



## Why The Cloud Is Important For Disaster Avoidance

Any hardware or software you have on-site is at risk to crashes, power and Internet interruptions, natural disasters, sabotage and theft. Whether you rent a software application (like a case management program) or you rent server access (aka hosted servers), the computers you're accessing are in data centers with Fort Knox security, redundant/backup power, redundant Internet access and fault tolerance few law firms in the world could afford to build in-house. In fact, a Tier IV (highest) rated data center provides guaranteed 99.995% uptime.

If your servers and/or software are accessible via the Internet and some disaster befalls your office, you just have to get somewhere with power and an Internet connection to regain access to everything. Due to the fault tolerance of data centers, you're not likely to lose access otherwise due to power, Internet, sabotage or theft.

Here's another opinion on this subject from a Chicago-based lawyer:

"Here is my outlook. It's simple. I am not a data expert. I am not a tech expert. I am not a security expert. Given this information, I refuse to keep client data on premises, in our systems, etc.. I practice law. But that in no way makes me suitable to make decisions about my clients' data. Perhaps the easiest thing law firms can do is to put data in the hands of experts (and understanding that those experts are not attorneys). Offsite servers that are encrypted, protected and have teams of people ensuring their security are any law firm's best friend. In my opinion, they are underutilized in the industry."<sup>1</sup>

### A. Definitions Related to Cloud Computing:

1. **SaaS or Software As A Service:** Rather than purchasing and installing software on a computer or server, SaaS is simply accessed via a web browser. Your data is stored in the vendor's servers in a data center (see paragraph 6 below) rather than in your office. There are a ridiculous number of definitions of SaaS, but I think this one sums it up succinctly without using 15 more acronyms requiring definitions:

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<sup>1</sup> Law Firm Data Security: Experts on How to Protect Legal Clients' Confidential Data, by Nate Lord, DigitalGuardian, October 13, 2015, quoting Jared Staver. See <http://tinyurl.com/h6nzzvjb>.



“Generally speaking, it’s software that’s developed and hosted by the SaaS vendor and which the end user customer accesses over the Internet. Unlike traditional packaged applications that users install on their computers or servers, the SaaS vendor owns the software and runs it on computers in its data center. The customer does not own the software but effectively rents it, usually for a monthly fee. SaaS is sometimes also known as hosted software or by its more marketing-friendly cousin, ‘on-demand.’”<sup>2</sup>

To be clear, this means that you do *not* have the software installed on your computer - it is accessible only via a browser on the Internet. Further, your data and/or documents are located on the vendor’s servers and not on your computer or server.

2. **PaaS or Platform As a Service:** PaaS is a derivation of SaaS that allows users to *rent* hardware, operating systems, storage, and network capacity over the Internet access. Salesforce.com is a great example of this with their Customer Relationship Management (CRM) product. Salesforce’s platform allows outside developers to create add-on applications that integrate into the main application and are “hosted” on the company’s infrastructure. For example, Advologix<sup>3</sup> is a legal case management system that was built on the Salesforce.com platform.
3. **IaaS or Infrastructure as a Service:** In most cases, this means renting access to a server located in a data center (see paragraph 6 below). The server provides processing power and electronic storage, both of which are accessed via the Internet. The server is available on-demand and the provider is usually responsible for maintaining the server, providing backup and technical support.
4. **Hybrid Approaches:** Of course, there are slight variations on these ideas. With pure SaaS, you don’t own anything except your data. However,

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<sup>2</sup> Software as a Service (SaaS) Definition and Solutions, by Meridith Levinson on May 15, 2007, [www.cio.com](http://www.cio.com), see <http://tinyurl.com/24cofbx> for full article.

<sup>3</sup> See [www.advologix.com](http://www.advologix.com)



services like Hosted Exchange<sup>4</sup> are a little different. In that case, you can own the application necessary to view the data (Outlook), it's installed on your computer, you own the data, and you can access/view the data offline regardless of whether you continue to subscribe to the service. You are necessarily also renting a server with Hosted Exchange so it has aspects of SaaS and IaaS.

5. **Colocation:** You can also buy your *own* server and install it in a data center (see paragraph 6 below).
6. **Data Center:** Here's a good definition from [www.cio.com](http://www.cio.com):

"Known as the server farm or the computer room, the data center is where the majority of an enterprise servers and storage are located, operated and managed. There are four primary components to a data center:

**White space:** This typically refers to the usable raised floor environment measured in square feet (anywhere from a few hundred to a hundred thousand square feet). For data centers that don't use a raised floor environment, the term "white space" may still be used to show usable square footage.

**Support infrastructure:** This refers to the additional space and equipment required to support data center operations — including power transformers, your uninterruptible power source (UPS), generators, computer room air conditioners (CRACs), remote transmission units (RTUs), chillers, air distribution systems, etc. In a high-density, Tier 3 class data center (i.e. a concurrently maintainable facility), this support infrastructure can consume 4-6 times more space than the white space and must be accounted for in data center planning.

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<sup>4</sup> Microsoft Exchange is Microsoft's server application for backing up and sharing email, contacts, calendars, tasks and other information in Microsoft Outlook. It provides centralized data storage, sharing abilities, plus synchronization with various phones and other devices. Hosted Exchange is essentially renting this service by paying a monthly fee per user.



IT equipment: This includes the racks, cabling, servers, storage, management systems and network gear required to deliver computing services to the organization.

Operations: The operations staff assures that the systems (both IT and infrastructure) are properly operated, maintained, upgraded and repaired when necessary. In most companies, there is a division of responsibility between the Technical Operations group in IT and the staff responsible for the facilities support systems."<sup>5</sup>

In plain English, a data center is a secure physical facility which houses the computers of one or more enterprises. Depending upon what "Tier" a data center is rated for, it may have redundant components, backup generators and multiple uplinks (internet connections). There are 4 Tiers and Tier 4 guarantees 99.995% uptime.

- B. Is Going to the Cloud All or Nothing?** Absolutely not. For example, I could be using hosted Exchange (with Outlook) while running Word, Excel & PowerPoint locally. If you rent a cloud server, programs like Citrix XenApp<sup>6</sup> provide a delivery mechanism so that regular shrink-wrapped software you own can be delivered to you through the Internet. So I could run my accounting software from a cloud server via Citrix XenApp, while every other program I use is running locally.

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<sup>5</sup> See [http://www.cio.com/article/499671/Data\\_Center\\_Definition\\_and\\_Solutions](http://www.cio.com/article/499671/Data_Center_Definition_and_Solutions)

<sup>6</sup> See <http://tinyurl.com/dv3jx> for more information about XenApp.