Simplify cloud services delivery and business management with CloudPortal Business Manager

Deliver a broad array of cloud services and unify the commerce, user management, service provisioning and operational aspects of running a cloud with a single, comprehensive cloud business platform.
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This white paper provides an overview of key concepts within Citrix CloudPortal Business Manager and how it enables cloud service providers and enterprises to simplify services delivery and business management.

Introduction
Enterprises and cloud service providers have focused most of their initial cloud strategies on infrastructure as a service (IaaS), but as adoption continues and use cases expand, clouds are quickly evolving beyond IaaS. While the majority of enterprise employees still use traditional IT-driven services, ad hoc adoption of business and personal cloud services by users has reduced IT visibility and control. IT can no longer ascertain where corporate data is stored, where VMs run, which apps are used and how users communicate. In response, IT departments are redefining cloud strategies to expand beyond the basic infrastructure to an all-encompassing IT as a service (ITaaS) model so they can centrally manage and deliver multiple cloud or IT services.

At the same time, service providers are looking for ways to keep their clouds competitive. They are realizing that growing share in a highly competitive market with an abundance of service providers is certainly challenging. One way cloud operators can differentiate their offering is by delivering additional cloud and IT services such as storage, platforms, apps and more. A broader services portfolio can also help service providers reduce churn and increase customer stickiness.

To achieve these goals, enterprises and service providers need a solution that enables on-demand access to internal, external and third-party cloud and IT services through a unified self-service catalog, while unifying the operations and management aspects of the cloud under a single, integrated cloud business manager.

Enterprises look at the ITaaS model
Enterprise IT has traditionally delivered few “IT-certified” applications to users. However, more workers are embracing third-party business and personal cloud services through grassroots projects, ad hoc adoption and consumerization. In the wake of new cloud services entering the workplace, IT departments are concerned with how to maintain security, compliance, auditing and support standards. They also struggle to fulfill increased requests from business units for new IT services and from users for on-demand services.

Traditional provisioning and management of requests for infrastructure and applications have been manual or minimally automated processes, even though users have demanded instantaneous responses. As a result, IT is perceived as a bottleneck and an impediment to business progress.

To respond to these challenges, IT departments are looking for a solution to deliver legacy as well as next gen IT services on demand with a consistent and unified ITaaS model.
Service providers look for a unified cloud business management

Meanwhile, service providers face increased price pressure from their competition, resulting in razor-thin margins that impact profits. At the same time, emergence of global cloud leaders and the abundance of new cloud providers have decreased customer loyalty.

Service providers are looking for ways to grow their share of a highly competitive market by offering a broader array of cloud services. They are also aiming to strengthen customer loyalty by providing multiple cloud service offerings in addition to Infrastructure as a service from a single pane of glass, which will help differentiate them from other service providers.

Service providers also worry about how to scale efficiently and manage the complexity of integrating all the customer, commerce and orchestration aspects of a cloud business. Legacy service delivery platforms designed for infrastructure-based hosting services are not adaptable to a service-oriented cloud business model.

What is CloudPortal Business Manager?

CloudPortal Business Manager is an integrated cloud services delivery and business management platform that facilitates the journey to the IT as a service model by managing and delivering a broad array of cloud or IT services through a single, self-service cloud services catalog.

With CloudPortal Business Manager, organizations can aggregate multiple infrastructure, cloud, IT or value-added service and enable users to provision them and manage accounts through a simple, self-service portal. An extensible architecture makes it easy to deliver a broad array of internal, external and third-party cloud services and integrate the solution with existing business, operations and IT systems.

Figure 1: CloudPortal Business Manager capabilities
Key concepts within CloudPortal Business Manager

CloudPortal Business Manager is primarily designed for cloud service providers (CSP). A CSP is responsible for making IT infrastructure, a development platform or applications available as a service to interested parties. Examples include a telecommunications (telco) company or a traditional service provider offering web hosting and managed hosting services, or the IT department within an enterprise that acts as an internal service provider.

Now let’s talk about the key concepts within CloudPortal Business Manager that help CSPs simplify cloud business management and cloud services delivery.

Business and operations systems automation

CloudPortal centralizes user management CRM, billing, pricing, reporting and support services into a comprehensive cloud business management platform. The extensible framework makes it easy to plug CloudPortal Business Manager into internal and external business systems.

CloudPortal offers native product and service management capabilities. Cloud administrators can model anything that is metered in the underlying cloud as a product within CloudPortal Business Manager.

Product

A product is a unit within a service that is consumed by a Customer. Products are generally of two types:

- Metered (or usage generating) – Products are tracked for actual usage for a customer account and rated with a usage price, based on a unit of measure (UOM). An example is $0.0025 per GB / month for internet data transfer, where GB / month is the unit of measure for the product internet data transfer. With metered products, usage for a Customer’s account resets to zero at the beginning of each billing period.

- Quantity based – Products are priced based on quantities – per unit, on volume or tiered.

For example, it is common for hosted applications to be priced based on the number of users provisioned into them. Hosted Microsoft Exchange might be charged at:

- [Unit] $5 per user / month, or
- [Volume] $100 for a 25-user pack / month, with each additional user charged at $5 / month, or
- [Tiered] $5 per user for up to 25 users; $4 per user for 25 – 100 users and so on

Here, quantities do not reset to zero at the beginning of each billing period.
Bundle

A bundle allows a customer to subscribe to a collection of products within a service, or multiple services, as part of a single transaction. It is typically selected by the customer to obtain additional pricing and service-level benefits from the CSP.

Bundles comprising one or more products with a service could be defined as **product bundles**. For a promotion or to simplify customer onboarding, a CSP may offer many services as part of a bundle. Such a combined offering is known as a **service bundle**.

Subscription

A subscription is a purchasing action taken to receive access to a service or service bundle. A subscription can go through an **approval workflow** for a request to create or terminate a subscription to a bundle or service.

Catalog

A catalog presents a collection of bundles that can be grouped by service family or category (e.g., IaaS). A Customer can browse by category and sub-category and search for relevant service plans and bundles of interest. E.g. a user select Infrastructure -> Small/Medium/Large/Extra-large Instance -> Running on XenServer Hypervisor -> With an Operating System of Windows 7 and will get presented with a list of available templates with that selection criteria.

![CloudPortal Business Manager catalog](citrix.com)
Workflow management

A workflow in CloudPortal Business Manager is a multi-stage approval and task management system. It can be injected into a business transaction processed by CloudPortal Business Manager.

CloudPortal Business Manager supports a rich workflow model to address several business cases such as Customer on boarding, Subscription activation, Payment method change, Account type change request.

For example, if a customer has a requirement for multiple reviewers prior to the provisioning of a new service subscription, that can be accommodated by CloudPortal Business Manager workflows. Additionally, all actions related to workflow activities are logged for later review.

![Approval workflow](image)

**Figure 3:** Approval workflow

Customer management

Customer Type

CloudPortal Business Manager supports three major types of customers for a CSP:

- **Corporate** – Billing is handled out-of-band of CloudPortal Business Manager through a pre-existing billing mechanism. Payments are typically against invoices per terms due. CloudPortal Business Manager will only provide rated usage feeds to the billing mechanism. Typically, a corporate customer goes through a manual on boarding process outside CloudPortal Business Manager before the account is activated for use.

- **Retail** – Billing is handled by CloudPortal Business Manager by charging the credit card linked to the customer account through integration with a payment gateway. Typically, a retail customer creates a self-service account and obtains approval with a valid credit card.
Trial – A trial customer is has been activated (via self-service or assisted workflow) in CloudPortal Business Manager for a specific trial period, during which he can test drive the CSP’s services. Trials are bound by specific spend and resource limits and restricted to a subset of items in the service catalog. Upon expiration of the trial period, the customer can convert to either corporate or retail status.

A CSP can also create sub-categories of customers. For example, the corporate category could be segmented into enterprise, mid-market and SMB.

Role-based access control

Role-based access control in CloudPortal Business Manager enables a user to perform specific operations based on his role and the associated permissions.

Profiles and permissions

CloudPortal Business Manager supports the concept of a profile, which is a set of permissions saved under a profile name, such as administrator or manager. Every user is assigned a profile when he or she is added to the portal. 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 prone to error than setting individual permissions for every user. Profiles also ensure that multiple users with equivalent duties and needs are all granted the same permissions. For example, administrators most likely will grant the “Create Customer Account” permission for the sales profile but not for the help desk profile.

Figure 4: Profiles and permissions

Billing

Billing period

Generally the span of time between two billings, the billing period provides the basis for determining how long usage allowances last before they are reset to zero (for example, an allowance of 100GB of internet data transfer for each billing period).
Billing periods are typically a month long and often run from the first to the last day of the calendar month. This scenario is sometimes referred to as **calendar month billing**. CloudPortal Business Manager also supports different billing start and end dates, such as from January 5 to February 5.

Billing Periods can also run for N days, where N is a configurable number (typically 30), and can begin on the day when the customer tenant account was activated. This scenario is sometimes referred to as **anniversary billing**. Billing periods also serve as a basis for the duration of a pricing promotion.

Typically, a customer invoice is generated at the end of each billing period.

**Billing process**

1. CloudPortal Business Manager collects raw metered data that is “business unaware” from the perspective of billable information.

2. CloudPortal Business Manager applies mediation rules and rate cards on raw data that it aggregates from the underlying cloud service and converts it to billable format. For example, CloudPortal will convert raw data such as “Account ID 1 used VM ID 2 for an MTD today of 44 hours” to “Customer ACME month to date spend is $2,000, of which the marketing team spend is $1,000, of which user John Doe has spent a total month to date of $500 that breaks down into 3 small VMs for a total of 100 hours for $100, etc.)

3. After the billable information has been generated, CloudPortal Business Manager can either send it as structured data to integrated accounting systems for consolidated billing, or in the case of retail customers, charge customers directly through its integration with payment gateway(s).

4. CloudPortal Business Manager does not store any billing-related sensitive information and relies on the payment gateways to store it, avoiding issues such as PCI compliance.

**Spend management**

From a cloud end user perspective, spend management is a key feature when using a cloud service. On the user’s home screen, current subscription status, usage and budget are clearly shown, and users can define alerts to prevent accidentally exceeding their budget.

![Figure 5: Spend management](citrix.com)
Customer management

CloudPortal offers built-in native CRM capabilities that provide full visibility into all customers in the deployment, including their usage, activity, VMs, users and billing history. It also allows administrators to perform actions such as issue service credit, change status (from Active to Suspended) and surrogate cloud actions such as launch VM, etc.

CloudPortal Business Manager also ships with a number of reports to address core business requirements, and includes the ability to define custom reports and enable real-time budget management.

CloudPortal Business Manager is integrated with Salesforce.com Service Cloud, which is used to log requests for support (trouble tickets) from customers. With the CloudPortal Business Manager trouble ticketing UI, users can view and submit trouble tickets, which will be stored in Salesforce. Trouble tickets that were created in either CloudPortal Business Manager or Salesforce are visible in both.

Fraud control and identity verification

CloudPortal Business Manager helps cloud operators prevent fraudulent activities with built-in account verification, password policies, domain white/black listing and account spend limits. Third-party plug-ins allow you to add protection measures including phone verification, credit card verification, CAPTCHA verification and GEO-based IP address rules. The tool also includes operation business support services from MaxMind, ThreatMatrix and TeleSign to support identity verification steps and prevent fraud.

![Figure 6: Identity verification](image)
Enable the journey to IT as a service

CloudPortal Business Manager enables cloud service providers and enterprises to deliver a broad array of services such as IaaS, platform as a service (PaaS), software as a service (SaaS), desktop as a service (DaaS), third-party cloud services and enterprise applications from a customizable cloud services catalog. It empowers users with self-service access to the cloud and IT services, infrastructure and account management tools they need from an easy to use cloud services storefront.

A key feature of CloudPortal Business Manager is support for delivery and management of IaaS clouds built with Citrix CloudPlatform powered by Apache CloudStack. CloudPortal Business Manager with CloudPlatform allows users to directly provision applications running on multiple hypervisors including Citrix XenServer, Oracle VM, KVM and VMware vSphere, add/start/stop VMs, allocate storage, configure networking settings, set up load balancing and define security rules. CloudPortal Business Manager also includes reference connectors for Apache CloudStack and OpenStack.

Open by design

CloudPortal Business Manager allows cloud service providers and enterprises to leverage its open architecture and a rich set of APIs and SDKs to customize the product and integrate cloud services, business and operations systems into their cloud.

The standard CloudPortal Business Manager user interface ships with support for eight languages, and can readily be customized. The UI is built using a modular model and can be accessed through the customization SDK.

CloudPortal Business Manager also natively supports multiple currencies, and available currencies can be defined at the deployment level (uniform for all tenants) or within the vending channel.

![Select Currencies](image)

**Figure 7:** Support for multiple currencies
The CloudService SDK enables cloud operators to deliver custom-built, third-party and IT services from the services catalog. It allows them to configure, provision, meter and bill multiple services with a seamless, SSO user experience.

**Figure 8: CloudService SDK capabilities**

**Business/operations support systems APIs** enable cloud operators to streamline IT, business and operations by integrating with internal and external business and operations support systems such as help desks, ticketing, payment gateways, CRM and billing systems. These APIs also enable businesses to inject custom business rules and workflow requirements while ensuring that all interactions with CloudPortal Business Manager are trackable for reporting and billing.

The APIs provide RESTful endpoints to support access to CloudPortal Business Manager objects such as users, profiles, accounts, account types, account statements, subscriptions, invoices, payments, usage, catalog, channel, cloud services, currencies, countries, and events.

**The Customization SDK** allows development teams to customize the look and feel by tailoring various UI components including workflows, e-mail templates, reports, custom jobs, validation rules, custom fields, resource properties, hooks into pricing filters, billing data export, payment gateway and ticketing connectors.

**Citrix and partner connectors** — CloudPortal Business Manager allows users to leverage the Citrix partner ecosystem to easily add differentiating cloud services, such as monitoring, capacity management, storage as a service and platform as a service, to extend the value of the cloud. Third-party connectors from partners such as Appcara, ActiveState, Caringo, Cloudian, Cloudsoft, CumuLogic and others make it easier for IT to transform into a service broker. Connector setup includes simplified configurations and defaults for connector properties. Services provisioning is based on Active Directory as well as Active Directory role-based access controls and workflow rules for account changes and services subscriptions.
CloudPortal Business Manager also includes reference connectors for Apache CloudStack and OpenStack, as well as deep integration with Citrix products using the connectors to CloudPlatform and self-service desktop.

The CloudPortal Business Manager 2.2 release includes integration with CloudPortal Services Manager using a production-ready Manager connector. The integration will provide Service Providers:

- A single pane of glass to provision and access hosted applications and desktops delivered by CloudPortal Services Manager in addition to a broad array of cloud services currently delivered by CloudPortal Business Manager
- A unified billing solution for services delivered by CloudPortal Business Manager and CloudPortal Services Manager

![Figure 9: Citrix and partner connectors](image-url)
Summary
This white paper discussed key concepts within Citrix CloudPortal Business Manager and explained how this solution allows CSPs to deliver a broad array of cloud services and unify the commerce, user management, service provisioning and operational aspects of running a cloud.

To summarize, CloudPortal Business Manager enables cloud builders on their journey to the IT as a service model by managing and delivering multiple cloud services through a single catalog. Organizations can aggregate any infrastructure, cloud, IT or value-added service and enable users to provision them and manage accounts through a simple, self-service portal. The extensible architecture makes it easy to deliver a broad array of internal as well as external cloud services, while integrating with existing business, operations and IT systems.

You can find additional information about CloudPortal Business Manager here:

- Learn more about CloudPortal Business Manager at www.citrix.com/cloudportal
- Watch enabling the journey to IT-as-a-Service video: http://www.citrix.com/tv/#videos/9225
- Watch videos about CloudPortal Business Manager on CitrixTV: http://www.citrix.com/tv/#tags/cloudportal+business+manager
- Review the product documentation: Citrix edocs site

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