Cloud Computing— Pie in the Sky?

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Sometimes a buzzword hits the Information Technology industry and really captures people's attention and imagination. *Cloud Computing* is one of those buzzwords, so let's look at Cloud Computing— what it is and whether it's ready for primetime.

Cloud Computing—What is it?

There are many definitions floating around (pun intended) for Cloud Computing, here's a summary in two pieces:

1. Software available over the Internet that users can access to perform various functions traditionally done by software loaded on the user's computer (currently called *Software-as-a-Service*, or SaaS), and
2. Servers in a datacenter that host the software and the user's data.

As I said, there are many variations of that definition, but it's a fair summary. The cloud gets further defined by whether it's a public cloud (users pay for services as they're needed) or a private cloud (servers and services owned by a company for their internal use). A private cloud is what you would call a system in which a church moves its servers to a datacenter (*vs* keeping them on the church's premises) and where only approved users, i.e. staff, have access.

The lure of Cloud Computing includes:

- The elimination of having to maintain a private network— hardware, software, and infrastructure.
- Someone else is responsible for backups, server maintenance, engineering, etc.
- You can get to your data and work on it from anywhere at anytime on any kind of computer (such as PC or Mac) via the Internet.
- Lower cost overall.

What are its current weaknesses?

In its current state, the cloud may be good for personal use by those who never want to lose their files again because of a hard drive crash or malware infection. For corporate users— and especially churches— however, it's just not ready for primetime yet. Here are a couple of observations:

- The Internet is not always available. There are a lot of reasons why, when you need to get to your data, you might not be able to. There may be an Internet outage where you are or somewhere between you and your data, for example, or a Denial of Service (DoS) attack on a router. We've seen some churches recently who were unable to access their online attendance check-in database during services times, and some others who couldn't use their Google Apps because the service was down for maintenance (without warning and for about a day— that happened a few times already this year). Church staff is usually stretched very thin and doesn't have the luxury of flexing when the system isn't available. Some will say that local networks go down too, but that's usually because of ill-chosen engineering or hardware strategies that could have been easily addressed.
- Churches maintain some very sensitive data. Cloud security and privacy are not yet what they need to be to protect sensitive data as it needs to. And in some states (like the legal trend-setter state I live in), if a church member's sensitive data is compromised, the church is responsible and will pay.

There was an article recently out of the U.K. that showed a poll of CIOs and IT Directors in which 77% said they will not consider the cloud for at least two years. Their reasons were its unreliability and its immaturity.

When will it be ready?

UC Berkeley's RAD Lab believes Cloud Computing will transform the IT industry over the next 10-15 years (see http://www.eecs.berkeley.edu/Pubs/TechRpts/2009/EECS-2009-28.html). I believe it will happen sooner than that. We're already beginning to see pieces of it via Microsoft, Amazon, and Google.

Mobile devices, like NetBooks and SmartPhones, are growing in popularity and processing capability. Because of their growing power and some trends in future development, I believe these mobile devices will be the driving force behind the growth of Cloud Computing. In the next 2-3 years I believe we'll see many who want to access their data via mobile devices, and Cloud Computing is the right strategy to make that work.

But the Internet must improve its reliability first if corporate America is going to be willing to embrace it, and SaaS providers must improve their up-time.

What should we do now?

Like many, our firm learned the hard way that the best IT decisions use today's technology to meet today's needs. Waiting for what will come means never being able to meet today's needs because you can't buy tomorrow's technology, and buying technology based on what you think may be coming can be very expensive. So the best advice for the church today is to continue on the local network and infrastructure path until the cloud becomes a viable alternative.

With the world's most important mission— that of reaching the lost with The Gospel— we can't afford to wait for what's coming. And with staff already stretched thin, we can't afford to put them on a technology platform that is so inconsistent and immature. Cloud Computing will likely become a viable standard, but it needs a more time.

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