Herding Cats:
Cloud Computing is Heavy

February 2009

Cloud Computing. You mean you can compute with clouds now? Are they fluffy, full of water, and weigh several hundred tons[1]? I suppose they could be, depending on how they are constructed. Maybe the case is made with cotton balls, the CPU water cooled, and you have a lot of them? How's that for creativity?!

For those of us that live in the real world, cloud computing is both tremendously exciting, and YouTube Scary[2].

It is exciting the same way that object-oriented programming and web services were when they came out, or even the significant buzz around Service Oriented Architecture. Remember the old Sun slogan? "The network IS the computer." Cloud computing embodies that slogan more than any previous technology.

Of course, some of us work with Mainframe computing environments, and isn't that the original cloud computing environment? It seems to be with most of the mainframes I deal with. Multi-rack, multi-component, multi-site, LPAR driven behemoths that seem to manage mammoth jobs with ease.

Well, the properly designed and maintained ones, anyway.

Cloud Computing is terrifying from a security perspective. It matches the fervor of the excitement described earlier. Services and data commingling in a cesspool of ones and zeros like those parties we always seemed to find ourselves at in college. Readers that deal with compliance (like PCI) and levels of secure computing are probably scratching their heads wondering how security works in these environments. The power of these services could easily be erased with the added security required with sensitive data.

Let's face it. Regardless of our beliefs, companies will not realistically deploy perfectly secure environments to every system in the enterprise. We use risk management to decide how to spend our limited budget; and usually that means that non-essential or sensitive-data free systems are put out to pasture. Remember that DOS-based scheduling application or the NT4 machine running a badge printing kiosk? Neither were probably connected to the network nor did they require extensive application credentials to use them. If they went down, it was not a big deal. You just went back to using the old pen and paper routine.

I believe small businesses and startups without savvy IT knowledge will see the most immediate benefit from Cloud Computing. Imagine being able to set up enterprise level computing services, but instead of writing a big check you could write a small monthly check and scale up as needed. The hardest part about this is making sure you are separating those security resources appropriately, and then keeping track of all the small checks you will be writing to start up that business.

The reality behind Cloud Computing is that there is some real flexibility and power in it. The drawback is that unless the entire system is treated as highly secured, you might just spend millions of dollars on nothing more than a fancy new scheduling application and badge printing kiosk. The fact that you could use the same basic infrastructure to process a credit card transaction, a marketing newsletter for customers, and calculations for the manufacturing of contact lenses should scare you. Those three processes should

FOOTNOTES
[1] http://www.wsi.com/corporate/newsroom/newsletter/md2/CloudWeight.html.
[2] A new term I just coined for some of the terrifying content on YouTube.

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have different security levels and access controls to prevent accidentally sending your intellectual property to a mailing list. Mainframes can handle this without making massive changes to their make-up because they were designed to do this. They are also very expensive and require significant investment to grow and keep running.

Cloud Computing can be perceived as a cheaper version of this.

To take advantage of the benefits on a large scale, companies would need to have a sophisticated IT management and monitoring to understand system load trends. Cloud computing could save money and resources with the correct mix of services to run as lean as possible.

I realize that I'm talking about a world that most people have never seen. If your IT infrastructure is not humming like a well oiled machine, imagine how much money you could waste on Cloud Computing. Imagine how much money you are currently wasting on variable costs like data center support, electricity, and maybe even network bandwidth!

The challenge for providers of Cloud Computing is to do it in a way to guarantee the security of data and applications globally. This will require sophisticated encryption techniques and a significant investment in hardware to run it all. If you are considering Cloud Computing, be prepared to ask the hard questions, and be sure you have a reputable security professional review and endorse your setup as secure.

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