

CHAPTER EIGHT

THE SECURITY AND ETHICS OF CLOUD COMPUTING IN 2019

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JOSHUA LENON is Clio's Lawyer in Residence. An attorney admitted to the New York Bar, Joshua has worked extensively to educate lawyers on how technology can enhance their practices, while also teaching tech companies about the unique needs of legal professionals and organizations.

The Security and Ethics of Cloud Computing in 2019



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Agenda

- What is the cloud?
 - (15 minutes)
- The benefits and risks of cloud technology
 - (15 minutes)
- Cloud concerns specific to legal professionals
 - (15 minutes)
- How to select a cloud vendor
 - (10 minutes)
- Questions
 - (5 minutes)



Defining the Basics

The mandatory, “What is the cloud?” section



NIST Cloud Definition

“Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction”



Cloud Computing is not new.

- Grid computing: Solving large problems with parallel computing
- Utility computing: Offering computing resources as a metered service
- SaaS: Network-based subscriptions to applications
- Cloud computing: Anytime, anywhere access to IT resources delivered dynamically as a service



5 Essential Characteristics

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

3 Service Models

- Infrastructure as a Service (IaaS)
- Software as a Service (SaaS)
- Platform as a Service (PaaS)

4 Deployment Models

- Public
- Private
- Community
- Hybrid



73% of companies run at least one application in the cloud

Every minute in 2018, Spotify streamed over 750,000 songs, Tumblr publishes 79,740 posts, Instagram users posted 49,380 pictures, Netflix viewers streamed 97,222 hours of video, and YouTube users watched 4,333,560 videos.



Today 19 percent of IT budget is spent on cloud computing. By 2022, Gartner expects that percentage to grow to 28 percent.

The biggest segment of IT cloud spending will be application software — 40 percent of spending on applications in 2022 will be for cloud-based apps.

Source: 'Gartner Says 28 Percent of Spending in Key IT Segments Will Shift to the Cloud by 2022,' Gartner, Sept. 18, 2018



The benefits and risks of cloud technology



Why the Cloud is Inevitable

More Revenue

Cloud services have a higher profit margin for software manufacturers, as well as a more secure revenue stream compared to traditional software sales, while providing better ROI for customers.

More Capacity

Cloud services let customers handle explosive data growth, aggregation, and analysis with turn-key efficiency.

More Secure

Cloud computing offers greater security through economies of scale, specialization, and redundancy.



More Revenue

Cloud services have a higher profit margin for software manufacturers, as well as a more secure revenue stream compared to traditional software sales, while providing better ROI for customers.



71% of enterprise cloud hit or exceeded ROI targets

- Time savings for employees higher than anticipated - 32%
- Operational expenses lower than anticipated - 25%
- Capital expenses lower than anticipated - 21%

How did the anticipated cloud computing ROI value compare to the actual received ROI?

The actual ROI was higher than the anticipated ROI 32%

The actual ROI was lower than the anticipated ROI 30%

The actual ROI was the same as the anticipated ROI 39%

FIGURE 13: Anticipated vs. Actual ROI



More Capacity

Cloud services let customers handle explosive data growth, aggregation, and analysis with turn-key efficiency.



Case Data
Volume
Growing

logikcu||



More Secure

Cloud computing offers greater security through economies of scale, specialization, and redundancy.



Cybersecurity Preparedness in Law Firms

24% have no security awareness training
37% have no intrusion detection system
42% have no intrusion prevention system
72% have no data loss prevention
71% have no administration password management
96% have no 2-factor authentication for internal access

Source: ILTA 2018 Tech Survey



In 2018, the 60% of enterprises
that implement appropriate
cloud visibility and control tools
will experience
one-third fewer security failures.

Source: 'Is the Cloud Secure', Gartner.com, March 27, 2018



Through 2020, public cloud infrastructure as a service (IaaS) workloads will suffer at least 60% fewer security incidents than traditional data centers.

Source: 'Is the Cloud Secure', Gartner.com, March 27, 2018



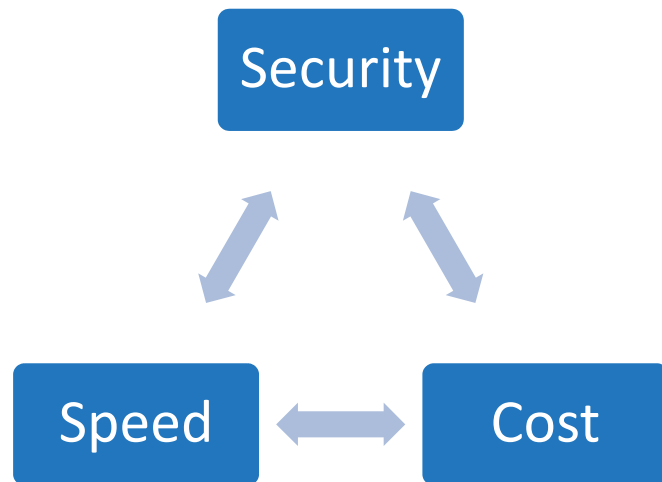
Through 2022, at least 95% of cloud security failures will be the customer's fault.

Source: 'Is the Cloud Secure', Gartner.com, March 27, 2018



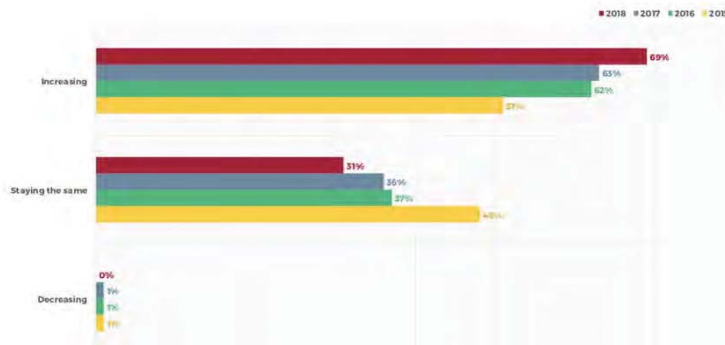
Inevitable cloud is inevitable

A symbiotic relationship between enterprises and cloud solutions provide greater services for customers and greater revenue certainty for providers.

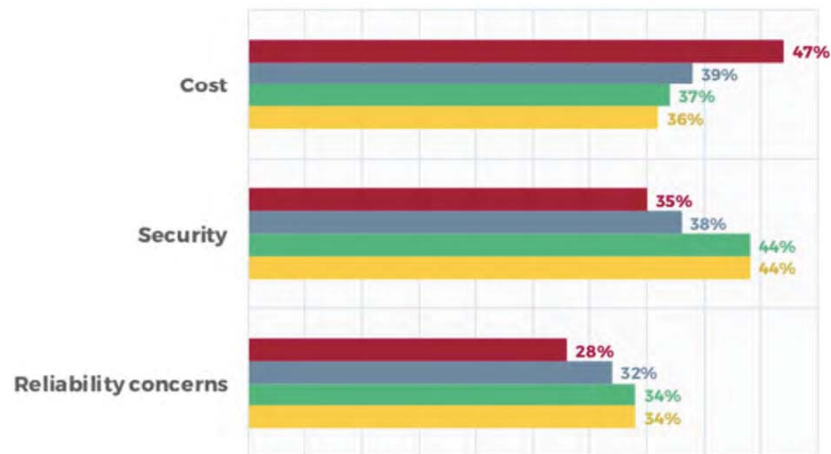


Cloud Adoption

For the upcoming year, how do you predict your firm's adoption of cloud-based solutions will change?



What's the Catch?



Source: ILTA 2018 Legal Technology Survey



Cloud Costs Necessitate User Management

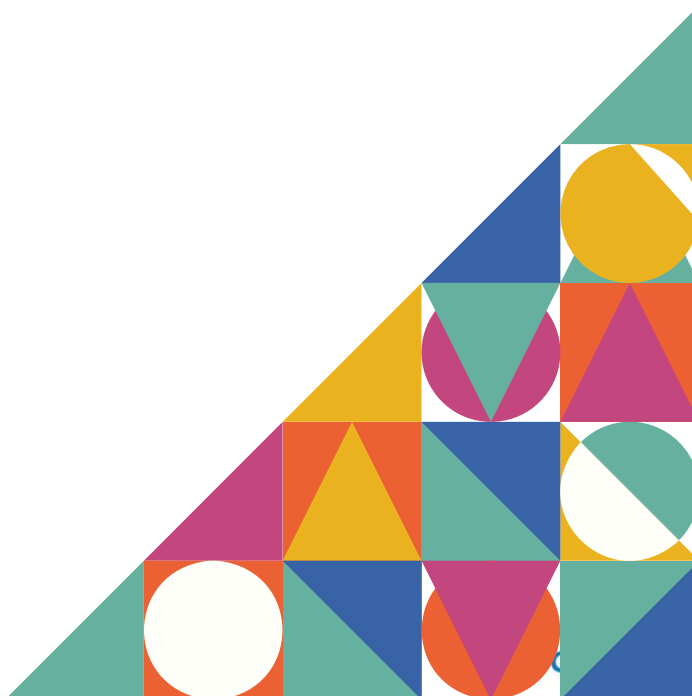
- Cloud users underestimate the amount of wasted cloud spend. Respondents estimate 30 percent waste, while RightScale has measured **actual waste between 30 and 45 percent**.
- Despite an increased focus on cloud cost management, only a **minority of companies are taking critical actions to optimize cloud costs**, such as shutting down unused workloads or selecting lower-cost clouds or regions.
- Optimizing cloud costs is the **top initiative across all cloud users** (53 percent) and especially among mature cloud users (64 percent).

Source: Rightscale 2017 State of the Cloud Report



Legal Trends Report

2018



Cloud Spending Adds Up

What is the average monthly total per user for every SaaS used by your law firm?

50% of law firms spend greater than \$90 per lawyer per month on cloud subscriptions.



Not All Cloud Providers Alike

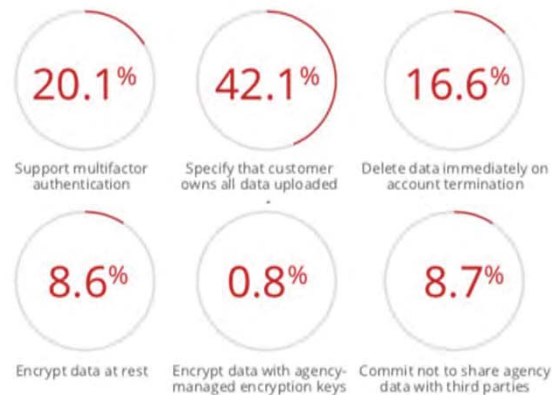


Figure 8. Security controls on stored data vary by provider.

Source: Skyhigh Networks Cloud Adoption and Risk Report 2016



Cloud Concerns Specific To Legal



RULE 1.1: COMPETENCE

[8] To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, **including the benefits and risks associated with relevant technology**, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject



RULE 1.6: CONFIDENTIALITY OF INFORMATION

(a) A lawyer shall not reveal information relating to the representation of a client, including information protected by the attorney-client privilege under applicable law, unless the client gives informed consent, the disclosure is impliedly authorized in order to carry out the representation,,...

(c) A lawyer shall make **reasonable efforts** to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client.



Acting Competently to Preserve Confidentiality

[18] ...The unauthorized access to, or the inadvertent or unauthorized disclosure of, information relating to the representation of a client does not constitute a violation of division (c) if the lawyer has made **reasonable efforts to prevent the access or disclosure.**



Acting Competently to Preserve Confidentiality

[18] Factors to be considered in determining the reasonableness of the lawyer's efforts include, but are not limited to,

- the sensitivity of the information,
- the likelihood of disclosure if additional safeguards are not employed,
- **the cost of employing additional safeguards,**
- **the difficulty of implementing the safeguards,** and
- the extent to which the safeguards adversely affect the lawyer's ability to represent clients (e.g., by making a device or important piece of software excessively difficult to use)



RULE 5.3: RESPONSIBILITIES REGARDING NONLAWYER ASSISTANTS

With respect to a nonlawyer employed or retained by or associated with a lawyer:

- (a) a partner, and a lawyer who individually or together with other lawyers possesses comparable managerial authority in a law firm shall make reasonable efforts to ensure that the firm has in effect measures giving reasonable assurance that the person's conduct is compatible with the professional obligations of the lawyer;



Nonlawyers Outside the Firm

[3] A lawyer may use nonlawyers outside the firm to assist the lawyer in rendering legal services to the client.

Examples include ..., and using an Internet-based service to store client information.

When using such services outside the firm, a lawyer must make **reasonable efforts** to ensure that the services are provided in a manner that is compatible with the lawyer's professional obligations.



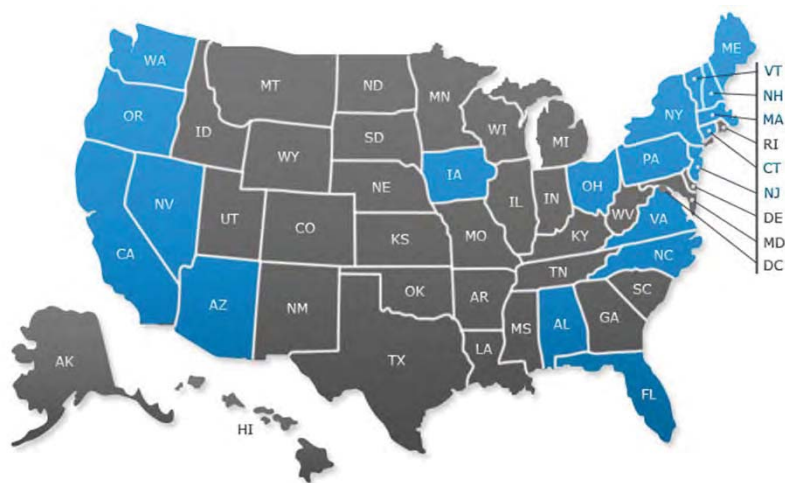
Nonlawyers Outside the Firm

[3]...The extent of this obligation will depend upon the circumstances, including

- the education, experience and reputation of the nonlawyer;
- the nature of the services involved;
- the terms of any arrangements concerning the protection of client information; and
- the legal and ethical environments of the jurisdictions in which the services will be performed, **particularly with regard to confidentiality.**



Cloud Ethics Opinions



WSBA Advisory Opinion 2012-2215

The lawyer takes **reasonable care**

- to ensure that the information will remain confidential,
- that the information is secure against risk of loss, and
- monitor and regularly review the security measures of the provider.



WSBA Advisory Opinion 2012-2215

1. Familiarization with the potential risks of online data storage and review of available general audience literature and literature directed at the legal profession, on cloud computing industry standards and desirable features.
2. Evaluation of the provider's practices, reputation and history.
3. Comparison of provisions in service provider agreements to the extent that the service provider recognizes the lawyer's duty of confidentiality and agrees to handle the information accordingly.
4. Comparison of provisions in service provider agreements to the extent that the agreement gives the lawyer methods for retrieving the data if the agreement is terminated or the service provider goes out of business.
5. Confirming provisions in the agreement that will give the lawyer prompt notice of any nonauthorized access to the lawyer's stored data.
6. Ensure secure and tightly controlled access to the storage system maintained by the service provider.
7. Ensure reasonable measures for secure backup of the data that is maintained by the service provider.



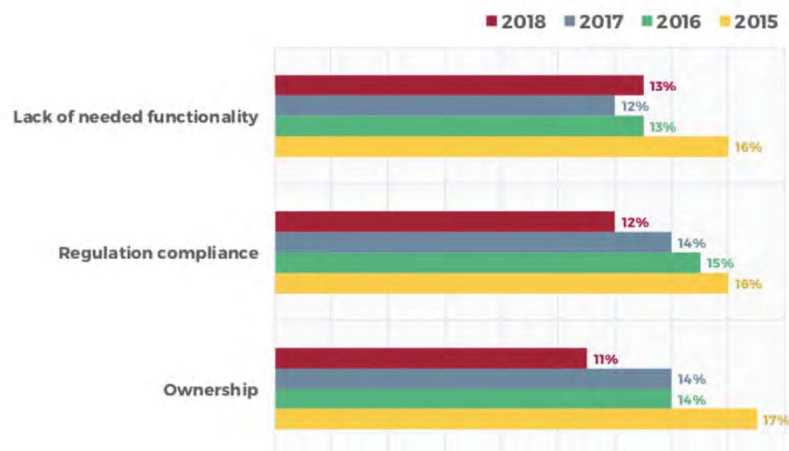
Cloud Compliance (Comparatively) Cheap

AWS Coverage

- GDPR
- HIPAA
- IRS 1075
- ITAR
- EU-US Privacy Shield
- My Number Act [Japan]
- Privacy Act [Australia]
- PDPA - 2012 [Singapore]
- PIPEDA [Canada]



Competent Cloud is Compliance



Source: ILTA 2018 Legal Technology Survey



How To Select A Cloud Vendor



Mental Challenges With Cloud Adoption

- Moving from a commercial model and mindset of “buying” a piece of software to a “pay-as-you-consume” business case
- Moving from a mindset of “owning” data (on our premises and servers), to place of being a sovereign guardian over data.
- Moving from the idea of heavily customizing “our” system to the idea of configuring flexibly to allow constant improvement and upgrade



Cloud Vendor Checklist

- ✓ Transparency
- ✓ Portability
- ✓ Longevity



Transparency

Security and Reliability

At Clio, the security and privacy of your data are our top priority. Accordingly, we've implemented multiple levels of security to ensure our customers' information is secure.



McAfee

We're audited every day by McAfee Secure to help ensure your data is protected from security vulnerabilities and other online threats.

[View certification »](#)



TRUSTe

Our privacy policy has been reviewed by TRUSTe for compliance with their program requirements, including transparency, accountability, and choice related to the collection and use of your Personal Information.

[View certification »](#)



DigiCert

Clio ensures that your data is protected while in transit by supporting the strongest industry-recognized cypher suites, including TLS 1.2 with AES 256 bit encryption. Clio has been verified by DigiCert, a trusted certificate authority.

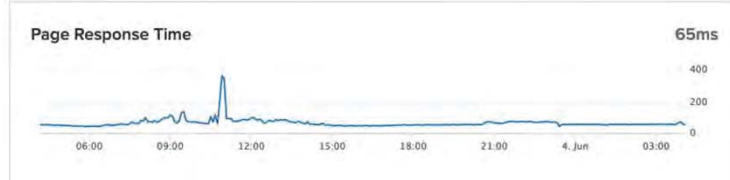
[View certification »](#)

If you have any security concerns or questions feel free to contact us at support@clio.com.



System Metrics

Day | Week | Month



Past Incidents

Jun 4, 2019

No incidents reported today.

Status.Clio.com



Longevity

Your law firm is AT LEAST
ten years out of date.



Rule 1.15B – Required Trust Account Records

(d) Required Bookkeeping Records.

(1) A lawyer shall maintain **for at least seven years** after the events that they record:

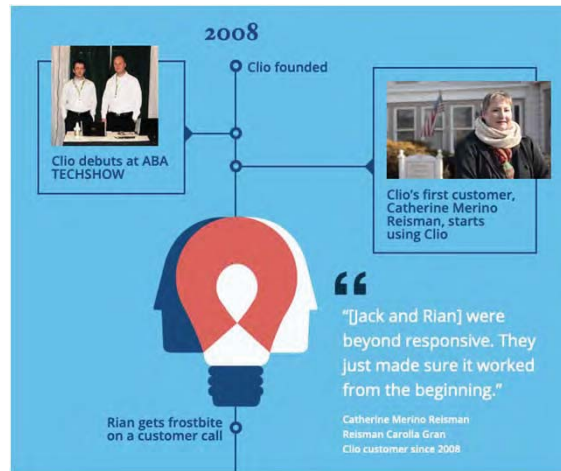


Schofield's First Law of Computing

Never put data into a program
unless you can see
exactly how to get it out



Longevity



2018

Clio turns 10 and announces the Clio Gives Scholarship Fund.

[Learn more](#)

Over the past 10 years, Clio customers have done impressive work:

181,007,426
Hours tracked

19,649,849
Bills generated

Clio operates in **90** countries

There are plenty of Clio customers in the U.S., Canada, the U.K., and Ireland, but did you know that lawyers are also using Clio in China, Singapore, Switzerland, South Africa, Spain, Brazil, and Norway?

The infographic features a central lightbulb icon with a cloud and circuitry inside. A world map is shown in the background. A 'Learn more' button is provided for the scholarship fund announcement.



Conclusion

Law Firms are adopting cloud computing to gain significant competitive advantages in cost savings, mobility, compliance & security, and product offerings for clients.



Thank You

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Questions

