

WHITE PAPER

IMPORTANT INFORMATION BY

NORTHERN



PRODUCT: NORTHERN STORAGE CHARGEBACK

VERSION: 2003

SUBJECT: THE CONCEPT AND PRACTICAL APPLICATION OF A SYSTEM OF INTERNAL BILLING

PAGES: 3

DATE: JANUARY 8, 2004

ABSTRACT

This white paper details some of the key reasons behind the increasing adoption of chargeback systems. Close attention is paid to the methods by which organizations can implement chargeback systems to both reduce and spread the costs of providing storage resources.

THE CONCEPT AND PRACTICAL APPLICATION OF A SYSTEM OF INTERNAL BILLING

An organization has many resources. These can be cash reserves, employees, raw materials, machinery or information. Essentially, a resource is something that contributes to an organization's value, a tool to be used in process of working towards its goals. It is the effective use of these tools that separates successful from unsuccessful organizations. Even companies with unique ideas or protected rights to a certain type of product must make effective use of their resources in order to successfully exploit their market position. The company that effectively employs its resources maximizes its profitability and secures its position in an uncertain future.

In order that efficiency is achieved, a modern company must work to identify the root cause of its costs and appraise the returns these activities offer. Ideally, each component of the organization should be able to account for its costs and demonstrate that the returns it achieves outweigh these costs – each component of the organization should be profitable.

It is clear that in many cases the root causes of costs incurred by one component will be found to lie within other components of the organization. These costs are usually those carried by central administrative functions, such as Legal, Accounts or IT departments.

These central functions spread benefits throughout the organization but have no clear opportunity to generate profit locally. Traditionally these central functions would receive annual budgets based on historical and anticipated future needs. This type of internal financing system does not require that the root causes of costs be identified and evaluated; it does not encourage efficiency. An organization's IT department is a prime example of a function that was/is financed in this manner.

Increasingly, companies are choosing to introduce systems of internal billing in order to address these inefficient financing procedures; they are choosing to identify the root causes of costs involved in providing these central functions and then spread these costs equitably and accurately throughout the organization. These systems can be likened to a system of buying and selling services, department A purchases a defined and priced service from department B.

INTERNAL BILLING AND THE IT DEPARTMENT

The IT infrastructure of an organization is often one of the first central functions to be funded to some degree, or in its entirety, by a process of internal billing. The IT Department provides and maintains file servers, printers, Internet access, database systems, etc. These resources are then utilized in different ways by the different components of the organization. With the advent of internal billing, or charge-back procedures; organizational components are forced to finance the provision of the IT resources they use. One such resource, which importance is becoming increasingly recognized, is data storage.

INTERNAL BILLING AND STORAGE

The increasing importance of a flexible, reliable and scalable data storage resource goes hand-in-hand with an ever-increasing availability of, and organizational dependency on, information. Of course, as the importance of the quality in this service increases, so too do the costs and in turn the need to spread these costs in order to achieve efficiency.

The identification of ownership and the spreading of these costs can be achieved through the use of a number of systems and according to a number of calculation methods. In the case of data storage use, the most obvious system to be employed is the use of a software solution, a so-called 'Chargeback Solution' or 'Chargeback Application'.

There are three central methods of identifying costs ownership and calculating actual financial responsibilities:

- Calculate the total cost of ownership for the storage resources and divide this cost equally between the total number of users. Then bill organizational components according to the number of users who work within them.
- Calculate the per-unit-cost of a server and charge the cost to the organizational component that uses the server.
- Calculate the cost of supplying different kinds of storage media, then meter the data storage use per organizational component [or user] and charge the organizational component for what and how much it is using.

The first method has the obvious benefit of being easy to implement. Anyone can apply this kind of chargeback scheme. The method does however suffer from its lack of accuracy and fairness. The method does not allow for who is using what and places the burden of an additional cost irrespective of how much a specific organizational unit uses in terms of data storage.

The second method has more merit than the first and follows data storage use in a more evenhanded way, particularly if it is possible to break down the cost on a server-by-server basis. The model becomes more awkward if different departments share servers. Even if they don't share drives there is no fair way to measure how much a specific organizational components is using. Furthermore, it is hardly ever the case that the organizational divisions are so transparent, often several departments share the same IT facility.

The third method is undoubtedly the most convincing, mainly because it connects the costs to the amount of data storage that a specific organizational component makes use of. The principal gain of this method is then that it creates dynamic incentives that allow organizational components to take action. For instance, an organizational component might idly use considerable amounts of data storage without paying any attention to the costs to the rest of the organization. The department in question does not in fact need to store all the data they are currently stockpiling. It is likely they are hoarding obsolete or unnecessary material that they are made aware of when it ceases to be a free lunch.

CHARGEBACK APPLICATIONS

The third method requires the use of a software agent. When you choose to implement a chargeback application there are several questions that will need to be resolved. For instance, is the software going to break down the costs per user or organizational unit? If you select the organizational approach, as many do, it is important to assure that the Groups of users that have been created in the operating system mimic the organizational units of the company in an adequate manner. It is also important to resolve the question of associates that work in several different departments at the same time. Which department will pick up the tab?

Other questions to consider relate to the internal politics of your organization. It is likely that department heads will react against a chargeback system that places new burdens on their budgets. It is therefore to iron out these questions early on and assure that the chargeback system is sanctioned and made a matter of policy. In any event, there is often much to gain from discussing the new chargeback policies before they are implemented and to inform affected parties of all the practicalities of the new routine.

WHAT DOES DATA STORAGE COST?

There are many ways of storing data. They differ strongly in terms of cost of acquisition, but also in terms of how much maintenance and monitoring they require. In enterprise environments you find advanced data storage systems, prioritized systems that have round-the-clock availability, systems that can be restored very quickly in the event of catastrophic system failure. There are also systems that are so important that they are kept available through redundancy. This is achieved through real-time mirroring or clustering. But there are also less prioritized servers which are significantly cheaper to purchase and maintain. Consequently it becomes very important to properly evaluate the cost of the different systems in your environment. Where appropriate the IT department should also consider the implications of any service level agreements and ensure that the cost of maintaining the systems are made proportional to the contractual commitment of these agreements.

Whatever the case may be it is difficult, if not impossible, to give general advice on how much to charge for a certain amount of storage.

All chargeback application worth their salt do however offer functionality that enable storage administrators to generate itemized reports or invoices that make it clear where a certain cost has originated so that the department heads can distinguish the expensive storages systems from the cheap. The chargeback application should of course also enable the storage administrator to create tariffs that are transparent and reasonable to the end-user and the real underlying costs. A chargeback application is further strengthened if it offers some practical means of informing concerned managers of their department's storage use. It can, for instance, be valuable for a manager to get an idea of how much old material the department stores, or if there is considerable amounts of film or music contributing to the costs. For this reason, a good chargeback application integrates with reporting tools that generate these kinds of storage analysis reports.

CONCLUSION

A chargeback system makes it possible to implement cogent steering of patterns of data storage use. This brings about a situation where unnecessary costs are brought to light. There are several good ways to realize an efficient chargeback system, but they are all similar in one respect: they attach a price tag to data storage that reveals the costs the IT department carry.