

# IT-AS-A-SERVICE: GUIDING PRINCIPLES FOR ACHIEVING FINANCIAL TRANSPARENCY

## AN EMC IT OVERVIEW ON EMBRACING FINANCIAL TRANSPARENCY

### Abstract

Transitioning to IT-as-a-Service (ITaaS) is a fundamental shift in how IT is built, run, delivered, and consumed. A key characteristic of providing ITaaS is the ability to understand the costs of delivering those services and thus being able to price them appropriately. Once costs are understood and shared, especially with a chargeback and/or showback policy, everyone in IT has a higher stake in ensuring that it is done efficiently and transparently—from allocating and defining costs and service prices to measuring demand and consumption—while communicating continually across IT, finance, and the business.

The goal of financial transparency is to show what IT services cost. Intended for IT leadership and IT Finance organizations, this white paper explores financial transparency and how to develop simple, fair, and accurate chargeback/showback policies.



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## EXECUTIVE SUMMARY

With cloud computing and IT-as-a-Service, IT organizations are better positioned to speed service delivery and reliably support the dynamic needs of the business in a highly-automated, and agile infrastructure that enables business units to rapidly provision resources and incur costs based on usage. However, to accomplish this, the CIO and team must build a set of financially transparent processes that capture the true usage and costs to showback – and even chargeback – the business for the IT services consumed. Please note: the terms chargeback and showback are used interchangeably in this document.

Although it is only one component of ITaaS, financial transparency is a key driving force for organizations to elevate the importance of thinking through services and to deliver them with efficiency and with a balance between demand and supply. Whether you decide to showback or chargeback, financial transparency offers IT and the business tremendous benefits including:

- Detailing what goes into determining actual costs to deliver services
- Showing greater transparency into business performance and value
- Tracking the details of services rendered clearly and accurately
- Enabling the transfer of budgets from traditional IT to the business units
- Offering business units clarity they've never had before to enable real-time decision-making as business needs change
- Helping IT and the business to be more prudent and reduce over-allocation of resources
- Enabling IT to “market” and “sell” competitive service offerings to the business
- Giving IT a higher stake in ensuring that services are delivered properly
- Providing an opportunity for IT, finance, and the business to have fact-based conversations to improve delivery, consumption, and more predictive growth for planning purposes

In this paper, we explore how EMC IT (with initial engagement with EMC Consulting) implemented financial transparency in support of our IT-as-a-Service transformation. By taking an eight step approach, EMC has been able to implement IT service costing and a chargeback/showback approach that provides both IT leaders and our business units with visibility into the costs and consumption of IT. You will learn about these steps and key considerations for each, and discover how transparency is a critical success factor in our transformational journey.

EMC's IT-as-a-Service delivery model leverages cloud technologies to enable business agility and value-based choice through readily-consumable IT services that have transparent prices and established service levels.

[EMC's IT-as-a-Service Definition](#)

## INTRODUCTION

The ability to deliver IT-as-a-Service (ITaaS) is the culmination of a successful private cloud strategy that transforms the way IT infrastructure is built and how new technology, operations, and consumption models are implemented. Within this new operational paradigm, IT leaves behind the inflexible and labor-intensive provisioning models of the past to deliver value to the business through on-demand, self-service access to IT assets that advance business initiatives with speed and agility.

Financial transparency is a key driver forcing IT organizations to rethink how they deliver value to the business by getting them to think about how to bundle, market, price and deliver their services in a way that meets the end consumer's needs. It also enables IT to compare its services directly to those of external cloud service providers. When IT has to compete with outside service providers, the mindset shifts to diving efficiency, increasing business agility and meeting service levels.

An important benefit of financial transparency is the ability to share that information with the business. Once costs start to be shared, IT has a higher stake in ensuring that services are delivered properly. Activities like allocating per-unit and per-service costs, determining service prices and measuring demand and consumption become more scrutinized and lead to standing up more efficient services.



Figure 1: IT financial transparency provides distinct business benefits to different stakeholders, from business leaders to IT and finance.

With cost transparency, IT and business units gain a clear picture of their IT spend that they've never had before. However, this does not automatically mean IT charges back 100 percent. An IT organization should ideally *showback* 100 percent of its costs (and value provided) and then determine how to handle the actual chargeback process.

The decision to chargeback could be based on whether an enterprise would like to allocate IT costs to its individual business unit profit and loss statements rather than in general and administrative expenses. This can be a phased approach, choosing services with simple units of consumption first. For example, end-user services (email, client computing support, service desk, network connectivity, etc.) are typically consumed based on headcount, an easily measured and simple consumption metric. More complex application services could move to chargeback in later phases because these services typically rely on labor and data center capacity consumption. A phased approach will enable an organization to tackle more complex consumption datasets before embarking on chargeback.

## RUNNING IT MORE LIKE A BUSINESS

IT-as-a-Service is a fundamental shift in the way IT is structured and paid for. This dramatically changes how IT and business units work together to further the enterprise's mission and goals.

With cloud computing and ITaaS, IT organizations are better positioned to speed service delivery and reliably support the dynamic needs of the business with a highly-automated and agile infrastructure that enables business units to rapidly provision resources and incur costs based on usage. IT and the business are also more prudent and are less likely to over-allocate resources, so ITaaS encourages closer alignment between technology consumption and actual demand.

A well-crafted, transparent and flexible chargeback/showback policy is critical for overcoming resistance in paying for resources that were not directly charged to the business units in the past. It also:

- Details what goes into determining actual costs to deliver services
- Shows greater transparency into business performance and value
- Tracks the details of services rendered clearly and accurately
- Leverages strong executive support
- Enables the transfer of budgets from traditional IT to the business units

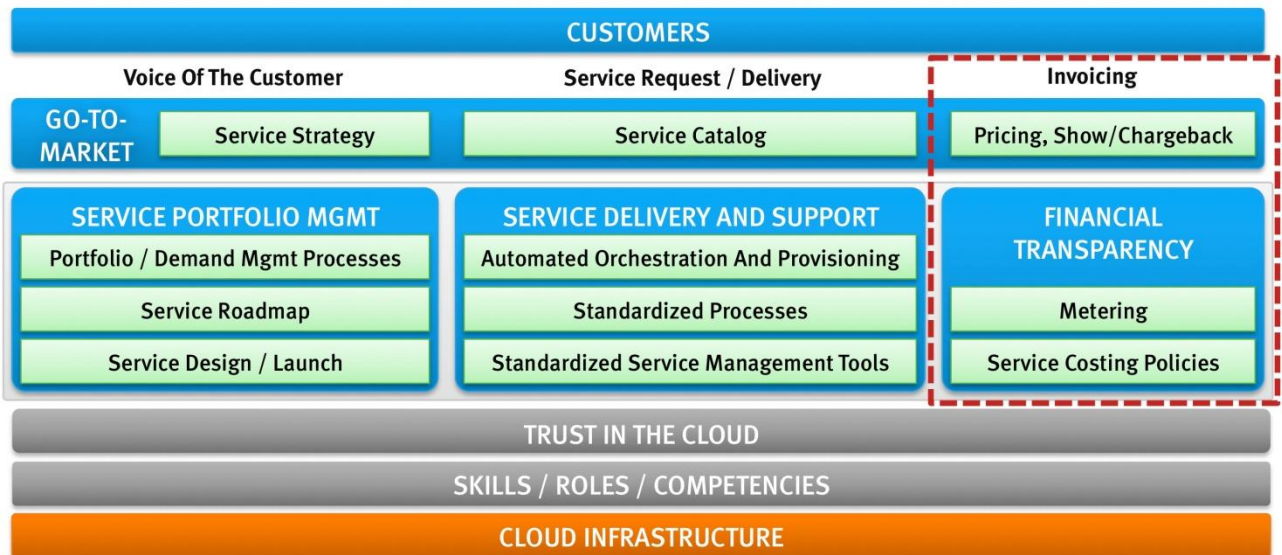


Figure 2: EMC's IT-as-a-Service Strategy – Running IT as a Business

### WHY PROVIDE FINANCIAL TRANSPARENCY?

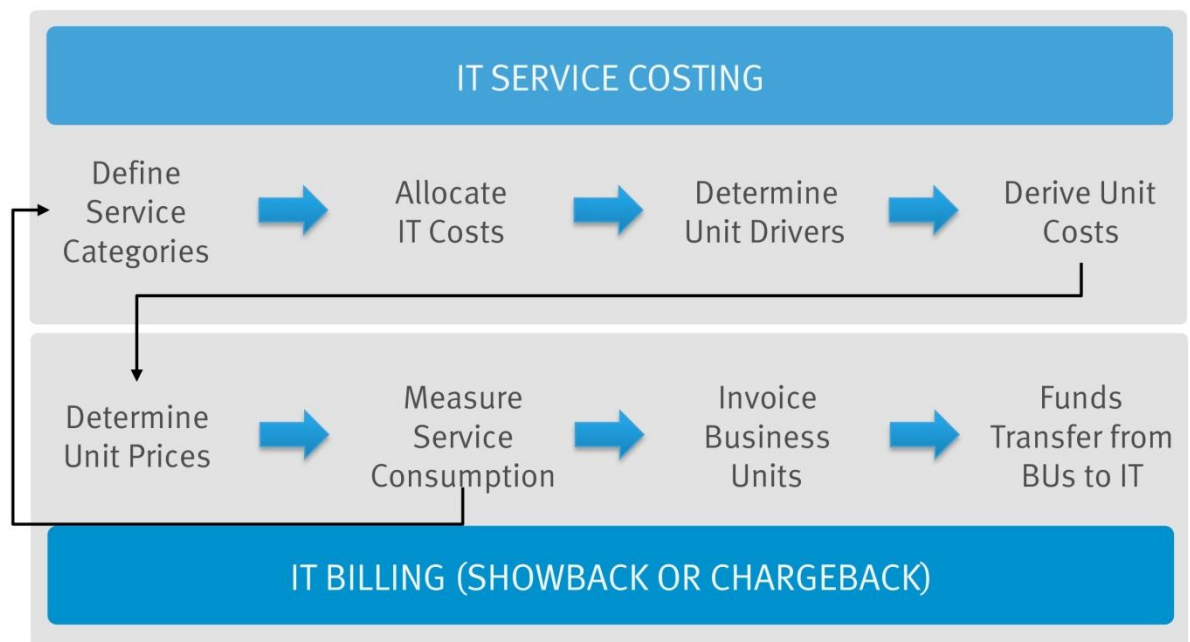
*If IT was truly run as a business, the argument could be made that it should be profitable. However, while a corporation cannot allow IT to fail, there may be tax, accounting, regulatory, compliance and/or security reasons that impact whether or not profitability is allowed. Consequently, there are some constraints and considerations to running IT like a business.*

*If the ultimate goal is not profitability when running IT as a business, why provide financial transparency at all? First, running IT as a business enables an organization to benefit from market forces that influence the behavior of the business units, as well as the consumption of services. Second, transparency also improves IT accountability and focuses the mission on what's important to the business. Third, transparency helps the business determine better buy versus build decisions, including brokering external services.*

*Transparency can also drive business for an IT organization. Once chargeback is implemented, business units may choose to use their OPEX and CAPEX budgets for more or fewer IT services by balancing project priority with the business value of the service. This could potentially drive higher overall IT spend compared to the pre-chargeback state. To maintain proper balance, it is important that the CFO define and institute enterprise-wide policies with IT leadership and IT finance.*

## AN EIGHT-STEP PROCESS FOR SIMPLE, FAIR, AND ACCURATE CHARGEBACK/SHOWBACK

On its journey to cloud computing, EMC IT made significant progress in designing and implementing a chargeback/showback policy that captures the true costs of IT services and validates IT cost transparency and operational accountability. The following steps exemplify a work in progress detailing the experiences and lessons learned. They are offered here to help IT leadership initiate a workable strategy to achieve financial transparency for their own chargeback/showback model.



**Figure 3: The eight steps span the costing of IT services and showback or chargeback to the business. Measuring service consumption based on published service prices helps IT ensure services continue to provide value to the business.**

Throughout each step, it is important for representatives from IT, finance, and the business to discuss and exchange ideas regarding the status and evolution toward a chargeback/showback policy. Communicating must not only be across the business, but also up the financial management chain in a corporation, so the strategy can be adjusted to better align with other key efforts within the company such as financial budgeting and planning for IT services management. Ongoing communication is paramount and an essential part of the process.

A critical element for successfully achieving financial transparency is the whole notion of “good” data. A solid system(s) of records with good quality controls is an essential tool set. Data quality and financial transparency is such an extensive topic that it can be covered in a completely separate paper.

## STEP 1: DEFINE YOUR SERVICE CATEGORIES

### Choose services that align to industry offerings

EMC defined five key categories of services/activities to determine and allocate costs on the road to showback and chargeback as follows:

1. **End user services** include non-discretionary type services that are consumed by the entire company such as email, IT service desk, client compute support and network connectivity, which are driven by headcount.
2. **Business application services** include IT supported business consuming applications where most existing chargeback is reflected today. Billing is based on development labor, supporting infrastructure costs, and depreciation.
3. **Hosting services** (Platform-as-a-Service and Infrastructure-as-a-Service) are the services that involve providing platforms from which business applications can run. EMC IT weighs the number of servers used by an application and application classification as a proxy to allocate server costs.
4. **Professional services** include work that is done to deliver projects and programs. EMC IT pulls actual hours and hourly rates from its Project Portfolio Management (PPM) system.
5. **Premium services** are item-specific and are an ongoing effort as new services are defined and brought online.

## STEP 2: ALLOCATE ALL COSTS

### Allocate all IT costs—both fixed and variable—to specific services.

For EMC IT, there were two considerations. First, determine the process used to allocate costs. Second, identify how it is actually executed. EMC IT defined all of the different activities and associated costs that occurred within IT and segmented these activities into five key service categories with approximately 12 subcategories. This became the foundation for EMC IT's cost model.

In its initial phase of Cost Transparency, EMC IT focused on Cost Sources, Cost Pools, IT Products & IT Services. Once matured, EMC IT's business facing organization will use the cost model output to have business capability discussions with its respective business unit customers.

EMC IT looked collectively at cost sources from its general ledger, including labor, maintenance, telecom, and fixed assets. This provided a view of all the raw costs that existed in IT, which were then analyzed and rolled into cost pools. These pools could be assigned, mapped, or allocated to EMC IT's portfolio of products and services. For example, hosting services consume facilities, storage, labor, and server products. For

every defined service, EMC IT collaborates with finance, operations, and service managers to understand what is needed to deliver that service.

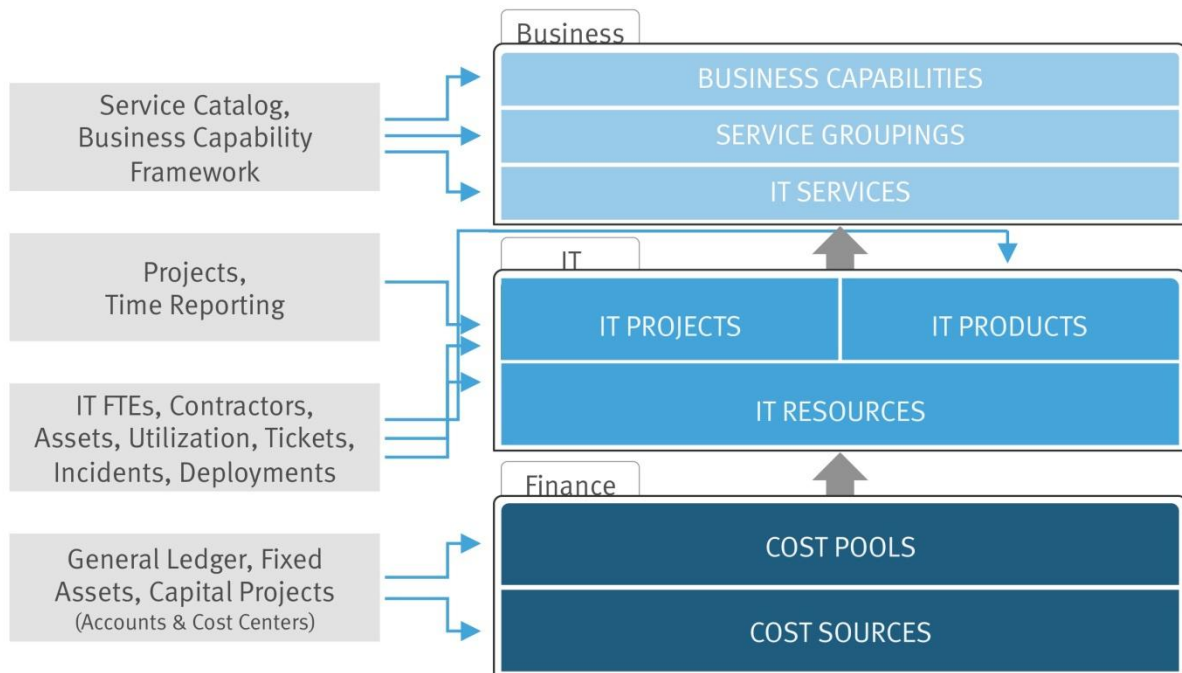


Figure 4: Costs are allocated from cost sources such as the general ledger up through IT products (e.g., applications) and projects to IT services using common IT data sources.

Initially, EMC IT built an extensive cost model by taking and scrubbing existing data sets, some of which were quite granular with details about applications, services, and consumption models. However, at this point, EMC IT left other services in higher-level buckets and then broke down larger categories later in the process.

For example, Internet cost allocation could be fine-tuned from just cost per number of locations or headcount to being allocated by facility based on users in each location. By initially creating high-level categories, EMC IT has been able to move forward quicker while being able to adjust its cost model for more granularity as the model matures. EMC IT chose to focus on Application Services and End User Services first because these accounted for more than 70 percent of its non-chargeback spend.

### Key Considerations

To lay a solid foundation, it is critical for all parties to determine the:

- Major service categories
- The subcategories that fall within those buckets
- The costs associated with each

This information becomes the basis for a working document where categories and/or subcategories can be discussed, placed accordingly, or omitted due to similarities with an existing group. This strategy becomes an effective means of reining in category proliferation and keeping things as simple and direct as possible because getting too detailed slows down efforts to build the cost model. You can refine your cost model as you go and map your allocation costs accordingly. It is critical to maintain simplicity as much as possible when starting out toward cost transparency.

### **STEP 3: DETERMINE UNIT DRIVERS**

**Establish unit drivers for costs and prices in each service category, and build a reusable and flexible model that enables you to refine unit drivers in the future.**

EMC IT first developed a taxonomy of services within major categories, such key areas as business application services, end-user services, professional services, and hosting services. Next, the company determined unit drivers—something that measures the consumption of the services.

For example, a hosting service might include unit drivers based on the number and type of servers and storage needs, the number of OS images the application is consuming, and the headcount resources required for things like development and maintenance. Business application services allocations are based on the total cost of ownership of any application that is made up of infrastructure, labor, software maintenance, and depreciation. Professional services are allocated based on labor and expenses for those services. As another example, end-user services might provide details about what an end-user is consuming, as well as billing based on phone minutes, different types of laptop configurations, and so on. For end-user services, EMC IT used a simplified, one-size-fits-all approach that allocated costs based on headcount. While this approach has some disadvantages, it was straightforward to execute and easy for business users to understand. The total cost for end-user services was divided by the number of EMC employees to arrive at a standard charge. The driver for the total cost is the number of employees within each business unit.

### **BEWARE OF CATEGORY PROLIFERATION**

*In the final analysis, EMC IT relied on its PPM time entry system to understand the labor costs associated with delivering services. The information is a crucial component of its cost model. For the service catalog, which is currently being developed to include lower-level services, EMC will use the cost model to select pieces that fit into those services.*

*As part of this process, labor costs, labor allocations, and EMC's PPM time entry system for projects or requests were critical to the success of this financial transparency initiative. Previously, there were hundreds of disjointed labor activities that an EMC IT employee could choose from. The team needed to clearly define service categories that employees could log their time against. The result? EMC IT was able to distill hundreds of different activities into 40 or 50 and then roll them up to only a few major buckets of activities. This became the foundation for building EMC IT's cost model.*

*Today, when a new category or subcategory is presented for consideration, consensus is reached from the team as to whether it should be added, or if it may already belong within an existing category. This strategy becomes an effective means of reining in category proliferation and keeping things as simple and direct as possible.*

### **Key Considerations**

In an ideal world, step zero is defining the service catalog or defining services by dividing IT's work into business-consumable services. However, you do not need to have it strictly defined to proceed. It's better if you have it, but you don't have to wait.

As you go through these steps in achieving financial transparency, it's important to remember that whatever you are doing will become part of your service catalog type definitions. Make sure you are developing your cost model with some granularity, so you can break things apart as needed and potentially uncover key issues that must be addressed.

When developing a service catalog, it is most effective to bring your team together, define what you are doing, and work toward limiting, streamlining, or consolidating the activities. Agreement about the activities you provide is essential because this effort will likely become the foundation for building your cost model around your key categories.

## STEP 4: DERIVE UNIT COSTS

**Steps 2 and 3 will help you derive unit costs for each service by dividing service costs into the service unit driver.**

To create a simple, standard monthly charge for a specific category of services, EMC IT took the total annual cost for the service, for example end-user services, and divided that by the number of EMC employees. The resulting number was divided by 12 months to provide a cost per person per month.

### Key Considerations

When deriving unit costs, usability and ease of analysis are more important than going for precision. Be sure to test derived costs against your expectations.

Don't overlook whom you include in your headcount. For example, if you include IT's headcount, you may be on your way to creating an invoice for your own services. If the intent is full chargeback, develop a model that allocates IT's own consumption to the services that it delivers to the business units.

## STEP 5: DETERMINE UNIT PRICES

**Determine unit prices for each service category.**

The prices should reflect corporate goals. EMC IT is determining unit prices based on three factors:

- A basic cross-charging approach to determine how and where costs will be allocated for shared services across groups.
- EMC plans to add a percentage to costs to allow for variances or potential overages in projections. For instance, EMC IT is considering pricing strategies across different services to smooth out the volatility of supply versus demand.
- Strategic pricing should be used to influence service adoption and speed progress toward an IT organization's architecture for the future. This can be used as a tool to encourage or discourage use of certain services. This practice would be exercised infrequently, judiciously, transparently, and evolve over time. For example, a business unit that is slow to leverage virtualized infrastructure for its application hosting could be given surcharges.

### Key Considerations

Cost does not equal price when considering your strategy. It is important to factor in a slightly higher price, so unexpected costs have less of an impact on budgets, as well as the internal user's willingness to pay for desired services. Additionally, financial considerations, such as tax structure, accounting rules, security, and regulatory compliance will influence the final price.

Cost/price vs. consumption sensitivity analysis should be used to assist in determining unit prices. It will enable you to determine when full service costs are

recovered and the service becomes profitable. Such analysis can also assist in projecting future price adjustments based on demand and timeline of cost recovery.

There is risk to simply charge up cost. The key is not to maximize profitability, but to become simple, transparent, and efficient, while still maintaining a competitive stance with regard to value and cost when compared with external providers.

## STEP 6: MEASURE SERVICE CONSUMPTION

**Accurately measure service consumption for each service and map the appropriate service unit drivers to generate chargeback/showback for each business unit.**

In time, this process will become more automated and easier to execute.

To structure and measure service consumption for accurate and predictable invoicing, EMC IT has been:

- Determining who the end users are and what kinds of services they are consuming
- Identifying which applications reside on each server and which business units “own” them
- Tracking specific hours for professional services to determine approximate engagement lengths
- Securing accurate headcounts across the enterprise and within specific business units
- Maturing the organization’s processes of measuring service consumption

By tracking and verifying these details, EMC IT achieved several ancillary benefits. For example, by knowing exactly where applications live, EMC IT can more readily address an issue if an application or server goes down. Consequently, change management efforts are enhanced and an organization benefits from its increasingly optimized operations and infrastructure.

### Key Considerations

Measuring service consumption is an intensive exercise that may take longer than planned. The complexity of your business and the ability to glean the right answers during discovery will most likely determine the speed with which you can work through this step.

You can’t measure what you don’t know. If you only know, with some level of reliability, who owns a certain percentage of the servers, but don’t know the applications (and business units) associated with the servers, you can’t measure consumption accurately.

Hours must be tracked properly. The reliability and compliance of your time tracking system is an important tool.

Learn as much about your end user business units as possible—this includes their IT applications and assets. It may seem trivial, but it is more work than it appears and will take time. By getting this information, you gain datasets that help you repeatedly, predictably, and reliably measure consumption.

Involve senior staff to help you get the information you need to facilitate accurate service consumption measurements. Near-perfect precision is critical to the success of this effort.

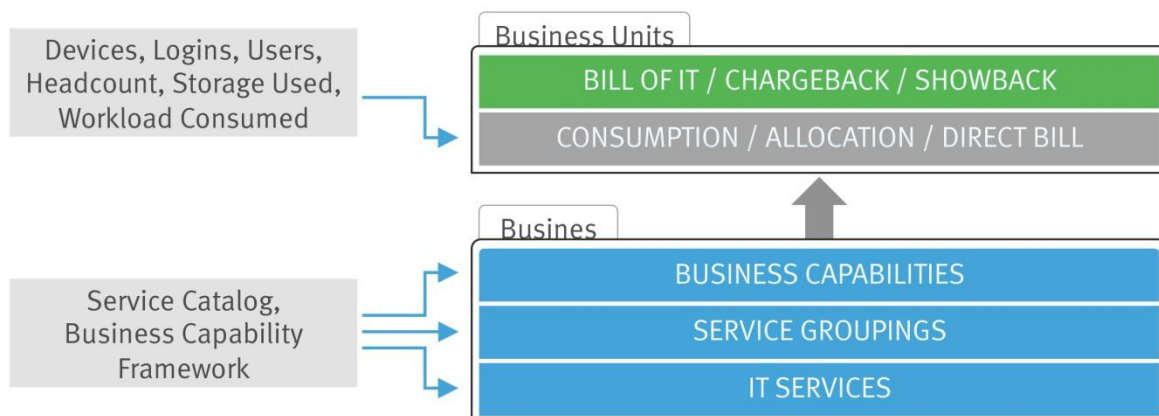
Once you start providing better tracking and become financially transparent, organizations will appreciate invoicing as a means to better understand what they use and keep IT in check on service delivery.

## STEP 7: INVOICE BUSINESS UNITS

**Create monthly invoices based on detailed data by business unit and service.**

Flexibility must be engineered into capabilities to support the ability to invoice any group at any time for any period.

EMC IT constructed a prototype invoice and is working with select business unit controllers throughout the business to socialize the topic and secure their feedback. Proof-of-concept is expected to be an iterative process from which the invoice will be refined.



**Figure 5:** IT service costs and project costs are billed to business units based on consumption, such as the number of devices, logins, amount of storage used or other consumption-related factors, where practical and beneficial.

## Key Considerations

While developing invoices seems like a simple process, it is an important one to get right.

Invoices should be created by IT Operations and IT Finance and be user-friendly, clear, and easy to understand.

This should be an ongoing process so you can gain feedback, which in turn will result in buy-in and cooperation from the business units.

Start with services that are easy to invoice and work toward more services as they become defined and/or have consumption measurements available. Do not worry if some IT services are ready for invoicing while others are not.

## STEP 8: FUNDS TRANSFER FROM BUSINESS UNITS TO IT

### Set up a mechanism for easy funds transfer.

Business unit leads must be able to pay automatically by approving invoices or have the option to dispute charges. Some companies may stop at showback.

Still a work in progress, financial transparency enables EMC IT to have a clear view of IT spend. For example, today, EMC charges back software development directly to end users. Financial transparency is enabling the IT organization to have conversations with the business about shifting the core IT budget to the business units and then using chargeback/showback for services.

## Key Considerations

Cost transparency enables IT and business units to have an unprecedented view into IT spend. Cost transparency doesn't automatically mean you embrace 100 percent chargeback, but it does mean you at least *showback* 100 percent of your costs.

You may still decide not to charge back anything to your business units or cross-charge IT costs based on headcount. However, by employing cost transparency, you can introduce a monthly showback invoice so business units can see what it is costing the company from an IT perspective—and not from just a flat headcount perspective.

## WHAT ITaaS MEANS TO THE IT ORGANIZATION AND BUSINESS

IT-as-a-Service, from an infrastructure perspective, is the ability to offer on-demand provisioning of the entire IT stack via a standardized self-service catalog. For IT, this model represents a transition to a new role as service provider—one that necessitates a more market-driven stance and fosters an environment of transparency through greater financial and operational accountability.

In essence, it is an evolution from IT-centric costing to a new operational style that maps costs and prices of business-relevant services based on business-controllable drivers.

For the business, IT-as-a-Service provides clarity into what it is getting from IT and where the value lies. This new on-demand, self-service model also brings with it a change to metered usage and chargeback—with the tools and incentives to facilitate greater awareness of IT spend for better control of IT cost. However, moving to chargeback is not risk-free and the transition must be carefully managed.

### Some pitfalls are as follows:

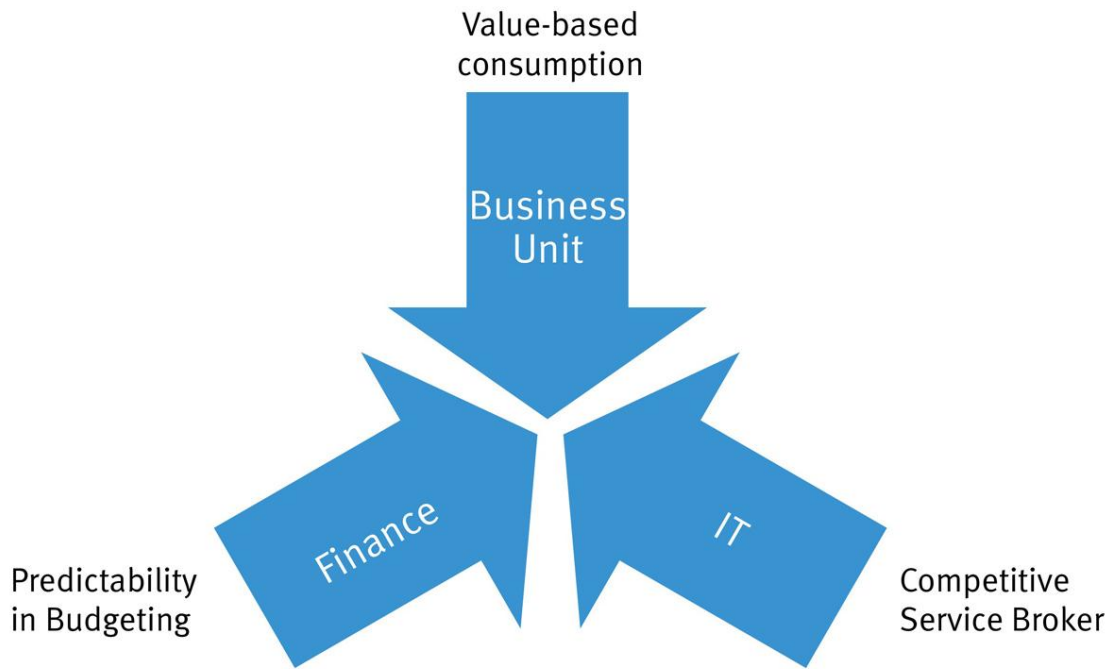
- Business units' misunderstanding of the chargeback model and tools can result in rejection. This model is often perceived as new or additional cost or the business may not be familiar with the portfolio of services offered and their consumption. Therefore, IT, finance, and the business must communicate early and often to jointly develop the chargeback model. This includes the service catalog reflecting business (not IT) categories and terminology.
- Tracking, billing, and adjudication require significant new effort every month that undermines the value proposition of the program and results in frequent billing disputes. To avoid these issues, cost tracking should not be excessively granular and the design of the catalog, service contracts, and bills should be carefully evaluated for clarity and usability.
- IT may lack the capacity to fulfill service requests. IT must obtain funding to prepare the infrastructure to meet expected demand. One way to “generate” the funding for the additional IT infrastructure would be to shift a portion of business unit CAPEX infrastructure budgets to IT.
- IT fails to respond quickly to service reduction requests resulting in a decrease in a business unit's ability to control costs. To address this challenge IT must ensure that it has adequate systems to respond quickly and must be willing to absorb costs related to delayed response. When this is the result of an economic or company specific slowdown, the IT organization will need to have strategic conversations with the CFO to determine whether the slowdown is transitory or longer term. This will help determine the amount of service reductions and whether any additional corporate funding is needed (in the case of a transitory slowdown). The business may reject some IT services and use external providers, which may cause fragmentation of technical platforms. Though IT should be required to compete with external vendors for many services, all parties will still have to rely on corporate governance and policy to ensure cohesiveness

of the corporate-wide IT platform. Some services will always be provided by internal IT, due to security and/or corporate strategies. In these cases, it is still important to compare IT's internal delivery model and benchmark costs to external providers to have meaningful conversations with business unit leaders.

- IT misses the budget due to an overestimate of demand. To help ensure budget and demand align, IT must anticipate potential demand shortfalls and carefully monitor this and adjust prices throughout the year. The organization could also maintain flexibility in its own capacity by subcontracting with other vendors for some hosting. However, please note that mid-year price adjustment may be frowned upon by the business.
- Don't fall into the "build it and they will come" trap. Demand analysis must be done because investing in and offering a service that ultimately has little demand will quickly consume any buffer in your overall pricing policies. Cost/price versus consumption sensitivity analysis is an important tool for determining when a service becomes profitable or fully cost recovered. Sensitivity analysis is an important tool that should be deployed to determine whether or not a service could be offered internally or would be better serviced by an external provider.

## THE POWER OF A ROBUST CHARGEBACK/SHOWBACK STRATEGY

A robust chargeback/showback strategy is more than just a cost recovery tool—it can unleash a powerful competitive advantage that can be leveraged indefinitely.



**Figure 6: Achieving Financial Transparency Benefits Everyone**

Such a strategy also provides the flexibility for IT resources that enable business units to be more responsive to market shifts and opportunities. It eliminates waste in IT infrastructure spending which enables companies to conserve resources and better manage costs. Savings can then be reallocated in ways that further promote success—from speeding the adoption of powerful enabling technologies to fostering strategic new business. And, ultimately the approach helps IT support the business to become a more agile enterprise.

## References

Read the following for more information:

[www.emc.com/EMCITProven](http://www.emc.com/EMCITProven)

EMC IT's Journey to the Private Cloud blog at <http://itblog.emc.com/>

EMC IT's Journey to the Private Cloud white paper series. Topics include:

[EMC IT's Journey to the Cloud: A practitioner's guide](#)

[Backup and Recovery](#)

[Applications and Cloud Experience](#)

[Virtual Desktop](#)

[Server Virtualization](#)

[ESG IT Audit: EMC's Journey to the Private Cloud](#)

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