Why Archiving to The Cloud might prove more problematic than first envisioned.

Archiving to The Cloud?

White paper on Things to consider when archiving to The Cloud.

FORTUNA PS
Innovative Data Storage Solutions

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Introduction

Archiving to the Cloud is a topic that is becoming more relevant as uses for the Cloud are being explored; we all know there are three types of Cloud.

1. Public
2. Private
3. Hybrid

The concept of storing data that is easily accessible across continents sounds great and in theory it is, but there are serious issues companies need to consider when looking at storing active and inactive data in the Cloud. We know 80% of our data is ready for archiving, but should we be using the Cloud to store archive data when it infrequently accessed? Within this white paper we cover a large range of topics regarding the cost, access and legal compliance requirements for storing data.

Cloud Copies

It is a well-known fact that for every copy of our data we need to store in the Cloud we need to pay for. Therefore if it is an archive then I would always suggest at least two copies are made and the data is stored in two different geographic locations

Data Encryption

When sending and storing data to the Cloud is it encrypted and what level of encryption is applied? Also you need to ensure that the encryption keys are never lost, otherwise your data is useless.

Data Access

The job of archiving and sending data to the Cloud should be controlled with as few people having access as possible. Remember the more people who have access to this information the more likely the chance of suffering data loss from accidental or malicious act.

Data Archiving Software

Companies backup all their data every day, because it is difficult for them to identify. If archiving data to the Cloud how do you identify / notify users that the data resides in the Cloud. If archiving to the Cloud what compliance methods do you employ to identify certain files can be archived and is the identified data automatically moved or manually. Does the Data Archiving Software leave a stub to say “this data resides in the Cloud”.

Data Deduplication

Some Cloud companies employ the above to reduce the overall bandwidth of data that they are receiving, it also saves them a considerable amount of disk space by deploying data deduplication, whilst this is great for the Cloud Company it might not be so good for your data i.e. high-res images, video, molecular modelling, satellite files. When the data is reconstituted it may suffer pixel or data loss.

If archiving data for the long term and you use data deduplication what legal recourse do you have as the data needs to be unaltered in its original state.

Data Storage & Protection

What type of storage is used to store your archive data? If it is tape, ask if your data is interleaved with other companies. There have been cases where government agencies remove servers, RAID systems and tapes during investigations. As it is law enforcement agencies that can remove complete storage systems, companies can no longer gain access to their data and it could take week / months for your data to be available again.

Data Classification

How you identify and classify which type of data you need to archive is easier said than done. Who needs access to this information and when. Can copies be made of our archive data, remember when it is in the Cloud it is available "Any Time, Anywhere". You might find that if you identify your archive data that some of it should not ever leave the organisation as it could have legal implications, trademarks, copyrights, design etc.

Who also signs off what data can be put into the Cloud?

Data Acknowledgement

Just because you sent your data to the Cloud for safe keeping, how sure or what tools are used to notify you that your data is secured in the Cloud?

3rd Party Cloud Companies

There are an awful lot of Cloud companies advertising their services. Many 3rd party Cloud suppliers are typically tied in to the Big Cloud vendors these are typically Google, Microsoft, Amazon, EMC, HP, Oracle. Now here is the scenario, 3rd party provider keeps your archive data locally and periodically this data is sent to the Big Cloud vendors, for the past few months 3rd party has not been paying his Big Cloud bills and goes bust. What rights to do you in reclaiming your archive data?

Escrow

You store your archive data in the Cloud and the Cloud Company goes bust, what legal rights do you have in reclaiming your data. Ideally all your data should be held in Escrow; therefore if something should happen to the company your legal rights over your data are easier to argue.

Data Loss

Data Loss it happens even to Cloud providers, what provisions in the form of:

1. Compensation
2. Legal implications of data loss
3. Who pay to re-submit the data if it actually exists
4. What insurance indemnity does the Cloud vendor have?

Downtime

Cloud infrastructures fail fact! If the Cloud is out of action how long can you afford to do without access to your data?

Cloud Costs

A typical way a Cloud company charges is by the GB and this in 2012 is around 15p ($0.23) to store in a single Cloud location. They also might apply a monthly / annual storage fee per GB held. In addition to this they might also charge:

1. More when you retrieve your data.
2. In the event of a disaster they may also charge to send the data back on a USB drive.
3. How soon can you actual retrieve your archive data?

Better Deal

From time to time we are seduced in to signing up to a great deal, almost too good to be true. We can see for the next 3 years our upfront storage expenditure will be "x". After our 3 years charges suddenly rise and our great deal is no longer so great, we try and renegotiate to no avail, we therefore have no choice but to move our data from our current incumbent cloud vendor to a new vendor.

1. How easy or difficult might this be?
2. What charges might we incur?
3. How long will this take?
4. What guarantees do you have that your data has been securely erased from our original Cloud vendor?
5. What recourse do you have if you realise you do not have all your data back?

Cross Border

What guarantees do you have in keeping your data within international boundaries? It might be a legal requirement that your data cannot leave country borders.

Governing Law

Should a dispute arise is your Cloud agreement covered by English law and the parties irrevocably submit to the exclusive jurisdiction of the English Courts?

Data Bandwidth

When we send GB's to the Cloud or broadband or fixed landlines can handle this for our monthly fee of £25 ($40), but sending TB's of data to the Cloud may well involve getting new broadband or fixed lines, you might also incur additional charges to send this data as your broadband data allowance may well be capped.

Another consideration is how you send your data to the Cloud. When you press your archive button is it automatically sent that minute to the Cloud or is it stored on local machine, if so what data protection does this machine have?

- Can I throttle or schedule when data is sent to the Cloud?
- If my line stops working do I have to restart from scratch sending up the data?

Cloud Archiving Costs

Archiving a Terabyte of data in the Cloud over 3 years would cost.

15p x 1000 x 2 copies = £300 initially

Monthly Cloud Service Charge 5p per copy = £100 per month x 36 = £3,900 over 3 years, this excludes any additional broadband or data retrieval charges.

A Happy Medium

If your organisation is seriously considering archiving, then why not consider having a local archive on-site copy for instance access and then have a second copy stored in the Cloud. By deploying this you will avoid some of the pitfall's discussed within this document and have always accessible archive data.

Summary

The Cloud is a great way to store active data which doesn't require high speed access and the files sizes are relatively small. After reading this document you can see there is an awful lot to consider when storing data to the Cloud and so long as you understand the implications you will find it a relatively pain free experience.

For more information on the solutions we provide please call us on +44(0)1256 782030, email: sales@data-storage.co.uk or visit http://www.data-storage.co.uk