Andrew Zurn

CSCI 369 – Herzfeld

Cloud Hosting White Paper

12/17/13

**Executive Summary**

Through the findings from research and findings in case studies, it is in my opinion that, although the cloud provides a solution that could fit most of our business processes, it does not offer a one-size fits all solutions to all of our processes. Due to issues of security, data ownership, and trust in sole use of our data, it would be unwise at this time to move to a solely cloud-based solution. Services such as email, IM, calendar, work collaboration, and contact details can be moved to the cloud, but any of our business-critical data should be kept in-house, as to reduce the likelihood of lost, stolen, or misused data.

**Introduction**

There has been a recent rise in the popularity and services provided by large cloud hosting entities, such as Google and Amazon, that has left many companies, large and small pondering the question as to whether or not they should move some, or all of their IT processes into the cloud. In the past, many companies had to have dedicated IT staff to procure the services and applications both their employees and clients need, in order to lead successful business ventures. However, this new push for exporting the services traditional IT staff has provided, and replacing them with cloud services, all in order to reduce cost and make for a more lean and reactive company has many companies buying into this popular concept. (Quintero) The cloud now provides software as a service options for these businesses to host their applications, store their important data, use as a workplace for collaboration, among many more services and offerings, and many have indeed starting moving their integral IT operations into these cloud hosts, rather than keeping them in house. (Gray) It is in my opinion and findings, that although the cloud does offer compelling reasons to replace in-house IT dedicated services for cloud hosted solution, the cloud does not offer a one-size fits all solution to every small business' needs, and in our own situation, for reasons to be set forth, it would be advantageous to create a hybrid solution, that is, keeping some processes in house while moving some into the cloud.

**Case Study: VMWare**

Solely moving all IT services into the cloud, although it has many advantages, especially in cost reduction, has a multitude of consequences for our company, especially as it expands. Although we currently run all of our IT services and processes in-house, moving some to the cloud, such as email, IM, calendar, work collaboration, and contact details would provide some great benefits, such as cost reductions, while others, such as our actual products, should remain on our own private servers. There are a few case studies of companies that have gone about this “hybrid” approach to cloud computing, and one such example is of the company *VMWare*. Gavin Jackson, the cloud services director at *VMWare*, make the case that this hybrid approach to cloud computing allows for a way to “retain all the things that you have invested in over time,” which includes things like high-risk data and applications, while lowering “capital expenditures” on other areas of IT. (Cooter) Overall, we could model ourselves after *VMWare* by moving some of our less-critical applications into the cloud, while maintaining the things we have most invested ourselves in, on our own servers.

**The Hybrid Solution**

Building a hybrid solution, much like other companies have that leverage our own private servers, where our mission-critical data is held, in coordination with the cost-effectiveness of public clouds for our more common data and applications would leave our company in control over our own data, and provide the means to reduce other IT costs. The main points that we need to consider that lead to this recommendation is of data security, data ownership, and trusting those that we export our data to, to keep it private and not use it for other purposes.

One of the major concerns of any organization is of securing data and mitigating the risk of potential leaks or avoiding hackers. In his article, “Hacked!,” James Fallows highlights the security problems associated with moving applications and internal data into cloud services. The underlying problem, as he states, is that “users turn the management and protection of crucial data and services over to third parties,” who then go on to do the management and securing of this data. (Fallows) Although this does serve as a point where costs can be reduced (no longer needing staff with security knowledge and experiences), it does mean that the users and the security of their data is left completely in the hands of their service provider. This is not a bad thing, especially if the provider stays up-to-date on the lastest exploits and risks, but the problem, rather, is that these providers become massive targets for hackers. Additionally, we would still have to worry about the provider not staying current in security best practices, as was highlighted in the examples that Fallows presents, where many Google Gmail accounts have suffered from various security breaches. (Fallows) Overall, although we could reduce costs by cutting out security staff, by moving to a cloud-based service, we lose all control of security, and put our information right in to the sights of people with ill-intentions and the skills to harm our well-being and steal our livelihood.

Another large issue in exporting our processes, applications and data, is the concern over data ownership and trusting the provider to not use data for their own intentions. The main point of contention is whether or not we will technically still own our data if we hand it off to a cloud service provider, and whether or not they will sell it to other third parties, or use it for their own interests. Although one might think that they would still have the private associations with creating the property when moving to the cloud, it actually is not the case. Tom Chatfield, in his article, “Why pressing ‘upload’ means losing your rights,” makes the statement that “the moment you hit upload, you’ve given away almost every right you might expect to possess over what’s “yours”.” (Chatfield) Effectively, if we would hand over our private data that is most critical to our success, we would no longer own that data, and thus, introduce a major risk to the source of revenue for our company. In addition to this, Chatfield also points out that almost all of these service providers “award themselves the ability to do pretty much anything legal that they see fit with [our] material.” (Chatfield) In short, when we give these entities anything, we no longer have ownership over this data, and also run the risk of losing a competitive advantage, should our provider use our property against us.

Looking at our company, and the potential that moving our business needs to the cloud does pose a variety of risks and concerns. If we move to the cloud, we risk our information being taken by hackers that are constantly looking to breach the walls of the many cloud providers out there. In addition to this, we cannot entirely trust the cloud provider with not using our information for their own personal intentions, as we actually lose the right to any private information that we give to them. In the end, it is in my belief and recommendation that exporting the more general IT processes, such as moving email, calendars, contact information, and non-critical data files used for collaboration, to the cloud, while maintaining the information that is our livelihood on our own private servers, much like *VMWare* does, would provide the greatest solution to our current needs as we continue to see ourselves expand and move into the future.

Works Cited

Chatfield, Tom. "Why Pressing ‘upload’ Means Losing Your Rights." *The BBC*. N.p., 19 Nov. 2013. Web.

Cooter, Maxwell, ed. "The Rise of Hybrid IT." *Cloud Pro* (2013): n. pag. Web.

Fallows, James. "Hacked!" *- James Fallows*. The Atlantic, 2013. Web. 13 Dec. 2013.

Gray, Patrick. "Three Key Considerations for Moving to Cloud Services." *ZDNet*. Between The Lines, 1 Mar. 2013. Web. 13 Dec. 2013.

Quintero, Sofia. "Geckoboard Blog." *Pearson Case Study: How a Large Organisation Can Become More Agile by Moving to the Cloud and Promoting Data Driven Decision-making at a Global Scale.* Geckoboard, 28 Oct. 2013. Web. 13 Dec. 2013.