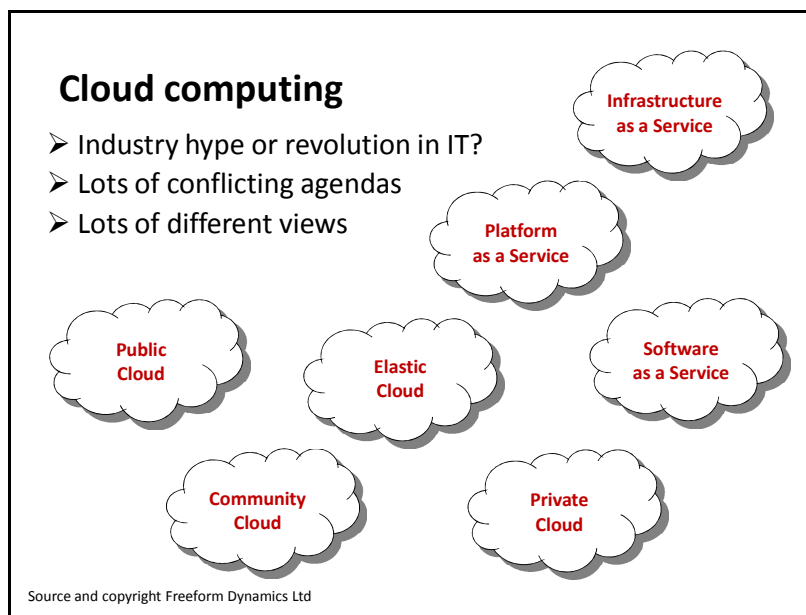

Cloud and Storage

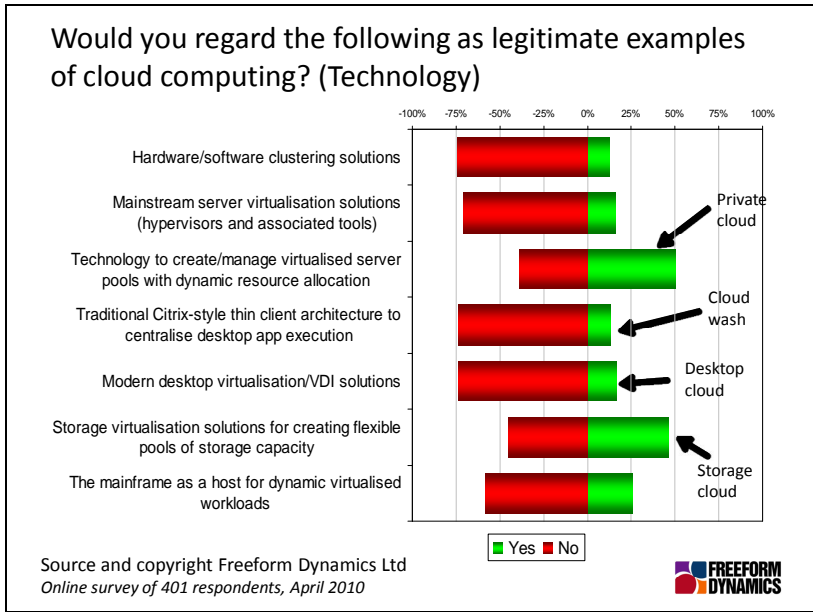
The way ahead?

By Tony Lock, May 2011

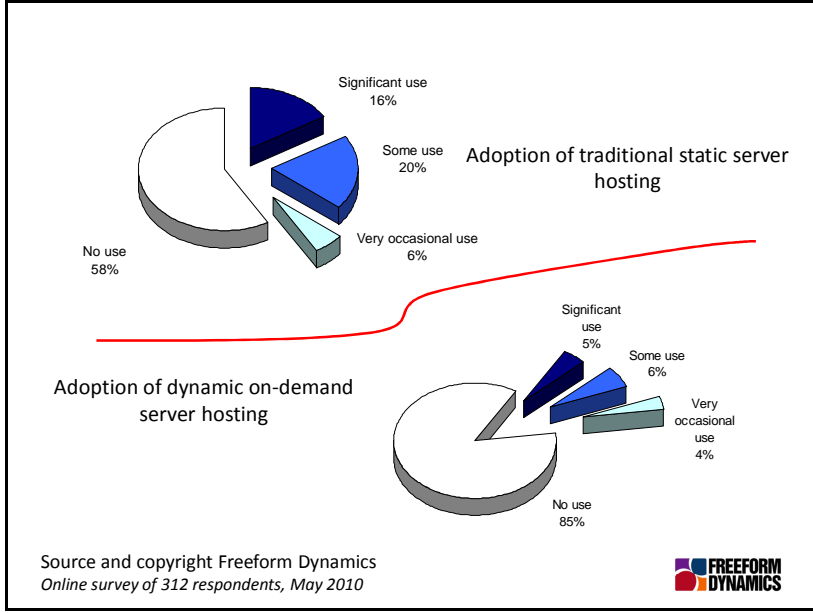
The topic of “Cloud” has not escaped the attention of anyone in business or IT. Today people are slowly becoming aware that the term Cloud does not describe a single offering but is rather used to conveniently refer to a broad range of solutions. In addition the term is now being used in both the context of solutions residing inside the data centre or outside the business entirely. What is the reality behind Cloud and, more particularly, what does it mean for those charged with the storage of data in today’s rapidly changing business environment?



With so many different definitions applied to the term “Cloud”, just what type of IT services do users see as being genuine cloud offerings? A glance at the figure below gives a hint. The key factor perceived to be essential for “cloudyness” is the ability for the service, whatever it might be, to scale flexibly. It is also interesting to note in this figure that storage virtualisation solutions delivering flexible pools of data storage enjoys one of the highest recognition rankings as being genuinely cloud like, although it also attracts a similar number of negative responses. Only virtualised server pooling solutions that deliver dynamic scaling capabilities, essentially internal server clouds, are perceived to be cloud computing by more people than those who disagree. Overall, it is very clear that the term “Cloud” still has a long way to go before there is anything like agreement on its use in the real world.



With so much disagreement on the use of the term, this does beg the question “is anyone actually doing anything?” If we just consider the flexible server pooling side of things and the use of external offerings it is obvious that the answer is no, or at least not yet. The figure below illustrates that few organisations today make significant use of external dynamically scalable systems, i.e. those services accepted to be external cloud systems.



So what considerations should an organisation take as they look at external cloud and storage? The immediate factors given by organisations frequently revolve around either matters of security, regulation, responsiveness of the service and the long term costs. And these apply to both internal cloud storage based on holding data in the most appropriate storage platform as it goes through its, potentially long life as well as using external suppliers in some form of hosted, managed service or outsourcing deal.

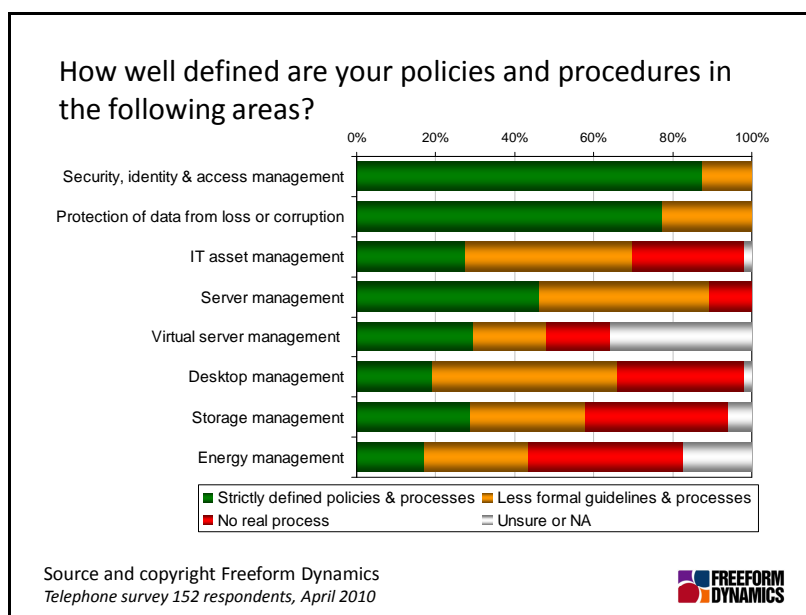
We know from a web survey conducted last year that fewer than one organisation in five believes they have very good capabilities to ensure that only “correct” information enters or leaves the organisation via Cloud file or storage sties. Given that this was conducted online , there is a high degree of probability that those professionals responding to the survey poll are likely to be more advanced in their overall “cloud” thinking than the IT population at large, or at least to have more interest in the area. This in turn could lead us to infer that even fewer organisations in reality are likely to be well placed to handle data moving being held on external cloud sites.

In fact, another web survey we conducted highlighted that around half of all organisations actually have in place policies that prohibit the storage of company data on third party systems, at least covering certain aspects of their business. Almost one in five have policies that stop the use of third party systems to hold any data. The likelihood is therefore, that internal cloud storage systems will need to be utilised widely before any form of external deployments will be considered in anger by a majority of organisations.

The primary starting point when looking at the best way to hold information should always be focussed on the data itself. Considerations such as what are the business requirements for its storage along with looking at effective options to meet the service level and cost of service, expectations of the users of the information must be fully evaluated. Investigating these questions can lead into non-IT areas such as the budget models by which IT operates and how storage is procured and managed along with questions of internal politics and vendor trust. But the starting point is what data do we have, how must it be secured and made available. Only then can one consider the options available for its long term storage, management, security and end of life disposal.

It is worthwhile bearing in mind that the business value of data is dynamic and follows its own lifecycle and this needs to also be considered when looking at utilising cloud based storage services. For transactional information, the data usually has a very high initial business value as its integrity and availability is paramount in completing the business transaction, once the transaction is complete the data then will typically be used in a decreasing exponential manner for reporting. The ability for any storage platform, internal or cloud, to manage this changing value of data is of paramount import when maximising efficiencies.

It is interesting to note that at a time when the cost of procuring and managing storage is becoming a major item in most IT budgets, research by Freeform Dynamics, coupled with many years of real world experience, highlight that few organisations have a good picture of what data they hold, its business importance and associated data management demands.



The figure above backs this up by highlighting that storage management has yet to receive similar attention to other areas in the IT infrastructure when it comes to the setting of management policies and procedures. Storage management and data protection in general lags behind in widespread use of effective management tools, something which cloud storage solutions will have to address to allow organisations to exploit their capabilities as widely as they deserve to be. There are clear business and IT pressures forcing storage management to come of age, especially in terms of making better use of storage deployed, much of which today remains isolated and unusable.

Storage is finally becoming visible in its own right rather than as just an appendage to server systems, but this means that the cost of storage is also becoming visible. The pressure is on to limit the cost of storage, at a time when many organisations recognise the growth in data to be held as one of the major influences on IT developments. Virtual storage has a significant role to play raising utilisation rates and hence limiting the cost of storage overall. But such solutions need to be utilised alongside a wide range of different management tools, such as data deduplication, archiving, encryption and protection to name but four out of many, to make sure to make sure businesses can exploit and protect their data effectively, be they using storage clouds, virtual storage systems or just data platforms.

When looking at cloud based services, whether they be internally or externally provided, it is important to consider the architecture and interfaces the services are based on. One of the key benefits of a cloud service, is the ability to move from one provider to another in a relatively seamless manner to obtain better costs, increased functionality or service levels. The architecture and interfaces that these services are based on need to be open to allow simple, seamless changes.

One word that is typically used when describing cloud based services is 'elastic', the ability to dynamically expand or contract the service level or capacity required. For storage based cloud services, elasticity needs to encompass: capacity, performance and availability service levels, so that data can be dynamically managed based on its business value lifecycle.

Security has already been highlighted as one of the major concerns in adopting cloud based services, with this equally being a common concern for any shared service based architecture. The ability to segment and secure data between different users and departments is very important part of the cloud service architecture and most shared storage service platforms have the ability to control data access through standards based controls. What is equally important, especially for external cloud based services is the ability to segment and audit the shared service platform management.

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As part of this, we use an innovative research methodology to gather feedback directly from those involved in IT strategy, planning, procurement and implementation. Our output is therefore grounded in real-world practicality for use by mainstream business and IT professionals.

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