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CloudPortal Business Manager 1.3

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CloudPortal Business Manager 1.3

CloudPortal™ is a Business/Operational Support System (B/OSS) platform that enables service providers to get to market with an Infrastructure-as-a-Service (IaaS) cloud that has been built on the CloudStack™ platform.

It is an enterprise grade operations support platform that comes integrated with CloudStack. CloudPortal includes standard modules and components for Account Management, Pricing & Billing, CRM, and Reporting that can be quickly implemented for public cloud initiatives.

In This Section

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Release Notes

Release notes describe the enhancements, changes, bug fixes, and known issues for a particular release or build of the CloudPortal Business Manager software. Release notes are categorized into:

- Main Release

- Maintenance Release

System Overview

CloudPortal™ is a purpose-built Business/Operational Support System (B/OSS) platform that enables Service Providers to quickly get to market with an Infrastructure-as-a-Service (IaaS) cloud that has been built on the CloudStack™ platform.

CloudPortal is an enterprise grade operations support platform that comes integrated out-of-the-box with CloudStack. CloudPortal includes standard modules and components for Account Management, Pricing & Billing, CRM, and Reporting that can be quickly implemented for public cloud initiatives.

Account Management Features

Account Provisioning

- Self-registration supported for customers

- Assisted registration for service provider personnel to manually create customer accounts

Account Management

- View and modify account information

- Users can create personal profiles

- Login, logout, and password reset functionality

Products, Catalogs, and Price Management Features

- Create and manage multiple Product Catalogs and Product Bundles

- Create different billing scenarios with a combination of straight utility metering, included usage level entitlements, one-time setup fees, periodic subscription renewal fees, and annual fees

- Set different prices in different catalogs

- Support for Channel-Catalog affinity to enable partner-based selling channels

- Utility Rate Card for straight usage-based billing

- Subscription Management

Billing Features

- Store customer's raw and rated spend information by billing period

- Mediation Engine - a dedicated server component that takes transforms raw usage data from CloudStack into business-aware data that can be rated and converted to monetary value

- Subscription-based and Utility billing models

- Tax module

- Periodic billing runs generate customer invoices

- Refunds through either account credits or credit card chargeback

- Payment processing using credit card through secure gateway

- Customer can view progressive spend and credit balance, view invoices by billing period, make payment for a specific invoice, and update payment card details

Customer Relationship Management Features

- Manage customer account information

- View, submit, and comment on trouble tickets

- Masquerade as the customer and take actions on the customer's account, such as filing a trouble ticket or resetting a lost password

- Report on customer activity and usage

Resource Usage Monitoring Features

- Customers can allocate and manage budgets and receive alerts when spend limits are approached

- Customer resource usage can be viewed by customers, their users, and service provider personnel

- Prominent dashboard meter displays running total of usage

Reporting Features

- New Customer Registrations report

- Top Customers ranked by total spend to date

- Monthly Usage per Product compares usage of VMs, network bytes, etc.

- Monthly Usage by Product Bundle compares usage levels in customer subscriptions to various bundles

- Export reports to CSV, PDF, JPG, or Email

- Filter by date

User Provisioning Features

- Create logins for users within the Service Provider organization or in a customer account

- Security profiles for assigning permissions to ensure users access the appropriate resources and data

- Store and modify contact details and profile photos

Administrator Accounts

CloudPortal comes with the following built-in administration account features.

- The ROOT profile is a set of security permissions that provide maximum flexibility to the initial user of CloudPortal. Other users at the service provider must be created by this user, or by a user created by Root.

- The PORTAL user is not a real person. It is used by CloudPortal for internal actions. You will likely see this user referred to in notifications and logs.

- The SERVICE account contains the service provider's own users and information.

Caution: If you perform any updates directly on the CloudPortal database, avoid modifying any records related to ROOT, PORTAL, or SERVICE.

Portal Administration Features

- Dashboard provides overview of infrastructure resource usage, service health, customer activity, and notifications.

- Configuration properties provide a way for authorized users to modify behavior of CloudPortal modules including reports, billing, handling of delinquent payments, destination of alert Email, triggers for automated Email, and more.

- Ability to suspend batch jobs during maintenance.

Content and Messaging Features

- Alerts and notifications triggered by events related to usage and spend levels, account status, customer payment failures, and service health

- Authorized users can publish updates on events such as scheduled maintenance, disruptions, and issues

- Customizable templates for outbound Email

- Basic Internationalization framework

Security Features

CloudPortal provides a variety of security mechanisms to ensure that only authorized persons gain access to data.

- A payment gateway ID for each customer is used to securely exchange data with the payment gateway. All credit card information is stored by the gateway provider, not in the CloudPortal database.

- The CAPTCHA challenge-response test is used to ensure that new account requests are submitted by actual living persons.

- Encryption is applied to all sensitive data in the CloudPortal databases such as Email addresses and passwords. These values are encrypted using Advanced Encryption Standard standard AES-128.

- The Salesforce ID is encrypted using AES-128.

- It is also possible to encrypt the values in the cloud.properties configuration file, such as database passwords, using AES-128.

- The encryption key is stored in a properties file, which can also be encrypted.

See also Configuring Security

Reliability Features

- Ability to run multiple CloudPortal server instances

- Use with load balancer to manage system stress

- MySQL databases use InnoDB storage engine for greater data integrity and reliability

Customization Features

- Componentized for UX and functional customizations

- API support using XML over HTTP(S)

- Email templates can be modified to customize automatically generated email

- Terms of Service link can be configured to your own organization's ToS

Integrations

- Fully integrated with CloudStack. Notifications and usage data from CloudStack provided in CloudPortal UI. Quick access to full CloudStack infrastructure administration UI

- Salesforce.com Service Cloud integration provides trouble ticketing functionality

- Authorize.net payment gateway integration for financial transaction processing

- Single sign-on supported for Liferay enterprise portal platform

What's New in CloudPortal Business Manager 1.3

New Features

- Ops Administrators must be able to set various thresholds on a per-account basis.

- Service providers must be able to verify users' credit cards for fraud control by integrating with MaxMind. If the MaxMind risk score is greter than the configured threshold, they reject the credit card.

- Service providers must be able to use GeoIP location services to automatically provide appropriate defaults to their customers.

- Regular users must be able to install and configure CloudPortal with ease.

- Root users can now manage account types in the UI. A second level tab called Account Types is added to the Administration tab. The Account Type attributes are editable. Certain Account Type attributes such as resource limits, spend limits, credit breach action etc. are configurable in the UI.

- When users sign up, they must be shown the available self-registration account types that they can sign up with.

- New User Interface for the Resources tab. The feature functionality remains the same.

Changes in 1.3

Product bundles are created in the 'Unpublished' state by default. Product bundles that are not published do not show up in the Featured Templates page when users attempt to launch a VM. For product bundles to show up, you must publish them.

Publishing Product Bundles

1. Log in to CloudPortal as the Root User.

2. Click Products > Catalogs and Bundles.

3. Select the Catalog that has the product bundle you want to publish.

4. Click Manage Product Bundles.

5. Select the product bundle you want to publish.

6. Click the Edit button below the Details pane.

7. Check the Publish box (It is unchecked by default).

8. Click Save.

Known Issues Concerning CloudPortal Business Manager 1.3

· Obsolete taxable flag for product/bundle rate card components is still editable in the UI. Please ignore this flag, as it is not in use.

· If a CloudPortal session is explicitly logged out from a different tab, AJAX requests do not redirect users to the login page correctly.

Maintenance Release

This section describes the enhancements, changes, fixed issues, and known issues provided in the maintenance releases of the CloudPortal Business Manager software.

- 1.3.1
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- 1.3.4
- 1.3.5
- 1.3.6
- 1.3.7

1.3.1

This section describe the defects fixed in the maintenance release of the CloudPortal Business Manager Version 1.3.1.

Defects Fixed

- DE1559: Administrators are not allowed to save changes while editing the profiles of regular users if the former do not provide a phone number in the phone number field.

- DE1795: CloudPortal must not generate invoices if the usage service of CloudStack (CloudStack Usage Monitor) is in error state.

- DE1801: When an account is removed, the status of the account shows 'Terminated'. When users attempt to activate this account, they encounter an error.

- DE1806: The Default Registered value must be True either for a Retail account or a Corporate account, but not simultaneously for both.

- DE1816: The Pod and Zone entities to be displayed only to root users and administrators, and not to every user profile as was the case.

- DE1827: When users click the account registration verification email, they see the login page, but do not see any message confirming that their account has been verified.

- DE1830: The box provided for entering a reason when rejecting an account conversion request must have a red asterisk, indicating that it is mandatory to enter a reason for rejection.

- DE1849: The augmentation phase of the usage process errors out in a few environments.

- DE1850: The name of the host is not reported in the Email sent when a scheduled job fails.

- DE1851: Show the spent-to-date amount as Subscription Charges + Utility Spend. Have a stacked bar to show the Subscription Renewal Charges. Also, add a new box to show the current balance which is Balance Forward + Payments and Credits + Subscription Charges + Utility Spend. This is the same amount that is shown on the Usage & Billing page.

- DE1891: When network usage is greater than 1 TB, the usage shows correctly in the Usage & Billing page. However, it incorrectly shows 0 GB on the Dashboard.

- DE1893: The admin API key is not automatically set when starting a fresh CloudPortal installation.

1.3.2

This section describes the defects fixed, new features, and known issues in the maintenance release of the CloudPortal Business Manager Version 1.3.2.

Defects Fixed

- DE1667: No progress/status messages are displayed when a template is being created from a snapshot.

- DE1762: Users are unable to access the Network Devices tab in CloudStack through CloudPortal.

- DE1768: The 'Request a reset' link on the login page functions even when users do not enter a user name. The User Name field should be made mandatory.

- DE1772: Users who do not verify their accounts receive the verification Email in their inboxes every day.

- DE1799: Users are unable to make an ISO Public from the Edit ISO page.

- DE1836: CPBM displays inconsistent date formats in the page where entitlements are edited.

- DE1841: The List Price field of Rate Cards accepts even negative values.

- DE1853: The Resend Verification link in the All Users page does not appear when Master User is selected.

- DE1855: The Spend Budget field in the Profile Details page for the Root User is editable. This field should not be editable.

- DE1864: The Display Name field in the Add Product page can take a null value. This results in null entitlement values in the Usage & Billing page. This field should be made mandatory.

- DE1890: CPBM fails to create campaigns when the Promo Code field has more than 20 characters.

- DE1927: There is no provision to enter end dates for entitlements in the Add Entitlements page.

- DE1935: The Country Code field in the Edit Profile page for Normal Users and Power Users should not be mandatory.

- DE1939: Even when a selected zone is of the Basic Network type, CPBM mandates the creation of a virtual network. This should not be a mandatory requirement.

- DE1941: Non-VM bundles, even with the Publish option set to True do not appear in the VM deployment list.

- DE1955: Add the Group Field to Resources > Instances > Details.

- DE1959: There is no Country Code field to be populated when a Root User creates an account. There is only the Phone Number field. Add a separate Country Code field like the one on the self-registration page.

- DE1979: Terminated accounts get charged for advance monthly subscriptions and an invoice generated for subsequent months. For accounts that are terminated, do not include advance monthly subscription charges for the next month. Do not generate any further invoices.

- DE2011: When a user dashboard is being loaded, and if the user account has a ticket without a title, CPBM displays an error message.

New Features

Service Providers can support CloudStack version 2.2.14.

Known Issues

At times, the login page appears in a pop-up screen when a session times out.

1.3.3

This section describe the defects fixed in the maintenance release of the CloudPortal Business Manager Version 1.3.3.

Defects Fixed

- DE1903: The Details pane in the Catalogs and Bundles page does not show the channels associated with catalogs.

- DE1983: The Included Units field in the Entitlements pane saves any number with nine or more digits as zero. Show a message instructing users to enter a positive integer with a maximum of nine digits.

- DE1984: The Included Units field in the Entitlements pane saves decimal values as zero. Show a message instructing users to enter a positive integer with a maximum of nine digits.

- DE1985: The Included Units field in the Entitlements pane accepts and saves negative values. Show a message instructing users to enter a positive integer with a maximum of nine digits.

- DE1994: The Unlimited Duration check box is not enabled. Therefore, users cannot select that option when they edit Campaigns.

- DE2001: Root users are unable to view support tickets created by Master Users.

- DE2006: IE7 - By default, two networks are selected when users attempt to launch a VM. If users proceed to the subsequent steps of the Launch VM wizard, they encounter an error - "Error (431) during launch VM: Only 1 default network per VM is supported"

  Firefox - Multiple networks are not selected by default when users attempt to launch a VM. However, users encounter a "Failed to create network" error after they launch the VM.

- DE2014: When the state of an account is changed, the columns in the account view table get misaligned for that account.

- DE2017: The Cancel button does not show expected behavior in the Change Account Type page.

- DE2034: There is no response when users click the Next button in the Select Network page of the Launch VM wizard. Clicking the Next button in this page should take users to the Instances Details page.

- DE2042: Incorrect bundles are displayed in the UI when a template is derived from another derived template.

- DE2048: The Enabled/Disabled behavior of the End Date field in the Add Scheduled Maintenance page is erratic.

- DE2049: Mediation should use storage pool tags instead of disk offering tags.

- DE2054: Subscriptions do not expire for terminated accounts.

- DE2056: Users are able to launch VMs that have expired/terminated subscriptions. These VMs are charged without a subscription.

- DE2120: Fetching All Notifications for the Dashboard causes memory issues.

- DE2143: Users are allowed to enter only alphanumeric characters in the VM Name and VM Group Name fields. These fields should accept characters other than alphanumeric characters.

- DE2169: The Account Suspension job does not work as expected if the grace period for the account is set to zero.

- DE2181: Actor service for administrators shows a Null Pointer Exception.

- DE2185: Accounts that are terminated in the current billing period should not have the next invoice date set to null.

1.3.4

This section describes the enhancements, defects fixed, new features, open caveats, and known issues in the maintenance release of the CloudPortal Business Manager Version 1.3.4.

Enhancements

- CloudPortal Business Manager 1.3.4 is compatible with CloudStack versions 3.0.1, 2.2.14, and 2.2.13.

- If you are on CloudStack 3.0.1, add the following property to the cloud.properties file (/etc/cloud/portal/cloud.properties) to process resource usage on CloudPortal Business Manager:

```
#Custom Usage Importer
usage.importer=com.vmops.component.usage.importer.DbBasedUsageImporter
```

   Note: You need not add the property above if you are on CloudStack versions 2.2.14 or 2.2.13.

- To integrate CloudStack 3.0.1 with CloudPortal Business Manager 1.3.4, note the CloudStack version you are on. During CloudStack installation, enter Yes or No to the question 'Would you like to integrate with CloudStack 3.0.x or higher (y/N)?'

Defects Fixed

- DE1551: The names of product bundles overlap in the Bundle Usage report.

- DE1601: A country that was selected previously does not appear in the Country field in the Edit mode of Billing Address under Payment Info.

- DE1615: In Usage and Billing > Payment the payment details of the first record are displayed regardless of which record is selected.

- DE1626: None of the links on the home page are clickable until the page loads completely.

- DE1698: Notifications in the Root User's dashboard are not displayed in full.

- DE1721: Users are not shown any message when they click the Submit button without entering a user name in the Request a Reset link on the login page.

- DE1778 (IE7 only): The State field in the second step of the sign-up wizard shows a text box instead of a drop-down box when the country selected is India.

- DE1798: When users attempt to refresh the Reports page, they encounter a 'CSRF Exploit Detected' error.

- DE1876: Users encounter an error when they attempt to add or update payment information in the Payment Info tab of Usage and Billing.

- DE1906: When users enter an invalid date format in the Date field of 'Add new Campaign', they are not shown an appropriate message.

- DE1912: Several buttons and fields in the Edit Utility Rate Card page are misaligned.

- DE1981: When users plan rate cards, they are able to add the Annual charge type multiple times. This behavior should be changed such that the Annual charge type can be added only once.

- DE1982: Users are able to edit expired campaigns from the Campaigns and Promotions page. Expired campaigns should not be editable; only current and future campaigns should be editable.

- DE1990: Users encounter an error when they attempt to save a utility rate card with a very large numerical value in the List Price field.

- DE1996: Though users are allowed to add more than one running VM to a bundle, they are shown a message that reads "Valid VM bundles MUST entitle one and only one RUNNING_VM product". This message is erroneous and should not be displayed.

- DE2015: Users are not able to launch a VM using a template created from a user ISO.

- DE2018: Users are not able to modify template groups on CloudStack version 2.2.14.

- DE2024: Issuing credit to a corporate account does not display expected behavior; the action does not augment the account's credit.

- DE2030: Templates that are derived from ISOs should be charged per the list price of the ISO group product.

- DE2047: When users attempt to launch a VM, they encounter a 'template undefined' error despite entering values for all the required fields in the Payment Info page.

- DE2195: The ISO tab of the Launch VM wizard displays two entries for the same ISO.

- DE2316: The Download ISO/Template/Volume options in the Resources tab are hidden. They should be shown, but in a disabled state.

- DE2396: Subscriptions do not expire for failed VM launches. This occurs only when the manual termination value is set to True.

- DE2396: Augmentation jobs fail while getting usage data from CloudStack.

- DE2402 (IE only): The VM creation process takes a long time to complete. However, the dashboard displays an increased VM count even before the process is completed. In a few cases the VM creation process is aborted with the message 'Sorry, failed to launch VM.' Even in such aborted cases the dashboard displays an increased VM count.

- DE2430: The Filter option is missing in the page where users choose ISOs based on the Hypervisor Type.

- DE2458: Despite billing transaction failures that occur because of spend limits being breached, the account balance gets adjusted.

- DE2503: The Change Service option for a stopped VM displays only a few of the available bundles. The option should display all the available bundles.

- DE2510: Clicking the Select button in the My Templates tab of the Launch VM wizard does not display the next step of the wizard.

New Features

There are no new features in version 1.3.4.

Open Caveats

- A few service layer Java APIs have been modified in this release to support CloudStack 3.0.1. Due to the nature of the changes, it was not possible to maintain backward compatibility. As a result, customers who use custom controllers may be affected. Therefore, custom controllers may need to be modified accordingly wherever the modified service APIs are invoked.

- The API integration port is not configured by default for CloudStack 3.0.1. If you are on CloudStack 3.0.1, configure port 8096 manually for API integration.

Known Issues/Limitations

The ability of service providers to create multiple products for user defined ISOs and user defined templates causes inconsistency in the pricing of these products. Therefore, only one each of these products is allowed to be created in a setup.

1.3.5

This section describes the enhancements, defects fixed, new features, open caveats, and known issues in the maintenance release of the CloudPortal Business Manager Version 1.3.5.

Enhancements

- CloudPortal Business Manager 1.3.5 is compatible with CloudStack versions 3.0.2, 3.0.1, 2.2.14, and 2.2.13.

- If you are on CloudStack versions 3.0.2 or 3.0.1, add the following property to the cloud.properties file (/etc/cloud/portal/cloud.properties) to process resource usage on CloudPortal Business Manager:

```
#Custom Usage Importer
usage.importer=com.vmops.component.usage.importer.DbBasedUsageImporter
```

Note: You need not add the property above if you are on CloudStack versions 2.2.14 or 2.2.13.

Defects Fixed

- DE1577: Root Users are unable able to decrease customers' credit balances.

- DE1665: Administrator users are unable to delete the Additional Alert Email address added in Notifications.

- DE1693: Users are able to create a new account even when the Self Registration Allowed property is set to False.

- DE1753: Users are shown a 'Webpage has expired' message when they click on the Cancel link in the Add New Account page.

- DE1818: The credit card form validation does not function in the Change Account Type form.

- DE1820: Daily rating calculates the current usage. It should store the current balance instead.

- DE1839: Users are shown a 'Record Payment Failed. Please Contact your administrator' message in the Payment Activity page.

- DE1910: Product code is mandatory, but is not marked as mandatory.

- DE1930: If the Start and End dates are the same for a campaign, there is no edit option available.

- DE1948: The CloudPortal Business Manager installer shows the Install and Upgrade options simultaneously.

- DE2000: The first record is not selected by default in the IP Address page. Therefore, detail grid shows no information.

- DE2128: When a product bundle is subscribed to twice, the 'unlimited entitlement' feature for products does not take effect.

- DE2203: Emails get changed immediately for a restricted account, even without the need for email verification.

- DE2319: The Reset Password Request form does not validate the presence of a user name.

- DE2339: When users click the Payment Info tab, CloudPortal Business manager shows an empty page.

- DE2364: An incorrect validation message is displayed in the Add ISO page when template limit is exceeded.

- DE2376: There is no 'Detach' option for data disk volumes that are attached to destroyed VMs.

- DE2401: When users change a service from a monthly to an hourly bundle with the same service offering, the mediation strategy does not create a separate usage record.

- DE2411: The View All Notifications and Manage Notification Preferences links from the dashboard redirect users to same page.

- DE2420: A Finance admin user is unable to issue credit limit for any account.

- DE2421: Service provider users should not be shown the Spend Budget field.

- DE2447: Credit card authorization that is executed at the beginning of a month fails at times, either because a credit card has expired or because it has been cancelled. When users update their new credit card information and make a one-off payment, the updated credit card information does not replace the old, invalid information, causing the one-off payment to fail.

- DE2449 (IE 7 only): The Cancel option does not work as expected in the Launch VM wizard.

- DE2456: Older bills for terminated accounts are not accessible, and show a blank page.

- DE2457: The Verify option in the Manage Notification Preferences page does not function.

- DE2459: In the Administration tab, all the sub tabs i.e. Account Management, Billing etc. show an error in the console whenever users click on those tabs.

- DE2478: A message "Custom image upload directory is not set" is displayed in the Customize Product Image Page.

- DE2485: The Integration with CloudStack procedure in the CloudPortal Business Manager installer does not detect the CloudStack version.

- DE2493: The Add New Account button does not appear for Root Users in the Accounts tab.

- DE2516: Accounts do not get locked even after the number of incorrect password attempts exceeds the 'consecutive.failed.login.count' property.

- DE2554: At times, trial accounts are not shown in the portal UI.

- DE2555: The account creation process fails when the Service Provider default channel is selected.

- DE2559: Ops admins are unable to launch VMs in the CloudStack UI when they perform a Single Sign On from CloudPortal Business Manager.

- DE2578: All the CloudStack API requests go through the /client, and not through /portal/client/

- DE2641 (IE 7 only): Firewall, Port Range, Port Forwarding, Load Balancer and VPN tabs are not displayed in the IP Addresses tab.

- DE2658: Pagination behaves erratically in the All Notifications page. Clicking the More Notifications link does not show any more Notifications (using Chrome). In IE and Firefox, clicking the No More Notifications link erroneously shows more notifications.

- DE2670: When users attempt to change the language preference, the change does not reflect in the UI.

- DE2676: When a 'record payment' is done for a corporate account, the account balance and invoice balance are not adjusted accordingly.

- DE2729: A few accounts go encounter errors during the monthly billing run.

- DE2733: Spend Limit charges less auto-pay amount when ratio of the old usage to spend limit is approximately 0.995.

- DE2763: The Edit VM dialog buttons disappear when users move the dialog box.

- DE2785: Unable to deploy virtual machines from API.

- DE2859: Subscription/renewal charges do not show up on the Usage and Billing page if no invoice is generated for a past period.

- DE2877: The Usage and Billing section shows incorrect results for the current month when CloudPortal Business Manager is upgraded from version 1.1.4 to 1.3.4.

- DE2886: Accounts are automatically put into the Restricted state because of payment defaults. However, such accounts are never put into the Terminated state automatically.

- DE3020: Renewal charges do not include the tax component.

- DE3051: Account conversion does not function for customized account types.

- DE3064: A Template Group Product is not editable after users add this to CloudPortal Business Manager.

- DE3068: Start and End dates for subscriptions do not show the correct time component. Monthly subscriptions also show incorrect charge. For example, a monthly subscription of $100, when subscribed to only for a day gets charged $3 instead of $3.33.

New Features

There are no new features in version 1.3.5.

Open Caveats

- A few service layer Java APIs have been modified in this release to support CloudStack versions 3.0.2 and 3.0.1. Due to the nature of the changes, it was not possible to maintain backward compatibility. As a result, customers who use custom controllers may be affected. Therefore, custom controllers may need to be modified accordingly wherever the modified service APIs are invoked.

- The API integration port is not configured by default for CloudStack versions 3.0.2 and 3.0.1. If you are on CloudStack versions 3.0.2 or 3.0.1, configure port 8096 manually for API integration.

Known Issues/Limitations

- The ability of service providers to create multiple products for user defined ISOs and user defined templates causes inconsistency in the pricing of these products. Therefore, only one each of these products is allowed to be created in a setup.

- When accounts are converted from instant invoiced account types to account types that are not, subscriptions created in that billing period will be charged twice incorrectly.

1.3.6

This section describes the enhancements, defects fixed, new features, and known issues in the maintenance release of the CloudPortal Business Manager Version 1.3.6.

Enhancements

There are no new enhancements in version 1.3.6.

Defects Fixed

- DE2401: As a customer, I can see separate usage record for my hourly subscription when I change my monthly subscription to hourly.

- DE3080: As a customer, I can see my bill that reflects appropriate entitlement consideration when I change the subscription from one monthly subscription to another on the same day.

- DE3090: As a trial customer, I get the notification with appropriate expiry day information on the final day of trial period.

- DE3124: As a trial customer, I get the notification with appropriate expiry day information.

- DE3619: As a customer, I see the hourly charge is computed correctly when I change my subscription from monthly bundle to hourly bundle at 00:30 AM.

- DE3620: As a customer, I can see "New Charges" and "Subscription Charges" in the downloaded CSV file.

- DE3621: As a root user, I can edit title or description of a registered maintenance schedule on JP locale browser.

- DE3622: As a user, I see row colors of VM details appropriately.

- DE3623: As a tenant user, I can view the operation buttons in Japanese language in Resource page.

- DE3625: As an admin, I can view the snapshot resource page after creating volumes from snapshot continuously.

- DE3626: As an admin user, I see the date in the format which I define in the properties file.

- DE3627: As a user, I receive "Account activated" email after the account is activated.

- · DE3628: As an user, I can register my account using email addresses with "+" symbol.

- · DE3662: As a converted retail customer, I can access my resource tab after my request to convert my suspended retail account to retail customer is approved.

New Features

There are no new features in version 1.3.6.

Known Issues/Limitations

There are no new known issues/limitations in version 1.3.6

1.3.7

This section describes the defects fixed, new features, and known issues in the maintenance release of the CloudPortal Business Manager Version 1.3.7.

Defects Fixed

- DE3884: Incorrect subscriptions are displayed when deploying from ISO.

- DE3944: The usage calculation for the VM before change service is incorrect.

- DE4117: Jobs or Job units should not execute in parallel.

- DE4173: HTTP Error while providing long string for user name in UI.

- DE4561: Fix for possible Cross-Site Request Forgeries (CSRF) attacks.

- DE2678: Payment error alert counter of an account is not resetting at the time of instant payment.

- DE3042: Record payment is not working for Converted Corporate Account (From Finance Admin User).

- DE3698: Dashboard Performance improvements.

- DE3821: Account activation email should go at the time of account activation.

- DE3842: At "Payments+Credit" in Usage Details, amount of Payments is equal to Credit.

- DE3943: Pagination for subscriptions page.

- DE4034: some of the strings in the signup flow are not translated.

- DE4035: EmailService.sendMail doesnt set value for ${ baseUrl} which has to be replaced in the body of the email.

- DE4062: Account Activation email sent out has the subject other the locale from which the locale user registered.

- DE4160: Product type should not be editable while editing a product.

- DE4198: Improved Globalization, Internationalization and Localization Support, UI truncation Issues.

- DE4206: Spend Budget is showing 0 while editing Master user profile.

- DE4309: Service health status is not showing properly on the Restricted User Dashboard.

- DE4325: In Firefox browser, Spend by Budget -> Download image options are not shown.

- DE4335: Unlimited duration entitlement is not working for campaigns.

- DE4338: Templates are not showing in Templates product field details from Product Manager's login.

- DE4339: Not able to change List order for product bundle.

- DE4344: Spend budget is showing $0.00 for normal user.

- DE4355: Previous subscription charge is not showing after Change service.

- DE4357: Getting error while trying to save wrong billing address.

- DE4380: Copy template does not work.

- DE4381: Delete Template/ISO after copy removes both templates.

- DE4414: After upgrading to CPBM 1.3.6, salesforce exceptions are raised.

- DE4489: Added validation while manipulating parameters in myprofile.

- DE4499: Country code can be updated without verification.

- DE4512: The notifications of recurring snapshot are not displayed in CloudPortal after the upgrade to CPBM 1.3.6.

- DE4520: Error codes, stack trace information is displayed when input is lengthy.

- DE4521: Added validation while manipulating parameters.

- DE4531: There is no proper message when normal user is trying to login, when master user is in suspended state.

- DE4534: Could not edit my profile.

- DE4538: Launched 2 VMs but it shows only one in instance tab (Chrome).

- DE4543: Enabling VPN for an IP shows users that were create for a different IP.

- DE4570: All zones ISO's are showing while attaching ISO to the VM.

- DE4578: Not able to login with username having " _ ".

- DE2771: Last Invoice is not being generated for Terminated accounts.

- DE2861: Top section of usage and billing shows renewal charges without taxes.

- DE3261: Spend limit is charging when user is having spend limit=10, Credit issue =10,000 when instant invoicing OFF.

- DE3647: No. of VMs not displayed in the VM creation.

- DE4527: Setting a Spend Budget from user's profile page is not working.

- DE3049: UI issues on "Add User" wizard.

- · DE4184: "Deleting Volume" message is not displayed.

- · DE4298: The long number of storage usage is not displayed completely in the display box.

New Features

There are no new features in version 1.3.7.

Known Issues/Limitations

There are no new known issues/limitations in version 1.3.7

System Requirements

This version of CloudPortal is supported with CloudStack versions 2.2.10, 2.2.11, 2.2.12, 2.2.14 and 2.2.15.

System requirements for the CloudPortal nodes:

- Operating system: CentOS 5.6+
- Architecture: 64-bit x86
- Memory: 2GB
- Disk: 80GB
- 1 NIC w/ Static IP

Sample Deployment Architecture

The following diagram shows a sample deployment. In this illustration, you can see the hardware components involved and where each software component is running. The Internet and firewall show the point where users can access the software. System administrators can log in directly to the servers running CloudStack and CloudPortal. The Pods are where the compute resources managed by the CloudStack Management server reside. The installation, setup, and use of the CloudStack management server, networks, CloudStack storage, and Pods are described in CloudStack documentation. The CloudPortal documentation covers CloudPortal and its databases, as well as touching on configuration best practices for the Load Balancer that is shared by CloudStack and CloudPortal.
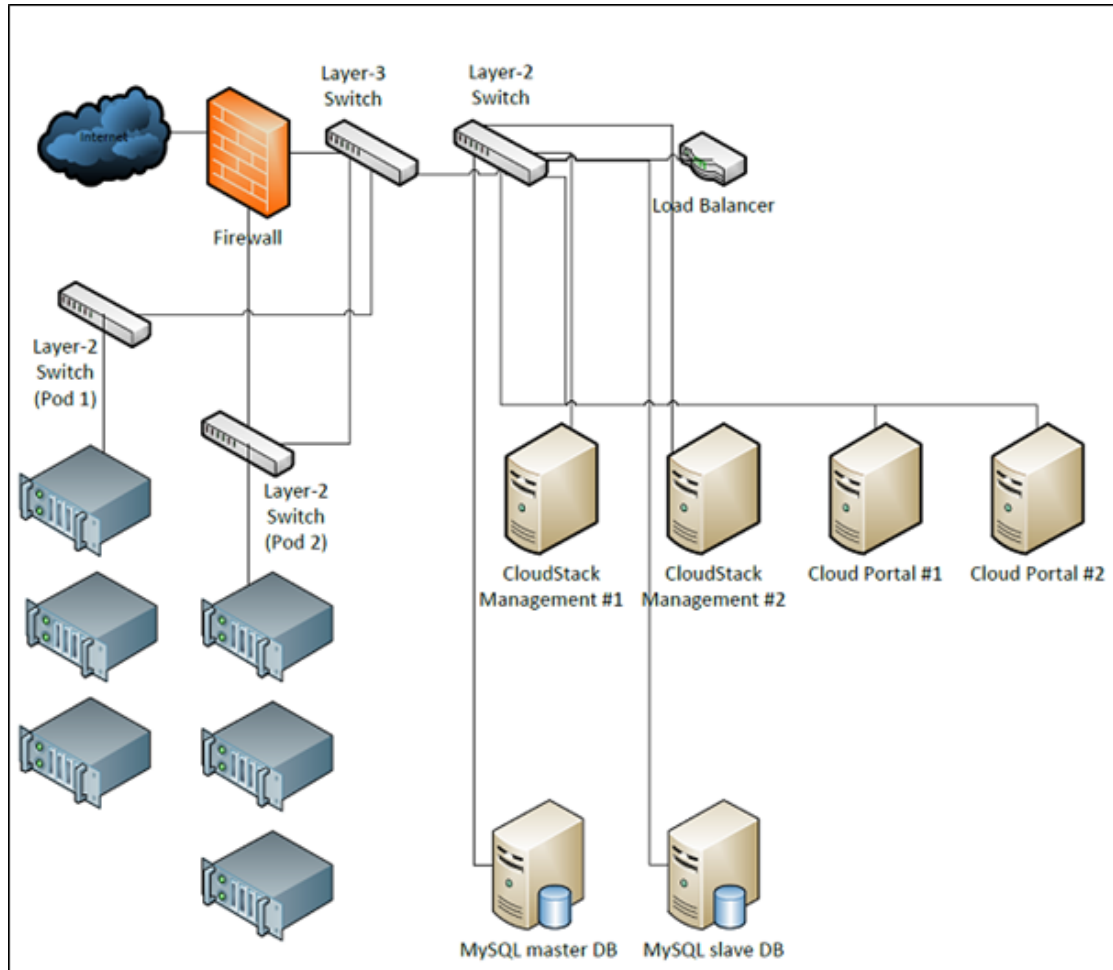
Figure 1. Installing CloudPortal

Design Constraints and Best Practices

When designing your CloudPortal setup, there are some considerations to keep in mind.

CloudPortal is subject to the same constraints and limits as CloudStack in terms of the total amount of data, traffic, accounts, and so forth. Consult CloudStack documentation for information about the system constraints.

It is important to design for reliability. Here are a few suggested reliability best practices:

- If you have enough machines to do so, you can increase reliability by running multiple redundant CloudPortal instances on multiple machines. A failure at any one instance is less likely to affect the majority of your customers.

- Implement a robust database backup strategy.

- Use a network monitoring application to oversee your entire CloudPortal setup.

Database Considerations

Two MySQL databases, cloud_portal and cloud_reports, store CloudPortal data. These databases store the data about accounts, usage, many configuration settings, and all the other information needed to support the operation of the portal. The databases are installed along with CloudPortal software.

The databases can run in the same MySQL database with the CloudStack database or in a separate MySQL instance. Keeping the databases separate can increase reliability. If one database becomes inoperative, it is still possible for the functionality supported by the other database to continue working.

On the other hand, running the databases together increases the ease of setup, configuration, and maintenance.

It is recommended that you tune the MySQL databases after installation to accommodate the hardware and other characteristics of your system. For example, the default amount of memory allocated out of the box might not be high enough to take advantage of all available memory on your database server.

CloudPortal's MySQL databases use the InnoDB storage engine. When tuning the database, you can use the various InnoDB settings available. You can find information about InnoDB performance tuning on the Internet.

Caution: It is very strongly recommended that you institute a robust reliability strategy for these databases. Frequent backups, at the least, are advised.

Configuring Load Balancing

Incoming commands and requests are distributed by a load balancer which sits in front of both CloudStack and CloudPortal. More information on setting up load balancing for CloudStack is available in the CloudStack Installation Guide. As a quick set of guidelines, the load balancer should be configured as follows.

- Listen on port 80 or 443, or both

- Forward traffic for URLs that start with /portal to AJP/20410 or HTTP/8080

- Support sticky sessions

- Forward traffic on port 80 or 443 that starts with /client to CloudStack servers

CloudPortal and CloudStack must both be accessible on the same fully qualified hostname. For example, the following setup would work well:

- CloudPortal: http://www.myservice.com/portal

- CloudStack: http://www.myservice.com/client

An improper setup would have mismatched base URLs; for example, CloudPortal at http://portal.myservice.com/portal and CloudStack at http://CloudStack.myservice.com/client.

Installation Steps

Download

Click to download CloudPortal.

System Preparation

All the operations listed below should be run as root.

Timezone Setting

All systems should set a time zone. For example, to set the time zone to UTC, run the following command:

```
# ln -sf /usr/share/zoneinfo/UTC /etc/localtime
Edit /etc/sysconfig/clock and set ZONE="UTC"
```

Unarchive Install Package

To unarchive the install package tarball, run (where x.y.z is the version you have downloaded):

```
# tar -xvf CloudPortal-x.y.z-centos.tar.gz
```

Then navigate into the newly created CloudPortal-x.y.z-centos folder:

```
# cd CloudPortal-x.y.z-centos
```

Installing MySQL

The MySQL database may be installed on the same node as CloudPortal or a different node.

1. Run the ./install.sh script and choose option "D" to install the MySQL database server.

```
# ./install.sh
Welcome to the CloudPortal Installer. What would you like to do?
D) Install the database server
I) Install CloudPortal
```

```
G) Configure CloudPortal
U) Upgrade CloudPortal
C) Integrate with CloudStack
Q) Quit
> D
```

2. When prompted, provide a user name and password. You can set these to any desired value that is valid for a MySQL database. This step creates a new user account that CloudPortal will use to access the database.

3. Edit the file /etc/my.cnf and add the following line under the [mysqld] section:

```
default-time-zone='+00:00'
max_connections=200
```

> **Note:** If CloudStack is using the same database installation, add CloudStack's recommended max_connections value to the value specified above.

4. Restart the MySQL service.

```
# service mysqld restart
```

5. It is also recommended that you should have a MySQL database administrator tune the MySQL database for optimal performance. MySQL's default configuration will use a small amount of RAM and does limited amount of caching. Note that CloudPortal and CloudStack both use the InnoDB storage engine.

Installing CloudPortal Business Manager

CloudPortal Business Manager and CloudStack must reside on separate nodes. If you have already installed CloudStack, install CloudPortal Business Manager on a different node. The installation will fail if you install them on the same node.

On the CloudPortal node, run the install.sh script from the package. Select option I:

```
# ./install.sh
Welcome to the Citrix CloudPortal Installer. What would you like to do?
D) Install the database server
I) Install CloudPortal
G) Configure CloudPortal
U) Upgrade CloudPortal
C) Integrate with CloudStack
Q) Quit
> I
```

The installer asks you if you want to install CAS with CloudPortal. Enter Y if you want CAS installed along with CloudPortal, and N if you want to install only CloudPortal.

```
Would you like to install CAS with CloudPortal (Y/N)?
> Y
```

If you want to log in as the Root User or Ops Admin on public web pages, you can configure the cloud.properties file or the Central Authentication Server (CAS), as the case may be, to allow login from a range of IP addresses.

If you have CAS installed:

If you have CAS installed and enabled for authentication, update the Properties file as shown below. Add the following line to cas.properties at /usr/share/cloud/portal/webapps/cas/WEB-INF/.

```
network.ip.address.range =
```

```
For example 10.147.18.1/24,10.103.1.1/24 or leave empty to allow all ranges of IP
```

If you use native CloudPortal Business Manager:

If you use the native CloudPortal authentication, add the following line to cloud.properties at /usr/share/cloud/portal/conf/.

```
network.ip.address.range =
```

```
For example 10.147.18.1/24,10.103.1.1/24 or leave empty to allow all ranges of IP
```

Edit /etc/cloud/portal/cloud.properties. Replace all jdbc.url properties with the hostname of your server. Replace all jdbc.username/password properties with the username and password you specified when installing the database server. If you plan to use another SMTP server beside local sendmail, replace the vmops.mail properties. Enter the vmops.mgmt.server.* that correspond to your CloudStack setup.

Start CloudPortal by running:

```
# service cloud-portal start
```

Normally Tomcat automatically adds the Secure flag for the JESSSIONID cookie for SSL connections. However, if you have an upstream server that handles SSL, Tomcat may be unaware that SSL is being used. To force Tomcat to add the Secure flag, modify the /etc/cloud/portal/server.xml file. Change the line:

```
<Connector port="20410" protocol="AJP/1.3" redirectPort="8443"/>
```

To:

```
<Connector port="20410" protocol="AJP/1.3" redirectPort="8443" secure="true"
```

If you are using the HTTP connector instead of AJP, make the same change to the HTTP connector.

Enabling CAS Authentication

CloudPortal supports the use of Central Authentication Service (CAS) for single sign-on, which enables access to multiple password-protected systems after logging in just once. To make this work, you need to tell CAS the location of the cloud_portal database and list the services with which CAS will be used.

1. Log in as root to the host running CloudPortal.

2. 2. Edit the file /usr/share/cloud/portal/webapps/cas/WEB-INF/deployerConfigContext.xml and add the following lines. Substitute your own values for the database host, username, and password, using the same values from Installing MySQL.

```
<bean id="dataSource" class="org.apache.commons.dbcp.BasicDataSource">
     <property name="driverClassName">
          <value>com.mysql.jdbc.Driver</value>
     </property>
     <property name="url">
<value>jdbc:mysql://databaseHost:3306/cloud_portal</value>
</property>
<property name="username">
<value>databaseUserName</value>
</property>
<property name="password">
<value>databaseUserPassword</value>
</property>
</bean>
```

3. Edit the file /cas-server-webapp/src/main/webapp/WEB-INF/deployerConfigContext.xml and add one or more <bean> elements, one for each service you want to register with CAS. Substitute your own values for the ID, name, description, and URL.

```
<bean class="org.jasig.cas.services.RegisteredServiceImpl">
     <property name="id" value="nextAvailableID"/>
     <property name="name" value="serviceName"/>
     <property name="description" value="serviceDescription"/>
     <property name="serviceId" value="serviceURL" />
     </bean>
```

For example, the following shows how to register CloudPortal Business Manager.

```
<bean class="org.jasig.cas.services.RegisteredServiceImpl">
     <property name="id" value="0"/>
     <property name="name" value="CloudPortal"/>
     <property name="description" value="CloudPortal service"/>
     <property name="serviceId" value="https://mypublichostname/portal/portal/j
     </bean>
```

4. Edit the /etc/cloud/portal/cloud.properties file and set these parameters:

- cas.login.url — Full public URL (including http:// or https://, hostname, optional port, and path) of the login page displayed to the user for single sign-on. For example, http:// mypublichostname:8080/cas.

- cas.logout.url — Full public URL of the page where a user can log out of single sign-on. For example, http://mypublichostname:8080/cas/logout.

- cas.service.url — Full public callback URL used by CAS to redirect back to CloudPortal. For example, http://mypublichostname:8080/portal/j_spring_cas_security_check.

- cas.validator.url — Full private URL used in internal calls from CloudPortal server to CAS server to validate the CAS ticket. This should be a URL that is not accessible from outside your installation. If using HTTPS, this site must have a valid certificate issued by a trusted certificate authority. For example, http://myprivatehostname:8080/cas.

5. Restart CloudPortal Business Manager.

```
# service cloud-portal restart
```

Integration with CloudStack

On each CloudStack server, run the ./install.sh script and select Integrate with CloudStack from the menu. This will place files within CloudStack that are needed for single sign-on integration with CloudPortal. Note that after the files are copied over for integration, you will no longer be able to access the CloudStack management server using http://<hostname>:8080/client. It is recommended to access the CloudStack management UI by first logging into CloudPortal and clicking the "Launch Cloud Console" button on the dashboard. As an alternative, the CloudStack management UI can be accessed directly by using http://<hostname>:8080/client/?direct=true.

```
# ./install.sh
Welcome to the CloudPortal Installer. What would you like to do?
D) Install the database server
I) Install CloudPortal
G) Configure CloudPortal
U) Upgrade CloudPortal
C) Integrate with CloudStack
Q) Quit
> C
```

Setting up a Proxy Server

In order to comply with the same-origin security policy for Web browser code, CloudStack and CloudPortal must be accessible at the same fully-qualified domain name. To accomplish this, requests must go through a proxy server that provides a single access point for both CloudStack and CloudPortal servers.

This can be accomplished in a variety of ways. The steps below illustrate one typical technique using Apache HTTP Server running on CentOS 5.x and CentOS 6.x.

- On the Apache server, install the module that provides SSL and TLS support.

```
# yum install httpd mod_ssl
```

- Create the file /etc/httpd/conf.d/cloud.conf, and add proxying (and, if needed, load balancing) directives.

For a three-node installation where Apache, CloudPortal, and CloudStack all run on separate nodes, use rules like the following. Replace CloudPortalNode and CloudStackNode with the private hostname or IP of your own machines.

```
ProxyPass /portal ajp://CloudPortalNode:20410/portal
```

```
ProxyPass /client ajp://CloudStackNode:20400/client
```

For a five-node installation where Apache is on one node, CloudStack on two other nodes, and CloudPortal on two additional nodes, use directives like the following. Replace the CloudPortalNode and CloudStackNode placeholders below with the private hostnames or IPs of your own machines.

```
<Location /client>
Header add Set-Cookie "rte=.%{BALANCER_WORKER_ROUTE}e; path=/client; HttpOnly"
env=BALANCER_ROUTE_CHANGED
</Location>
<Location /portal>
Header add Set-Cookie "rte=.%{BALANCER_WORKER_ROUTE}e; path=/portal; HttpOnly"
env=BALANCER_ROUTE_CHANGED
</Location>
<Proxy balancer://portalcluster>
BalancerMember ajp://CloudPortalNode1:20410 route=ps1
BalancerMember ajp://CloudPortalNode2:20410 route=ps2
</Proxy>
ProxyPass /portal balancer://portalcluster/portal stickysession=rte
<Proxy balancer://cscluster>
BalancerMember ajp://CloudStackNode1:20400 route=cs1
BalancerMember ajp://CloudStackNode2:20400 route=cs2
</Proxy>
ProxyPass /client balancer://cscluster/client stickysession=rte
```

- Add the following lines for CAS:

```
<Location /cas>
Header add Set-Cookie "rte=.%{BALANCER_WORKER_ROUTE}e; path=/cas; HttpOnly"
env=BALANCER_ROUTE_CHANGED
</Location>
ProxyPass /cas ajp://CloudPortalNode:20410/cas
```

- · If you modify the configuration later, such as to add more nodes, use this command to reload the configuration:

```
# apachectl graceful
```

Note: If you front the Tomcat server with an Apache proxy, set the ProxyPreserveHost parameter to ON to avoid logon issues.

Logging In

You should now be able to access CloudPortal from the Web browser. Go to http://<your IP or hostname>:8080/portal/. Use the following credentials to log in:

User name: root

Password: Portal123#

Customer Accounts

About Accounts

An account is the entity to which you will send a bill. Typically there is one account per customer, whether the customer is an individual or a company. Accounts are used to track activities per customer, to group all the users in a customer organization, to conveniently compare customers to each other in reports, and perform billing and bookkeeping.

An account is created in one of two ways. CloudPortal automatically creates an account whenever a customer goes through the self-service provisioning page (Sign Up Now) in your portal. You can also create accounts manually; for example, if your sales team has engaged in discussions with an interested firm and acquired a new CloudPortal customer.

The creation of an account does not mean that the customer has been evaluated or their payment details have been verified. These steps occur on the first payment occasion, such as when the customer first makes use of your CloudStack infrastructure by launching a virtual machine. At that time, the customer is prompted for payment details (unless they have a free trial or postpay account) and CloudPortal verifies that the payment card is valid. You can send a confirmation Email or, if any issues are encountered, an Email asking for further details, such as a different credit card. You might even want to contact the new customer by phone.

Sign Up Now

CloudPortal creates an account whenever a customer goes through the self-service provisioning page in your portal. To create an account as a customer:

1. Enter the CloudPortal URL in the address bar of your browser.

2. Click Sign up now!

3. Fill in the mandatory information asked for. Click Continue.

4. Fill in the mandatory fields. Check the 'I agree to the Terms and Conditions' box.

5. Click Continue.

6. Enter a phone number for verification as described in the Phone Verification section below.

Phone Verification

CloudPortal implements a telephone based authentication and verification system to ensure the authenticity of customers signing up to the portal. In the Phone Verification page, enter a telephone number where you can be reached. CloudPortal automatically populates the ISD code field based on the country that you entered in the previous page. Click the Call me or Text Me button. You will receive a phone call or text message in a few seconds at the phone number that you entered. The phone call or text message will provide you with a PIN code. Enter the PIN code in the Phone Verification PIN box to continue. Click Submit.

See Configuring Phone Verification to configure phone verification settings in the CloudPortal UI.

Viewing Accounts

CloudPortal provides a master list of all customer accounts that you can use to manage account information.

Who Can View Accounts

If you have the Account Create or Account Manage permission, you can view the accounts list.

How to View Accounts

1. Click Accounts > All Accounts. The All Accounts list appears. It displays a list of account names and links you can use to add, delete, and modify accounts.

2. Things you can do from here:

   · Select different accounts to see their details lower in the Accounts screen. See Account Types and State. for more information about the account details.

   · Click Edit to change the account details. See Setting Company Details.

   · Click Add New Account. See Adding an Account.

   · Click Change State. See Suspending, Restricting, or Terminating an Account.

   · Click Issue Credit to refund money to the customer. See Refunds.

   · Click Remove to delete the customer. See Removing an Account.

Account Types

The Account Type reflects the payment arrangement that has been agreed upon with the customer. CloudPortal offers four account types. They are:

1. **System Account** – A special account type for your own root account.

2. **Retail Account** – This account type is periodically billed to a credit card on file.

3. **Corporate Account** – These accounts are assigned to corporates with established credit. This account type requires additional processing and hence additional time to activate.

4. **Trial Account** – This is a Trial account type. For more information, see Campaigns and Promotions.

CloudPortal assigns default parameter values to accounts that you create. If you have the Account Manage permission, you can edit these default values. You can edit the default Account Type parameter values only for Retail, Corporate, and Trial account types. To edit these values, log in as the root user. Go to Administration > Account Types. Click the account type that you want to edit. Click Edit at the bottom left of the page. Given below is a brief description of the editable parameters.

Limit Credit Exposure	Numerical currency value that denotes the credit limit for this account type. The prerequisite for setting this value is that **Extend Credit** must be True.
Extend Credit	Set this to True if no credit balance is required for using the account. This value differentiates a prepaid account from a post-pay accuont.
Self Registration Allowed	Set this to True if you want to allow self-registration. Self and Manual Registration values can be True simultaneously.
Manual Registration Allowed	Set this to True if you want to allow manual registration. Manual and Self registration values can be True simultaneously.
Default Self Registered	
Default Registered	
Manual Activation	Set this to True if you do not want to allow the account to be activated automatically. Only an administrator can activate the account.
Credit Exposure Breach	The action to be taken when an account breaches its credit limit. The options are No Action, Auto-pay, Alert, Alert Internal, Suspend, and Restrict.

Max Users	The default total number of users allowed for the account type.
Per Account VM Count	The default total number of VMs allowed for the account type.
Per Account Public IP Count	The default total number of public IP addresses allowed for the account type.
Per Account Volume Count	The default total number of disks allowed for the account type.
Per Account Snapshot Count	The default total number of snapshots allowed for the account type.
Per Account Template Count	The default total number of templates allowed for the account type.
Per User VM Count	The default total number of VMs allowed per user within this account type.
Per User Public IP Count	The default total number of public IP addresses allowed per user within this account type.
Per User Volume Count	The default total number of disks allowed per user within this account type.
Per User Snapshot Count	The default total number of snapshots allowed per user within this account type.
Per User Template Count	The default total number of templates allowed per user within this account type.
Account Registration Grace Period	Numerical value in days. Set the grace period that users must get to activate their accounts by clicking the verification email sent to them. An account cannot be registered after the grace period is breached. A -1 value signifies that the grace period has no limit.
Notional Billing	Set this to True if you want the rated usage to get accrued to the credit balance.
Payment Info Needed	Set this to True if you want to save the payment information on file.
Auto Payment Needed	Set this to True if automatic payment is required. The prerequisite for setting this value is that **Payment Info Needed** must be True.

For more details about billing, see Billing.

Approving or Rejecting Account Change Requests

Retail Customers and Trial users can request their account type to be changed to a corporate account through CloudPortal. If you have either a Retail account or a Trial account, and you wish to request for a change to the Corporate type:

1. Log in to CloudPortal with your login credentials.

2. Go to Usage and Billing > Payment Info.

3. Click Change Account Type.

4. Select Corporate Customer Type from the drop-down list.

5. Click Save.

This request might take some time to be approved or rejected. You will receive an Email communication informing you whether your request is approved or rejected.

Who can Approve or Reject Account Change Requests

If you have the Account Manage permission, you can approve or reject an account change request.

How to Approve or Reject an Account Change Request

To approve or reject an account change request:

1. Log in to CloudPortal as the root user or the Ops Administrator (These profiles have the Account Manage permission).

2. Click Accounts > All Accounts (from Quick Links).

3. Choose the account you want to modify or to approve/reject requests from.

4. In Pending Changes > Convert to Corporate, Click Approve or Reject.

5. In the Memo box that appears, enter notes for rejecting or approving the request.

6. Click OK.

An Email message is sent informing the customer that his/her request has been approved/rejected.

Campaigns and Promotions

A campaign is a marketing program that you create in CloudPortal to introduce new products to customers who sign up during the campaign period, to expand the customer pool, or to retain customers by giving them additional offerings.

Customers who sign up during the campaign period are given a promotional code that they use to sign up. These customers are assigned a Trial account type and they can sign up by entering the promotional code in the box provided in the signup page.

When the trial period expires, the account owner is notified by Email. The account's resources like running VMs, templates, snapshots, storage etc. are stopped. These resources are released into the system after a period of time, and this period can be configured.

Figure 1. Adding a Campaign

Who Can Add a Campaign

If you have the Product Create/Manage permission, you can add a new product.

How to Add a Campaign

1. Log in to CloudPortal as Root User or Ops Admin.

2. Choose Products – Campaigns – Add New Campaign.

3. Fill in a Campaign Code. Choose a descriptive name.

4. Fill in a Promo Code. Choose a descriptive name.

5. Enter a brief note in the Description field on what the campaign offers or what it seeks to achieve.

6. Choose a Start Date for the campaign.

7. (Optional) Choose an End Date.

8. Enter the number of days for the entitlements in the Duration of Entitlements field.

9. Click Add Campaign.

State

The state shows where the customer relationship stands. Over time, the account can move through various stages.

State	Description
NEW	The account was just created and has not been used yet.
ACTIVE	Operational. The customer can log in, create users, start and stop services.
RESTRICTED	The only customer user who can log in is the owner. Existing services continue to run, and the customer can turn off services as desired, but the customer cannot start any new services.
SUSPENDED	All services are shut down and cannot be restarted. The only customer user who can log in is the owner. The customer cannot start any new services, but can view and modify financial information; for example, provide a new credit card number.
TERMINATED	The customer relationship has ended. The account still exists but is disabled and the customer cannot use it. All services are shut down and removed. The account's users are all deleted. All domains for this customer are deleted from the cloud. However, the account is not deleted from CloudPortal. The account data is retained in the CloudPortal database.

Adding an Account

This page describes how to manually add an account using the CloudPortal administration UI. Accounts can also be added automatically by CloudPortal when customers directly request them through the portal UI.

Who Can Add an Account

If you have the Account Create permission, you can add a new account.

When to Add an Account

Suppose your sales team has landed a deal with a new customer who wants to use your cloud service. After receiving the customer's contact details and other information from sales, you would create an account.

How to Add an Account

1. Click Accounts > All Accounts.

2. Click the New Account button.

3. Fill in the required fields.

   You will be setting a username and password for the account. The customer can use these credentials to log in to the portal and perform customer functions. The customer will be able to change the password later.

4. Click Add Account.

Setting Company Details

CloudPortal stores name, address, and other details about each customer of a service provider in the Company Details screen. The company name and address can be used in invoices and reports. The company name is used for display in the UI and in notification messages. The service provider running the portal might have many customers, and the company name enables the service provider to see the information that pertains to each company.

Who Can Set Company Details

Customers requesting new accounts can set their own company details in the Registration form. Service provider employees who have the Account Manage or Account Create permission can also set company details for customers.

When to Set Company Details

The company name, address, and other details are set when a new customer account is created. This happens when a new customer clicks "Sign up now!" and completes the new account registration form or an employee at the service provider creates the account.

Throughout the customer relationship, if the customer moves to new offices or experiences other changes of circumstances, the company information can be updated by either the customer or a service provider employee. However, once the company name is set, it cannot be changed.

How to Set Customer Company Details

1. Click Accounts, then All Accounts.

2. Choose the company you want to modify.

3. Under Details, click Edit.

4. Make the desired changes.

   · Most of the fields deal with the company address and contact information.

   · In Spend Limit, set the maximum amount (in US Dollars) that the customer wishes to spend for portal services per invoice period. The customer can set up alerts to trigger when the amount due approaches this maximum.

5. Click Save.

Suspending, Restricting, or Terminating an Account

When a customer fails to pay an invoice, you can take a series of actions that progressively limit customer privileges to protect your organization from financial loss. A customer account can be moved automatically or manually through various states from Active to Terminated, not necessarily in the order shown below. After the account has reached the final Terminated state, the customer can no longer interact with CloudPortal, but the account data is retained. If you want to completely remove the account, see Deleting an Account. To handle payment failures when the auto-pay feature is in use, see Handling Payment Failures When Auto-pay is in Use.

State	Description
NEW	The account was just created and has not yet been activated by the user.
ACTIVE	Operational. The customer can log in, create users, start and stop VMs, allocate resources like IP addresses, storage, networks etc.
RESTRICTED	The only customer user who can log in is the owner. Existing services continue to run, and the customer can turn off services as desired, but the customer cannot start any new services.
SUSPENDED	All services are shut down and cannot be restarted. The only customer user who can log in is the owner. The customer cannot start any new services, but can view and modify financial information; for example, provide a new credit card number.
TERMINATED	The customer relationship has ended. The account still exists but is disabled and the customer cannot use it. All services are shut down and removed. All the account's users, except the Master User, are deleted. All domains for this customer are deleted from the cloud. However, the account is not deleted from CPBM. The account data is retained in the CPBM database. An account that is terminated cannot be activated again.

The account and account data are deleted completely only after the account is removed from CPBM. |

Handling Payment Failures When Auto-pay is in Use

CloudPortal uses a feature called auto-pay where the system automatically charges the customer's credit card when an invoice is due for payment. However, payment failures might occur when an invoice is due and CloudPortal fails to charge the credit card automatically for the amount due.

How Payment Failures are Handled in CloudPortal

The Payment Failure Threshold determines the number of attempts CloudPortal makes to collect payment before taking further action. The default value is set to three attempts (one attempt per day, for three days). After crossing this threshold, CloudPortal begins alerting the defaulting customers and restricting, suspending, or terminating their accounts. The table below shows the action CloudPortal takes when progressive payment failure thresholds are breached.

Duration of Non-Payment	Action Taken
Invoice date + payment.failure.alert.threshold	Sends an Email alert to the account owner and the service provider designate.
Invoice date + payment.failure.alert.threshold + account_restriction_grace_period	Restricts the account and sends an Email alert to the account owner and the service provider designate.
Invoice date + payment.failure.alert.threshold + account_restriction_grace_period + account.suspension.alert	Suspends the account and sends an Email alert to the account owner and service provider designate.
Invoice date + payment.failure.alert.threshold + account_restriction_grace_period + account.suspension.alert + account.termination.alert	Terminates the account and sends an Email alert to the account owner and service provider designate.

Note: The service provider designate's Email address is in **Administration** > **Billing** > **vmops.billingUpdate.Email**.

Who Can Suspend or Restrict an Account

If you have the Account Manage permission, you can suspend or restrict an account.

How to Suspend or Restrict an Account

An account can become suspended or restricted in two ways, automatic or manual.

Automatic

CloudPortal monitors the success or failure of all invoice collections, and it can be set up so that if any account falls behind on its payment, the account state is automatically changed and a warning Email is sent to the customer. You can control the length of the grace period before account suspension or termination takes effect. For more information on how to set up automatic account suspension, see Configuring Automatic Account Suspension.

Manual

In the CloudPortal UI:

1. Click Accounts, then All Accounts.

2. Choose the company you want to modify.

3. Under Details, click Change State.

4. Make the desired change.

5. Click Save.

Removing an Account

When you remove a customer account, the Master User for the account is removed. All the other users are removed when the account is terminated.

Who Can Remove an Account

If you have the Account Create permission, you can remove an account.

How to Remove an Account

The Remove link appears in the Account Details page only for accounts that are terminated. Therefore, only accounts that are terminated can be removed. To remove an account:

1. Click Accounts > All Accounts.

2. Select the account that you want to remove.

3. Click Remove.

4. In the confirmation dialog, click OK.

Note: An account that is terminated appears in the All Accounts page. An account ceases to appear in the All Accounts page only after it is removed.

Products and Catalogs

How to create products, set prices, and assemble products into catalogs.

About Products and Catalogs

A product is an item that a customer can purchase through your portal. Each product has a name, utility rates, metering unit (such as hours or bytes), and type. The product types in CloudPortal can be customized for your business needs. Some typical product types are Template, VM, and Storage Volume. When your CloudPortal installation is first set up, the product types that are relevant to your business needs are set in the CloudPortal configuration. These built-in settings affect the choices in the product and catalog screens.

A catalog is a set of products and prices that can be offered to customers. A portal can define multiple catalogs with varying products and prices. For example, you can define a different catalog for each sales channel or customer type, such as educational, government, and industry buyers. CloudPortal comes with one default catalog, called the Base Catalog.

While we usually think of a catalog as a set of products, in CloudPortal it is more accurate to say a catalog is a set of product bundles. A product bundle is a group of one or more related products which are intended to be purchased as a unit. When you assemble a catalog, you first put products into bundles, then put bundles into the catalog. If you do not need to group related products, you can create one product bundle for each product. Each product bundle has a name, a billing scenario, and a list of included products and usage amounts. The billing scenario can include one or more charges, such as a one-time setup fee plus a monthly subscription renewal fee. The products and included usage amounts are referred to as the entitlements of the bundle (they tell what the customer is entitled to).

Each catalog has an associated utility rate card, which tells how much to charge if the customer exceeds the entitlements that are included in the purchased product bundles. For example, if the customer has purchased a product bundle that includes 20GB of storage per month, and the amount of storage used goes above 20GB, you can charge a certain amount for each additional 100KB. When you first add a product to the portal, you specify what its price will be in the utility rate card for each catalog. You can change the utility rates later by modifying the utility rate card. Existing customers will continue to pay the previous rates. New customers will pay the new utility rates starting on the day the rate card takes effect.

Viewing Products and Catalogs

Who Can View Products

If you have the Product Create/Manage permission, you can view products.

How to View Products

1. Choose Products > Products. A list of all currently defined products is displayed.

2. Things you can do from here:

   - Select different products to see their details lower in the Products screen. The product type shown is one of the types defined by the portal administrators when CloudPortal was installed.

   - Click Edit to change the product details. See Modifying a Product.

   - Click Add New Product to make a new product available. See Deleting a Product.

   - Click the Catalogs and Bundles tab.

Viewing Catalogs

Who Can View Catalogs

If you have the Product Create/Manage permission, you can view catalogs.

How to View Catalogs

1. Choose Products > Catalogs and Bundles. A list of all currently defined catalogs is displayed.

2. Things you can do from here:

   - Select different catalogs to see their details lower in the Catalogs screen.

   - Click Edit to change the details of the selected catalog.

   - Click Manage Product Bundles to add products to the catalog or change the prices customers are charged for the product bundles in the catalog. See Modifying a Product Bundle.

- Click Manage Utility Rate Card to set how much to charge if the customer exceeds the entitlements that are included in the purchased product bundles. See Setting Utility Rates.

- Click Remove to delete the catalog.

- Click Add New Catalog to start a new catalog. See Creating a Catalog.

Creating a Product

A product is an item that a customer can purchase through your portal. Each product has a name, utility rates, metering unit (such as hours or bytes), and type. The product types in CloudPortal can be customized for your business needs. Some typical product types are Template, VM, and Storage Volume. When your CloudPortal installation is first set up, the product types that are relevant to your business needs are set in the CloudPortal configuration. These built-in settings affect the choices in the product and catalog screens.

Who Can Create a Product

If you have the Product Create/Manage permission, you can add a new product.

How to Create a Product

1. Choose Products > Add New Product.

2. In Type, choose the product type. The available types vary from company to company; your types were defined when CloudPortal was set up for your organization. You might notice this dropdown displays only a subset of your company's product types. This is because some product types are used for built-in products, and are not available for new products that you define.

3. Depending on your choice in Type, additional fields might appear. Fill in these fields with the appropriate choices. For example, you might need to select a template for a TEMPLATE product. Again, the choices here are predefined when your CloudPortal installation is set up.

4. In Product Code, give the new product a unique ID. For example, this might be the product SKU which you are already using in existing systems.

5. Fill in a Name. You will see this name when you are working with products in CloudPortal displays and dialogs, so choose a descriptive name that will help make your job easy later.

6. (Optional) Fill in the Display Name.

7. You can leave Image blank. It is reserved for future use.

8. Add a list price for each catalog. The price you set here will be part of the Utility Rate Card for each catalog. You can change the utility rate later; see Setting Utility Rates. For now, leave the Taxable checkbox blank. It is reserved for future use.

9. Click Add Product.

Creating a Catalog

A catalog is a set of products and prices that can be offered to customers. A portal can define multiple catalogs with varying products and prices. For example, you can define a different catalog for each sales channel or customer type, such as educational, government, and industry buyers. CloudPortal comes with one default catalog, called the Base Catalog.

Who Can Create a Catalog

If you have the Product Create/Manage permission, you can create a catalog.

How to Create a Catalog

1. Choose Products > Catalogs and Bundles.

2. Click Add New Catalog.

3. Give the catalog a name and, optionally, a description.

4. Enter a catalog code.

5. In Channel Assignments, you can choose one or more sales channels to determine the intended audience for the catalog.

6. Click Add Catalog.

Adding Products to a Catalog

A catalog is a set of products and prices that can be offered to customers. A portal can define multiple catalogs with varying products and prices. For example, you can define a different catalog for each sales channel or customer type, such as educational, government, and industry buyers. CloudPortal comes with one default catalog, called the Base Catalog.

While we usually think of a catalog as a set of products, in CloudPortal it is more accurate to say a catalog is a set of product bundles. A product bundle is a group of one or more related products which are intended to be purchased as a unit. When you assemble a catalog, you first put products into bundles, then put bundles into the catalog. If you do not need to group related products, you can create one product bundle for each product. Each product bundle has a name, a billing scenario, and a list of included products and usage amounts. The billing scenario can include one or more charges, such as a one-time setup fee plus a monthly subscription renewal fee. The products and included usage amounts are referred to as the entitlements of the bundle (they tell what the customer is entitled to).

Who Can Add a Product to a Catalog

If you have the Product Create/Manage permission, you can add a product to a catalog.

How to Add a Product to a Catalog

1. Choose Products > Catalogs and Bundles, and choose the catalog you want to work with.

2. Click Manage Product Bundles.

3. Do one of the following:

   - If you are adding the product as part of an existing product bundle, select the bundle in the list, then click Manage Bundle.

   - Otherwise, click Add New Product Bundle. Give the new bundle a name, fill in any of the optional fields you like, and click Add Product Bundle. Then select the bundle in the list, and click Manage Bundle.

4. In Entitlements, under Product, choose the product you want to add to the catalog.

5. Do one of the following:

   - If you want to grant a limited amount of the product for each billing period, fill in Included Units. This tells how much of the product the purchaser receives per billing period when they buy this bundle. Any usage over this amount will be billed at the unit price in the catalog's Utility Rate Card.

   - If you want to meter and apply utility rates to all usage of this product, set Included Units to 0.

   - Otherwise, click Unlimited Usage.

6. Click +.

Publishing Product Bundles

Product bundles are created in the 'Unpublished' state by default. Unpublished product bundles do not show up in the Featured Templates page when users launch a VM. For product bundles to show up, you must publish them.

To publish a product bundle:

1. Log in to CloudPortal as the Root User.

2. Click Products > Catalogs and Bundles.

3. Select the Catalog that has the product bundle you want to publish.

4. Click Manage Product Bundles.

5. Select the product bundle you want to publish.

6. Click the Edit button below the Details pane.

7. Check the Publish box (It is unchecked by default).

8. Click Save.

Setting Product Prices

Products are grouped into bundles. For each bundle, you define the included amount of usage for each product (the bundle entitlements), then set up the subscription charges for the bundle, such as a one-time signup fee followed by monthly renewal fees. A buyer purchases the bundle by paying these charges. In return, the buyer receives the entitlements listed for the bundle. You can set up subscription charges for an individual product by creating a bundle that contains just that one product. If you change the product bundle fees later, customers who have already subscribed to that bundle will continue to pay the rate that was in effect when the subscription was created. If a customer starts a new subscription, the new rate will be charged.

Each catalog has an associated utility rate card, which tells how much to charge if the customer exceeds the entitlements that are included in the purchased product bundles. For example, if the customer has purchased a product bundle that includes 20GB of storage per month, and the amount of storage used goes above 20GB, you can charge a certain amount for each additional 100KB. When you first add a product to the portal, you specify what its price will be in the utility rate card for each catalog. You can change the utility rates later by modifying the utility rate card. Existing customers will continue to pay the previous rates. New customers will pay the new utility rates starting on the day the rate card takes effect.

To set this...	Click this

Price for entitlements included in a product bundle	**Manage Bundle** See How to Set Product Bundle Prices
Price for usage above what's included in product bundles	**Manage Utility Rate Card** See Setting Utility Rates

Who Can Set Prices

If you have the Product Create/Manage permission, you can modify prices.

How to Set Product Bundle Prices

1. Choose Products > Catalogs and Bundles, and choose the catalog you want to work with.

2. Click Manage Product Bundles.

3. Choose the product bundle you want to work with.

4. Click Manage Bundle.

5. Do one of the following:

   · You can change prices on the Current Rate Card; this will automatically create a new Rate Card effective on the next day. Click Edit on the Current Rate Card.

   · You can also change prices on any Future Rate Card. If Future Rate Card is already displayed, click Edit.

   · Otherwise, click Plan a Rate Card.

6. Set up the rate card:

   · In Start Date, you can set the day when a Future Rate Card will take effect.

   · In Description, provide a name or revision notes, such as your reasons for changing the rate card. Later, when you are browsing through the list of previous rate cards, a good description will help you find the rate card you are looking for.

   · In Charge Type, choose the billing period. This determines how often the buyer's subscription to the product bundle will be renewed.

   · In the line item Description, describe the reason for the charge. This description can be used in order confirmations, receipts, and invoices, so choose a phrase that will be meaningful to your customers.

   · In List Price, enter the price for this line item.

   · For now, leave the Taxable checkbox blank. It is reserved for future use.

7. Click + if you want to add more charges to the billing scenario. For example, you might charge a one-time setup fee when the buyer first purchases the product bundle, then charge a periodic subscription renewal fee. Each of these fees is defined on a separate line in the rate card.

8. When you are finished, click Save.

Note: One way to indirectly change prices is to redefine the entitlements of the product bundle (see Modifying a Product Bundle). For example, if you increase the entitlements and leave the bundle subscription charges unchanged, you have effectively lowered the price.

Setting Utility Rates

Each catalog has an associated utility rate card, which tells how much to charge if the customer exceeds the entitlements that are included in the purchased product bundles. For example, if the customer has purchased a product bundle that includes 20GB of storage per month, and the amount of storage used goes above 20GB, you can charge a certain amount for each additional 100KB. When you first add a product to the portal, you specify what its price will be in the utility rate card for each catalog. You can change the utility rates later by modifying the utility rate card. Existing customers will continue to pay the previous rates. New customers will pay the new utility rates starting on the day the rate card takes effect.

Who Can Set Utility Rates

If you have the Product Create/Manage permission, you can set utility rates.

How to Set Utility Rates

When you first create a product, you set its utility rates in every catalog throughout your portal (see Creating a Product). You can change the utility rates later using these steps:

1. Choose Products > Catalogs and Bundles, and choose the catalog you want to work with.

2. Click Manage Utility Rate Card.

3. Click Edit.

4. In Description, provide a name or revision notes, such as your reasons for changing the rate card. Later, when you are browsing through the list of previous rate cards, a good description will help you find the rate card you are looking for.

5. Change the prices for each product as desired.

   For now, leave the Taxable checkbox blank. It is reserved for future use.

   Caution: Do not click Delete unless you intend to stop selling the product. Even in that case, it is more advisable to set the product's utility rate to 0.

6. When you are finished, click Save.

Modifying a Product Bundle

After grouping products into bundles and adding the bundles to a catalog, you might want to change some aspects of the product bundle. For example, you might want to introduce "2TB free storage" on a particular bundle to help increase buyer interest.

To change this...	Click this
Bundle name, description, image, whether the bundle offers a free trial period	**Edit** See How to Modify Product Bundle Details
Bundle price, products and usage levels (entitlements), utility rates for products in the bundle	**Manage Bundle** See How to Modify Product Bundle Entitlements and Prices

Who Can Modify a Product Bundle

If you have the Product Create/Manage permission, you can modify a product bundle.

How to Modify Product Bundle Details

1. Choose Products > Catalogs and Bundles, and choose the catalog you want to work with.

2. Click Manage Product Bundles, and choose the bundle you want to work with. Information about the bundle appears in Details.

3. Click **Edit**.

4. Check the Eligible for Trial box if you want Trial users to be able to subscribe to the bundle.

5. Check the Publish box if you want to publish the bundle.

6. Check the Account-Wide box if:

   - You want the bundle to be subscribed to only once, and

   - You want only the Master User to be able to subscribe to the bundle.
7. Enter the Product Bundle Code. This is a unique identifier for the bundle across CPBM, and is assigned to the bundle when it is created.

8. Click Save.

How to Modify Product Bundle Entitlements and Prices

Caution: If you remove a Running VM product entitlement from a bundle, this may cause issues for any users who have already subscribed to that bundle.

1. Choose **Products** > **Catalogs and Bundles**, and choose the catalog you want to work with.

2. Click **Manage Product Bundles**, and choose the bundle you want to work with. Information about the bundle appears in Details.

3. Click **Manage Bundle**.

4. Do one of the following:

   · Change the price of the bundle. See How to Set Product Bundle Prices.

   · Change the entitlements included in the bundle. See Adding Products to a Catalog.

   · Change the utility rates charged for usage beyond the entitlements. See Setting Utility Rates.

Modifying a Product

After creating a product, you might want to change its characteristics.

Caution: If you modify a Running VM product (for example, associate it with a different service offering) or modify a Template Group product (for example, remove a template), this can cause issues for customer users who have already subscribed to any product bundles that include the modified product.

Who Can Modify a Product

If you have the Product Create/Manage permission, you can modify a product.

How to Modify a Product

1. Choose Products > Products. A list of all currently defined products is displayed.

2. Select the product you want to modify. Details about the product appear lower in the screen.

3. Click Edit. The details turn into fields where you can modify the values.

If the Edit link does not appear, this is a built-in product type which you cannot modify.

4. When you finish making changes, click Save.

Deleting a Product

The goal of deleting a product is to ensure no further sales of that product occur. The best way to achieve this goal is described below. This technique avoids the possible side effects of actually deleting the product record from the CloudPortal database.

Who Can Delete a Product

If you have the Product Create/Manage permission, you can delete a product.

How to Delete a Product

1. Remove the product from the Entitlements section of all product bundles. See How to Modify Product Bundle Entitlements and Prices.

2. Set the product's price to 0 in all utility rate cards. See Setting Utility Rates.

Billing

How Billing Works in CloudPortal

CloudPortal tracks the resources customers use, calculates the amounts owed, and handles invoicing and payments for you automatically. Invoices are generated once each day. Payment is collected through a payment gateway, such as authorize.net, using credit card details provided by the customer. All credit card details are stored by the gateway provider, not CloudPortal.

Retail Postpay Accounts

When a customer account is created, it is assigned the type Retail Postpay, which indicates that billing is required for the account. (The service provider's own account has the special account type System. No billing is done on this type of account.) When a customer uses self-signup through your portal, the account is created as a Retail Postpay account. You can also assign this type to an account that is created through the CloudPortal UI (see Adding an Account).

In a Retail Postpay account, the following items are charged to the customer's credit card at the end of every billing period. The exact items that will be charged are determined by the entitlements and rate card of the product bundles the customer has subscribed to. For example, some product bundles require monthly fees, and others do not.

- Full subscription renewal fee for the upcoming billing period.

- Resource usage for the current billing period over and above the amount included in the customer's subscriptions. This usage is billed at the rates in the applicable Utility Rate Card.

- Any annual fee renewals where the anniversary date of the original subscription fell within the current billing period.

- Prorated periodic fees for subscriptions that were initiated in the middle of the current billing period

- One-time setup fee

- Annual fee

Price Calculations

CloudPortal consults the stored prices for each catalog item and the catalog's utility rate card in order to calculate the amounts owed.

- A price per unit of usage, called the "utility rate," is set for each individual product. The utility rate is set as described in Creating a Product.

- When products are grouped into bundles, some amount of usage can be included for each product and covered by the bundle's overall subscription fee. This amount of usage is exempt from the utility rate. When calculating charges for each invoice, CloudPortal takes this into consideration. The included usage amounts are set as described in Section 4.6, "Adding Products to a Catalog".

- Each product bundle has one or more associated charges. A simple billing scenario would consist of a single fee to be charged each month. But each product bundle can have additional fees which occur monthly, annually, or just once when the customer first subscribes to the bundle. The charges for a product bundle are set up as described in Setting Product Prices.

Subscription Handling

The following steps give an overview of how billing is handled for product bundle subscriptions in Retail Postpay accounts.

1. The customer logs in to a user account on your portal and clicks Catalog.

2. The customer selects a product bundle and goes through the subscription wizard. For example, the customer might be launching a VM.

3. If the subscription has a monthly fee, it is prorated for the current month if necessary to synchronize with the customer's existing billing cycle.

   If the customer has made a purchase before, the customer probably already has a subscription renewal date in effect; for example, monthly on the 15th of the month. For new subscriptions created on any other day of the month, a partial amount is added to the next invoice (or the full amount, in the case of an annual subscription). From then on, the new subscription will charge its full periodic renewal fee on the same day of the month as the customer's other subscriptions.

4. CloudPortal begins tracking the customer's usage of the entitlements in the subscription. Any usage above the included amount results in additional charges being added to the customer's total for the current billing period.

5. An invoice is generated on the renewal date and the credit card on file is billed for the total amount.

6. These steps are repeated to add more subscriptions and collect payment for them.

7. At any time, the customer or a representative at the service provider can cancel one of the customer's subscriptions. Monthly charges are not prorated on termination.

Viewing Payment Activity

Payment Activity shows how much a particular customer has been charged over time. If you are more interested in an overview that compares how much customers are spending throughout your service, see Viewing Reports.

Who Can View Payment Activity

The Master Userand Billing Admin user of a customer account can see the account's Payment Activity. If you have the Finance Create/Manage permission, you can view any customer's Payment Activity.

How to View Payment Activity

1. Click Accounts, then choose the account you want to work with.

2. Click Usage & Billing. The Activity & Invoices screen is displayed.

3. Click Payment Activity.

4. Things you can do from here:

   · View the list of invoices and payments.

   · Issue a chargeback to refund money to the customer's credit card. Select a payment in the list and click Issue Charge Back.

Setting Credit Card Details

The customer should provide a credit card number and other payment details when first signing up with your portal. You will need to change the payment details later if:

· The customer's card is rejected by the authorization gateway, and the customer provides a new card number.

· The customer's billing address changes.

Who Can Set Credit Card Details

The Master Userand Billing Admin user of a customer account can modify their own payment details. If you have the Finance Create/Manage permission, you can modify a customer's payment details.

How to Set Credit Card Details

1. Click Accounts, then choose the account you want to work with.

2. Click Usage & Billing. The Activity & Invoices screen is displayed.

3. Click Payment Info.

4. Click Edit.

5. Enter the new information, then click Save.

Refunds

Who Can Make a Refund

If you have the Finance Create/Manage permission, you can make a refund.

How to Make a Refund

There are two ways to give money back to customers: credits and chargebacks.

Credit

A credit adds funds to the customer's balance in CloudPortal. Any future charges incurred by the customer will be paid for first out of this credit balance.

To issue a credit:

1. Click Accounts > All Accounts.

2. Select the desired customer in the list. The customer's details appear below, including the current positive balance (credit).

3. Click Issue Credit.

Chargeback

A chargeback returns funds through the customer's credit card at the request of the bank that issued the card. The chargeback is processed through the same payment gateway that is used for routine invoice payments.

To issue a chargeback:

1. Click Accounts, then choose the account you want to work with.

2. Click Usage & Billing.

3. Click Payment Activity.

4. Select the disputed payment and click Issue Charge Back.

Viewing Customer Activity

Viewing Activity & Invoices

Activity & Invoices show how much a particular customer is using of each resource to which the customer has subscribed.

If you are more interested in an overview of usage throughout your service, see Viewing Reports.

Who Can View Activity & Invoices

Users can view their own Activity & Invoices. If you have the Finance Create/Manage permission, you can see customer Activity & Invoices.

How to View Activity & Invoices

To check on the volume of resources being used by a customer:

1. Click Accounts, then choose the account you want to work with.

2. Click Usage & Billing. The Activity & Invoices screen is displayed.

   The Activity & Invoices list shows all resources consumed. If the resources were included as entitlements in a product bundle, the monetary amount next to the usage will be 0. Otherwise, the utility rate charges that the customer has incurred are shown. In Total, you see the total charge that has been incurred so far towards the customer's next invoice.

3. Things you can do here:

   · Click the All Users tab to see the resources each user within the account has been using.

   · See archived billing periods by switching to a previous billing period in the View by drop-down box. The box shows all the previous usage details and invoices.

   · Click the Record Payment link to record payments for non-retail customers.

   · Click the Record Payment link to record payments for non-retail customers.

Viewing Reports

CloudPortal's reports provide a graphical display that you can use to get an overview of what is going on in your service. You can focus a report on a particular time period by supplying a start and end date before running the report. A variety of export formats are provided, including PNG, JPEG, PDF, and SVG vector formats.

For easy sharing of Custom reports, you can Email a report to yourself, then forward it to a colleague or as part of a support request to Citrix Systems. Through the CloudPortal UI you can access the built-in reports listed below.

- New Registrations

- Customer Rank

- Product Usage

- Bundle Usage

Who Can View Reports

If you have the Account Manage or Finance permissions, you can view reports.

How to View Reports

1. Click Home. In the Customer Summary part of the Dashboard, you can see recent data in the Customer New Registrations report.

2. To specify a filter or see different reports, click Complete Report.

3. Click the tab for the report you want. Each tab corresponds to a built-in report. To run a custom report, click the Custom Reports tab.

4. To apply a date filter and re-run the report, set the Start Date and End Date, then click Submit.

5. If you want to save the report, click the Export to Raster button.

6. If you want to print the report, click the Print button.

Custom Reports

When first installed, CloudPortal provides a set of built-in reports. With the help of CloudPortal Professional Services, you can add custom reports to meet your specific reporting needs. Custom reports are generated as ad-hoc reports through the CloudPortal UI, and can accept input parameters. For more information, contact CloudPortal support.
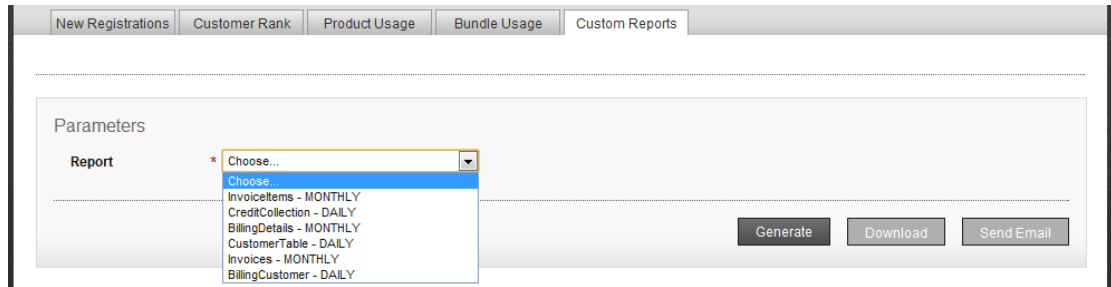
Figure 1. Custom Reports

Users and Profiles

About Users

A user is a computer's representation of a person who interacts with the computer software. CloudPortal saves a variety of information about each of its users. In this discussion, we are talking about users who are members of the service provider's organization. These users work on tasks like administering the portal, managing customer accounts, and managing billing and finance.

The minimum set of information that the portal needs to know about each user is:

- First and last name

- Email address

- Profile

- Username

- Password

Optionally, users can provide additional details:

- Photo

- Time zone

About Profiles

(If you were looking for help to set up your user profile with your personal photo and details, see Creating Your Personal Profile.)

A profile is a set of permissions that is saved under a name, such as Administrator or Manager. Every user of your portal is assigned a profile, including yourself. The profile is assigned when the user is added to the portal (see Adding a User).

Profiles are useful for saving a frequently-used set of permissions so that they can be easily granted to a user in a single step. This is easier and less error-prone than setting each individual permission for every user. Profiles also ensure that multiple users with equivalent duties and needs are all granted the same permissions. For example, you might want to grant the "Create Customer Account" permission for the Sales profile but not for the Help Desk profile.

CloudPortal ships with a predefined set of profiles. You cannot add or delete a profile. If you have the "Create/Manage Profile" permission, you can select which permissions to grant under each profile name. Given below are the profiles in CloudPortal. The CloudPortal UI includes a fair amount of information on the predefined profiles, role names and their descriptions.

Service Provider Profiles

- Root

- Ops Admin

- Finance Admin

- Sales Support

- Help Desk

- Product Manager

Customer Profiles

- Master User

- Billing Admin

- Power User

- User

Defining Profiles

(If you were looking for help to set up your user profile with your personal photo and details, see Creating Your Personal Profile.)

Setting Permissions for a Profile

In the following steps, we are referring to a user's security profile. See About Profiles.

Who Can Set Permissions for Profiles

If you have the "Create/Manage Profile" permission, you can select which permissions to grant under each profile name.

When to Set Permissions for Profiles

The decision of which permissions different sorts of users should have can be a sensitive one. Before changing profile permissions, make sure you have discussed it with the relevant decision makers within your organization.

How to Set Permissions for Profiles

1. Click Administration.

2. In the profile navigation list, select the profile you want to work with.

3. Use the checkboxes in the Allow column to turn the various groups of permissions on or off.

4. Click Save.

Users who have already been assigned the profile will find that their permissions have changed.

Adding a Profile

CloudPortal ships with a predefined set of profiles. You cannot add or delete profiles.

Deleting a Profile

CloudPortal ships with a predefined set of profiles. You cannot add or delete profiles.

Adding a User

Who Can Add a User

If you have the User Create/Manage permission, you can add a user.

When to Add a User

Add user logins when you want to give others access to the portal.

How to Add a User

1. Click Administration.

2. Click User.

3. Click Add New User.

4. Fill in the user's name and Email address.

5. In Profile, choose the name that corresponds to the new user's role in the organization. Each profile has a set of permissions associated with it. The selection of a profile is very important, because it determines what the user will and will not be able to do on the portal. To see what permissions are available for each profile, click Administration, then Profiles.

6. When you are finished with this screen, click Continue.

7. Give a user name and password. The user (or you) can change their password later.

8. (Optional) Click Customize Welcome Email to change the text of the notification mail that will be sent to the new user. You might want to add a personal note, explain of why the account has been created, or give additional instructions.

9. Click Finish.

The user will receive a welcome Email which contains a link back to CloudPortal. They must log in through this link the first time, to confirm that the Email address was valid.

Caution: If you are just testing the Add User functionality and sending the welcome Email to yourself, log out of CloudPortal before you click the Email's login link. Trying to log in as two different users simultaneously can cause the new user's details to be stored

incorrectly, so that the new username will not work.

Deactivating a User

You can stop a user's access to the portal without completely removing the user.

Who Can Deactivate a User

If you have the User Create/Manage permission, you can deactivate a user.

How to Deactivate a User

1. Click Administration > Users.

2. Choose the user you want to deactivate. In the user details area, an Edit link appears.

3. Click Edit.

4. Click Deactivate.

Deleting a User

Who Can Delete a User

If you have the User Create/Manage permission, you can delete a user.

How to Delete a User

1. Choose Administration > Users.

2. Select the user you want to delete. The user's details appear below, along with a Remove link. (If the link does not appear, you do not have permission to remove this user. For example, you probably cannot remove the ROOT account.)

3. Click Remove.

4. In the confirmation dialog, click OK.

Modifying User Details

Who Can Modify User Details

Users can modify their own information, as described in Creating Your Personal Profile. If you have the "User Create/Manage" permission, you can modify information about other users. As an administrator with permission to modify other people's profiles, you might want to modify someone's profile to reset their password or update contact information. For example, you might receive an Email from the sales department letting you know that a customer has moved to a new office.

How to Modify User Details

1. Click Administration.

2. Click Users.

3. Select the user you want to work with.

4. Under Details, click Edit.

5. Make the desired changes. You can modify any of the following items. The rest are for display only.

   · To add an image, click Manage your profile image, then follow the instructions to upload a photo to gravatar.com.

   · To change the timezone, click Edit, select the new zone from the dropdown, then click Save.

   · To change contact information, type the new info in Profile and click Save.

   · To change the password, type it in New Password, then again in Confirm New Password. Click Save. (Be sure to inform the user of the new password!)

In Login Information, you can change the password. The other fields are display only. Where do they come from?

1. The username and profile type are set when the user is added to the portal (see Adding a User).

2. The status is Active unless the administrator has deactivated the user's login.

3. The login timestamp and count are provided automatically by CloudPortal.

Creating Your Personal Profile

(If you are looking for information about a user's security profile and permissions, see About Profiles.)

Each user of the portal has a personal profile which stores details such as a photo, Email address, and login credentials. Profiles help users work together by putting a face to the name and providing contact information. They also give users a way to manage passwords and other data about themselves.

Who Can Modify a Personal Profile

Users can edit their own profiles using the steps below. If you have the User Create/Manage permission, you can edit any other user's personal profile, as described in Modifying User Details.

When to Modify Your Profile

As a user, you should update your profile for any of the following changes:

· Password change

· New Email address

· Name change (you got married/divorced. Congratulations!)

· Move to a new time zone

How to Modify Your Profile

Figure 1. Profile

1. Click the down arrow next to your user name.

2. Choose My Profile.

3. Make the desired changes. You can modify any of the following items. The rest are for display only.

   · To add an image, click Manage your profile image, then follow the instructions to upload a photo to gravatar.com.

   · To change the timezone, click Edit, select the new zone from the dropdown, then click Save.

   · To change contact information, type the new info in Profile and click Save.

   · To change your password, type it in New Password, then again in Confirm New Password. Click Save.

In Login Information, you can change the password. The other fields are display only. Where do they come from?

· The username and profile type are set when the user is added to the portal.

· The status is Active unless the administrator has deactivated the user's login.

· The login timestamp and count are provided automatically by CloudPortal.

Deleting a User

Who Can Delete a User

If you have the User Create/Manage permission, you can delete a user.

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1. Choose Administration > Users.

2. Select the user you want to delete. The user's details appear below, along with a Remove link. (If the link does not appear, you do not have permission to remove this user. For example, you probably cannot remove the ROOT account.)

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Modifying User Details

Who Can Modify User Details

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How to Modify User Details

1. Click Administration.

2. Click Users.

3. Select the user you want to work with.

4. Under Details, click Edit.

5. Make the desired changes. You can modify any of the following items. The rest are for display only.

   - To add an image, click Manage your profile image, then follow the instructions to upload a photo to gravatar.com.

   - To change the timezone, click Edit, select the new zone from the dropdown, then click Save.

   - To change contact information, type the new info in Profile and click Save.

   - To change the password, type it in New Password, then again in Confirm New Password. Click Save. (Be sure to inform the user of the new password!)

In Login Information, you can change the password. The other fields are display only. Where do they come from?

1. The username and profile type are set when the user is added to the portal (see Adding a User).

2. The status is Active unless the administrator has deactivated the user's login (see Deactivating a User).

3. The login timestamp and count are provided automatically by CloudPortal.

Creating Your Personal Profile

(If you were looking for information about a user's security profile and permissions, see Users and Profiles.)

Each user of the portal has a personal profile which stores details such as a photo, Email address, and login credentials. Profiles help users work together by putting a face to the name and providing contact information. They also give users a way to manage passwords and other data about themselves.

Who Can Modify a Personal Profile

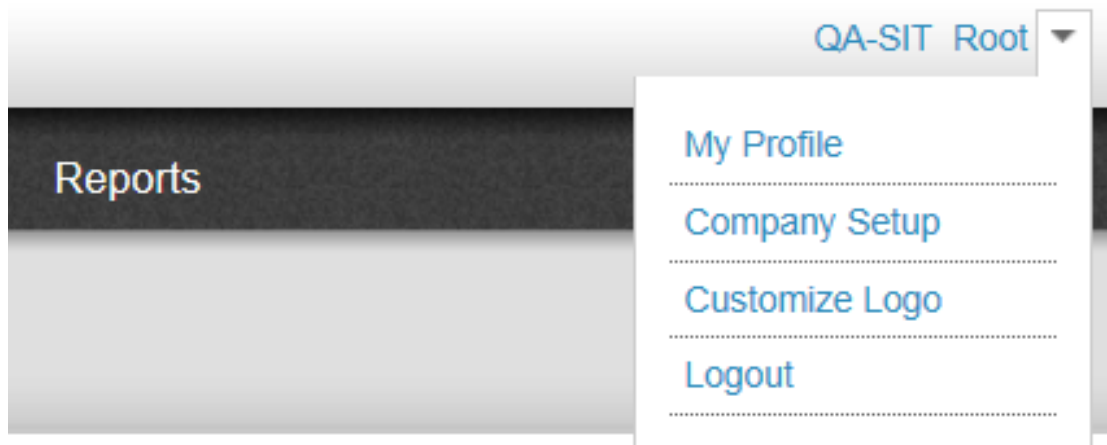Users can edit their own profiles using the steps below. If you have the User Create/Manage permission, you can edit any other user's personal profile, as described in Modifying User Details.

When to Modify Your Profile

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- Password change

- New Email address

- Name change (you got married/divorced. Congratulations!)

- Move to a new time zone

How to Modify Your Profile

1. Click the down arrow next to your user name.

2. Choose My Profile.

3. Make the desired changes. You can modify any of the following items. The rest are for display only.

   · To add an image, click Manage your profile image at Gravatar, then follow the instructions to upload a photo to gravatar.com.

   · To change the timezone, click Edit, select the new zone from the dropdown, then click Save.

   · To change contact information, type the new information in Profile Details and click Save.

In Login Information, you can change the password. The other fields are display only. Where do they come from?

· The Username and Profile Type are set when the user is added to the portal (see Adding a User).

· The Status is Active unless the administrator has deactivated the user's login (see Deactivating a User).

· The login timestamp (Last Login) and count (Logins) are provided automatically by CloudPortal.

CRM and Trouble Tickets

About CRM in CloudPortal

CloudPortal provides features to help you manage customer relationships.

You can assume the identity of any customer and view the same UI that is seen by the customer account's master user. This is useful when you need to keep track of the customer's usage in real time, compare the charges incurred to date against budget limits set by the customer, and more. The ability to, in effect, log in as the customer is also very useful for performing actions on the customer's behalf, such as resetting a password or filing a trouble ticket. See Viewing the Customer UI.

CloudPortal is integrated with http://www.salesforce.com Service Cloud. This is used to log requests for support (trouble tickets) from customers. With the CloudPortal trouble ticketing UI, you can view and submit trouble tickets that are stored in Salesforce. Trouble tickets that were created in either CloudPortal or Salesforce are visible in both locations. See the Viewing and Modifying Trouble Tickets, Filing a Trouble Ticket, and Closing a Trouble Ticket sections below.

The connection between Salesforce and CloudPortal is set up using configuration parameters, as described in Configuring Customer Interaction.

Viewing the Customer UI

In order to see a customer's current usage and other details or take actions on behalf of the customer, you can switch into the customer UI.

Who Can View the Customer UI

If you have the Account Manage permission, you can view the customer UI.

How to View the Customer UI

1. Click Accounts.

2. In the dropdown list, choose the name of the customer you want to work with. The account name at the top of the UI changes from SERVICE to the customer account name, and the customer's dashboard is displayed.

3. Things you can do from here:

- Launch a VM for the customer.

- Click Usage & Billing to see the resources consumed by the customer in this billing period, find out what product bundles the customer has subscribed to, cancel a subscription for the customer, view the customer's invoices and payments, issue a chargeback to reverse a customer payment, or change the customer's credit card number or billing address.

- Click Resources to manage the customer's infrastructure. You can take a snapshot, download a volume, acquire IP address, set up port forwarding and load balancing, add templates and ISOs, and more.

- Click Submit Ticket to file a trouble ticket for the customer. Click View All Tickets to see all issues filed by this customer.

- Click Users to add, deactivate, and remove the customer's users, change user contact details, change passwords, and more.

- Click Alerts to set a maximum budget for the customer and view or create alerts that are triggered when the amount the customer owes approaches the maximum budget.

- Click Notifications to see the notifications from CloudPortal and CloudStack that are visible to this customer. You can also set up an Email address to receive these notifications.

Viewing and Modifying Trouble Tickets

Who Can View and Modify Trouble Tickets

Customer users can view their own trouble tickets. If you have the Support Ticket Manage permission, you can view customer trouble tickets from the Support tab's Tickets screen. If you also have the Account Create or Account Manage permission, you can view trouble tickets by navigating to a customer's Dashboard to access the customer's Tickets screen.

How to View and Modify Trouble Tickets

There are two ways to access the Tickets screen so you can view trouble tickets.

To access the Tickets screen through the Support tab:

1. Click Support.

2. Click the Tickets tab.

To access the Tickets screen through a customer's Dashboard (you must have additional permissions to use this technique, but it is useful when you want to view only tickets from a particular customer):

1. Click Accounts, then choose the account you want to work with.

2. In the Tickets area of the dashboard, click View All Tickets.

Once you are in the Tickets screen, you can:

1. Click on any column heading to sort the tickets by that column.

2. In Status, choose a value to display only tickets in a given state (for example, only new tickets).

3. Select a ticket in the list to view more details about it.

4. Write a comment on the selected ticket, then click Add New Comment.

5. Modify the selected ticket by clicking Edit.

6. Close the selected ticket by clicking Close.

7. Click Add New Ticket to file a new ticket on behalf of the customer.

Filing a Trouble Ticket

Customers can file their own trouble tickets to request support. You can also file a trouble ticket on behalf of a customer, either using the CloudPortal UI or directly in Salesforce.com using your Salesforce login credentials. In this section, we talk about how to use the CloudPortal UI to file a trouble ticket for a customer account.

Who Can File a Trouble Ticket

If you have the Account Create or Account Manage permission, as well as the Trouble Ticket Manage permission, you can file a trouble ticket on behalf of a user.

How to File a Trouble Ticket in CloudPortal

1. Click Accounts, then choose the account you want to work with.

2. In the Tickets area of the dashboard, click Submit Ticket.

3. Click Add New Ticket.

4. Fill in the Subject and Description.

5. Click Submit.

Note: Salesforce trouble tickets have more fields in addition to Subject and Description. If you want to add more information to your ticket, log in to your Salesforce account, where you can see the full ticketing UI.

Closing a Trouble Ticket

When the issue described in a trouble ticket is solved, it is customary to close the ticket.

Who Can Close a Trouble Ticket

A ticket can be closed by by the user who created the ticket, the Master Userof the account under which the ticket was created, or by any user with the Trouble Ticket Manage permission.

How to Close a Trouble Ticket

There are two ways to access the Tickets screen so you can close a trouble ticket.

To access the Tickets screen through the Support tab:

1. Click Support.

2. Click the Tickets tab.

To access the Tickets screen through a customer's Dashboard (you must have additional permissions to use this technique, but it is useful when you want to view only tickets from a particular customer):

1. Click Accounts, then choose the account you want to work with.

2. In the Tickets area of the dashboard, click View All Tickets.

Once you are in the Tickets screen:

1. Select the ticket you want to work with. Details about that ticket appear lower in the screen.

2. Click Close.

Configuration

Setting Configuration Parameters

You can control a number of aspects of the behavior of CloudPortal by changing the values of the configuration parameters. When your CloudPortal installation is first set up, you can change the set of available configuration parameters depending on your business needs. Each CloudPortal customer can have a different set of parameters as well as having different values set for the same parameter. The configuration parameters can be used to control everything from the URL of your company's home page to the number of failed login attempts you allow users before locking their accounts. To modify configuration parameters, use the UI or edit the file /etc/cloud/portal/cloud.properties.

Who Can Set Configuration Parameters

If you have the Config Manage permission, you can set configuration parameters in the CloudPortal UI. If you have write permission on the /etc/cloud/portal/cloud.properties file, you can set configuration parameters in the file.

How to Set Configuration Parameters in the UI

1. Choose Administration > Configuration.

2. In the navigation list, choose the general category of configuration you want to work with. The parameters available in that category are displayed. The choices here depend on whether your CloudPortal configuration parameters were customized at installation. Typical categories include Account Management, Billing, and Server, with parameters like the maximum number of users allowed per account, the number of days in each billing cycle, and the URL of your company's home page.

3. Click Edit next to one or more parameters you want to change.

4. Modify the value, then click Save.

Configuring General Portal Settings

Set the following parameters in the CloudPortal UI to provide information about your portal installation. How many times do you want to allow people to try to log in with the wrong credentials before locking the account?

- consecutive.failed.login.count

What are the URLs of your company homepage and your portal homepage?

- customer.home.url

- customer.cloudmktg.url

What is in the footer of your portal website pages?

- footer.url.support

- footer.url.forum

- footer.url.blog

- footer.url.contactUs

- footer.url.privacyPolicy

- footer.url.termsOfUse

What is the context path of your portal server?

- vmops.context.path

What time zone would you like to be used for times displayed in the CloudPortal UI?

- vmops.portal.default.user.timezone. Set to one of the values in

Do you want to track web interaction statistics on your portal with Google Analytics?

- google.analytics.enable

To actually use Analytics, you will need to sign up for an Analytics account with Google. For more information about Google Analytics, see http://www.google.com/analytics/.

Configuring Databases

Set the following parameters in the cloud.properties file to set up CloudPortal databases and inform CloudPortal of the location of the CloudStack database.

Where is the CloudPortal database?

- profile.jdbc.url

- profile.jdbc.username

- profile.jdbc.password

Where is the CloudPortal reports database?

- report.jdbc.url

- report.jdbc.username

- report.jdbc.password

Where is the CloudStack usage database?

- usage.jdbc.url

- usage.jdbc.username

- usage.jdbc.password

Configuring Reports

Set the following parameters in the CloudPortal UI to modify the behavior of reports.

Where do you want to store exported (CSV, PDF, etc.) reports by default?

- reports.daily.registration.reportpath

Where do you want to send Emailed reports?

- reports.Email

Configuring JMS in a Single Node Deployment

The following configuration is applicable to CloudPortal installations on a single node.

Set the following parameters in the cloud.properties file to set up the Java Message Service.

Where is the message queue database?

- vmops.mq.jdbc.url =
  `jdbc:mysql://node1/cloud_portalmq1?relaxAutoCommit=true`

- vmops.mq.jdbc.username

- vmops.mq.jdbc.password

What is the message broker URL and client URLs?

- vmops.jms.url

  For example, vmops.jms.url = tcp://<localhost>:9125

- vmops.jms.client.url = `failover:(tcp://node1:9125)`

Configuring JMS in a Multi Node Deployment

The following configuration is applicable to CloudPortal installations on multiple nodes.

Set the following parameters in the cloud.properties file to set up the Java Message Service.

Where is the message queue database?

- vmops.mq.jdbc.url =
  `jdbc:mysql://localhost/cloud_portalmq?relaxAutoCommit=true`

- vmops.mq.jdbc.username

- vmops.mq.jdbc.password

What is the message broker URL and client URLs?

- vmops.jms.url

  For example, vmops.jms.url = tcp://<localhost>:9125

- vmops.jms.client.url = `failover:(tcp://node1:9125,tcp://node2:9125)`

Configuring Resource Usage Limits

Set the following parameters in the CloudPortal UI to help prevent customer users from overloading CloudPortal with unreasonably large requests for resources.

How many individual user accounts can each customer create?

- accounts.limits.users

How many different Email addresses can be set up to receive alert Emails?

- add.alert.Email.limit

Configuring the Connection to CloudStack

Where is CloudStack?

Set the following parameters in the cloud.properties file so that CloudPortal can find your CloudStack installation.

- vmops.mgmt.server.publicHost

- vmops.mgmt.server.publicPort

- vmops.mgmt.server.publicProtocol

- vmops.mgmt.server.serverList — The management server instance to receive administrative requests (such as API calls). Use the form host:port. Set to localhost:8096 unless you have customized this port in your CloudStack installation. To specify more than one management server instance, separate them with semicolons (host:port;host:port...).

- vmops.mgmt.server.nonAdminServerList — The management server instance to receive non-administrative requests (ordinary traffic). Use the form host:port. Set to localhost:8080 unless you have customized this port in your CloudStack installation. To specify more than one management server instance, separate them with semicolons (host:port;host:port...).

How does the Launch Cloud Console button work?

Set the following parameter in the CloudPortal UI to enable administrator users to use the Cloud Console button to access the CloudStack UI without having to log in again.

- security.singlesignon.key

How do you tweak the settings on CloudStack?

Additional parameters for configuring CloudStack are described in the CloudStack documentation.

Configuring LDAP

Do you want CloudPortal to integrate with your LDAP server?

In the CloudPortal UI (click Administration > Configuration > Integration), set this parameter to true or false:

- ldap.enable

How can CloudPortal access the LDAP server?

Set these parameters in the cloud.properties file:

- ldap.url

- ldap.base

- ldap.userdn

- ldap.password

Configuring Customer Interaction

Set the following parameters in the CloudPortal UI to control various aspects of customer relationship management.

How can CloudPortal access Salesforce.com Service Cloud?

- integration.crm.salesforce.endpoint

- integration.crm.salesforce.username

- integration.crm.salesforce.password

- integration.crm.salesforce.securitytoken

- integration.crm.salesforce.timeoutinmins

- integration.crm.salesforce.moreinforequired

Where is the JForums discussion board for your portal?

- vmops.forum.context.path

How can people reach your help desk?

- vmops.helpdesk.phone

- vmops.helpdesk.url

- vmops.helpdesk.Email

How many times do you want to allow people to try to log in with the wrong credentials before locking the account?

- consecutive.failed.login.count

What kind of Email will customers get?

Much of your interaction with customers is through Email, so you should also set the configuration parameters in Configuring Email and SMTP.

Configuring Phone Verification

To configure phone verification settings in the CloudPortal UI, log in to CloudPortal as the root user. Go to Administration > Integration. Set the following parameter values.

Parameter Name	Parameter Value	Description
integration.verification.tele sign.enabled	True/False	Set this value to True to enable phone verification for customers signing up. Phone verification is also enabled when you edit existing user phone numbers as an administrator. Set this value to False to disable phone verification.
integration.verification.tele sign.customerid	<Unique customer Id provided by Telesign>	Telesign provides a unique customer identity code to each customer that you register with them. This is usually an alphanumeric value. To know more about Telesign, go to http://www.telesign.com/.
integration.verification.tele sign.authenticationid	<Unique authentication code provided by Telesign>	Telesign provides a unique authentication code to each customer that you register with them. This is usually an alphanumeric value. To know more about Telesign, go to http://www.telesign.com/.
integration.verification.tele sign.language	Language in which to call or text the customer	Enter the language in which the customer must receive the verification phone call or text message. For CloudPortal 1.3, English is the only language supported.

Configuring Email and SMTP

Set the following parameters to control how Email is handled in CloudPortal.

How does CloudPortal connect to the SMTP server?

Set these parameters in the cloud.properties file:

- vmops.mail.protocol
- vmops.mail.host
- vmops.mail.port
- vmops.mail.username
- vmops.mail.password

Which internal Email addresses should receive automated Email from CloudPortal? Set these parameters in the CloudPortal UI:

- admin.support.email
- reports.email
- vmops.helpdesk.email

What triggers automated Email to customers?

- payment.failure.alert.threshold
- trial.first.expiry.warning
- trial.second.expiry.warning
- trial.final.expiry.warning
- trial.expired.not.converted
- trial.termination
- spend.budget.first.alert
- spend.budget.second.alert
- account.suspension.alert
- account.termination.alert

What triggers automated Email to your own personnel?

- vmops.error.notification.enable

- spend.limit.credit.alert

What is in the headers of outgoing Email?

- vmops.support.email

- vmops.internal.email

- vmops.orderEntry.email

- vmops.sales.email

- vmops.error.notification.from

- vmops.error.notification.to

- vmops.error.notification.prefix

What do you want the Email to say?

You can customize Email content further as described in Modifying Email Templates.

Configuring Geolocation and Fraud Control

CloudPortal comes integrated with a geolocation application that is used to arrive at the geographic location of users. One geolocation approach is to identify a user's IP address and then arrive at the user's country. You can provide a list of countries that are either blacklisted or whitelisted. If the geolocation application determines that a user is trying to access the portal from a country that you have marked as blacklisted, the application rejects the login attempt and directs the user to the CloudPortal support page. On the other hand, users from countries that you mark as whitelisted can access the portal.

> **Note:** A country whitelist always takes precedence over a country blacklist. For example, If countryX is marked in the whitelisted set and also in the blacklisted set of countries, the application treats countryX as whitelisted.

To configure the geolocation application for the IPtoCountry service, log in to CloudPortal as the root user. Go to Administration > Integration. Set the following parameter values.

Parameter Name	Parameter Value	Description
integration.iptocountry.enableiptocountry	True/False	Set this value to True to map the IP address of a user to the user's country.
integration.iptocountry.licensekey	<Llicense key>	Enter your unique MaxMind API license key that you receive when you register with MaxMind. This is usually an alphanumeric value.

integration.iptocountry.dblocation	<location of the GeoIP database>	You can procure the MaxMind GeoIP database from http://www.maxmind.com/app/country. Copy the database files into the same location as your CloudPortal installation. Enter the location of the database in this field. You must enable this setting to activate it. In the cloud.properties configuration file (Edit /etc/cloud/portal/cloud.properties) set the following value: #IP to Country implementation class #vmops.service.ipToCountryService=com.vmops.service.impl.MaxmindDBIPtoCountryServiceImpl
integration.iptocountry.generic.whitelist	<list of country codes>	Comma separated ISO 3166-1 alpha-2 codes of whitelisted countries. For more information on 3166-1 alpha-2 ISO country codes, go to http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2.
integration.iptocountry.generic.blacklist	<list of country codes>	Comma separated ISO 3166-1 alpha-2 codes of blacklisted countries. For more information on 3166-1 alpha-2 ISO country codes, go to http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2.

Fraud Control

In addition to limiting access to users based on their location, the geolocation application can assess fraud risk associated with the user's credit card. You can determine the admissible fraud risk level for credit card users by entering values for certain parameters as shown in the table below.

To set the parameter values, log in to CloudPortal as the root user. Go to Administration > Integration. Set the following parameter values.

Parameter Name	Parameter Value	Description
integration.fraudcontrol.enablecreditcardfraud	True/False	Set this value to True if you want to enable the credit card fraud check service. If you set this value to False, credit cards will not be put through the fraud check mechanism and will be accepted as is.
integration.fraudcontrol.licensekey	<Llicense key>	Enter your unique MaxMind API license key that you receive when you register with MaxMind. This is usually an alphanumeric value.
integration.fraudcontrol.threshold	Any numerical value	This is the minimum fraud threshold that you set in numerical units. The value that you set here determines the extent of fraud risk that you are willing to accept. A lower threshold value would mean that your 'trust' level is higher than that for a higher threshold value. The recommended default value for this parameter is 3.
integration.fraudcontrol.Emailthreshold	Any numerical value greater than <integration.fraudcontrol.threshold>	Enter a value greater than <integration.fraudcontrol.threshold>. For any risk score that lies between <integration.fraudcontrol.Email threshold> and <integration.fraudcontrol.threshold>, an Email alert for credit card fraud check violation is sent to the admin support. The recommended default value for this parameter is 25.

Setting the Proxy Server IP List

If your CloudPortal installation has proxy servers or load balancers, you must set the proxy.server.ip.list value to ensure that the IPtoCountry and credit card fraud check services are invoked effectively.

To set this value, log in to CloudPortal as the root user. Go to Administration > Server. Set the following parameter value:

Parameter Name	Parameter Value	Description
proxy.server.ip.list	<IP address or range of IP addresses>	Comma separated proxy server/load balancer IP addresses of your CloudPortal installation.

Configuring Billing

Set the following parameters to control how billing is handled in CloudPortal.

Which payment gateway provider do you use?

Set this parameter in the cloud.properties file:

- vmops.service.paymentGatewayService

How can CloudPortal access the payment gateway?

Set these configuration parameters in the CloudPortal UI:

- integration.paymentgateway.authorizenet.wsdl

- integration.paymentgateway.authorizenet.merchantname

- integration.paymentgateway.authorizenet.transactionkey

How does CloudPortal set billing periods?

Set the following parameters in the CloudPortal UI to control the kind of billing cycle you want. Go to Administration > Billing.

Set the billing.period.type parameter to the following:

- Set billing.period.type to 1 to bill every <x> days.

- Set billing.period.type to 2 to bill on a certain day of the month.

- Set billing.period.type to 3 to bill monthly on the account activation date.

The billing.period.config.param value is used along with the billing.period.type value to denote the number of days or the day of the month based on the choice for billing.period.type. The billing.period.config.param can take values from 1 to 30.

For example, set billing.period.config.param:

- to 30 if billing.period.type is 1. The invoice billing will be done every 30 days.

- to 15 if billing.period.type is 2. The invoice billing will be done on the 15th of every month.

- leave empty if billing.period.type is 3. The invoice billing will be done on the day of the month (every month) that the account was activated.

How will CloudPortal handle billing issues?

Set these configuration parameters in the CloudPortal UI:

- invoices.monthly.errorpath

    - The directory where file with monthly invoice run failures by tenants are recorded. The default value is /usr/share/cloud/portal/temp/errors_invoice_run.
- payment.failure.alert.threshold

    - The number of times CloudPortal will attempt to collect payment before taking any corrective action.

What units are used in billing calculations?

Set these configuration parameters in the CloudPortal UI:

- hours.in.usage.units.of.month

    - How many hours constitute a 'month' in calculations of per-month usage? For example, if the storage is GB-Month, a month may contain 720 hours.
- default.currency

    - Default currency for new customer accounts. Enter an ISO 4217 currency code, such as USD, INR, SGD, EUR, JPY etc.

    - process.daily.raw.usage

        - By default, CloudPortal tracks usage cumulatively for the month. Set this to 'Y' to additionally enable daily usage tracking in CloudPortal. The valid values are 'Y' and 'N'.
    - process.daily.rated.usage

        - By default, CloudPortal rates usage cumulatively for the month. Set this to 'Y' to additionally enable daily usage rating in CloudPortal. The valid values are 'Y' and 'N'.
    - detailed.billing.activity.file

        - Set this to 'Y' to enable detailed logging of the usage, rating. and billing activity on a daily basis. The valid values are 'Y' and 'N'.

        - invoice.handle.sequence.name

            - The name of the invoice handle sequence; used for sequence generation.

Configuring Automatic Account Suspension

If payment is not received from a customer, you can move the customer's account through a series of increasingly restrictive states so that a non-paying customer gradually loses the ability to accumulate more usage. This reduces your exposure to financial risk. You can manually change an account's state at any time (see Suspending, Restricting, or Terminating an Account). Alternatively, set the following configuration parameters in the CloudPortal UI to enable CloudPortal to automatically reset the account status for you at the appropriate times.

The parameters below show the grace period customers are allowed at each step in the account termination process. For a detailed description of how payment failures are handled, go to Handling Payment Failures When Auto-pay is in Use.

- account_restriction_grace_period - This value is based on the type of account. This value should be updated in the account_types table of the database, and is not available in the CloudPortal administration page for the current version.

- account.suspension.alert - When payment is not received, CloudPortal waits for this period in days before suspending the account and Emailing the customer.

- account.termination.alert - When payment is not received, CloudPortal waits for this period in days before terminating the account and Emailing the customer. This value should not be less than account.suspension.alert.

Configuring Security

How do you display CAPTCHA text to ensure new customer signup requests are coming from real human beings?

Set these parameters in the cloud.properties file so CloudPortal can make use of your CAPTCHA provider:

- vmops.recaptcha.publicKey

- vmops.recaptcha.privateKey

- vmops.recaptcha.recaptchaServer

Configuring Single Sign-On (CAS)

How do you set up Central Authentication Service (CAS) for single sign-on to multiple password protected systems?

Set the parameters described in Enabling CAS Authentication.

Encrypting Configuration Properties

You can encrypt any field in the cloud.properties file or in the CloudPortal database. Some of the fields are already encrypted by CloudPortal. Many fields are stored in clear text. If you want to provide an extra measure of security for any particular property, encrypt it using the following technique.

The encryption tool, Jasypt (Java Simplified Encryption), requires a password. In CloudPortal, the encryption password is stored in the environment variable PORTAL_SECRET on the CloudPortal server. The default value is AlphaMango654321.

> **Caution:** Change the encryption password in PORTAL_SECRET to a new, secure value. Using the default password constitutes a serious security risk.

The encrypted fields in cloud.properties are enclosed by ENC( ). For example:

```
property=ENC(hTlRbHnkL2+4Kbzv7aPiuw==)
```

To encrypt a property, change to the directory where Jasypt tools are installed:

```
cloud-portal\vmops.all\etc\jasypt-1.7.1\bin
```

Run the following command:

```
./encrypt.sh input="property_value" password="AlphaMango654321"
```

The output is the encrypted version of property_value:

```
hTlRbHnkL2+4Kbzv7aPiuw==
```

Store this value in cloud.properties instead of the clear text value.

For more information about Jasypt commands, see http://www.jasypt.org/cli.html.

Scheduling Batch Jobs

CloudPortal uses several batch jobs to perform its routine processes, such as tracking usage and generating invoices. These jobs are scheduled to run at a particular time and recur at a set interval. In CloudPortal, batch jobs are implemented as JavaBeans (http://www.oracle.com/technetwork/java/javase/tech/index-jsp-138795.html) and are run using the Spring (http://www.springsource.org/http://www.springsource.org/) platform. To view the status of batch jobs that are running now or have run in the past, you can use the CloudPortal UI. The batch jobs are scheduled in two XML files in the CloudPortal installation path:

applicationContext-jobs.xml and applicationContext-scheduler.xml.

Batch jobs are scheduled using a cron-like time expression syntax in XML. If you are not familiar with cron or XML, don't worry; you will find the time expression syntax and some example XML lines in the applicationContest-jobs.xml file that ships with CloudPortal.

Who Can Schedule Batch Jobs

If you have write permission on the XML files, you can schedule batch jobs.

Caution: As a best practice, only the system administrator should edit these files.

How to Schedule Batch Jobs

1. Go to the /usr/share/cloud/portal/webapps/admin/WEB-INF/lib/ directory, copy the "vmops.admin-1.0-SNAPSHOT.jar" file to "/tmp" directory

2. Extract the jar file "vmops.admin-1.0-SNAPSHOT.jar"

3. Copy the "applicationContext-jobs.xml" and "applicationContext-scheduler.xml"

4. Edit "applicationContext-jobs.xml" and modify the XML elements for each job you want to work with. Typically, you will only edit the cronExpression property of an existing element. Follow the pattern in the file. If you need more help, see Job Scheduling Syntax in "applicationContext-jobs.xml".

5. Edit "applicationContext-scheduler.xml" and be sure that every trigger ID defined in "applicationContext-jobs.xml" is listed in the "triggers" property of the org.springframework.scheduling.quartz.SchedulerFactoryBean bean element. If you need more help, see Job Scheduling Syntax in "applicationContext-scheduler.xml."

6. Copy these to files to "/usr/share/cloud/portal/webapps/admin/WEB-INF/classes/"

7. Proceed to further steps in configuring the batch jobs.

Batch Job Scheduling Syntax

It is not anticipated that this syntax will change, but it is possible that the documentation below might be slightly out of sync with your particular version of CloudPortal. If there is any question, consult the syntax notes in the batch job XML files that came with your version of CloudPortal.

Job Scheduling Syntax in applicationContext-jobs.xml

The file applicationContext-jobs.xml consists of a series of <bean> elements defining jobs and their scheduling.

The element for the batch job has this syntax:

```
<bean name="descriptiveName" class="org.springframework.scheduling.quartz.JobDetai
<property name="propertyName" value="value"/>
</bean>
```

The element for the scheduling has this syntax:

```
<bean id="triggerId" class="org.springframework.scheduling.quartz.CronTriggerBean"
<property name="jobDetail" ref="descriptiveName"/>
<property name="propertyName" value="value"/>
                </bean>
```

Table 1. Attributes of batch job <bean> element

Name	Required?	Description
Name	YES if class=JobDetailBean	A unique ID by which the <bean> element can be referenced. This value is used in the jobDetail property of the companion element that specifies the trigger for this job.
ID	YES if class=CronTriggerBean	A unique ID by which the <bean> element can be referenced.This value is used when declaring the trigger in applicationContext-scheduler.xml.

| Class | YES | The class in the Spring framework that provides the basis for this code. For a job element, this is org.springframework.scheduling.quartz.JobDetailBean. For a trigger element, this is org.springframework.scheduling.quartz.CronTriggerBean |

Table 2. <property> elements in batch job <bean> elements

PropertyName	Required?	Description
jobClass	YES if class=JobDetailBean	The value attribute is a class in com.vmops.jobs that contains code for the job.
jobDetail	YES if class=CronTriggerBean	The ref attribute is a <bean> tag's descriptiveName defined in this file that tells what job to run when this trigger occurs.
cronExpression	YES if class=CronTriggerBean	The value attribute is a time expression telling when and how often to run the job. See table below. **Note:** The cronExpression is the only part of the batch job files that you are likely to edit.
Volatility	YES	True | False
misfireInstructionName	YES if class=CronTriggerBean	A fallback instruction name. Do not edit this element.
requestsRecovery	YES if class=JobDetailBean	True | False

A time expression is made up of the following parts. Some example expressions are listed in Table 5 below.

Table 3. Time expression syntax for scheduling batch jobs

Field Name	Mandatory?	Values Allowed	Special Characters Allowed
Seconds	YES	0-59	, - * /
Minutes	YES	0-59	, - * /
Hours	YES	0-23	, - * /

Day of Month	YES	1-31	, - * ? / L W
Month	YES	1-12 or Jan-Dec	, - * /
Day of Week	YES	1-7 or SUN-SAT	, - * ? / L #
Year	NO	Empty, 1970-2099	, - * /

Table 4. Special characters in time expressions

Character	Meaning
L	Last day of the month or last day of the week. Add a value from 1-7 to indicate the last day of that type in the month; for example, 6L specifies the last Friday of the month.
W	The weekday within the current month that falls on or soonest after the given date. For example, if the 15th of the month happens to fall on Sunday, then 15W will cause the job to run on Monday, the 16th. Be careful when using W near the end of the month, as it can cause the job to be skipped. For example, 30W will never run in months where the 30th is a Saturday.
#	The number following # indicates the nth day of a given type in the month. For example, 3#2 specifies the second Tuesday of the month, because 3 means Tuesday and #2 means second.
,	Delimiter in a list of values from the allowed range. For example, MON,WED,FRI.
-	Separates the lower and upper bounds of a set of values from the allowed range. For example, MON-FRI.
*	Any value in the allowed range.
?	Ignore the value of this field when evaluating the expression. This is useful when two parts of the expression might otherwise come into conflict. For example, to make sure a job runs on the 15th of every month regardless of the day of the week, use ? in Day of week and 15 in Day of month.
/	Separates a starting time from an increment amount. For example, 2/10 will run a job every 10 minutes starting at 2 minutes past the hour.

Table 5. Example time expressions for scheduling batch jobs

Time Expression	Meaning
0 0 12 * * ?	12pm (noon) every day
0 0/5 14 * * ?	Every 5 minutes starting at 2pm and ending at 2:55pm, every day
0 15 10 ? * MON-FRI	10:15am every Monday, Tuesday, Wednesday, Thursday and Friday
0 15 10 L * ?	10:15am on the last day of every month
0 15 10 ? * 6L	10:15am on the last Friday of every month
0 0 0 15W * ?	Midnight on the 15th, or closest following weekday, of every month
0 11 11 11 11 ?	Every November 11th at 11:11am

More time expression examples can be found in the applicationContext-jobs.xml file.

Job Scheduling Syntax in applicationContext-scheduler.xml

In the file applicationContext-scheduler.xml, be sure that every trigger ID defined in applicationContext-jobs.xml is listed in the "triggers" property of the element where class="org.springframework.scheduling.quartz.SchedulerFactoryBean".

```
<bean class="org.springframework.scheduling.quartz.SchedulerFactoryBean">
<property name="triggers">
<list>
<ref bean="triggerId" />
...
</list>
</property>
```

The triggerId is declared as described in Job Scheduling Syntax in applicationContext-jobs.xml.

Scheduled Batch Jobs in CloudPortal

Job Manager (MANAGER)

This is a scheduled job that manages the other usage process jobs. This job is scheduled to be run every day at 01:00 GMT.

Dependency: This job does not have dependencies with other jobs. However, the jobs that Job Manager manages depend on the success of this job.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: This job can be optionally restricted to run by changing the value of the configuration parameter run.job.manager to False. In the CloudPortal UI, go to Administration > Configuration > Account Management. Change the run.job.manager parameter value to False.

Job Manager includes the following jobs:

Usage Replication (REPLICATION)

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Usage Process ()

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Augmentation

Payment Run (PAYMENT_RUN)

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Populate Billing (BILLING)

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Invoice Generation (INVOICE)

This is an independent job that runs on the second day of the month at 23:00 GMT. This job generates invoice for all accounts.

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Spend Limit (SPENDLIMIT)

This is an independent job that runs daily at 04:10 GMT. This job reads the data populated by the Usage Process job, compares the data with limits set for each entity, and then sends alert notifications.

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Daily Custom (DAILY_CUSTOM)

Trial Expiration (TRIAL_EXPIRY)

This is an independent job that runs every day at 03.10 GMT.

Dependency: None.

Success Indicator: The Batch Runs page shows the status of this job as Success.

Configuration: None.

Account Suspension (ACCOUNT_SUSPENSION)

This is an independent job that runs every day at 22:00 GMT. This job checks all the accounts and changes the state of the account according to the rules below:

Change the state to RESTRICTED if the duration of non-payment exceeds the Invoice date + payment.failure.alert.threshold + account_restriction_grace_period.

Change the state to SUSPENDED if the duration of non-payment exceeds the Invoice date + payment.failure.alert.threshold + account_restriction_grace_period + account.suspension.alert.

Change the state to TERMINATED if the duration of non-payment exceeds the Invoice date + payment.failure.alert.threshold + account_restriction_grace_period + account.suspension.alert + account.termination.alert.

Change the state back to ACTIVE if state is not already ACTIVE and payment is made within a duration defined by the Invoice date + payment.failure.alert.threshold + account_restriction_grace_period.

 Note: While activating any account it is not taken into consideration whether the account was suspended/restricted/terminated manually.

Dependency: None.

Success Indicator: The Batch Jobs page shows the status of this job as Success.

Configuration: The following configuration parameters are provided:

account.suspension.alert - Second account suspension alert/e-mail (in number days after an account is suspended)

account.termination.alert - Account termination alert/e-mail (in number days after an account is terminated)

Turning Off Usage and Rating Batch Jobs

For maintenance purposes, you might need to temporarily stop batch jobs from running. You can stop the batch jobs related to rating and usage by clicking Administration > Configuration > Account Management in the CloudPortal UI and setting the configuration parameter run.job.manager to false. The other batch jobs will continue to run.

Caution: Remember to set the parameter back to true to restore CloudPortal's ongoing usage tracking and billing functions.

Customizations

Modifying Email Templates

CloudPortal sends a variety of automatically generated Emails to internal personnel and customers. To change the content of these Emails, modify the .VM files supplied with CloudPortal in classes/velocity/mail_templates. Given below is a list of Email aliases that CloudPortal provides.

> **Note:** To edit the Email address to show in the From or To fields, click **Edit** and enter a new Email address of your choice.

Account Provisioning

vmops.ApprovalRequest.Email: The default value for this is accounts-request@vmops.com. This is the Email address to display in the From field of the welcome Email for a new Corporate account.

Billing

vmops.billingUpdate.Email: The default value for this is billing-update@vmops.com. This is the Email address to display in the From field of Emails sent to customers when corporate accounts are activated.

CRM

vmops.sales.Email: The default value for this is sales@vmopsdev.net. This is the Email address to display in the From field of Emails sent to customers when Retail Post-paid accounts exceed credit limits.

vmops.sales.support.Email: The default value for this is vmopscloud@gmail.com. This is the Email distribution list for the sales support team.

vmops.finance.Email: The default value for this is no-reply@vmops.com. This is the Email alias for the Finance group.

Help Desk

vmops.support.Email: The default value for this is no-reply@vmops.com. This is the Email address to display in the From field of outgoing Emails sent to customers. For example, support@abc.com.

vmops.helpdesk.Email: The default value for this is vmopscloud@gmail.com. This is the Email address to be used to support the mail2case functionality.

Server

admin.support.Email: The default value for this is vmopscloud@gmail.com.

vmops.internal.Email: The default value for this is no-reply@vmops.com. This is the Email address to display in the From field of internal Emails.

vmops.error.notification.from: The default value for this is no-reply@vmops.com. This is the Email address to display in the From field of error notification Emails.

vmops.error.notification.to: The default value for this is no-reply@vmops.com. This is the Email address to which error notification Emails are to be sent.

Email Templates and Notification Triggers

CloudPortal sends out Email alerts and notifications to users in certain instances. Given below is a list of Email alerts sent, when they are triggered, who they are sent to, and the corresponding templates used in such Email messages.

What Does the Email Pertain to?	When is the Email Sent?	Who is it Sent to?	Velocity Template
Change Account Type	Upon changing account type	Customer Master User	account_converted.vm
Change Account Type	Upon changing account type	Portal finance alias	account_converted_admin.vm
Manual account activation request	Upon creation of manual activation type of account	Portal approval request alias	account_activation_request.vm
Account activation Email	Upon account activation	Customer Master User	account_activate.vm
Account reactivation	Upon account reactivation	Customer Master User	account_reactivate.vm
Account restriction e-mail	Upon account restriction	Customer Master User	account_restrict.vm
Account suspension e-mail	Upon account suspension	Customer Master User	account_suspend.vm
Account termination e-mail	Upon account termination	Customer Master User	account_terminate.vm
Payment failed count less than payment failure thresh hold.	Based on auto pay payment failure counts	Portal sale Email alias	payment_failed.vm
Billing update e-mail	Account activation time for manual activation account types	Portal billing update alias	billing_update.vm
Credit exposure marker Email	Upon multiple of Credit Exposure marker is crossed	Portal sales alias	credit_exposure_marker_level.vm

Credit card fraud checker Email	Upon multiple of Credit Exposure marker is crossed	Portal sales alias	credit_exposure_marker_level.vm
Credit card fraud checker Email	Upon credit card transaction failed and/or was declined with high risk	Admin support alias	creditcard_fraudcheck.vm
Destroy VM fails	Upon destroy VM call fails	Error notification alias	destroy_vm_failed.vm
Job failed	Sent when any scheduled job fails	Admin support Email	job_failed.vm
Orphaned VM creation	Email sent when orphaned VM created	Error notification alias	orphaned_vm_created.vm
Payment failed count greater than payment failure thresh hold	Based on auto pay payment failure counts	Portal billing update alias	payment_failed_notification.vm
Pending change rejection	Upon rejection of pending changes	Customer Master User	pending_change_reverted.vm
Report	Upon send report request	Customer User	report.vm
Reset password	Upon request for resetting password	Any user	reset_password
Spend breach alert	Upon crossing spend breach	Sales	spend_limit_breach_alert.vm
Spend limit cross notification	Upon crossing the spend threshold	Portal billing update alias	spend_limit_credit_notify.vm
Spend limit crossed suspension Email	When spend limit crosses 100%	Customer Master User	spend_limit_crossed_service_suspended_notification.vm
Spend limit crossed suspension Email	When spend limit crosses 100%	Sales	spend_limit_crossed_service_suspended.vm
Spend limit warning Email	Upon threshold crossed for different alerts	Customer Users	spend_limit_warning.vm

Support ticket Email	Upon creation of a ticket	Portal help desk	support_ticket
Trial expiry Email	Upon trial expiry	Customer Master User	trial_expired
Trial expiry Email	Upon trial expiry	Portal sales alias	trial_expired_notification.vm
Trial expiry warning Email	Email sent when trial accounts are nearing expiry	Customer Master User	trial_expiry_warning.vm
Verify alert Email	Email address verification Email for Alerts	Any user	verify_email.vm
Verify Email	When users signup or new users are added	Any user	verify_email.vm
VM creation Email	Upon VM creation	Any user	vm_creation.vm
Welcome Email	Upon sign up	Customer Master User	welcome_email.vm

Custom Service Provider Logo and Favicon

As a service provider, you can have your custom logo displayed in CloudPortal. For the custom logo to appear, follow these steps:

1. Log in to CloudPortal as the Root User.

2. Go to Administration > Configuration > Server > images.logo.dir.

3. Set the custom parameter to /custom/images.

4. Go to Customize Logo (in the drop-down menu on the top right corner).

5. Browse to Company Logo.

6. Browse to Favicon.

7. Click Submit.

Custom Logo in Email Templates

For the custom logo to appear in Emails, follow these steps:

1. Place the custom logo at webapps/portal/custom/images/logo.png on the Unix box.

2. In CloudPortal, navigate to Administration > Configuration > Server > images.logo.dir.

3. Set the custom parameter to /custom/images.

4. Restart the CloudPortal service. To restart the CloudPortal service, enter service restart cloud-portal on the VM console.

Setting Service Terms and Conditions

Each new customer that signs up through your portal agrees to abide by your service's Terms and Conditions. These Terms can be displayed at any time by clicking the Terms of Use link in the CloudPortal UI.

To provide your own Terms and Conditions:

1. Place the Terms and Conditions file in a location where it is accessible to CloudPortal. For example, classes/velocity/terms.

2. In the config.properties file, set the vmops.termsAndConditions parameter to the location of the file.

Customizing the Dashboard

The upper portion of the Dashboard shows summary statistics about product usage. You can customize this display by selecting which products should be represented. You can choose from any of the products defined in your CloudPortal installation (these are listed in the products table in the CloudPortal database). In practice, it makes the most sense to choose the system-defined products that represent broad categories of usage, such as VMs, volumes, and network bytes.

To specify which product statistics to show in the Dashboard:

1. Set the following parameters in the configuration file /etc/cloud/portal/cloud.properties. Each parameter is set to a product code name which you defined when creating the product (in the Product Code field of the Add Product dialog).

   - dashboard.stats.location.x1y2

   - dashboard.stats.location.x1y3

   - dashboard.stats.location.x2y1

   - dashboard.stats.location.x3y1

   For example:

   ```
   # Top 3 frames
   # x1y1 is not configurable. It is always used to display VM statistics.
   dashboard.stats.location.x1y2=SYSTEM_VOLUME
   dashboard.stats.location.x1y3=SYSTEM_NETWORK_BYTES

   # middle frame
   dashboard.stats.location.x2y1=SYSTEM_IP

   # bottom frame
   dashboard.stats.location.x3y1=SYSTEM_LOAD_BALANCER_POLICY
   ```

2. Set the following parameters in the file ApplicationResources.properties. These specify the labels to appear on each product display.

   - ui.home.page.stat.x1y2.title

   - ui.home.page.stat.x1y3.title

   - ui.home.page.stat.x2y1.title

   - ui.home.page.stat.x3y1.title

   For example:

```
ui.home.page.stat.x1y2.title=Storage
ui.home.page.stat.x1y3.title=Bandwidth
ui.home.page.stat.x2y1.title=IP Address
ui.home.page.stat.x3y1.title=Load Balancer Policy
```

Monitoring and Maintaining CloudPortal

Dashboard

The dashboard provides a summary view which varies depending on which user is logged in. When your CloudPortal installation is first set up, the gadgets and displays that are included in the dashboard for each user in your company are customized depending on your business needs. For example, an ops admin might be most interested in displays related to system health, while the finance administrator might prefer to see reports about customer signup levels and usage.

Who Can Use the Dashboard

Every user, no matter their role, has a dashboard. The content varies depending on which user is logged in. For example:

- The Master User of a customer account can see the users in that customer account.

- Customers can see spend vs budget and spend by type reports.

- The service provider's root user or Ops Admin user sees reports on new registrations and top customers.

How to Use the Dashboard

1. Display the dashboard in one of the following ways:

   - Log in to CloudPortal, and the dashboard is the first screen you see.

   - At any time while using CloudPortal, you can return to the dashboard by clicking Home - Dashboard.
2. From here, the things you can do depend on the permissions in your user profile. If you do not see a particular button or link described below, then you do not have the required permission.

   - Click Launch Cloud Console to display the CloudStack administrator UI. For more information, see the CloudStack Administrator's Guide.

   - In Capacity Overview, you can see how much of the resources in your cloud are being used. Use the dropdown lists to change the display to a different zone and pod.

- In Customer Summary, view graphs of statistics about customer activity. Click the tabs (such as New Registrations, Top Customers) to see different summary graphs. Click Complete Report to get more details, see additional reports, and apply date filters. See Viewing Reports.

- In Service Health, get an at-a-glance summary of your cloud infrastructure's status. Click View Details to find out more. See Viewing and Setting Service Health.

- In Notifications, see a summary list of recent alerts about events in your cloud. Click More to see all notifications that are visible to your user role. See Viewing Notifications.

Viewing and Setting Service Health

The status of your portal can be summarized in an overall rating called "health." The health status is set manually. It is visible to customer users and users within your organization who have the required permissions. Service health is a quick way to let your own personnel and customers know how the system is doing.

Who Can View and Set Service Health

Most users can see the service health. If you have the Ops Comm permission, you can set the service health.

How to View and Set Service Health

1. Click Home, and you will see the service health icon in your dashboard. This gives an at-a-glance indication of whether the service is up or down. Click the Details link to display the Service Health screen.

   You can also go straight to the Service Health screen by clicking Administration > Service Health.

2. What you can do from here:

   - Choose an entry in the status history list to see more details about that event lower in the screen.

   - Click Add Status to change the current status of the service. Choose the Zone that the status applies to. In Type, choose the degree of severity: Issue for the yellow icon, Disruption for the red icon, or Resolution for the green icon. Provide a descriptive Subject and Description—the purpose of setting system health is to communicate with users. When finished, click Add Status.

   - Click Add Scheduled Maintenance. See Scheduled Maintenance.

Viewing Notifications

CloudPortal provides a variety of notifications about both routine events and issues that require attention. Notifications are displayed in the UI and also sent to whatever Email address you specify. We won't attempt to describe every possible notification here, since they are numerous and also come with their own descriptive text. If you need more information about a particular notification, check the resources listed in Where can I find information on troubleshooting? Notifications come from two sources:

- CloudPortal events and alerts, such as the creation of a new account.

- CloudStack events and alerts which are passed through from the underlying infrastructure.

Who Can View Notifications

Most users at a CloudPortal service provider can view at least some of the notifications. The notifications that are displayed vary according to who is logged in. For example, a user with the Ops Comm permission will see notifications about system health, whereas a user with the Account Manage permission will see notifications related to customer activity.

How to View Notifications

Notifications are available in a variety of ways.

Click Home, and you will see a summary of recent notifications on your dashboard. Click the More link to display the All Notifications screen.

Click the Notifications link in the top menu bar. This also displays the All Notifications screen.

If you have subscribed to receive notifications in Email, view them in your Inbox. See How to Subscribe to Notifications.

How to Subscribe to Notifications

1. If you are not already looking at the All Notifications screen, click the Notifications link in the top menu bar.

2. Click Manage Notification Preferences.

3. Fill in your Email address.

4. Click Add Email.

Scheduled Maintenance

When you anticipate the need to take a zone offline for necessary modifications, you can schedule a maintenance window. The maintenance window schedule is visible to customer users and users within your organization who have the required permissions. This provides a way to let your own personnel and customers know when to expect possible service interruptions as well as improvements in the service.

Who Can Set Up Scheduled Maintenance

If you have the Ops Comm permission, you can set up scheduled maintenance.

How to Set Up Scheduled Maintenance

1. Choose Administration > Service Health.

2. Click Add Scheduled Maintenance.

3. In Zone, choose the CloudStack zone where the maintenance will take place.

4. In Start and End, set the time window during which maintenance will take place. In each field, use the calendar control and time sliders, then click Done.

5. In Subject and Description, provide information for your users to explain what is going on during the maintenance window. Typically, either an issue is being repaired or an upgrade is being performed to provide new features.

6. Click Schedule. The new event should show up under Scheduled Maintenance in the Service Health screen.

7. If you need to change the timing or delete the maintenance window, you can click Edit or Delete under Scheduled Maintenance in the Service Health screen.

Timezone Setting for Scheduled Maintenance

To ensure that scheduled maintenance activities get created correctly, set the appropriate timezones for users.

Timezone Setting in the CloudPortal UI

For existing user accounts, go to My Profile > Preferences. Click Edit. Select the desired timezone from the drop-down entries.

To set the timezone for new accounts, set the appropriate value for the vmops.portal.default.user.timezone parameter.

1. Log in to CloudPortal as the root user.

2. Go to Administration > Configuration > Server.

3. Filter the Server parameters by Portal.

4. Set the desired value for vmops.portal.default.user.timezone. For example, set Japan if you want the timezone setting to be JST.

Timezone Setting in the Database

If you have several users in an account, and if you wish to run a single SQL query to set the timezone for these users in the database, you can change the the timezone setting in the database. Timezones are set in the user_time_zone column of the cloud_portal.users table in the database.

Note: In addition to running the SQL query above, you must change the default timezone in the UI as explained above to ensure that new accounts have the correct timezone.

Starting and Stopping CloudPortal

To start, stop, or restart CloudPortal, log in as root to the host where CloudPortal is running and use one of the following commands.

Start

```
# service cloud-portal start
```

Stop

```
# service cloud-portal stop
```

Restart (stop, then start again)

```
# service cloud-portal restart
```

Troubleshooting

Detecting Issues

CloudPortal provides a variety of ways for you to be made aware of any issues that arise, including the dashboard, system health display, and notifications. See Monitoring and Maintaining CloudPortal.

Log File

The CloudPortal log is located at /var/log/cloud/portal/.

Additional Resources

If you can't find a solution in the documentation, contact support@cloud.com. Please send any relevant logs, error notification messages, screen shots, and the steps to replicate the issue. Send the URL of your portal page as well.

Can't Log In

Symptom:

The Login screen is redisplayed, rather than the Dashboard, even after you have input a correct user ID and password.

Solution:

There is more than one possible cause and solution.

- Single sign-on not configured properly. CloudStack and CloudPortal must be configured with the same SSO key, as described in the Installation Guide.

- System time on the CloudPortal and CloudStack servers is not configured properly. Make sure the times are set to within 10 minutes of each other.

- You are logging in with a new user ID that you just created for testing purposes, and you did not log out of CloudPortal before clicking the confirmation link in your welcome Email. When you send new-user welcome Email to yourself, be sure to log out of CloudPortal before checking your Email. Attempting to log in with two user IDs at the same time can cause the new user account to fail.

FAQs

Where can I find information on troubleshooting?

This FAQ focuses mostly on how-to questions. If you need to resolve an issue, try Troubleshooting.

If you can't find a solution in the documentation, contact support@cloud.com. Please send any relevant logs, error notification messages, and screen shots, as well as the steps to replicate the issue and the URL of the portal page where the issue occurred.

How do I assign permissions to users?

Each user has a profile, which is a named set of permissions that determines what tasks the user can perform in the portal.

To set the permissions for each profile, see Defining Profiles.

To assign a profile to a user, see Adding a User.

How can I see a customer's current balance?

If you have the Account Manage permission, you can view customer account information. To see the current credit balance, choose Accounts > All Accounts. Select the desired customer in the list. The customer's details appear below, including the current positive balance (credit) in the customer's account. This reflects only credits that have been applied to the customer account with the Issue Credit link. For more about credits, see Refunds.

To check on the volume of resources being used by a customer, choose Accounts, then click the customer's name in the dropdown. Click the Usage & Billing tab. The Activity & Invoices list shows all resources consumed. If the resources were included as entitlements in a product bundle, the monetary amount next to the usage will be 0. Otherwise, the utility rate charges that the customer has incurred are shown. For more about how to use the Activity & Invoices screen, see Viewing Activity & Invoices.

How do I set the price for a product?

There are two sorts of pricing you might want to set for a product:

- Charges that a customer will pay when using the product as part of a product bundle subscription. See How to Set Product Bundle Prices.

- Utility rates that a customer will pay when usage is being metered by the unit. Utility rates go into effect when the customer's subscription entitlements have been exceeded or when the subscription includes no entitlement to any packaged amount of use for the product. See Setting Utility Rates.

Can I change another user's profile photo?

If you have the "Profile Create/Manage" permission, you can modify other users' profiles, including their photos. Please do so responsibly. Unless you work in a very informal environment, it is usually best to let others set their own profile images.

For the how-to, see Modifying User Details.

Can I export reports?

CloudPortal can export reports in a variety of ways:

- PNG

- JPEG

- PDF

- SVG

- Send an Email

Click Home. In the Customer Summary part of the Dashboard, click Complete Report. Click the tab for the report you want, use Parameters to apply a date filter (optional), then click one of the Export buttons.

What are the APIs blacklisted by CloudPortal?

CloudPortal disables certain APIs by default. APIs are blacklisted to prevent CloudPortal users with API keys from creating CloudStack accounts directly on CloudStack.

By default, the APIs listed below are blacklisted by CloudPortal. Although it is possible to call these APIs directly on CloudStack, it will cause inconsistency between CloudPortal and CloudStack and should be avoided.

- createUser

- deleteUser

- updateUser

- enableUser

- disableUser

- createAccount

- deleteAccount

- updateAccount

- enableAccount

- disableAccount

How do I know what a customer has bought?

Click Accounts, choose the customer's account from the list, click Usage & Billing, then click Subscriptions. The ongoing subscriptions are ACTIVE, and past subscriptions are CANCELED or EXPIRED.

Which SFDC edition is required to raise trouble tickets?

To raise trouble tickets with SFDC (Salesforce), you must use the Service Cloud Enterprise Edition. For more information on SFDC and its editions, go to Salesforce.

Why can't I use the SFDC Professional edition for trouble tickets?

The API support for system integration is not available as part of the SFDC Professional edition.

How many users will I need for the SFDC Enterprise edition?

If your support personnel visit only CloudPortal and not the SFDC interface, two users should suffice.