

## WHY THE CLOUD IS IMPORTANT FOR DISASTER AVOIDANCE

Any hardware or software you have onsite is at risk of 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. A Tier IV (highest) rated data center guarantees 99.995% uptime.

Suppose your servers or software are accessible via the Internet, and disaster befalls your office. In that case, 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>

### DEFINITIONS RELATED TO CLOUD COMPUTING

#### SAAS OR SOFTWARE AS A SERVICE

Users access SaaS via a web browser rather than purchasing and installing software on a computer or server. Your data is stored in the vendor's servers in a data center (see "Data Center" 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:

"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 documents are on the vendor's servers, not your computer or server.

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<sup>1</sup> Nate Lord, "Law Firm Data Security: Experts on How to Protect Legal Clients' Confidential Data," *Digital Guardian*, August 22, 2023, quoting Jared Staver, <https://digitalguardian.com/blog/law-firm-data-security-experts-how-protect-legal-clients-confidential-data>.

<sup>2</sup> Meredith Levinson, "Software as a Service (SaaS) Definition and Solutions," *CIO*, May 15, 2007, <https://www.cio.com/article/2439006/software-as-a-service--saas--definition-and-solutions.html>.

## 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. Salesforce.com is an excellent example of this with its 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](#) is a legal case management system built on the [Salesforce](#) platform.

## IAAS OR INFRASTRUCTURE AS A SERVICE

In most cases, this means renting access to a server located in a data center (see "Data Center" below). The server provides processing power and electronic storage over the Internet. The server is available on-demand, and the provider is usually responsible for maintaining the server and providing backup and technical support.

## HYBRID APPROACHES

Of course, there are slight variations on these ideas. With pure SaaS, you don't own anything except your data. However, services like hosted Exchange<sup>3</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 it offline regardless of whether you continue subscribing to the service. You are also renting a server with Hosted Exchange, which has aspects of SaaS and IaaS.

Microsoft's 365 Business Basic, Business Standard, and Business Premium plans offer email hosting. Microsoft hosts your email via its Exchange email server product. These are examples of SaaS. Two 365 plans, Business Standard and Business Premium, include the traditional Windows and Mac versions of Excel, Outlook, PowerPoint, and Word. Connecting the desktop Outlook application to cloud-hosted email is an example of a hybrid approach.

## COLOCATION

You can also buy and install a server in a data center (see "Data Center" below). Absent extraordinary conditions, a law firm owning and maintaining a server in a data center makes little sense today. If you do not wish to use cloud-based programs or they are inadequate for your practice, hiring an IaaS vendor is likely the best approach. The IaaS vendor owns and maintains the server, on which it installs software the law firm already owns. The firm gets security, redundancy, mobility, and familiar applications, without being in the data center or server maintenance business.

## DATA CENTER

Here's a good definition from [CIO](#):

"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

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<sup>3</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. Firms most commonly purchase it through a Microsoft 365 plan.

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.

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>4</sup>

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

### IS GOING TO THE CLOUD ALL OR NOTHING?

Absolutely not. For example, I could use hosted Exchange through Microsoft 365 (with Outlook) while running Word, Excel, and PowerPoint locally. If you rent a cloud server, programs like Citrix DaaS<sup>5</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 DaaS, while every other program I use runs locally.

Start planning your firm’s cloud strategy by reading [Lawyerist’s guide to legal tech](#).

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<sup>4</sup> Michael Bullock, “Data Center Definition and Solutions,” *CIO*, August 14, 2009, <https://www.cio.com/article/2425545/data-center-definition-and-solutions.html>.

<sup>5</sup> “DaaS” is a term Citrix uses. It stands for “desktop as a service.”