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Fund Private Cloud Initiatives by Solving the IT Chargeback Challenge

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Chargeback enables IT organizations to build self-funding business cases to recover capital investment in infrastructure from business users. Cloud adoption will force IT organizations to develop financial engineering skills to manage demand more responsively and to smooth out periodic supply cost spikes.

Key Findings

- On-demand contracts and the scalability of the cloud make it very difficult for IT to allocate a fixed budget to the cost of supply, so costs are often passed on as they are incurred.
- Business users object to the direct pass-through of supplier invoices because charges vary too widely over time when building or running a new internal cloud. Users want a more predictable and consistent cost for service.
- Chargeback methods need to be part of cloud design, to spread the peaks and troughs in investment cycles, change and migration products throughout the life cycle of cloud services.
- Avoid superficial comparisons of internal chargeback rates with external service pricing. Benchmark internal service catalog descriptions against external service offerings to overcome significant differences in delivery and pricing methods.

Recommendations

Those involved in initiating or funding cloud projects, such as IT asset managers, should:

- Respond to pressure for the cloud by developing consistently priced services that are priced to communicate their value for money.
- Develop a business plan for cloud service delivery (whether internal, external or hybrid) to charge back full life cycle costs that are designed to be delivered at a standard and consistent chargeback rate.

- Base this business plan on demand for the quality as well as the quantity of services in all consumption forecasts. Plan to supply services that respond to this demand with a competitive cost of service.
- Build investment confidence by using cloud chargeback to better align IT costs with business revenue.
- Track actual costs against the business plan to provide cost transparency. Regularly review chargeback rates to assess business value for money.

Analysis

Funding Can Be a Challenge for Internal Cloud Initiatives

Many client questions on chargeback are from IT organizations that are planning to use it to fund new infrastructure and applications projects.[1] Although chargeback is often described as cost allocation, most clients only allocate currently budgeted or modeled spending instead of charging back actual life cycle costs. IT organizations increasingly see chargeback as a way to underwrite funding for next-generation infrastructure virtualization projects that are increasingly becoming described as "private cloud."[2]

Use Chargeback to Generate Funding

Analysis of the questions Gartner is asked about chargeback has identified recurring themes, which reveal the extent of client interest in cloud pricing to fund internal cloud initiatives.[3]

The most common theme is that over 48% of clients are asking specifically for a "magic formula" — a standard methodology or model to allocate spending.[4] Most IT organizations start by dividing up their budgeted spending among the business units, whose demand for IT resulted in this spending. The formula is simple: add up all budgeted IT spending, then divide it among the business profit and loss accounts in a way that can be justified to the business leaders by the number of users, assets or services consumed (as in Figure 1). However, it can be difficult to apply this formula by consumption. Although there are many ways to allocate IT spending, most chargebacks are limited by whatever allocation or utilization data is readily available. Most clients currently charge by allocation, recorded during provisioning, as illustrated in Figure 1.

Figure 1. A Common IT Chargeback Formula

$$\text{Chargeback to Business Profit and Loss Accounts} = \frac{\text{Current Spending on IT}}{\text{\% Resources Provisioned to Business}}$$

Source: Gartner (January 2011)

IT organizations need to allocate costs more transparently to avoid business leaders challenging IT spending decisions.[5] A growing number of clients now want to become cloud providers. They want to charge back by utilization, reported by operations management tools. Interestingly, only 17.8% of inquiries have been specifically about tools. Another common keyword used in 13.7% of client inquiries is "trend," where clients are looking for established consensus on chargeback methods. However, it is not the method used so much as the allocation of cost without consultation which results in chargeback rates being challenged. "No taxation without representation," or rather no chargeback without a sense of control, is the most important governance principle. Gartner therefore recommends a pilot phase to try out a new IT chargeback scheme under the oversight of a chargeback committee.[6] A period of showback, where costs are only reported, can help to build transparency and business confidence while testing and calibrating these transactions.

Although Gartner's IT Key Metrics show IT spending as typically less than 5% of the operating expense of an enterprise, or $11,000 per employee per year,[7] some business activities are far more IT-intensive than others. IT organizations must therefore consider the available budgets or disposable incomes and funding models of all their internal customers. Chargeback can make these business users into more effective stakeholders, who take a close interest in IT decision making. IT organizations therefore need to find mechanisms to give technically less experienced business managers greater financial choice, without encouraging excessive interference in complex technology decision making. A common solution is to offer a choice of different services at different chargeback rates, but this can add further cost and complexity.

Simplify Cloud Chargeback By Design

Where different tiers of asset are purchased to deliver different service levels, such as bronze, silver or gold, the whole organization is committed to a higher level of cost and complexity. Life cycle costs continue even if business users do not continue to use these assets. Owning many different asset types makes it even harder for each specific asset to be reused or repurposed. Instead, organizations need to buy more capacity for each specific asset type, reducing demand leverage and exaggerating fluctuations in supply costs and chargeback. Tiered services are therefore more appropriate where higher-cost services are only more labor-intensive and where labor costs can be varied by re-tasking staff. If the asset cost difference has a minimal impact on the total, as it often does, it can cost far more in overhead to track or charge back the difference than to apply a flat rate. Highly industrialized external services are often designed to use common components to eliminate this overhead altogether.

Take an industrial "production-line" approach to the architecture of cloud IT services to make delivery costs more standardized and predictable by design. Without this industrialized approach, custom IT requires IT asset managers to track costs at an exacting level of detail, asset by asset, to support chargeback transparency. Allocating different asset costs either by allocation or by utilization becomes even more difficult with shared services, and almost impossible with the cloud. Using standard, more commoditized components improves their utilization and creates a just-in-time supply chain to stabilize supply costs so that their costs no longer need to be tracked individually. Your IT organization can then recover both capital investments and ongoing operating cost commitments more simply and easily from business users, because every user will pay their

fair share of these standard costs. Moving to a more cloud-like chargeback model based solely on utilization can still result in the cost of unused resources going uncharged, as described in "Simplifying Virtual Infrastructure Chargeback."

Price Services to Recover Life Cycle Costs

Business users object to the pass-through chargeback of supplier invoices and other forms of short-term cost recovery because these charges vary widely over time. Business decision makers can even make these chargeback variations worse by delaying the purchase of new assets in the hope of avoiding further spending. If an asset has been fully depreciated, there are no further capital depreciation costs to recognize whatsoever, so any new asset spending will inevitably cost more than nothing. But reinvestment cannot be postponed forever. Instead it will become a poorly planned emergency purchase in which the organization has little choice. The organization must also pay to migrate from and dispose of old assets while purchasing new ones and paying for installation, configuration, testing and migration. This can cost far more than operating the assets in a steady state during previous years, even while the assets are being depreciated. Both old and new assets may have to be kept for potential rollback during the changeover, for business continuity and disaster recovery. Virtualization technologies can help to reduce some of these costs, but IT organizations will need to charge back these costs based on the utilization of their cloud resources, ideally smoothing them out throughout asset life cycles, as described in Figure 2.

Figure 2. A More Cloud-Like IT Chargeback Formula

$$\text{Chargeback to Business Profit and Loss Accounts} = \frac{\text{Life Cycle Spending on IT Service}}{\text{\% Peak or Mean Utilization}}$$

Source: Gartner (January 2011)

Plan supplier contract life cycles to support a service pricing approach to chargeback, as above. Service pricing then becomes a projection of service delivery costs over time, divided by either historical, agreed or forecast utilization. These costs are not limited to spending during the current budgetary year or even the life cycle of current assets; they must also include capacity growth to meet demand and cater for asset refresh. Service pricing effectively requires a business plan for the supply of IT services.[8] Business plans generally aim to earn more revenue than they spend over time. The business plans for IT services should also "over-recover" during low-cost periods, in order to cover higher future costs. This does not mean that IT is not operating at a profit; it is simply planning to cover known life cycle costs in the same way as an external service provider.

If organizations fail to plan for known or constructive liabilities, they risk accusations of fraudulent accounting from their investors. Otherwise, these liabilities and contingencies could not be funded from business revenue without significant temporary increases in chargeback rate that are likely to reduce profitability. Finance teams typically prefer to plan contingency funds than to borrow emergency capital, especially when these funds are needed to cover known upcoming liabilities. Business users also prefer to plan costs to avoid temporary hikes in spending. However, cloud business plans need regular review to maintain transparency, with rebates offered for any planned

contingency funds that are no longer required due to business change. A number of specialist vendors now address this need for better financial transparency in these IT costs over time.[9]

Use Benchmarking When Comparing Chargebacks With Market Prices

Whether funding an internal cloud through chargeback or charging back the external cloud components within their service catalog, IT organizations must communicate what the charges represent and clearly define what is delivered in return. Business users will inevitably compare chargebacks for internal services with the advertised prices of external services. Users are likely to have unrealistic expectations — for example, that custom-made internal service fees should be lower than the price of an industrialized public cloud service, simply because internal fees are charged back at cost. Where the cost of an external service is lower, the business value of the service being delivered may also be lower, so a lower price does not always represent better value for money.

Benchmarking is required to make fair comparisons. Even a best practice chargeback rate is not the same as the price of an external service because the organization bears all internal investment risks, so an adjustment is required to charge back both the cost of capital and the risk of volatility in business demand. The costs and benefits of asset ownership also need taking into consideration, especially when running corporate software assets in an internal or external cloud. Few internal IT organizations have yet achieved the maturity or autonomy needed to optimize IT chargeback rates or service offerings in a way that is directly comparable to external service provider pricing (see Figure 3). However, a growing number of clients still try to make simplistic cost comparisons without any consideration for their business implications.[10]

Figure 3. A Best Practice Example of a Cost Comparison Formula

$$\text{Value for Money} = \frac{\text{Business Benefits of the IT Service}}{\text{Life Cycle Spending on IT Service}}$$

Source: Gartner (January 2011)

Use IT asset management data, comparing cost with both risk and potential value to avoid making overly simplistic or poorly informed business decisions. As described in "Evaluate Opportunity Cost When Deciding to Buy, Lease, Rent or Subscribe," such decisions should not be made only on cost or cost-based return on investment calculations. Instead they should be based on the opportunity cost of capital, strategic control over operations and assets, and the business value of services. Many industry observers have recognized that like-for-like cloud architectures are likely to cost more than current infrastructure, but that by delivering greater business value they can offer better value for money.[11]

Build Business Confidence in a Cloud Funding Model

Action items:

- Show demand in the business plan by defining the quality as well as the quantity of services requiring internal cloud investment.
- Demonstrate the IT organization's ability to work with the business to forecast and meet business demand at a price the internal market can bear.
- Show the finance team that capital funding will be recovered from business revenue, improving the business alignment of IT spending.
- Gather better data to charge back by utilization and use chargeback rate reviews as an opportunity to manage ongoing demand.
- Charge back the cost of the business plan, but track these costs to keep them on-plan, and update the plan to meet evolving business needs.
- Beware superficial price comparisons. Require benchmarks to perform a more scientific value-for-money assessment of different options.
- Continue to review chargebacks to demonstrate better value for money, comparing the value as well as the cost of internal and external offerings.

Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Ensure Success by Piloting Your Chargeback Processes Before Rolling Them Out"

"Create a Culture of Financial Accountability to Fund IT Through Chargeback"

"IT Metrics: IT Cost Transparency Action Plan, Definition and Performance Metrics to Start the Journey"

"Simplifying Virtual Infrastructure Chargeback"

"Five Steps to Utility Pricing That Develop Chargeback Into Cost Self-Optimization"

"Evaluate Opportunity Cost When Deciding to Buy, Lease, Rent or Subscribe"

"User Survey Analysis: Infrastructure Software Garnering the Highest Levels of IT Software Spending, 2010-2011"

Evidence

[1] Where any specific category of spending was specified, over 70% of clients asked Gartner analysts about the chargeback of servers, storage, network and other data center assets, but not software applications.

[2] The term "private cloud" was in the subject line of over 55 client questions about VMware products during 2010. Some clients explicitly used the term about investment and asset ownership

to describe the virtual infrastructures they are building internally. Such terms must be used with care as they can have other meanings in enterprise architecture — on security and access controls, for example. The cloud as a business model requires speculative funding upfront to achieve greater economies of scale. An externally funded cloud is not an investment made in advance by the enterprise but purchased as a pre-invested service that has already been built by the service provider. An internally funded cloud requires advance capital funding by the enterprise. In both models, capital costs are increasingly recovered from business users through chargeback. For definitive Gartner definitions, please see the Gartner glossary (http://www.gartner.com/technology/research/it-glossary/index.jsp#2_2).

[3] Of the 758 client inquiries placed with Gartner Research relating to chargeback, the term "service" was used in over 47%, and the keyword "cloud" featured in 9%. Many of these discussions about chargeback revealed the influence of publicly available cloud service offerings on the client's perception and pricing of internal IT services, with the keyword "catalog" being used explicitly in over 8% of cases to indicate that clients discussed the chargeback of their service catalog. Only 72 inquiries to Gartner Research used the keywords "service pricing" without the keyword "chargeback" during 2010.

[4] 746 of the questions that clients asked Gartner in 2010 specifically concerned the chargeback of IT services and infrastructure costs, of a total of 758 inquiries containing the word "chargeback." The other most common keywords used in these chargeback inquiries were:

- Method or model, 48.3%.
- Service, 47.6%.
- Tool, 17.8%.
- Trend, 13.7%.

[5] Pressure on clients to deliver greater cost transparency is described in "IT Metrics: IT Cost Transparency Action Plan, Definition and Performance Metrics to Start the Journey."

[6] The need to test the impact of chargeback on the business and to introduce that impact over time is described in "Ensure Success by Piloting Your Chargeback Processes Before Rolling Them Out."

[7] Gartner's data sources for industry spending figures are explained in "IT Key Metrics Data 2010: Executive Summary."

[8] An example of how cloud services are priced in ways that do not necessarily represent actual costs: http://www.elasticvapor.com/2010/06/cloud-pricing-sales-models.html.

[9] A brief selection of chargeback tool vendors shows them identifying the cloud as a demand driver for their tools and expertise:
http://www.apptio.com/solutions/it-projects/cloud-computing.php
http://www.comsci.com/whitepaper_0410.php
http://www.digitalfuel.com/solutions/cloud-computing
http://www.nicus.com/downloads/Spending_Dollars_in_the_Cloud.pdf
http://blog.vkernel.com/2010/01/chargeback-is-must-have-for-cloud.html

[10] 132 of the pricing questions placed with Gartner analysts over the last year were from clients trying to compare chargeback rates for internal IT costs directly with external cloud service prices. Few organizations are able to accurately assess the cost of the services they expect to consume or the business value of the services delivered in return. In many cases concern over their organization's inability to forecast demand and therefore budget cost is one of the driving factors behind the cloud IT strategy.

[11] The cloud has many valuable properties, including the flexibility and scalability businesses seek, but clients who already seem to manage their costs well have often identified the need to pay more for these valuable properties. This has also been reflected by industry observers, who do not necessarily expect cloud projects to cost less:
http://www.zdnet.com/blog/service-oriented/why-cloud-computing-may-cost-more-than-on-premise-systems/4459

This research is part of a set of related research pieces. See Private Cloud Computing: Emerging From the Mist for an overview.

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