The Role of Chargeback in a Cloud Services Brokerage

How chargeback drives greater cost savings and administrative efficiencies in a cloud brokerage model

Cloud Cruiser’s chargeback solution provides cost visibility across all cloud service providers and cloud customers in the brokerage.

Measured Services in the Cloud Brokerage Model

One of the five essential components of cloud computing, as defined by the National Institute of Standards and Technology (NIST) is measured service. Measured service enables resources, such as CPU utilization, storage, and memory, to be metered, controlled, and made visible to the consumer.

A cloud brokerage is a ‘many-to-many’ model, with several distinct customers procuring cloud services from a pool of authorized cloud service providers. The complexity of this diverse operating model requires a financial chargeback system which supports a heterogeneous computing environment, such that resource usage may be measured across all service providers and for all customers, regardless of vendor, platform, cloud environment, service level agreements, or organizational structure. Likewise, the chargeback system should be flexible in order to adapt to new vendors, service offerings, pricing methodologies, reporting requirements, and accounting structures. This enables the broker to easily add new service providers and satisfy the financial requirements of its customers.

Optimizing Customer Spend

One of the key goals of a cloud services broker is to help drive cost reductions, both by procuring the lowest cost service offerings, and by providing tools to reduce spending at the customer level.

Customer spending can best be optimized with an ongoing assessment of resource consumption and derived cost. In order to achieve this, granular data must be systematically collected across all of the heterogeneous cloud services, priced, and mapped to each customer’s hierarchical accounting structure. Cost reporting that provides metrics, trends, and variances from a single pane of glass should be a key requirement to provide actionable information that enables customers to optimize
their cloud spending.

To further control cloud spending, cloud customers should have the ability to set budgets and alerts at functional levels within their organizations. Automatic alert notifications should occur when predefined thresholds are reached to ensure spending remains within budget.

**Increasing Buying Power**

The broker must have the ability to consolidate resource usage across all cloud customers in order to leverage quantity-based discounts and drive competition among selected vendors. Data roll-up must be flexible to accommodate many different discount scenarios: cost by resource, service, customer, or vendor. Historical, aggregated cost data should also be used to identify trends, usage patterns, and forecast future consumption requirements. This information can then be used to negotiate volume discounts and low cost vendor offerings for off-peak, low-priority workloads.

**Enabling New Services Providers**

To ensure ‘continual competition’ in the crowded cloud services market, technology should be used to automate the investigation and benchmarking of new service offerings and continually compare against the broker’s existing vendor offerings. Where possible, the broker should leverage temporary price reductions through spot pricing and arbitrage.

The chargeback system must be vendor neutral and architected for heterogeneous cloud environments to allow easy onboarding of new service providers.

**Implementing Dynamic Pricing**

To enable accurate usage-based pricing, the broker must have the ability to dynamically adjust rates and apply a variety of pricing methodologies, such as variable, tiered, and subscription-based – to quickly and easily adjust customer billing based on vendor pricing. Dynamic pricing allows alignment with off-peak, resource-intensive processing, such as big data analytics. Surcharge and discount policies should also be considered to help shape demand based on consumption. In addition, a broker model requires the ability to mark up third-party procured services to recover costs in both cost and profit center models.

**Chargeback Summary**

The Cloud Services Broker is an enabler of innovation, marrying the requirements and budgets of their customers with the right services provider, to drive the greatest productivity at the lowest cost. In summary, the brokerage model requires a sophisticated chargeback system in order to ensure that costs are reduced across all facets of the process: from the cost of services provided, to the efficiencies gained by the broker, and finally to the cost optimization opportunities at the customer level, as summarized in Table 1 below.
<table>
<thead>
<tr>
<th>Cost Driver</th>
<th>Cloud Services Provider</th>
<th>Cloud Services Broker</th>
<th>Cloud Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterogeneity</td>
<td>Heterogeneous cost aggregation enables volume discounts across customer base</td>
<td>Automated data processing across heterogeneous environments improves productivity and vendor negotiations</td>
<td>Single pane of glass view of all resource usage help identify overall spending and cost cutting opportunities</td>
</tr>
<tr>
<td></td>
<td>Easy on-boarding of new providers drives vendor competition</td>
<td>Minimal maintenance to add new CSPs</td>
<td>Broader range of services offerings</td>
</tr>
<tr>
<td>Hierarchical Resource Mapping</td>
<td>Visibility into customer usage of resources helps the broker secure ‘right-fit’ services for lower cost</td>
<td>Enables broker to provide secure customer-based cost information for reporting, budgeting and chargeback</td>
<td>Self-service access to usage drives cost accountability and optimization</td>
</tr>
<tr>
<td>Budgets and Alerts</td>
<td>Budgets help the broker plan for future resource needs and facilitate pricing negotiations with the CSPs</td>
<td>Customer-controlled budgets/alerts improves broker productivity and enables more accurate budget controls</td>
<td>Budget and alert capabilities help control costs through auto alert notification</td>
</tr>
<tr>
<td>Flexible Pricing</td>
<td>Enables support for discounts, promotions, future pricing for lowest costs</td>
<td>Flexible pricing facilitates vendor negotiations and allows broker markup</td>
<td>Broader range of services offerings meet customer needs and funding levels</td>
</tr>
<tr>
<td>Benchmarking</td>
<td>Automated benchmarking, arbitrage, spot pricing drives lower cost service offerings</td>
<td>Automated price shopping improves productivity, ensures continual competition</td>
<td>Customers benefit from deeply discounted offerings</td>
</tr>
<tr>
<td>Reporting</td>
<td>Aggregated costs and trending reports help plan resource needs and negotiate quantity discounts</td>
<td>Out-of-the-box reporting improves broker productivity and helps procure and price vendor services</td>
<td>Reports identify areas to cut costs and drive consumption behavior through cost visibility</td>
</tr>
</tbody>
</table>
To achieve the goal of reducing IT spending and achieving the lowest cost services requires a high level of collaboration between the cloud customers and the cloud services broker. There are several critical components which must be jointly agreed upon and defined within the chargeback system to maximize the relevance of the data, the competitiveness of the pricing, and the effectiveness of the spending controls.

Security

Define the users of the chargeback system, roles, and data access.

Description
Each customer should have self-service access to the chargeback system, such that they can view their resource usage and spending, set budgets and alerts for spending within their organizations, and have full reporting and invoicing capabilities for relevant data.

Customer Role
Each customer is responsible for identifying an administrator of the chargeback system for their company. This is the individual that will be responsible for defining which users within the company have access to the chargeback system, what type of access they have (administrative capabilities, budgeting, or reporting only,) and what account information they can view (company wide, department, project, or by specific account IDs.)

Organizational Mapping

Identify how the resource data gets mapped to the customer’s organizational hierarchy.

Description
In order to provide meaningful, secure data and the ability to manage costs at the customer level, the resource usage and spending must be mapped correctly to each customer’s organization. In this way, granular cost data can be aggregated at the appropriate level to allow high-level cost roll-up across a company, all the way down to detailed cost information at the project or user level.

Customer Role
Each customer must work with the chargeback administrator to define the cost mapping mechanism. For example, if a company uses an Account ID, there may be some parsing of that string required to break the costs down by business unit, department, project, and user. If there is a lookup table which defines the organizational hierarchy, then the administrator must specify the location and structure of the table.
**Pricing**

Provide the business rules for pricing

**Description**

Pricing is a complicated and sensitive matter which must be agreed upon by all parties: cloud services provider, broker, and customers.

**Customer Role**

Since the broker will be serving as the pricing negotiator with the cloud services providers, there must be collaboration with the customers to establish well-defined business rules for the pricing of services. Administrative factors must be defined for the charge-back system, such as rate change schedules, pricing methodologies and third-party service markup.

**Budgets**

Define spending budgets and identify alert recipients

**Description**

In order to control spending, each customer should have the ability to set budgets within their organizations. Budgets should identify a maximum threshold of spending at a granular level, for example, for a particular department or even project, to ensure that spending stays in control. This should be an automated process such that identified users receive electronic notification when defined thresholds are approaching.

**Customer Role**

The customer administrators must work with their business units to define IT budgets by calendar or accounting period. Individuals should be identified for automatic alert notification such that they can take action if spending thresholds are reached.