



Forecast: Widespread convenience with a small chance for disaster

Storm Clouds Ahead?

For the last several years, there's been a lot of excited talk about **cloud computing**. All kinds of wild claims have been made, but if you feel hazy about what it really means, you're not alone. Many people may relate to the chorus of a classic Joni Collins song:

*I've looked at clouds from both sides now
From up and down and still somehow
It's cloud's illusions I recall
I really don't know clouds at all.*

Such confusion can be quite understandable. For a long time, "**the cloud**" has been a metaphor for the Internet as a whole. But though "cloud computing" can be used vaguely to mean almost anything, the term has a specific application. Cloud computing has been touted as the Next Big Thing, but due to both the advantages it offers and the possible problems it entails, users need to understand their options.

Silver linings

Confusion is partly due to the fact that the difference between traditional computing and using the cloud all takes place behind the scenes. Up front, devices look and behave much the same. In back of the screen, however, things are very different indeed.



A traditional desktop computer, for instance, contains the **software** needed to do things. Not only that, but the **data** they use and the **files** that are created are all stored right there on the machine's hard drive. Programs such as word processors, spreadsheets, and files such as music, documents and the rest all are mixed together in the machine's memory, and the user is strictly limited to just what is at hand.

Cloud computing, on the other hand, uses the immense power of the **Internet** to create or store information. It's a bit more complicated than it sounds, and though it usually functions flawlessly, has significant issues that must be addressed.

There is no doubt that cloud computing offers many advantages for home users and businesses. For enterprises, one attractive feature is that there is far less worry keeping software up to date and legal. The need to make sure each laptop and tower in the company has current software with all the right licenses along with the latest patches is greatly reduced.

Much of that problem shifts from the user to the cloud providers. But the situation can be made even more convenient, because instead of installing whole suites of programs on their computers, the client company may need to load them with a single interface application. And if they store or back up their files in the cloud, they can save money that way, too.

The programs available in the cloud can be far more powerful than anything that ever could fit in a laptop. The cloud may employ **distributed** or **grid computing** to manipulate vast expanses of information and make the results accessible to all the machines in the client's networks or even beyond.

The return of the terminal

Ironically, this is somewhat like the way it was done *before* personal computers and the World Wide Web. Back then, computers were monster **mainframes** connected by electrical cables to keyboards that were basically teletypes without any independent capacity and could only be used by programmers. These **terminals** were often housed close to the mainframes, and the Internet itself was mainly used for sharing lots of data and intricate problems, instead of LOLcats, selfies, and snarky comments.

Continued on back

Continued from front

The PC, with its ease of use through the **graphic interface, mouse**, and self-contained **operating system** radically changed all that. Non-geeks were suddenly empowered by these new tools. Servers evolved to manage connections and pass data. It was slow, but a golden age for the individual, anonymous user and the Wild West era of the World Wide Web.

With the advent of fast **broadband** connections, that all changed again. While PCs continued to get ever more powerful as memory increased, the **economics of scale** inevitably began to work against them.

Once fast connections gave everyone access, big platforms closely linked and **sharing resources** proved to be cheaper to run than thousands of individual computers, Google and others soon showed that massive arrays of servers operating in concert could provide data and services to those downstream devices and the cloud concept was born.

The results are now becoming apparent. More recent versions of one-time standalone programs, like Microsoft Word and Adobe Acrobat, now come with online accounts. Google's **Chrome** integrates a web browser with its products and services into an inexpensive laptop that relies totally on the cloud.

With **smartphones** and **tablets** the transition is nearly complete. Most of their apps work over the Net, and with the coming predicted **Internet of Things**, the entire physical world may wind up wired.

Dark clouds and rolling thunder

There isn't just one solitary cloud but thousands and they're all connected. You already use them every day without thinking. Web-based email portals, like Gmail or SWCP's **Roundcube**, online backup systems like **SWCP BUS**, plus every one of Google's many services, Facebook, Netflix, Amazon and all major online marketers, are all cloud-based.

What problems could arise is something *we don't know* – yet. Some potential bottlenecks are almost too obvious to mention. First, in order to work at all, the cloud absolutely depends on **good Internet connections**. Losing highspeed access to the Net can be as severe a disruption as losing electrical power.

Then there are issues of **security**. With easy access available from anywhere, the question of **authentication** becomes critical. The problem, however, goes both ways, as it's also easier for the bad guys to pretend to be popular sites. **Phishing** with fake sites seeking personal data or implanting malware has now become the most dreaded kind of spam.

There are also lurking questions of **privacy** and **ownership**. Do the users who store their files in the cloud

actually own them, or do they belong to the corporations who provide the machines? Some have lingering worries about content on YouTube, Scribd, and other sharing platforms being claimed as intellectual property by the hosts. How do you even know?

One way is to consult a site called **Terms of Service; Didn't Read** (tosdr.org). This provides a browser plug in to rate sites. As for the massive volumes of personal data that Google and others collect, people have no idea or any control over what it is used for.

At SWCP, we do not collect or sell any user data. We hold that the data of our users belongs to them, and we encourage encryption and the use of multiple backups, too. We merely provide useful services; but the content is entirely up to you.

Added to these concerns are now serious questions of **surveillance**. The government is known to have access to just about everything, encrypted or not, but encryption still remains the only way to keep anything private.

Finally, there are hazards no one can predict. **Steve Wozniak**, the co-creator of the Apple computer, for instance, has gone on record saying that the cloud is "horrendous." He fears what will happen once users yield control of their data to service providers, and predicts trouble. Woz may have a point because this is all entirely new territory. The interaction of big data and new programs has already caused unpredictable glitches and even a "**flash crash**" of the stock market. More widespread disruptions are likely to come.

Data is often managed differently in the cloud. Perhaps it is lumped together by types or usage. Can yours always be kept separate? What if some public chunk allows access to private data or that of others? Is data really even deleted *after* accounts are closed? What happens with a massive denial of service attack? Or if your data gets lost? Who is responsible?

These are all questions based on real situations that have already occurred. Clouds are steadily building and will not disperse anytime soon.  Enjoy, but keep your backup umbrella handy.



Southwest Cyberport

New Mexico's Expert Internet Service Provider since 1994

505-243-SWCP (7927) • SWCP.com • Help@swcp.com

5021 Indian School NE, Suite 600, Albuquerque, NM 87110

Portal editor/chief writer, Jay Nelson jnelson@swcp.com