ABSTRACT

Financial transparency is critical to achieving IT transformation and realizing the full value of IT-as-a-Service. This white paper documents EMC IT’s progress from planning for financial transparency to executing enterprise-wide chargeback. The paper details EMC IT’s approach, best practices, lessons learned and key achievements. Financial transparency has transformed IT from a “keeping the lights on” organization to a service provider adept at mapping IT investments to business unit and corporate priorities. In addition to saving millions of dollars and achieving high data quality, EMC IT’s financial transparency initiative has enabled business units to drive increased growth and profitability from their IT investments.

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EXECUTIVE SUMMARY

The journey to IT-as-a-Service (ITaaS) can be long, spanning critical phases such as infrastructure consolidation, virtualization, and service automation. EMC IT’s own experience from nearly a decade of transformation has shown the value of having a long-range ITaaS strategy and methodical process for effecting change. Having built an agile private cloud, EMC IT needed to take the next critical step in creating greater business value from its cloud infrastructure. This required planning and delivering comprehensive financial transparency to the business.

For more than three years, EMC IT has been putting in place the systems, policies, and relationships to make IT financial transparency a reality. Fundamental to this effort has been creating a detailed system for identifying all costs associated with delivering IT services and mapping them to individual business unit consumption of those services. This white paper documents EMC IT’s methodology for building an effective cost model, with an emphasis on ensuring data quality. In addition, it follows the journey of expanding chargeback for a wide range of services and introducing an IT invoice to EMC’s business units.

A key aspect of enabling financial transparency has been transforming IT’s role to become a competitive, value-focused service provider. This has meant developing strong, trusted relationships between IT and the business units, as well as putting mechanisms in place to validate the value that EMC IT delivers back to the business.

Based on the insights gained from the rollout of IT financial transparency, EMC IT has developed a set of best practices to help other enterprises gain from EMC’s experience. The paper also provides a number of important lessons learned to help enterprises avoid common pitfalls in such a major undertaking.

Ultimately, the rewards for committing to IT financial transparency have proven to be significant. EMC IT has dramatically improved efficiency and agility, saving millions of dollars while shifting focus from “keeping the lights on” to delivering innovation. The result is enabling business units to enhance the value of their IT investments and strengthen their growth opportunities and improve profitability.
INTRODUCTION

EMC IT has been on a multi-year journey toward IT-as-a-Service (ITaaS) to drive more efficiency and return greater value to the business. In the initial phase of this journey, EMC IT focused on data center consolidation and platform standardization to set the stage for virtualization. Phase two of this journey involved virtualizing mission-critical business applications, progressing from a consolidated infrastructure to a shared infrastructure that enabled more agile deployment of IT resources in response to business demands. In phase three, EMC IT has been transforming its entire service delivery model, creating a service catalog supported by automated provisioning and standardized service management tools (Figure 1).

![Figure 1 – EMC Journey to IT-as-a-Service](image)

Transforming from a traditional IT organization to a competitive service provider required running IT more like a business. This holistic transformation program compelled IT to evaluate how it engages and delivers to its customers, develop a strategy that addresses the needs of these customers, and build the necessary business processes and capabilities to operate this new business model. Financial transparency was a critical component to this effort (Figure 2) as understanding the cost, price, and value of all IT services was a foundational capability to drive the overall transformation.

![Figure 2 – EMC IT Transformation](image)
Simply put, chargeback is the practice of invoicing each business unit for IT services it consumes. From the early stages of ITaaS, EMC IT was charging business units 54 percent of its budget for IT services, which primarily consisted of business application services, including software development and packaged applications such as enterprise resource planning (ERP) and customer relationship management (CRM), as well as end-user services, including printing, mobile devices and PCs.

Over a three-year period, and continuing today, EMC IT has been building greater financial transparency into its service delivery model and is now charging back 89 percent of all IT services. These include standard IT services that every employee uses, such as desktops, email, and telephone. EMC IT also charges back for hosting services, which span all the infrastructure, management, and support consumed by the business for either an application component (e.g. hosting that supports Oracle 11i) or a standalone product (e.g. a database platform developed and maintained by the business unit). As enablement of financial transparency continues, EMC IT expects to charge back for 100 percent of its services.

The motivation for moving toward full financial transparency is strong. Chargeback gives business units a clearer picture of what they spend on IT services, allowing them to gauge the value of those expenditures, make informed decisions about IT investment, and sharpen their focus on efficiency. Chargeback also enables EMC IT to operate more like a business, more closely aligning the services it provides to the needs of its business unit customers. Ultimately, this will enable IT to be more accountable, responsive and competitive.
PREPARING FOR FINANCIAL TRANSPARENCY

Extensive planning and preparation were necessary to expand chargeback and further ingrain financial transparency into EMC IT’s standard operating model. Initially, a small team of finance, business operations, and infrastructure managers within IT manually identified costs related to every aspect of delivering a service to the business units, including applications, supporting infrastructure such as servers, storage and networking, and labor required to deploy and manage these components. The objective was to accurately map exactly where each service resides in the infrastructure, capture the total cost associated with delivering the service, and identify the individual business unit or units using those services.

Following these initial steps of identifying cost sources and gathering data, EMC IT spent 12 months preparing to launch its expanded chargeback system (Figure 3).

A Standardized Cost Model

Once the IT team understood cost drivers and their mapping to each application service, an automated cost management solution was selected and implemented to streamline cost tracking and assist with building a standardized cost model. The cost model calculated all raw costs identified during the initial cost gathering exercise, and rolled these figures into cost pools, which could be directly associated with EMC IT’s portfolio of products and services. The goal during this stage was to keep the initial cost model as simple as possible and refine it as EMC’s IT financial transparency initiative evolved.

Ensuring Data Quality

To increase business unit acceptance of expanded chargeback, EMC IT realized the need to maximize the quality of data used in its cost model. Data quality was fundamental to justifying any chargeback scenario.

As data was gathered and reported on by individual areas of responsibility within IT, such as finance, business operations, and infrastructure), the financial transparency team began to consolidate this information and soon discovered gaps. The team spent several months scrubbing the data and only achieved 60-70 percent accuracy. Recognizing that this labor-intensive approach was not sustainable for delivering the data accuracy desired, the team developed an in-house tool to automate the data scrubbing process.

The data quality tool, inspired from best practice frameworks such as CMMI/ISO and ITIL and others, follows a full data quality lifecycle that includes data acquisition, analysis, notification and problem resolution (Figure 4). The result is a Data Quality-as-a-Service system that creates a consolidated set of cost data for reporting and consumption in the chargeback model.

Since implementing Data Quality-as-a-Service, time spent gathering, analyzing, and correcting data decreased from more than 280 hours per week to less than 10 hours per week. EMC IT estimates savings of more than $60,000 per month in labor costs alone. Even more importantly, data accuracy has increased to 95 percent – an approximately 50 percent improvement.
Stabilization and Reporting
To ensure ongoing data quality and stabilize the cost model, EMC IT introduced procedures for identifying any gaps or inconsistencies in cost data and automatically generating a notification to "data stewards." These are individuals in IT who are personally responsible for understanding every aspect of cost data within a specific group or data domain, such as project management, data center management and IT service management. By owning the data, these individuals can ensure that any problems are properly corrected in the master data set.

At this stage, EMC IT also was ready to create and produce reports for the business units to show the cost analysis and justification for chargeback.

Communicating with Other Groups
After building the cost model and scrubbing the data, EMC IT was ready to "market" the expanded chargeback plan to EMC’s business units.

First, in-depth communications with EMC’s corporate financial planning and analysis group was essential. This was a critical step to the group understanding that the new IT chargebacks would not impact EMC’s margins since money would be moving out of general and administrative accounting into specific business unit budgets. While the financial analysis did not reveal any issues, this open communication also prepared the finance team to understand and explain the redistribution of cost to EMC’s investor community.

In addition, EMC IT met with EMC’s tax organization over several months to consider cross-border tax laws and other international regulations when charging back EMC’s international business units for IT services.

Following these discussions, EMC IT embarked on a broad communications campaign, which involved developing a Frequently Asked Questions (FAQ) document and PowerPoint presentation, and then meeting multiple times with financial teams in each business unit to present the IT cost model and chargeback plan.
EXECUTING THE NEW CHARGEBACK SYSTEM

In the second year of its financial transparency initiative, EMC IT formally introduced expanded chargeback to include hosting services, end-user services, and optional services.

Hosting services provide a platform to support business applications, data, and tools consumed by the business. These services span ERP, CRM, human resources, and other services used broadly across EMC. The business units are charged for these services based on the number and type of servers required to support their specific applications.

End-user services encompass communication and collaboration (email, messaging, video conferencing), computing (office software, desktop tools, help desk, mobile support), and connectivity (Internet, VPN, network services). Since all business units consume end-user services to support their operations, charges are based on employee headcount.

Optional services include ITaaS offerings such as SharePoint, Syncplicity, Virtual Server, Virtual Desktop, etc., and other premium services that are requested by individual business units and typically not consumed by all employees. Business units are billed for these services separately.

As a result of this expanded chargeback, EMC IT transitioned from 54 to 89 percent chargeback across the corporation (Figure 5) in only 12 months.

![Financial Transparency Transition](image)

Financial transparency also involved creating new consumption-based contracts with managed service providers, which traditionally charged EMC for labor costs associated with IT services, such as production support, provided to the business units. Instead, the new formula is based on usage, such as services consumed or service tickets closed, saving IT millions of dollars in fees for managed services.

Introducing the Formal Invoice

With a robust chargeback system in place, EMC IT introduced the formal invoice process to the business units. IT rolled up service charges from cost data and presented them to the business units. The initial invoicing process took three months to complete due to the simultaneous rollout of EMC’s new ERP solution, requiring adjustments to financial processes. EMC IT then worked with each business unit on completing proper journal entries in the accounting system.

Challenges to the Invoicing Process

EMC IT did encounter some resistance from one business unit to the new cross-charging system. In response, IT finance spent several weeks with the business unit reviewing the chargeback methodology and showing the source of cost data and verifying its quality. IT finance also emphasized that financial transparency was an enterprise-wide initiative necessitating the business unit’s participation. With the extensive, open communications and the availability of detailed, high-quality data, the business unit eventually came onboard. Ultimately, the IT finance team helped the business unit shift monies from areas that needed to reduce expenditures and into underfunded programs.
Service Strategy and Pricing Methodology

As chargebacks and invoicing progressed, EMC IT began planning service strategies for the coming year. This involved updating cost models for operating and capital expenses and running new cost reports. From these reports, EMC IT determined service pricing (Figure 6).

<table>
<thead>
<tr>
<th>Description</th>
<th>Pricing approach</th>
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<tr>
<td>IT services that are provisioned by default to all EMC personnel</td>
<td>Initially priced per user. Future based on service consumption (see next slide)</td>
</tr>
<tr>
<td>IT services that are requested by specific business units and/or staff, e.g., enhanced backup, personal iPad configuration</td>
<td>Based on costs (plus margin) and informed by market prices</td>
</tr>
<tr>
<td>New applications and/or upgrades required by the business (including SaaS integration)</td>
<td>Based on hourly rates and other costs (e.g., licenses)</td>
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<tr>
<td>Services that include: Security services, project estimating, IT Proven, Architecture, etc</td>
<td>Based on hourly rates and/or predetermined SOWs</td>
</tr>
<tr>
<td>All flavors of hosting offered by IT including IaaS, Cloud9 and Business application hosting</td>
<td>Based on infrastructure and support costs – allocated by VM/server/storage consumption</td>
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EMC IT then spent several months communicating the new service prices to the business unit finance controllers. When everyone was onboard with updated pricing, EMC IT loaded the new chargeback model into the cost management system so it would be ready to generate invoices when the year began.

Simple, Fair, and Accurate Chargeback

Throughout its financial transparency journey, EMC IT has focused on a chargeback process that emphasizes simplicity, fairness and accuracy. To achieve these objectives, EMC IT follows an eight-step chargeback process that:

1. Chooses services that align to industry offerings
2. Allocates both fixed and variable costs to specific services
3. Determines unit drivers for costs and prices in each service category
4. Derives unit costs by dividing service costs by the service unit driver
5. Ensures that unit prices reflect corporate goals
6. Measures service consumption for each service and map it to the appropriate service unit driver
7. Creates monthly invoices of each service for business units
8. Sets up a mechanism for easy funds transfer from the business unit to IT

Additional detail on EMC’s chargeback process is available in an EMC white paper, “IT-as-a-Service: Guiding Principles for Achieving Financial Transparency.”

![Figure 6 – Pricing Methodology](image-url)
CONTINUING THE JOURNEY

Building on its success EMC IT continues to add functionality to its chargeback capabilities by:

• Automating data collection and consumption information
• Delivering automated invoices to IT consumers
• Providing IT Consumers a view into past spend, current spends, and predicted future spend to aid in planning
• Delivering consumption forecast to the IT delivery teams to aid in capacity planning efforts.

In addition EMC IT will continue to add more granularity as needed to drive the right consumption decisions. Sticking to its guiding principles EMC IT will balance the desire for increased granularity with the value that information provides to inform consumption decisions.
FINANCIAL TRANSPARENCY BEST PRACTICES

Based on its three-year effort to achieve financial transparency, EMC IT has developed a set of best practices that will help other enterprises embarking on a similar journey maximize their success.

Align IT Initiatives to Business Unit Priorities

One of the most important things for IT organizations engaged in financial transparency is to facilitate agreement among the business leaders regarding where money should be spent in the coming year. This requires thoughtful alignment of individual IT initiatives to not only business unit objectives, but also corporate goals (Figure 7).

![Figure 7 – Alignment of IT Initiatives to the Business](image)

Follow Consistent Decision-Making Process

Further alignment between IT and the business requires abiding by a set of principles that guide the decision-making process. One option is to adopt "zero-based budgeting." By following this principle, all initiatives—including existing projects and new projects—must compete for funding every year. Such an approach means that some ongoing projects could be de-funded even if they were previously considered necessary.

An alternative approach is cascading funding, which EMC adopted. This approach recognizes that certain existing applications and tools are essential to sustain the business. Therefore, they do not have to compete for funding in the next budget year. The remaining budget (approximately 60 percent) is pooled as enterprise funds that are divided across individual business unit projects. If a business unit completes a project under budget, the surplus goes back into the enterprise pool for allocation to another project in need of funds. Projects that are not completed within the year also can be carried forward.

Rank Enterprise Projects

To qualify for enterprise pool funding, a business unit project is ranked. EMC IT formed an "IT Investment Council" comprised of senior IT and business unit executives who meet at the end of each year to discuss all upcoming IT projects. Members of the council rank each business unit project based on priority—high, medium, or low. IT scores these rankings (high=5, medium=3, and low=1) and funding is allocated based on a combination of total score and number of "high" votes until the pool is depleted (Figure 8).
Maintain Transparency with Timely Checkpoints
To maintain open communications and address any emerging concerns regarding funded programs, the IT Investment Council meets quarterly. During these 90-minute meetings, IT updates business unit leaders on spending to date and alerts them to any challenges. This is also an opportunity to discuss reallocation of leftover funds for any completed programs that were under budget.

Move to Unit-based Consumption
A successful journey to financial transparency requires a unit-based consumption model wherever possible. A good example of this is in the area of managed services where EMC was paying service providers for their application development and support activities. Prior to the unit-based consumption model, EMC paid service providers for capacity, such as full-time equivalents. In the new model, EMC pays for units consumed. In the production support arena, EMC pays by the closed incident. For development, EMC pays for a unit or work based on a mutually agreed upon estimate for that work.

EMC measures production support units by tickets and development activities by a WWR (weighted work request – normalized effort calculation). This has allowed EMC IT to be more predictable in forecasting and budgeting. It also has increased EMC IT’s focus on identifying and pursuing opportunities that minimize overall production support costs with new programs aimed at reducing ticket volumes.

For hosted services, EMC IT has created a unit cost per host, which includes all costs for virtualization, storage, memory, and other technology components. This provides a much more granular and accurate accounting of real costs associated with delivering that host.

Follow a Strict General Ledger Process for Chargeback
For EMC IT, instituting end-user chargeback meant moving monies to 30 different business units. We needed to do this because those services were in IT’s budget run rate. Therefore it is important to maintain a strict process for how funds are allocated in the general ledger. Minimizing variations is key to avoiding complexity and potential errors. Also important to note that IT is not a profit center but a cost center so it’s important to keep budgets whole with any kind of charge back moves.

Maintain Open Communications
Financial transparency can challenge corporate culture and may face pushback. Therefore, it is essential that IT finance organizations maximize every opportunity to dispel misconceptions and overcome resistance with proactive, transparent communications.
First, IT should target existing relationships with the business units. This provides an opportunity to identify early adopters who can provide valuable feedback and potentially become champions of the financial transparency effort.

Building consensus among IT finance and business unit controllers is critical. EMC IT conducted an extensive email communication campaign, held information sessions, and met personally with business unit leaders over several months to ensure everyone understood and accepted the chargeback strategy.

In addition, IT needs to demonstrate its commitment to data quality. IT must have systems to scrub data and resolve errors so they can demonstrate to the business units that chargebacks are accurate. Sharing the data quality methodology with business unit controllers should be a key part of ongoing communications.

Many financial transparency efforts fail because they become too complicated. EMC IT found the best path to success was keeping the process and message as simple as possible. Instead of trying to understand every single cost component upfront, EMC IT started with a relatively simple cost model and pricing strategy that has evolved to become more granular.

With any project of this scope, there are bound to be some objections. It is important to address resistance early so that one or two objectors do not derail the entire project. The key is regular and consistent communication, sharing details of how costs are justified, and emphasizing that financial transparency is a corporate imperative that requires participation by all business units. This requires a delicate balance of listening to concerns, accepting feedback and building consensus, as well as maintaining a firm commitment to rolling out the program.
REFLECTIONS
EMC IT learned several valuable lessons along its financial transparency journey.

Analyze Cost vs. Price
EMC IT determined that it is important to set pricing slightly higher than cost to account for unexpected overruns. Price should also factor in other considerations such as tax structure, accounting rules, security, and regulatory compliance. The goal is not to maximize profitability, but to effectively recover costs in a simple, transparent and efficient manner.

Pricing strategy also can encourage desirable business outcomes. For example, higher prices may be applied to legacy platforms targeted for obsolescence to reduce demand and consumption.

Benchmark against External Service Providers
Business users have many options today for obtaining IT services, particularly from external cloud providers. It’s essential that IT organizations regularly compare their service offerings and pricing to those offered by outside providers to ensure they maintain a competitive position.

Don't Underestimate Corporate Culture
Well-established corporate culture can be difficult to change. IT organizations should expect some initial resistance to chargeback and preempt that resistance by challenging the status quo with strong cost data. EMC IT found that investing the time and effort to identify all cost sources and build a data quality system was a powerful way to defuse objections and build consensus.

Evolve the DNA of IT
Change within IT can also be challenging. Transforming from a technology-focused organization to a service provider with P&L ownership cannot occur overnight. EMC IT has found success by training IT staff on its evolving role and making ITaaS an integral part of the organization’s vision and strategic objectives.

Make Data Quality a Priority
Enterprises may not always consider the importance of data quality, but it is fundamental to chargeback and ultimately financial transparency success. Data quality should be a major focus of the planning process and emphasized throughout the rollout of a chargeback program. With strong data quality, IT organizations will be in a much stronger position to substantiate their cost model and justify chargebacks.
FINANCIAL TRANSPARENCY ACHIEVEMENTS

The impact of financial transparency has been significant, and further benefits are expected as EMC IT continues to extend chargebacks and refine its cost model.

One of the most profound results has been the changing relationship between IT and the business units. By running IT more as a business and adopting the role of competitive service provider, IT’s discussions with business units are now much more focused on value than technology specifications. Business units better understand how each IT initiative they choose to fund supports their individual business goals, as well as the larger goals of the corporation. Business units not only have a clearer picture of what they spend on IT services, but they can better gauge the value of those expenditures to guide their future IT investment decisions. By building greater trust and demonstrating higher value, EMC IT also has reduced the prevalence of shadow IT and its associated risks and run-time costs.

Better alignment of IT services and support to business value has also produced measurable financial benefits, including a reduction in IT operating expense as a percentage of EMC revenue (Figure 9) and reduced labor to support IT infrastructure (Figure 10).

Figure 9 – Reduced IT OPEX as Percentage of EMC Revenue

Figure 10 – Reduced Labor to Support IT Infrastructure
In addition, the number of enterprise projects compared to functional projects within IT increased from 40 to 76 percent in four years.

As a result of mapping applications to business unit consumption, EMC IT has been able to rationalize applications and right-size existing tools, reducing duplicate applications and redundant capabilities. This further enables IT to move away from "keep-the-lights-on" spending and invest more in innovation to help grow the business. Across the board, financial transparency is helping EMC IT eliminate waste and increase its value to the business.

Implementing service management has led to significant productivity gains for EMC IT. By moving managed service contracts to a unit-based cost structure rather than paying per FTE, EMC IT has realized millions of dollars in savings.

Most important, by successfully instituting financial transparency, EMC IT has entered a mature phase in its journey to IT-as-a-Service. Efficiency has greatly improved thanks to standardized application offerings. And with a more agile service delivery model, IT can respond to business requests in days or hours instead of weeks or months.

Ultimately, efficient and agile IT is enabling EMC business units to respond more quickly to market shifts and new opportunities while better managing costs. As a result, EMC IT is an integral partner in helping the business drive growth and profitability.

REFERENCES

For more information, please visit: www.EMC.com/EMCITProven

EMC IT’s IT Transformation blog at: http://itblog.emc.com