New in 2007   Report #TCG2007038   March 10, 2007

The Accounting Pendulum Swings at Storage
(or, *Why The Taxman Cometh?*)

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Bear with me; this is really about storage resource management. Reality isn't always seen as the same by different observers. What is obvious to some is not obvious to all, at least at the same instance. In some cases, the light bulb just needs to be turned on; in others, a lens must also be inserted to receive a clear picture. Some things are obvious, but often misunderstood. Others are very subtle, with even more subtle undertones for those who interpret it.

We are in a new era of storage management, one that is increasingly important to the health and welfare of the enterprise. The reasons and consequences are many.

1. **Storage is important**, because this is an information-based economy with critical information assets that depend on increasing amounts of data

2. **Storage growth continues.** Although maybe slower than before, its rate of growth still outstrips just about everything else in the enterprise. For some enterprises, the quantity of data soon will be measured in petabytes.

3. **Storage is an increasing expense**, even as the unit cost per megabyte continues to drop. The dropping unit cost allows us to keep up with the cost of buying the capital storage asset, but the cost of housing, moving and, especially, managing the ever-increasing mass has become financially significant.

4. **Storage is an administrative and operational challenge.** We've all heard that we can't continue to manage storage as we do today, because there aren't enough talented people to do what needs to be done. True enough, but more important is the realization that enterprises can no longer afford to pay for these functions at the present compensation rates, even if the people were available, nor can enterprises risk missing critical quality-of-service (QoS) objectives.

5. **Storage is an executive management priority.** Cost has become the big enemy in a period of stagnant revenue, and the cost for storage provisioning stands out like a tall pine in a field of wheat. The conclusion: storage utilization and costs need to be managed, and sooner is better.

6. **Storage is a necessary resource, essential for the health and growth of the enterprise.** Like water for living creatures, we can't live without it. Not only do we need it, we get used to it as an always-available (turn-the-faucet) commodity whose highest quality is presumed and very low cost is expected.

7. **Storage conservation has been an oxymoron, or maybe some environmentalist's joke.** How can something so plentiful and cheap need to be conserved?

8. **Storage management has been somebody else's problem.** We have real work to do. Just turn on the resource when I need it, and someone else will pay for (subsidize) it.

9. **Storage management software has become the vendors' next big promise for storage administrators and managers.** But are we just trading one set of complexities and costs to simplify and reduce the cost of another set? Careful consideration is required.

10. **Storage data – how data is stored, changed, access, used, etc., and by which processes, programs, and users – is about to become increasingly plentiful.** Now we need to figure out how to use it for the benefit of the enterprise.

11. **Storage is subject to management accounting.** (OK, this one is not so obvious.) We've been so busy growing our storage reservoir that we have had little energy, time, and methods to get customers to pay for what they use, or even know what they use. (For those who pay water bills, what is a 100 cubic feet of water, anyway? Gigabytes are equally unfathomable.)

12. **Storage should be subject to more precise taxation.** Most business units pay for storage according to some taxation plan. Sometimes this is a percentage of forecasted annual revenues, sometimes this is based up an estimate of resources to be used, but rarely[1] is this metered based on actual consumption); we haven't had the tools to tie storage allocation and use back to applications and business units.

13. **Storage taxes are going to become directly billable** to business units based upon allocation, use, and quality of service provided. The tools to do this are on the very near horizon.

14. **Storage use will come under increased scrutiny by business unit management.** In today's economy, few can continue to ignore that ever-increasing utility bill. Justifications will come under the management microscope.

15. **Storage quality of service will become important**; for many, this will be the first time. Many have presumed that there is only one quality of service – the highest quality, with the greatest purity; who would want anything else? But the reality is that there are many possible characteristics of quality – delineating availability (uptime), performance (speed of access and rate of transfer), recoverability (local and/or remote), connectability (SAN/NAS/-direct attach), support, etc.

16. **Tiered levels of storage[2], each with different QoS and costs, will become the norm.** If you can account (and charge) for the actual quantities of varying levels of QoS deployed and used, then the documents, files, and databases will seek their proper positioning in the cost/benefit hierarchy.

17. **Storage decisions will have to be managed regularly and dynamically by business units to meet their established policy goals.** This may be aggregated by application or other business activity. Business unit storage managers will not be focused on delivering storage to their users, but on setting and optimizing their storage policy goals (by application, database, user class, etc.) to live within budgetary requirements. Somebody else, possibly in a different organization or even an outside provider, will deliver the storage where it is needed, when it is needed, by class of QoS.

18. **Storage procurement will never be the same.** It will no longer be about getting the best deal on the storage, but about getting access to the right class of storage at the best price. Whether the storage utility is in-house (say, the IT infrastructure organization within the enterprise) or outsourced to an independent utility company[3], storage procurement will now be between the business unit and the utility provider. The storage vendors (hardware and software) will no longer be seen by most business units.

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[1] Except in the mainframe world.

[2] See *Tiered Storage Classes Save Money – Getting The Most Out Of Your Storage Infrastructure* in the issue of **Clipper Notes** dated March 1, 2007, available at http://www.clipper.com/research/TCG2007032.pdf.

[3] Yes there is a future role for SSPs (storage service providers), as long as they realize that they are being measured on how economically they can provide tiered levels of service to economically-constrained customers in a free market.

Conclusion

The taxman is on his way because the storage accounting tools to run a utility – that is, to bill for what is allocated and consumed – are on the near horizon. The supposedly free lunch is over! Get over it and move on.

Storage accounting is a key part of storage management, but not the only part. The utility's managers and administrators also need tools for provisioning to deliver the tiered levels of service to their customers. So **storage accounting and storage provisioning – think broadly – are two very different kinds of storage management**, both necessary, and both in need of the best tools to facilitate and optimize their very different goals of resource optimization.

Storage Resource Management (SRM) may be a meaningful term, but unfortunately the resource is in the eye of the beholder. Thus we have many products declaring to be SRM, but with very different meanings. **Make sure that you know which you are talking about the next time you discuss storage resource management. Everyone is looking to manage the storage resource!**

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