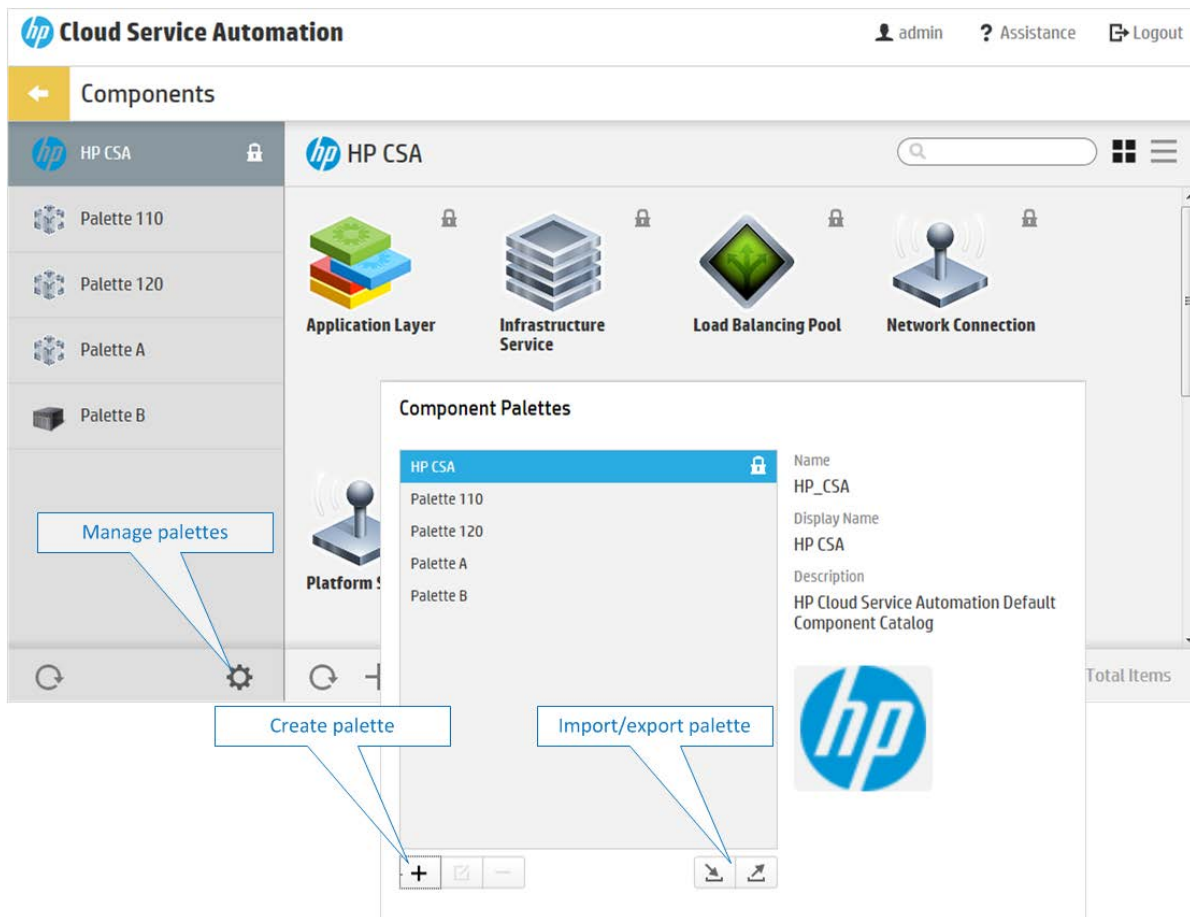
Component Palettes

Feature description A component palette groups [component types](#) to make it easier to share custom component types and templates across different HP CSA instances. HP CSA ships with a component palette out-of-the-box called **HP CSA**, which provides sample component types that can be used to expedite the service design process. The **HP CSA** palette cannot be modified or deleted; however, you can create, edit, and delete your own component palettes using the Components area in the Cloud Service Management Console. In addition, you can use the Console to import and export component palettes. Before import, HP CSA provides a preview of the artifacts imported with the palette, including component types and their templates.

Why is this important? Using customized palettes of component types simplifies and streamlines the process of managing and deploying service designs. Because palettes can be imported and exported, they can be transferred to other systems to leverage your current investment. For example, if you have datacenters that use different technologies, you can have three separate palettes, each of which contains the component types and templates for deploying services using one of the following providers: HP Software Automation, VMware vCenter, and Amazon EC2.

Try this! Cloud Service Management Console: **Components > Manage Palette** ⚙️ > **Add Palette** +

For more information See *Components* in the Cloud Service Management Console online help.



Default Properties Aligned with TOSCA Standards

Feature description	<p>Each HP CSA component type has default properties, which are grouped into lists:</p> <ul style="list-style-type: none"> • Defined Properties - Properties created directly on this component type. You can delete, edit, and update defined properties and their values. • Inherited Properties - Properties inherited from base parent and grandparent component types, if any. You can edit only the values of inherited properties. <p>The introduction of the component type system supports HP CSA's alignment with the TOSCA model from the Oasis consortium.</p>
Why is this important?	<p>TOSCA provides a standardized language to describe the structure of an IT service (topology model), and specifies how to orchestrate the behavior of the service. Alignment with TOSCA standards allows HP CSA to provide a component type system with inherited relationships between properties (and their associated component types, templates, and palettes) that is portable across cloud services.</p>
Try this!	<p>Cloud Service Management Console: Components > HP CSA palette > Server component type > Properties tab</p>
For more information	<p>See the HP CSA Concepts Guide and <i>Components</i> in the Cloud Service Management Console online help. For more information about TOSCA standards, go to: https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=tosca</p>

The screenshot shows the 'My Server' component type configuration page in the HP Cloud Service Automation console. The 'Properties' tab is active, displaying a list of inherited properties from the base parent and grandparent component types. Each property row includes a name, a value, a 'Server' component type icon, and an 'Edit' button.

Property Name	Value	Component Type	Action
Disk Size	100 (GB)	Server	Edit
Domain Name		Server	Edit
Host Name		Server	Edit
Management IP Address		Server	Edit
Management MAC Address		Server	Edit
Memory	0 (MB)	Server	Edit
Number of CPU Cores	0 (Number of CPUs)	Server	Edit

At the bottom of the page, there is a refresh icon, a plus sign for adding new properties, and a status bar indicating '11 Total Items'.

Content Portability

What is Content Portability?

To expedite enterprise-ready service delivery, you can import and export “content” among running instances of HP CSA. This content, including service catalogs, service offerings, service designs, resource offerings, resource environments, and component palette artifacts, provides the basis for cloud automation. The ability to move catalogs, service designs, and other artifacts from one running instance of HP CSA to another enables content portability across organizations, such as departmental organizations that subscribe to cloud services.

You can import and export artifacts from the Cloud Service Management Console or from the command line Content Archive Tool.

HP CSA Content Portability provides a well-defined process for moving content from one running instance of HP CSA to another. In previous versions of HP CSA, if you created custom designs, you had to manually port all artifacts; in other words, recreate custom types, properties, and constraints on the target system. Now HP CSA offers an import and export process, providing content portability across systems, and including the entire hierarchy of artifacts required. For example, you can move content that has been customized specifically for your organization from a pre-production to a production environment; or port content archives across parallel instances of HP CSA.

In addition to resource offerings and service designs, HP CSA 3.20 adds portability for the following types of content:

Component palettes	NEW! Import/Export available in HP CSA 3.20
Service offerings	NEW! Import/Export available in HP CSA 3.20
Service catalogs	NEW! Import/Export available in HP CSA 3.20
Resource environments	NEW! Import/Export available in HP CSA 3.20

Export process

Exporting an artifact (such as a service catalog, service offering, or component palette) creates a portable content archive (.zip) file. An archive contains XML documents that represent the primary artifact being exported, any dependent artifacts, any customized images necessary to represent the entire artifact, and a Manifest XML document which contains meta-information about the archive. For example, a service catalog archive contains the XML documents representing the catalog, service offerings associated with the catalog, the service designs associated with the service offerings, resource offerings associated with the service designs, and a Manifest XML document. The catalog archive also contains images used for customization of all these artifacts.

Import process

An HP CSA instance can import portable content archives exported from other HP CSA instances. Importing an artifact has three important options to provide flexibility when content is ported from one system to another:

- Import option – Import content archives and their supported artifacts; do not update *functionally equivalent* artifacts on the target system. For example, service designs with the same internal name are considered to be functionally equivalent and are not imported.
- Update option – Matching artifacts (this typically means they have the same internal name) that exist on the target system are updated (overwritten) with the changes from the archive. Artifacts are created if they do not exist on the target system.
- Update preserving original process – Import all the artifacts present in an archive, whether they exist on the target system or not. During this operation, if there is an artifact with the same internal name in the system, the name, the display name, and the description of the existing artifact on the target system are modified internally; the display name and the description are appended with "Superseded on" and the date. The internal name, display name, and description of the artifact being imported remain intact.



Content Archive Tool

Feature description	The HP CSA Content Archive Tool is a command line tool for exporting and importing artifacts to and from HP CSA archive files. In addition to the import and export functionality described above, this tool includes command line options for previewing (or validating) the action to be taken, associating resource offerings with resource providers at import, and more. See the usage information below.
Try this!	The HP CSA Content Archive Tool is installed during the installation of the HP CSA product. From the command line, navigate to the folder containing the tool (typically in Tools\ContentArchiveTool\ in the HP CSA installation folder), and run: <code>java -jar content-archive-tool.jar -h</code>
For more information	See the <i>HP CSA Content Archive Tool document</i> for details about command-line functionality for import and export.

```
Usage:  -h |
        -e [[-a [Artifact Type]] [-n Artifact Name] | [-u uuid of artifact]] [-c config property file] [-t target output folder] [-j oracle jars]
        -i [-v] [-f | -w] -z (individual zip archive| zip archive folder) [-c config property file] [-o organization name] [-p true/false] [-j oracle jars]
        -v -z (individual zip archive| zip archive folder) [-c config property file] [-o organization name] [-j oracle jars]
        -l |
        -g
content-archive-tool - This tool enables artifact information to be exported and imported across 3.20 instances of HP CSA.

-a,--artifact      <Artifact type>          Provide Artifact type, otherwise all is exported.
-c,--config        <config property file>    The config property file name.
-e,--export
-f,--updatePreserveExisting
-g,--generate
-h,--help
-i,--import
-j,--jars          <Oracle JARs>                Oracle JDBC Jars separated by space.
-l,--list
-n,--name <Artifact name>
-o,--orgName      <Organization name>      Organization name.
-p,--rp <arg>
-t,--target       <Target output folder>   Target output folder.
-u,--uuid        <Artifact UUID>         UUID of the artifact to be exported.
-v,--validate
-w,--update
-z,--zip          <Archive location>       Archive location.
```

Export and Import in the Cloud Service Management Console

Feature description	The Cloud Service Management Console expedites content portability by providing an interactive interface to manage import and export of HP CSA artifacts. In addition to the import and export functionality described above, a preview button provides the ability to see a report detailing artifacts before they are imported onto the target system, as shown below.
Try this!	<p>On the source system Cloud Service Management Console: Designs > Service Designs (left navigation pane) > Export Service Design Archive </p> <p>On the target system Cloud Service Management Console: Designs > Service Designs (left navigation pane) > Import Service Design Archive </p>
For more information	For information about the import and export process in the Cloud Service Management Console, see the Cloud Service Management Console online help.

All Service Designs
The service design interface allows you to view existing service designs or create additional ones.

Service Designs

Display Name	Description	Availability
LING_VCENTER_COMPUTE_3.10	Provisions simple compute server using vCenter. March 12,	Enabled
Ling_VCENTER_COMPUTE_ADM_3.	Provisions simple compute server using vCenter. Deploys a	Enabled
Ling_VCENTER_COMPUTE_DMA_JBO3	Provisions simple compute server using vCenter. Deploys J	Enabled
MOE_COMPUTE_ADM_3.10		
VCENTER_COMPUTE_SITES		

Import Service Design

Archive File *

Enter path and filename

Option

Import

The Import operation will add the service design from the selected archive file if it doesn't already exist.

The Preview button can be used to view a prospective results report for the import.

Preview Import Cancel

Import a Service Design Archive

Preview button

Intelligent Resource Utilization

What is a Resource?

A specific instance of software or infrastructure used to enable cloud service delivery. For more information, see the HP Cloud Service Automation Concepts Guide.

What is a Resource Pool?

A resource pool models the capacity and utilization of resources, which are represented as elements in the service model. Resource pools are optionally configured to represent those resources that a resource provider makes available to HP CSA. For more information, see the HP Cloud Service Automation Concepts Guide.

HP CSA intelligent resource utilization models the current capacity of available resources from the resource provider perspective, and the utilization of resources by HP CSA. Capacity information is used in resource provider and pool selection. With intelligent resource utilization, you can set and synchronize the total capacity your resource providers have allocated for HP CSA use (resource supply) and track how much of this capacity has already been consumed by your current service instances (resource demand).

HP CSA can model resource supply in resource pools associated with each resource provider. For example, you can create resource pools on a VMware vCenter resource provider to represent collections of virtual resources for a single hypervisor, a cluster, or the entire datacenter. You can also model HP Matrix Operating Environment infrastructure orchestration resource pools (pools of CPU, memory, and storage) as HP CSA resource pools.

HP CSA models resource demand using measurable properties on service design components. HP CSA links the measurable property demand to a specific resource pool's supply via resource binding actions during service instantiation.

You can use the included HP CSA internal actions to identify and select a resource provider and associated pool. Or, you can create a custom resource pool selection action in HP Operations Orchestration, import it into HP CSA, and configure it in the resource binding.

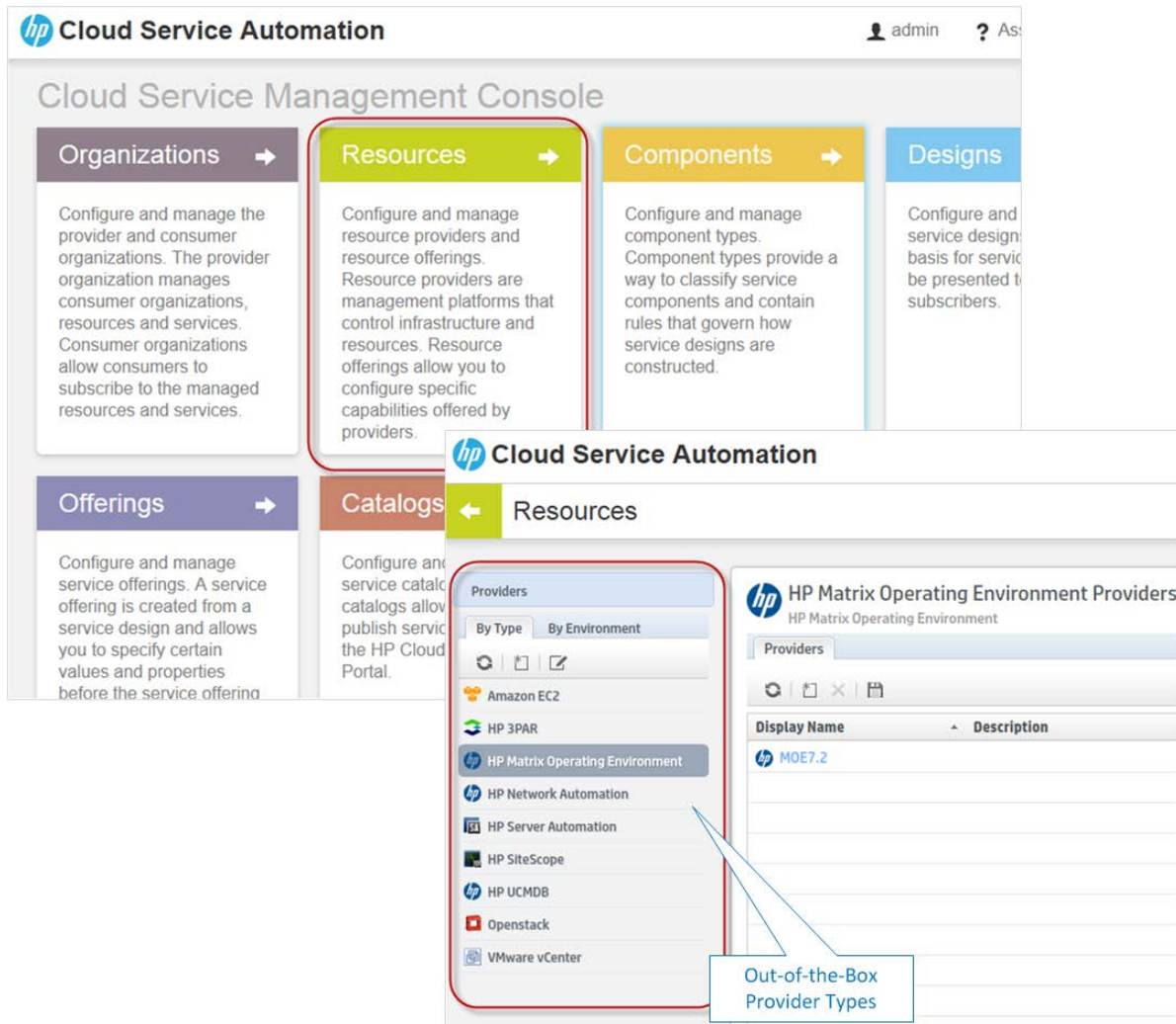
Resource Supply Management

What is a Resource Provider?

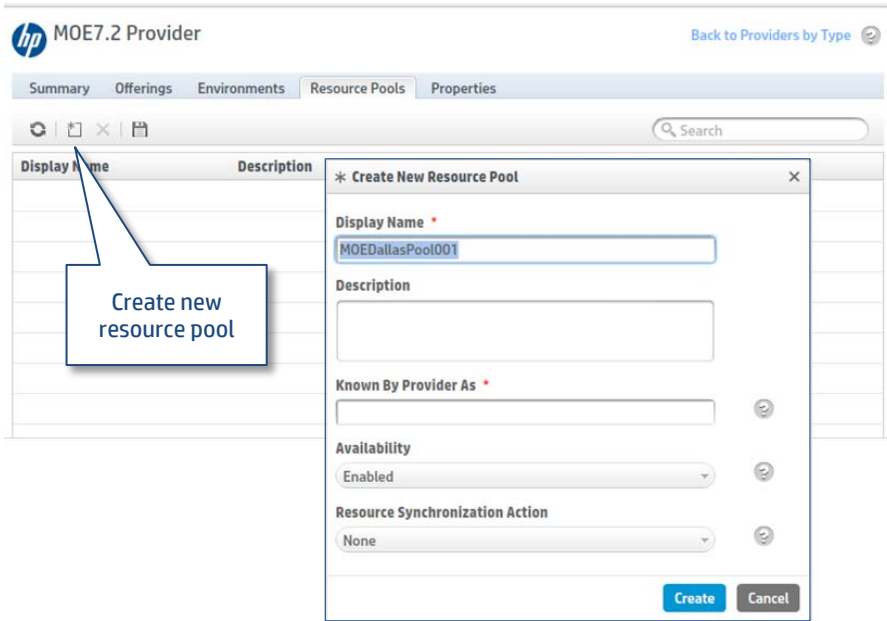
A management platform that provides either Infrastructure-as-a-Service (IaaS) or Software-as-a-Service (SaaS) to the cloud. For example, a provider of HP Matrix Operating Environment services provisions infrastructure and basic applications, while a provider of HP SiteScope services monitors applications.

To track resource supply, you identify the capacity allocated by resource providers for HP CSA. You specify this capacity by defining resource pools for your resource providers.

In HP CSA, resource providers are classified by *provider types*. HP CSA ships with pre-defined provider types as shown below. You can also add new provider types. You create HP CSA resource providers per provider type for each different service access point and user ID in your environment—for example, an HP Matrix Operating Environment provider called **MOE7.2**:

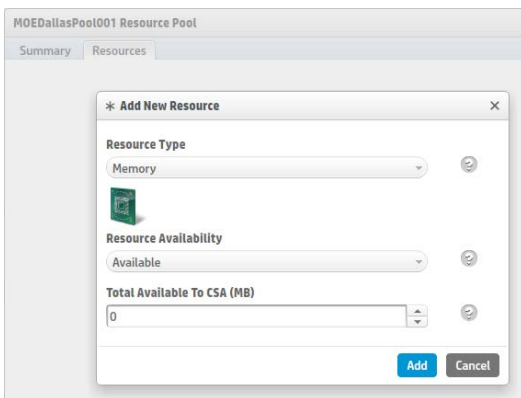


You can then specify one or more resource pools for each resource provider:



You can define resources of the following types for each resource pool: CPU, IPv4 or IPv6 address, license, memory, physical server, power, storage, subnet, VLAN or virtual server. Resources can be characterized as available or unavailable for allocation, and can be configured to specify the total number of units available or characterized as unlimited. Examples of unlimited resources might include resources available from public cloud providers.

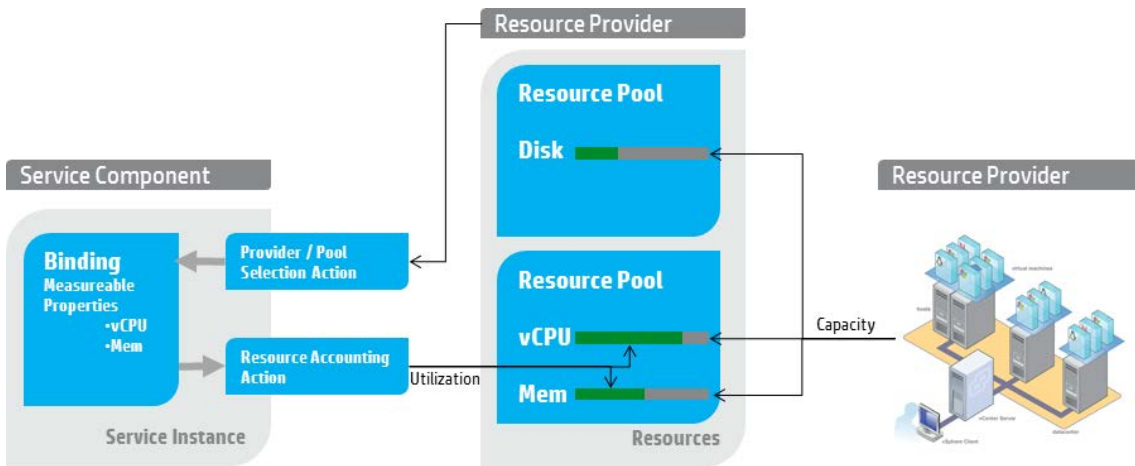
The “Known By Provider As” label is a string that identifies a resource pool on the provider, and is referenced when provisioning resources from that pool. You can only define one entry of each resource type for any given resource pool.



You can use resource synchronization actions to retrieve available units from the resource provider, or you can set the value manually.

Multiple Pools Per Provider and Multiple Resources per Pool

Feature description	You can define multiple resource pools for each resource provider and multiple resources in each resource pool.
Try this!	Cloud Service Management Console: Resources > resource provider type > resource provider > Create New Resource Pool
For more information	See <i>Resource Pools</i> in the Cloud Service Management Console online help.



Resource Types

Feature description	Resource types map service instance demand to resource provider supply. The resource type and unit in the resource pool correspond to resource types and units of measurable properties in service instances. During service instantiation, HP CSA associates each measurable property with the corresponding pool resource, based on resource type, as service components are linked to specific resource providers. This relates the service instance's resource demand to the resource supply of the selected pool and provider.
Try this!	Cloud Service Management Console: Resources > select provider type > select provider > Resource Pools tab > select pool > Resources tab > Add New Resource
For more information	See <i>Resource Pools</i> in the Cloud Service Management Console online help.

Pool Capacity

Feature description	HP CSA models pool capacity both qualitatively and quantitatively. Pool resources can be marked Available, Unavailable or Unlimited (qualitative capacity). Utilization indicates the units consumed by active service instances as compared to the total resource units available in the resource pool. This means that each pool can be modeled as partially consumed, completely unavailable, or always available (unlimited).
Try this!	Cloud Service Management Console: Resources > select provider type > select provider > Resource Pools tab > select pool > Resources tab > select resource
For more information	See <i>Resource Pools</i> in the Cloud Service Management Console online help.

Utilization Reporting

Feature description	You can view resource capacity and utilization for each resource pool in the Cloud Service Management Console. You can configure your service designs to adjust utilization automatically, or you can set the utilization value manually. You can also retrieve resource capacity and utilization for a resource pool using REST API calls.
Try this!	Cloud Service Management Console: Resources > select provider type > select provider > Resource Pools tab > select pool > Resources tab
For more information	See <i>Resource Pools</i> in the Cloud Service Management Console online help and <i>Artifact API</i> section of the HP CSA API Reference.

REST APIs for Resource Management

Feature description	You can create resource pools and update pool capacity and utilization using REST API calls, as well as the Cloud Service Management Console.
For more information	See <i>Artifact API</i> and <i>Utilization API</i> in the API Reference.

Resource Demand Management

To track resource demand, you identify the capacity required by service instances. You define this required capacity by configuring measurable properties on the components in your service designs.

During service instantiation, resource binding actions compare the composite demand represented by all of a component's measurable properties against the available supply in candidate resource pools to drive resource provider selection. HP CSA relates the component's measurable properties (demand) to resource pool items (supply) as HP CSA links the component to a specific resource provider, enabling resource accounting against the provider's resource supply.

Measurable Properties

Feature description	You can configure any property of a service component as a measurable property by specifying the property's Resource Type and Unit for a Measurable Property .
Try this!	Cloud Service Management Console: Designs > select service design > Designer tab > select service component > Properties area > select component property > Resource Type and Unit for a Measurable Property
For more information	See <i>Designs</i> and <i>Resource Bindings</i> in the Cloud Service Management Console online help.

Provider Selection Actions

Feature description	<p>You can take advantage of internal actions included with HP CSA to configure a component's resource binding, so that HP CSA selects a resource provider based on the provider's ability to supply the resources the component needs.</p> <p>In the Designer, open a component's resource binding and configure these HP CSA internal actions under the Resource Provider Selection tab:</p> <ul style="list-style-type: none"> • <i>Build Resource Provider and Pool List</i> and <i>Select Resource Provider and Pool</i> • <i>Select Resource Provider and Pool from Parent</i> for a child component
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Try this!	Cloud Service Management Console: Designs > select service design > Designer tab > select service component > Resource Bindings area > select resource binding > Resource Provider Selection tab > configure the <i>Build Resource Provider and Pool</i> and <i>Select Resource Provider and Pool</i> actions
For more information	See <i>Resource Bindings</i> in the Cloud Service Management Console online help.

Externalized Resource Pool Selection

Feature description	You can create a custom resource pool selection action in HP Operations Orchestration, import it into HP CSA, and configure it in a component's resource binding.
Try this!	Cloud Service Management Console: Designs > select service design > Designer tab > select service component > Resource Bindings area > select resource binding > Resource Provider Selection tab > configure your custom action
For more information	See <i>Resource Bindings</i> in the Cloud Service Management Console online help.

Accounting Actions during Reserve and Unreserve

Feature description	<p>You can direct HP CSA to increment and decrement the value of each measurable property from the selected provider's resource pool by configuring accounting actions in the component's resource binding.</p> <p>In the Designer, open a component's resource binding and configure these HP CSA internal actions under the Resource Accounting tab:</p> <ul style="list-style-type: none"> • <i>Increase Resource Utilization</i> for Reserve • <i>Decrease Resource Utilization</i> for Un-reserve
Try this!	Cloud Service Management Console: Designs > select service design > Designer tab > select service component > Resource Bindings area > select resource binding > Resource Accounting tab > configure the <i>Build Resource Provider and Pool</i> and <i>Select Resource Provider and Pool</i> actions
For more information	See <i>Resource Bindings</i> in the Cloud Service Management Console online help.

REST API for Utilization Summary by Subscription

Feature description	You retrieve utilization summary information for service instances using REST API calls that return a subscription's utilization data.
For more information	See the <i>Utilization API</i> in the API Reference.

Enhanced Service Experience

What is the Cloud Subscriber Portal?

Software that delivers cloud services to subscribers (customers) by providing one or more service catalogs per organization. The Cloud Subscriber Portal is integrated into and shipped with HP CSA.

The Cloud Subscriber Portal has a number of enhancements to improve the fulfillment experience for cloud services. The Portal interface has been aligned to the HP Simplified look and feel, with associated layout and font improvements. More significantly, a number of areas have been optimized for performance, including faster retrieval of service offering lists, subscription lists, and subscription details.

Enhanced performance in the Cloud Subscriber Portal augments performance improvements in the Cloud Service Management Console operations and service design areas. In addition, the Portal provides new features that make it easier to constrain and validate subscriber selections, share ownership of subscriptions, improve change management processes, and manage subscriptions and requests. These new features are described below.

Syntax Validation and Required Properties

Feature description	<p>When you request a subscription in the Cloud Subscriber Portal, fields that have special syntax requirements are validated as you type. For example, a subscription that allows you to specify an IPV4 address for use during provisioning can validate as you type that your entry conforms to correct IPV4 address syntax, with a green indicator for valid syntax and a red indicator for invalid syntax.</p> <p>A Service Designer can set syntax validation constraints in a service design for the following types of subscriber option properties:</p> <ul style="list-style-type: none"> • Integer properties, including the defining minimum and maximum values • String properties, including defining minimum and maximum length, plus input restrictions: <ul style="list-style-type: none"> - Custom regular expressions (validates the value based on a regular expression) - Email Address - IPV4 Address - IPV6 Address - Non-Numeric Characters - URL Address <p>In addition, subscriber option properties can now be marked as “required” so that the subscriber must fill in those fields. For example, Subscription Name, Requested Start Date, and Requested End Date are required properties.</p>
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Try this!	Cloud Subscriber Portal: Subscriptions tab > select subscription to modify > View Details > Manage Subscription > Modify Subscription
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For more information	See <i>Subscribe to a Service Offering</i> in the Cloud Subscriber Portal online help.
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Delivery Information
Provide details about your subscription and contract

Subscription Name* ✓

Description

Requested start date* 📅

Requested end date* no end date 📅 ✓

Group Ownership ON

System Configuration

Required IP addresses
IP addresses required for this system [Included in Price]

IPv4 address* ✖ Enter a valid IPV4 Address.

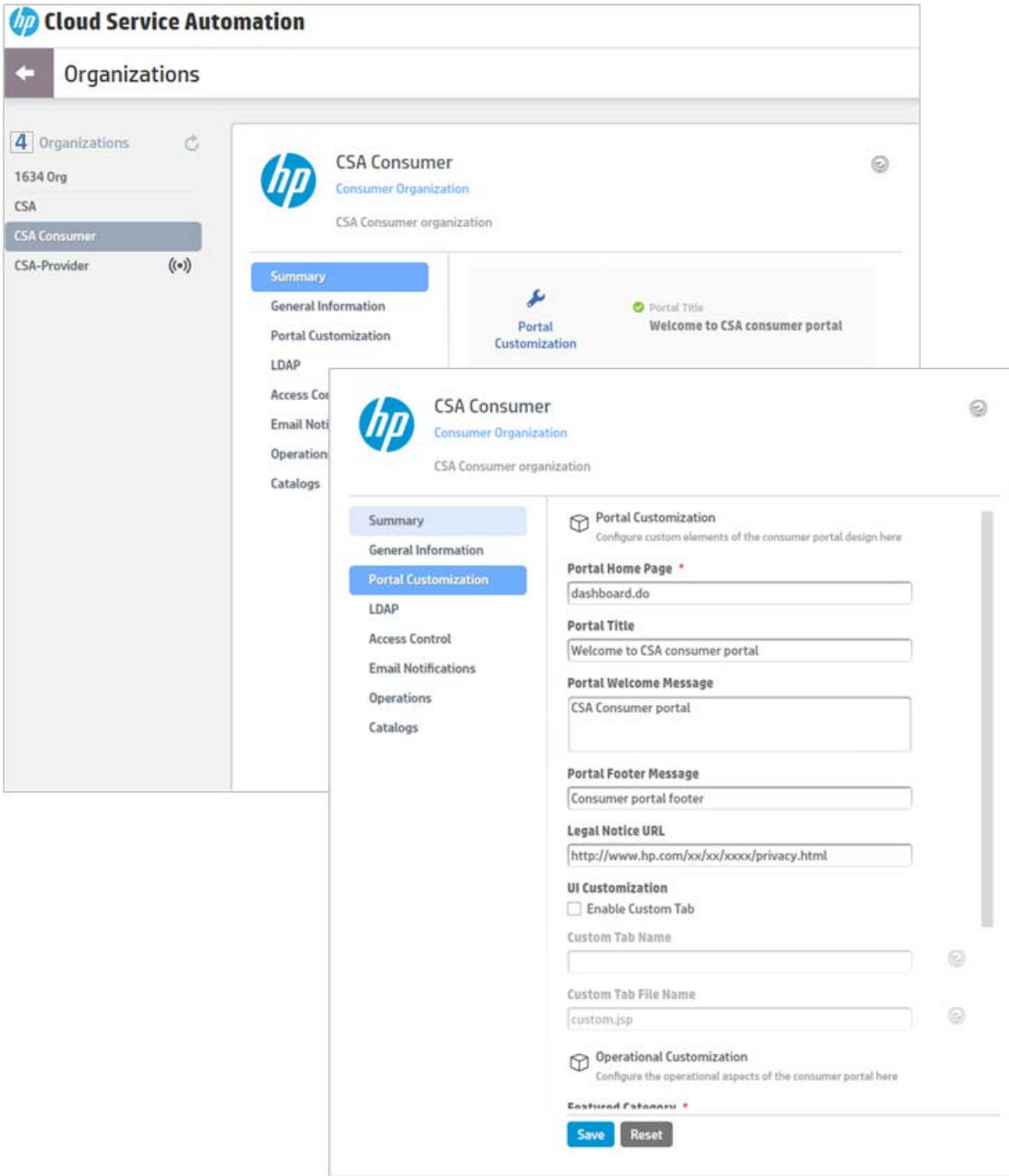
Syntax validation

Centralized Portal Customization via the Cloud Service Management Console

- Feature description** Portal customization allows you to customize an organization's view into the Cloud Subscriber Portal. In addition to an organization title, welcome message and footer, you can now:
- Configure a custom home page,
 - Specify a legal notice URL, and
 - Define a custom tab which can in turn be used as the organization's portal home page.

Try this! Cloud Service Management Console: **Organizations** > select an organization > **Portal Customization**
Note: The features above are not available for the provider organization.

For more information See *Portal Customization* in the Cloud Service Management Console online help.



Group Ownership of a Subscription

Feature description

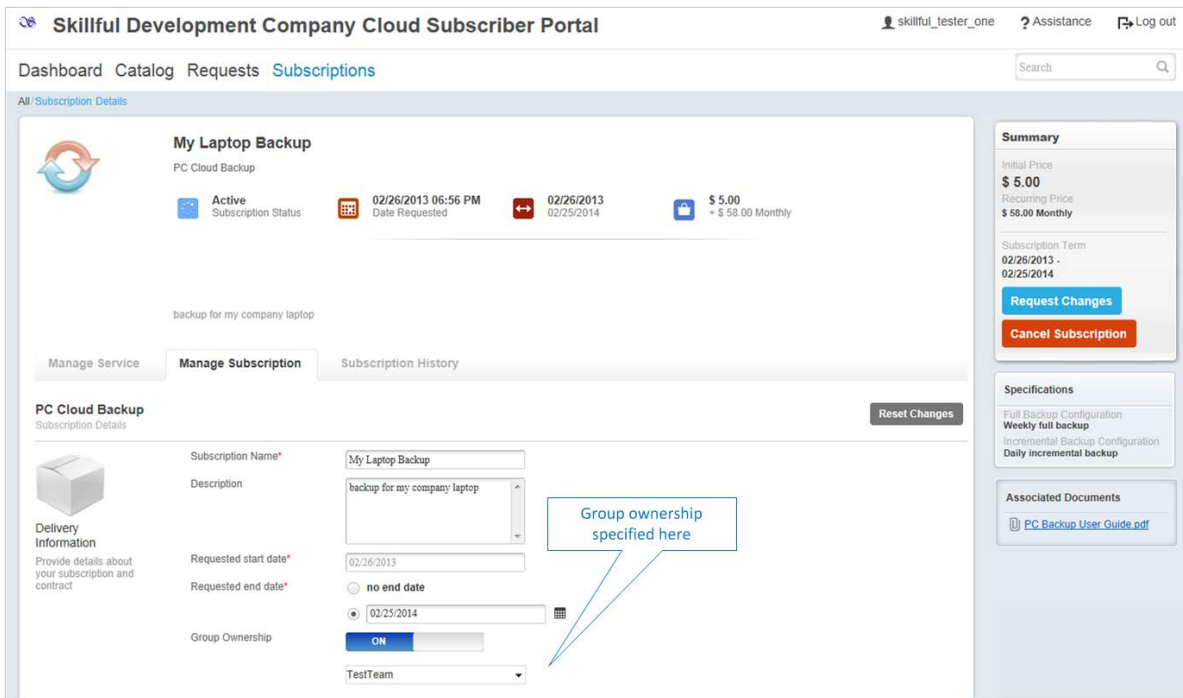
Users who are working together on the same project can now share cloud services. The group ownership feature allows users to jointly manage subscriptions, so that group members have the ability to modify or cancel subscriptions, or execute actions on the service instance.

Group ownership is specified in the Cloud Subscriber Portal. HP CSA obtains your group memberships from your organization's LDAP configuration. Once the subscription's group ownership setting is turned ON and you select a group from the drop-down list, all members of the group have access to the subscription. In the subscriptions page, group subscriptions are indicated by a group ownership icon. The Operations area of the Cloud Service Management

Console also displays a group ownership icon for group subscriptions requested by the selected user.

Try this! Cloud Subscriber Portal: **Subscriptions tab** > select subscription to modify > **View Details** > **Manage Subscription** > **Modify Subscription**

For more information See *Group Ownership of a Subscription* in the Cloud Subscriber Portal online help.



Group Approval Policies

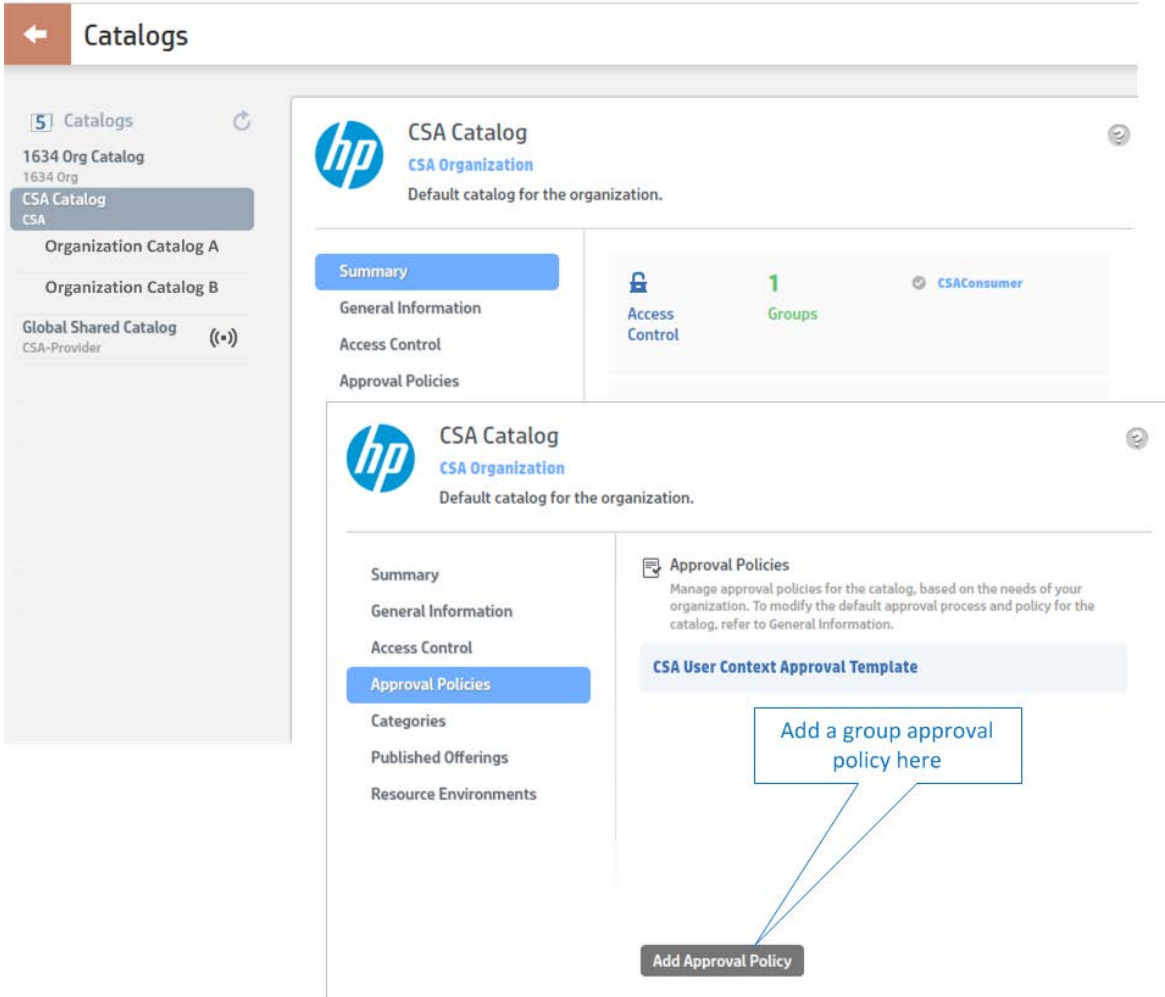
Feature description Often an organization's change management policies require a group of approvers rather than a single individual. For example if Approver A is unavailable, Approver B can expedite approval requests in Approver A's absence.

Group approval policies are specified in the **Catalogs** area of the Cloud Service Management Console. HP CSA provides out-of-the-box templates for creating active approval policies, including named group policies, which are based upon LDAP membership. You can specify the minimum number of approvals required, automatic approve/deny policies, and wait time (in days) for automatic approval. After you designate one group of approvers within an organization, any member of that group can approve or deny service requests, so that requests move rapidly to instantiation.

Try this! Cloud Service Management Console: **Catalogs** > select catalog (organization must be previously configured) > **General Information** > **Approval Process**

For more information See *Approval Policies* in the Cloud Service Management Console online help.

hp Cloud Service Automation



Manage Subscriptions or Requests

Feature description For better management of subscriptions and subscription requests, HP CSA provides:

Multiple selection

Select multiple subscriptions or requests. After selection, cancelling or deleting multiple items is a simple “one click” operation.

Filtering

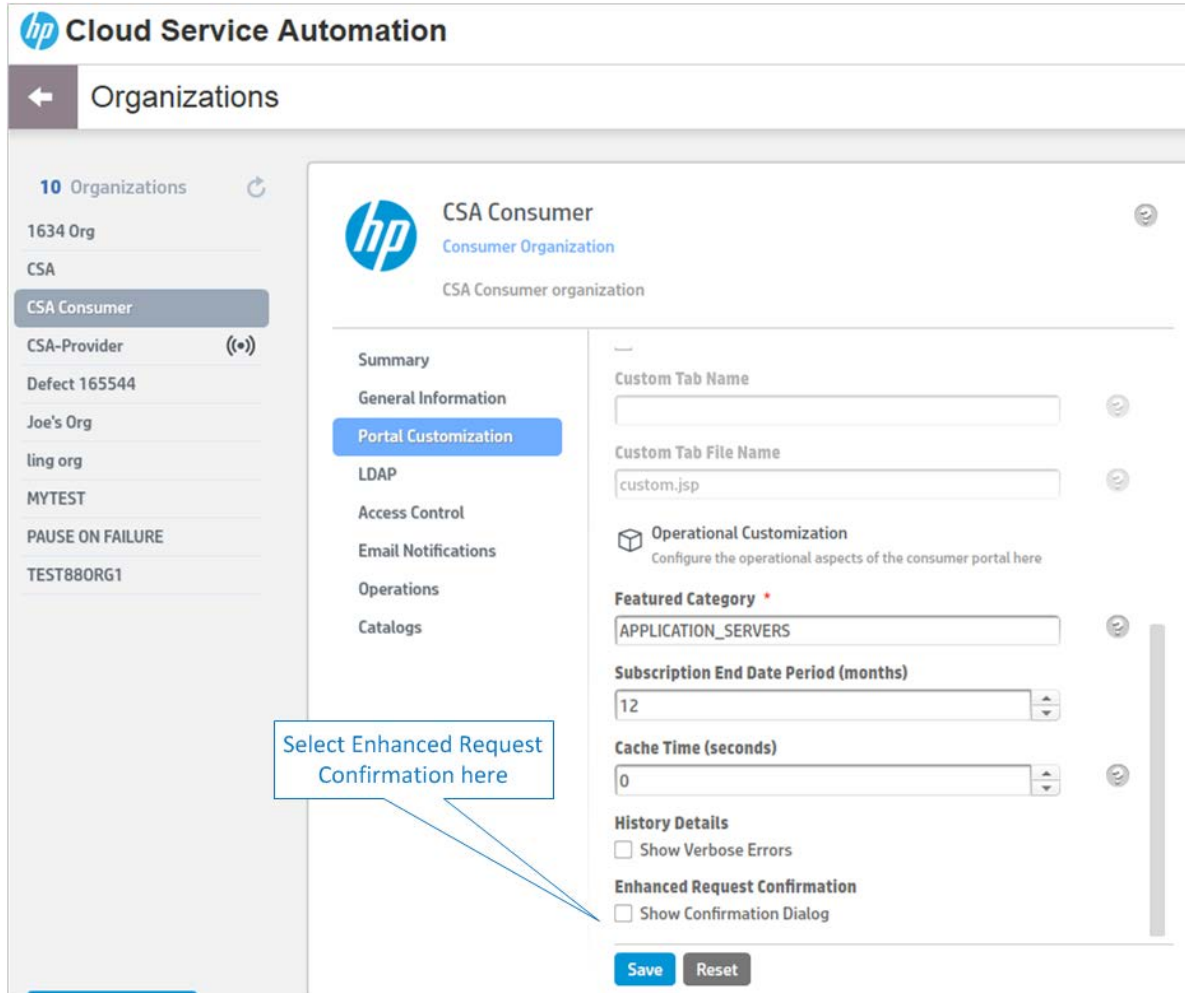
Filter subscriptions and subscription requests based on submission date, so that the most recent are shown at the top of the list.

Enhanced Request Confirmation

Choose to receive a confirmation message when a subscription is ordered or modified. The message provides delivery information, such as subscription name, description, requested start date, requested end date, or any associated documents. The message also provides confirmation of specifications, such as processor, operating system, or other system configurations. This confirmation lets the subscriber review what they have selected and then confirm or cancel.

Try this! Cloud Subscriber Portal: **Subscriptions** tab

For more information See *Manage Your Subscriptions* in the Cloud Subscriber Portal online help.



Select Enhanced Request Confirmation here

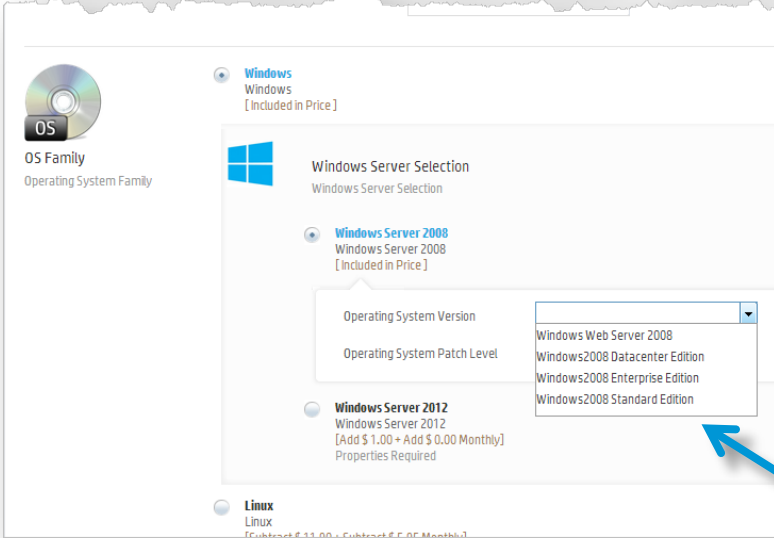
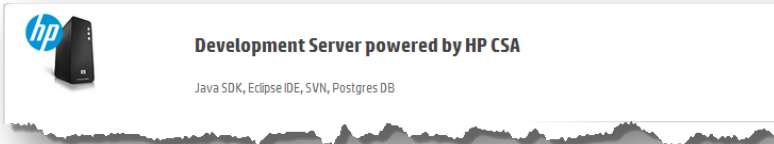
Cascading Dynamic Subscriber Options

Feature description For this release, dynamic subscriber options can be presented based on other property values that are part of the same subscriber option. This new feature allows HP CSA to build dynamic and flexible service options with option properties that change based on your previous choices.

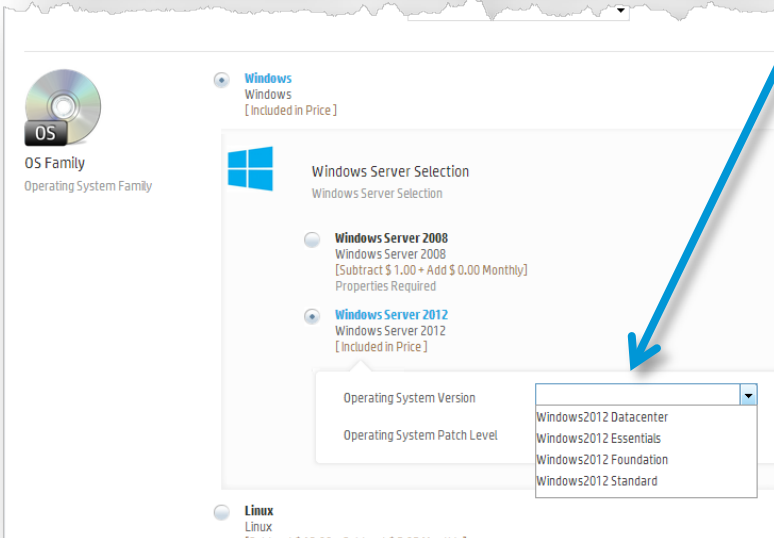
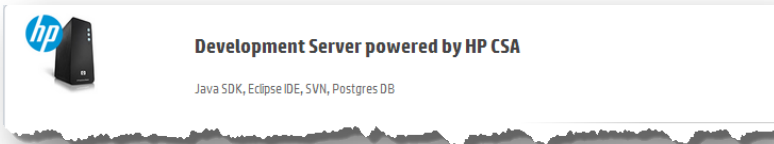
With cascading option properties, selecting a particular value in Property A changes the list of values displayed for cascaded Property B within the same subscriber option. For example, if a subscriber selects Windows Server 2008 as the Windows Server Selection property, HP CSA can display different operating system versions than those shown when the subscriber selects Windows Server 2012.

Try this! Cloud Service Management Console: **Designs** > select service design > **Subscriber Options** tab > **Create an Option Set** > **Add Option Set** ≡+

For more information See *Create Subscriber Option Properties* in the Cloud Service Management Console online help.



Selection of **Windows Server 2008** cascades different Operating System Version values than those shown for **Windows Server 2012**.



Integration/REST APIs

HP CSA features a library of REST APIs that can be used to extend and customize functionality. With the release of HP CSA 3.20, REST APIs have been updated and expanded so that APIs are available for virtually all service consumption artifacts. For example, processes like onboarding new organizations with access control and access points, creating service offerings, creating catalogs, managing categories for those catalogs, or publishing service offerings to catalogs are now available through REST APIs.

HP CSA APIs are documented in the *HP Cloud Service Automation API Reference*, which has been updated for HP CSA 3.20. The table below summarizes REST API changes for this release.

Management of Service Offerings	The Artifact API has been updated to allow the REST API user to publish and unpublish service offerings from a catalog.
Management of Documents	The Artifact API has been updated to allow the REST API user to add, delete or update documents in a service offering.
Management of Service Catalogs	The Catalog API has been updated to allow the REST API user to create, update, delete catalogs, and to publish or unpublish service offerings to catalogs.
Management of Categories	The Catalog API has been updated to allow the REST API user to create, update and delete catalog categories.
Management of Organizations	The Organization API has been updated to allow the REST API user to create, update and delete organizations, and to configure access points and roles for organizations.
Management of Groups	The Artifact API has been updated to allow the REST API user to list, add, update and disassociate groups for an organization.
Management of Approval Policies	The Organization API has been updated to allow the REST API user to list, create, update and delete an organization's approval policy. The Catalog API has been updated to allow the REST API user to update catalog approval policies and service offering approval policies.
Content Portability	The Importzip API has been updated, and the Export, Import and Import_result APIs created to allow the REST API user to export and import HP CSA content archives.
Resource Utilization	The Utilization API has been created to allow the REST API user to retrieve resource utilization information for a service subscription.
Dynamic Menus	The Availablevalues API has been created to allow the REST API user to retrieve the list of available values for a dynamic property.

Platform Improvements

Overall, HP CSA offers a number of platform improvements in this release. These include an advanced integration with CA SiteMinder® Secure SSO & Access Management, extended support for the Red Hat Enterprise Linux (RHEL) operating system, and high-availability with Microsoft SQL server clustering. For more information, see the *HP Cloud Service Automation System and Software Support Matrix*.

In addition, HP CSA now features lifecycle action improvements around advanced failure handling, including internal improvements for more graceful delete and cancel handling, better handling of failures during modify operations, and general robustness around failures encountered during parallel processing. Plus, advanced error handling now includes support for better Operator intervention and control, as described below.

Operator Intervention for Error Handling

Feature description The HP CSA Operator can now intervene to deal with a subscription that has encountered an error and is now paused. This functionality gives the operator an opportunity to troubleshoot and to resolve the root cause of the problem, and then to resume the provisioning of the subscription. In the case of upgrade, all organizations will be provisioned with this policy-based operator intervention upon errors.

The Organizations area of the Cloud Service Management Console has a new tab to configure operator intervention. Using the Operations tab, you can specify policies on an organization-by-organization basis, including the following:

Error Handling

Fail Subscriptions On Provisioning Errors - When an error occurs during provisioning, the configured Failure substate actions run, and the subscription is marked as Failed in both the Cloud Subscriber Portal and the Operations area of the Cloud Service Management Console. Previous HP CSA releases handled provisioning errors this way. If you upgrade an existing HP CSA installation to 3.20, HP CSA will configure any existing organizations to fail subscriptions on provisioning errors, to match the behavior of prior HP CSA releases. This is also the default policy when you create a new organization in HP CSA 3.20.

Pause Subscriptions On Provisioning Errors - When an error occurs during provisioning, the provisioning process stops, and the subscription is marked as Pending in the Cloud Subscriber Portal and as Paused in the Operations area of the Cloud Service Management Console. You can troubleshoot the cause of the failure and then resume or cancel the paused subscription.

Paused Subscription Notifications

Notify Subscribers - The first time a subscription is paused, Subscribers receive an email and a notification displays in the Cloud Subscriber Portal dashboard.

Notify Operators - Whenever a subscription is paused, Operators receive an email notification.

Operator Users to Notify when Paused

Add operator users according to a list - The list shows LDAP users who have logged into the Cloud Service Management Console at least one time and are members of the Service Operations Manager role.

Add operator users manually - You can manually add a user by typing the user name.

Usage scenario When these features are used together the entire process of error handling and operator intervention can be orchestrated, like this:

1. In the Cloud Subscriber Portal, a Subscriber requests a service and confirms the request.
 2. In the Cloud Service Management Console, the Operator is notified that the service lifecycle is paused and that the subscription has been paused due to a failure during provisioning. The Operator can intervene to fix the problem and resume provisioning, or the Operator can cancel the subscription altogether.
 3. From the Subscriber's perspective, the Cloud Subscriber Portal shows that the subscription has encountered an error during provisioning and is paused. The
-

Subscriber is also notified that an Operator is working to resolve the problem.

4. From the context of the Operations area in the Cloud Service Management Console, the Operator traces the error to a specific process ID in Operations Orchestration (OO) Central and fixes the root cause of the problem. (Or alternatively, cancels the subscription and the subscriber will be notified of the failure.)
5. When the root cause is identified and fixed, the Operator resumes provisioning. If the request to resume is successful, the failed action reruns and processing picks up where it left off. The deployment lifecycle continues, and the service is provisioned.
6. In the Cloud Subscriber Portal, the Subscriber sees that the subscription is now active. In the Cloud Service Management Console, the Operator also sees that the subscription is active.

This process offers the Operator an opportunity to intervene on an organization-by-organization basis, and to resolve issues before continuing with the subscription process. You configure failure handling behavior in the Organizations areas of the Cloud Service Management Console.

Try this!

Cloud Service Management Console: **Organizations** > select an organization > **Operations**

For more information

See *Components* in the Cloud Service Management Console online help.

The screenshot displays the HP Cloud Service Automation interface. At the top left, the HP logo and 'Cloud Service Automation' are visible. Below this is a navigation bar with a back arrow and the title 'Organizations'. A sidebar on the left lists 'Organizations' with a refresh icon, followed by a list of organizations: '1634 Org', 'CSA', 'CSA Consumer' (highlighted), and 'CSA-Provider' with a plus icon. The main content area shows the details for the 'CSA Consumer' organization, including its logo, name, and type ('Consumer Organization'). A menu on the left of the main content area lists various configuration options: Summary, General Information, Portal Customization, LDAP, Access Control, Email Notifications, Operations (highlighted), and Catalogs. The main content area is divided into two sections: 'Portal Customization' and 'Operations Configuration'. The 'Portal Customization' section shows a wrench icon and a 'Portal Title' set to 'Welcome to CSA consumer portal'. The 'Operations Configuration' section is shown in a modal window, detailing settings for provisioning error handling and subscription notifications. It includes radio buttons for 'Fail Subscriptions On Provisioning Errors' and 'Pause Subscriptions On Provisioning Errors' (selected). There are also checkboxes for 'Notify Subscribers' and 'Notify Operators', both of which are checked. A section for 'Operator Users To Notify When Paused' shows a list of users, with 'User11Donna' (user@hp.com) selected. At the bottom of the modal, there are 'Save' and 'Reset' buttons.

United States Federal Compliance

For this release, HP CSA has added initiatives for United States Federal government compliance, including the following, described in detail below:

- Federal Information Processing Standard 140-2 (FIPS 140-2)
- Certificate-based authentication through the CAC Smart Cards
- IPv6 support
- Mitigation for SQL injection attacks plus cross-site scripting attacks
- Title bar security banner

Several of these requirements are also applicable to other international government regulations.

FIPS 140-2 compliance

Feature description	<p>The following HP CSA components comply with Level 1 Federal Information Processing Standard 140-2 (FIPS 140-2), which defines the technical requirements to be used by Federal Agencies when these organizations specify cryptographic-based security systems for protection of sensitive or valuable data:</p> <ul style="list-style-type: none"> • Cloud Service Management Console • Cloud Subscriber Portal • Password Utility Tool • Localization Tool • Content Archive Tool <p>The compliance of these HP CSA components with FIPS 140-2 is ensured by integrating FIPS 140-2 compliant, third party cryptographic modules, using these modules as the only providers of cryptographic services, and using FIPS-approved cryptographic functions as applicable for HP CSA design, implementation and operation.</p>
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For more information	See <i>HP Cloud Service Automation Version 3.2 FIPS 140-2 Compliance Statement</i> and the <i>HP Cloud Service Automation System and Software Support Matrix</i> .
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CAC/PIV authentication enablement

Feature description	<p>HP CSA now supports certificate based authentication through the Common Access Smart Cards (CAC) where CAC is used as the user authentication mechanism. By configuring CAC, you are able to log into HP CSA using a Personal Identity Verification (PIV) card.</p> <p>After integrating HP CSA with CAC, you can log in to the Cloud Service Management Console and Cloud Subscriber Portal using a PIV card with a valid certificate, log in to the Cloud Service Management Console and Cloud Subscriber Portal using an HP CSA out-of-the-box user account without a PIV card, and cannot log in to the Cloud Service Management Console and Cloud Subscriber Portal as a valid LDAP user without a PIV card.</p>
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For more information	See the <i>HP Cloud Service Automation Configuration Guide</i> for more information.
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IPv6 support

Feature description HP CSA now supports the Internet Protocol version 6 (IPv6) communications protocol (both dual-stack and IPv6-only).
 Make sure that IPv6 has been implemented on the system on which HP CSA is running (including configuring the network and DNS) and that your Web browser, such as Firefox or Chrome, has been enabled for IPv6 support.

For more information See the *HP Cloud Service Automation Configuration Guide* for more information.

Mitigation for SQL injection attacks plus cross-site scripting attacks

Feature description HP CSA has added mitigation features for SQL injection and cross-site scripting attacks.

For more information See the *HP Cloud Service Automation Configuration Guide* for more information.

Title bar security banner

Feature description HP CSA has added the capability to provide a security classification banner and required disclaimer text for United State government accounts.

For more information See the *HP Cloud Service Automation Configuration Guide* for more information.

For more information

To access other toolkits to design and extend cloud services running on HP CloudSystem, go to hp.com/go/csdevelopers.

For more information on HP CloudSystem, visit hp.com/go/cloudsystem.

The HP Live Network Portal can be found at <https://hpln.hp.com/solutions>.

HP software product manuals and documentation for the following products can be found at h20230.www2.hp.com/selfsolve/manuals. You will need an HP Passport to sign in and gain access.

- HP Cloud Service Automation
- HP ArcSight
- HP Operations Orchestration
- HP Server Automation
- HP SiteScope
- HP Universal CMDB

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