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Practice Resource

Cloud computing checklist

Cloud computing offers many benefits to lawyers including the ability to access an exploding array of new software services and applications, the offloading of hardware and software maintenance and upkeep to cloud providers, the ability to access your data from virtually everywhere and the reduction of large capital outlays. Since you are placing yours – and your client's data – in the hands of third parties, it also raises issues of security and privacy, regulatory compliance and risk management, amongst others. Accordingly this checklist has been prepared with a view towards raising some of the issues that should be considered prior to a lawyer or law firm moving data into the cloud. To better assist you with your risk management assessment, we erred on the side of inclusiveness while constructing this due diligence checklist. As lawyers and law firms adjust to the cloud, it is expected that the range of issues to be considered will narrow. However, since the cloud is still relatively new to lawyers and law firms, this checklist has been drawn to be inclusive of as many of the issues as possible.

Introduction

- "As with most things IT these days, you need to think like a lawyer when moving to the cloud." (from HP Communities)
- Are you contemplating a cloud product that is focused on the legal market –or one that is more general in design? *Comment: a cloud product designed for lawyers may have been developed with the professional, ethical and privacy requirements of lawyers in mind.*
- Is there a process that must be completed before anyone in your firm places your data on a cloud service? Comment: having a process in place ensures that you perform your due diligence and consider the risks/benefits before moving any data to the cloud.
- Consider that many records are your client's property and information and that they have rights associated with these records. Your professional obligations set out how you should deal with your client's records.

		Yes	No
Pa	rt A - Security and risk management		
1.	Read the cloud provider's 'click-thru' agreement.		
2.	Review the cloud provider's SLA (Service Level Agreement).		
	a. Does the SLA transfer intellectual property rights and/or ownership rights in your data?		
3.	Review the cloud provider's Privacy and Confidentiality Agreement.		
4.	Have specific risks been identified when using this particular cloud provider/application?		
	Comment: doing an internet search for user reviews of a particular cloud application may reveal difficulties and issues with this provider or application that should be considered.		
5.	Has the cloud provider had any security breaches?		
	a. Are you satisfied with the cloud provider's response to any security breaches that they may have had?		
6.	How sensitive is the data you propose placing in the cloud?		
	a. Is your data aggregated and de-identified ¹ ?		
7.	Is your data 'safe-harboured'?		
	Comment: safe-harboured means having a copy of your data stored securely by a 3rd provider separate from the cloud provider to guard against data loss and/or the cloud provider ceasing business.		

However, several researchers have recently shown that de-identified data is often not very anonymous and pieces of data can easily be re-identified or "reattached" to information about an identifiable person. This practice of re-identification is problematic because oftentimes consumers do not realize that the commercial bartering of their personal information is a burgeoning and profitable industry.

As organizations collect an increasing amount of personal information about consumers, their practices of de-identifying this personal information should be scrutinized to ensure that the data has been de-identified to a sufficient degree to protect the consumer from re-identification and potential harms that could flow from the use of de-identified data. Industry best practices regarding de-identification and anonymization would serve to bring increased transparency to garner consumer trust in personal information practices.

De-identified data and the questions around re-identification are growth industries. Given the potential harms to consumers and citizens, the OPC must monitor this question closely and provide timely guidance to industry - and comfort to consumers - to assure all parties they are aware of how individuals are or may become identifiable in the course of regular commercial data processing." [http://www.priv.gc.ca/resource/cp/2010-2011/p_201011_09_e.asp]

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¹ According to the Office of the Privacy Commissioner of Canada: "Private sector companies may aggregate personal information about their customers for internal purposes and analysis and some companies may sell their aggregated data for profit. Other companies' business models are founded on combining various sets of aggregated data with sets of publicly available information to produce valuable data sets that help companies make predictions about customers and better target customers or engage in "data mining" practices. When data is aggregated, organizations often claim that they anonymize data such that it no longer fits within the definition of "personal information" under PIPEDA.

Pa	rt A - Security and risk management (continued)	Yes	No
8.	Have you considered a 'private cloud' vs. a 'public cloud'?		
	Comment: Webopedia states: The phrase 'private cloud' is used to describe a cloud computing platform that is implemented within the corporate firewall, under the control of the IT department. A private cloud is designed to offer the same features and benefits of public cloud systems, but removes a number of objections to the cloud computing model including control over enterprise and customer data, worries about security, and issues connected to regulatory compliance.		
9.	Are you considering moving a 'mission critical' system to the cloud?		
	Comment: a mission critical system is one whose failure or loss would severely jeopardize your ability to remain in business or meet your professional obligations.		
10.	If your data is not stored in encrypted form, can you use an encryption product to protect your data? Comment: Some cloud services may not be able to operate properly if you encrypt your data. Others are fine with encryption. For example, VIIVO [http://viivo.com/] can encrypt data that is stored in Dropbox [https://www.dropbox.com/], thereby increasing its security.		
11.	Can you maintain a local backup of your data?		
	a. What can you do with your data backup if the cloud provider disappears for whatever reason? Comment: many cloud providers use a proprietary application or system to organize and manipulate your data. Having a copy of your data may not be all that useful if you are unable to export it into another product and regain all the relationships between the data.		
12.	Who is responsible for the security of your data?		
	Comment: There are at least 4 components to data security: 1. Firewall, 2. Encryption, 3. Password Protection and 4. Physical Security (locked doors and such). Any data security plan should address all four.		
13.	Are your remedies adequate in the event of: data breaches, indemnification obligations, and service availability failure?		

Part A - Security and risk management (continued)	Yes	No
14. Who is responsible for privacy and regulatory compliance?		
		
15. What ability do you have to audit or view audits of the cloud provider's		
performance?		
Comment: 3rd party verification of a cloud provider's security implementation	ı	
should be one of the aspects to establishing trust in a cloud provider. Do they		
produce audit reports on a regular basis that are conducted by reputable 3rd party experts?	<i>t</i>	
a. How often does the cloud provider have their security audited?		
16. If the cloud provider ceases business, how long will it take you to get your data and convert to another provider (if at all)?	l	
Comment: investigating in advance if there is any alternative to a cloud		
provider that can import your data and maintain the usefulness of the data after the conversion is a good risk management step.	ı	
ajter the conversion is a good risk management step.		
a. What format will your data be in?	+	
17. Does the cloud provider use cloud services itself ('clouds of clouds')?		
a. Is the cloud provider required to give notice if contemplating contracting		
out to other providers? (known as 'clouds of clouds') Comment: having a		
cloud provider itself contract out to another cloud provider may jeopardize your desire to keep all your data within Canada, for example.		
18. Is the cloud provider responsible for sub-contractors?		
19. Do you have a disaster recovery/business continuity plan?		
a. Are backups stored in a safe, secure and fireproof location?	\top	
20. Does the cloud provider required to indemnify you for losses as a result of		
using their service?		
a. Have you made inquiries as to third-party insurance to cover this?		

Pa	rt B - Compliance	Yes	No
1.	Do you have a firm privacy policy and is the contemplated cloud service consistent with your privacy policy?		
2.	Where are the cloud provider's servers located?		
	a. Do they have multiple storage locations?		
	b. Who has access to your data?		
	c. What is the language, guarantees or representations from the cloud provider regarding the security of your data?		
	d. What laws are applicable to your data? (local, federal jurisdictional issues)		
3.	Your electronic records must be capable of meeting the prevailing electronic discovery standards of the BC Superior Courts. Have you verified this?		
4.	How sensitive is your data?		
	a. Are there any specific laws that restrict placing your client's data in the cloud?		
	i. Outside of BC?		
	ii. Outside of Canada?		
	iii. What substantive and procedural laws apply to your data?		
	b. You must comply with all Privacy legislation applicable to the data under consideration:		
	i. BC's Personal Information Protection Act, SBC 2003 c. 36		
	ii. Federal Personal Information Protection and Electronic Documents Act, SC 2000 c 5		
	iii. Freedom of Information and Protection of Privacy Act, RSBC 1996, c 165 (FIPPA)		
	Comment: if applicable, you must ensure that all data is stored or accessed only within Canada (unless one of the exceptions is met).		

Part B – Compliance (continued)	Yes	No
c. Private sector		
Lawyer must enter into a data protection arrangement with the cloud provider that ensures equivalent levels of data protection as are required by BC/Canada		
 ii. Consent is required from the client if personal information is being disclosed for a secondary purpose (consider the risk for confidential and privileged information). 		
iii. The openness principle as incorporated into the Cloud Computing Report by the Law Society makes it a best practice to provide notice to the client that data will be processed outside Canada, if applicable.		
This might include whether a foreign state has the authority to access the data for lawful access purposes.		
iv. Lawyer's policy and practices must indicate:		
Countries outside Canada where the collection, use and disclosure will occur.		
The purpose(s) for which the cloud provider has been authorized to collect, use or disclose personal information.		
 Before or at the time of collecting or transferring personal information to a cloud provider outside of Canada, the lawyer must notify the client of: 		
The way to obtain access to written information about the lawyer's policies and practices regarding service providers outside of Canada		
- The name or position of a person who is able to answer the individual's questions about the collection, use, disclosure or storage of personal information by the service providers outside of Canada.		
 While the notification may not require information about countries outside of Canada (this is a best practice in the Law Society of British Columbia's Cloud Computing Report), the lawyer's privacy policy should contain this information. 		
d. What encryption method is applicable to the data?		
i. In transmission?		
ii. In storage?		
e. Can the cloud provider access your data or metadata?		

Pa	rt E	B – Compliance (continued)	Yes	No
		i. If so, for what purpose(s)?		
	f.	Is the confidentiality and privilege of your client's information reasonably protected?		
		Comment: consider, amongst other things, the answer to question e above.		
	g.	Have you considered establishing a private cloud for sensitive data or data that cannot leave the jurisdiction?		
5.	W	hat are the cloud provider's breach notification requirements?		
Pa	rt (C – (Further) Due diligence		
1.		hat are your roles and responsibilities (vs. the cloud provider's sponsibilities) after you have moved to using a cloud provider?		
2.	Ca	an you terminate the service?		
	a.	At what cost or penalty or on what terms?		
	b.	What if a security or privacy breach occurs?		
		Comment: you may have further issues to consider if a privacy or security breach occurs, such as notice to the client, notice to the Law Society and the like.		
	c.	What if performance, bandwidth or reliability promises are not being met?		
	d.	What if material modifications are made to the cloud service terms?		
	e.	Is your data available after termination?		
		i. For how long?		
		ii. In what format?		
	f.	Is the cloud provider required to provide transition support if the service is terminated?		

Pa	rt C – (Further) Due diligence (continued)	Yes	No
	g. Can your data be sanitized from the cloud provider in the event of a termination?		
	Comment: sanitized in this context would mean removing all trace of the lawyer's data from the cloud provider's service.		
3.	Have you compared the cloud product against alternative (non-cloud) applications?		
	a. What are the advantages or disadvantages of each?		
4.	What notice needs to be given and how is that notice given when the SLA agreement and other underlying policies are changed?		
5.	Is there a cap on the cloud provider's liability?		
6.	What happens if the cloud provider ceases business or has their servers seized or destroyed?		
7.	Do you have access to the cloud provider's source code (via an escrow agreement or otherwise) if they cease to do business?		
	Comment: without the source code or alternatively, the ability to move your data to another provider, your data may be largely unusable and you may be facing other risks as a result, such as the inability to maintain the systems necessary to stay in practice.		
8.	Do you regularly review the cloud provider with a view to whether or not changes in the cloud provider's use of technology might affect their acceptability for use by a BC lawyer?		
9.	Does the cloud provider put you off-side a legal obligation?		
	Comment: if so, don't use the service.		
10.	Have you considered whether it is possible to establish a records-management system that would aggregate all cloud and non-cloud based records by client file in a secure location?		
11.	Have you fully completed this checklist and recorded the information for later reference?		

Pa	ort D – Client implications	Yes	No
1.	The Law Society's Cloud Computing Report has set out that it is a best practice to receive the informed consent from your client to store their data in the cloud. Have you considered securing this consent from your client (in writing) by placing this in your retainer agreement?		
2.	Does your client have concerns about personal information being stored in the cloud?		
Pa	art E – IT considerations		
1.	Does the cloud application integrate with your other office systems?		
2.	Are there workflow advantages to moving to the cloud?		
3.	Is the system available 24/7?		
	a. Is this an extra cost?		
4.	Do you have sufficient bandwidth to run the cloud application with acceptable performance?		
	Comment: bandwidth is determined by your data contract with your internet service provider ("ISP"). You may have to obtain greater capacity, a faster connection or both [at greater cost] to obtain acceptable performance at peak load times. You may wish to raise this with your ISP).		
	a. Have you tested the system while running all other systems? Comment: do a test with dummy data before committing to the system.		
	b. What is the maximum bandwidth that you can access?		
5.	Can the system handle demands for increased capacity or spikes due to rapid growth?		
	a. Can you reduce capacity (at at what cost) if your needs diminish?		
6.	Does the provider have at least three types of Security:		
	a. Company-based security (intrusion detection and prevention, spam and virus filters etc.)		
	b. Access based security (based on identity or role of an individual in your organization)		
	c. Transport-based security (such as Virtual Private Network or VPN, Secure Socket Layer or SSL tunneling or encryption)		
7.	Help Desk Hours		
	a. Do the times match your typical operating hours?		
	b. What about emergency contact information? 24/7?		

Par	t E – IT considerations (continued)	Yes	No
(c. What kind(s) of support is provided?		
	i. Phone hotline/email/Web-based chat?		
(d. Is there an extensive knowledge base on the cloud service?		
8.	What are the backup systems of the cloud provider?		
	a. Where are they located?		
1	o. Does this cause difficulties with regard to location of data requirements?		
(c. Is the cloud provider required to notify you if they change backup providers?		
(d. How often do they backup their data?		
(e. Do they have redundant or fail-over systems, such as RAID?		
	Comment: RAID stands for "Redundant Array of Inexpensive (or Independent) Discs" and is a method to ensure that data is written to many disks to guard against disk – and data – loss.		
	In the event of a disaster, can you achieve acceptable recovery point objectives (RPOs) and recovery time objectives (RTOs)?		
10.	In what format is your data stored?		
	Is your IT support comfortable supporting a hybrid environment (part cloud, part not)?		
Par	Part F – Reliability		
1.	What is the cloud providers "up" history?		
	Comment: "Up" time is the time the cloud provider's services are available for use. The most desired or gold standard is 99.999% of the time.		
	a. How do they calculate 'up-time'?		
	If the cloud provider has gone down, what was the longest time period they were down?		
	a. What are your costs or lost-revenue per hour if the service becomes unavailable?		
3. (Can you operate offline if the system goes down?		
	Are availability, performance and bandwidth representations spelled out in the SLA?		

Pa	art F – Reliability (continued)	Yes	No
	a. What, if any, are the penalties for failing to meet these?		
5.	What reports will be delivered regarding system reliability?		
6.	What notice will be given for maintenance periods?		
	a. Are the cloud provider's schedule for maintenance acceptable?		
Pa	art G – Law Society of British Columbia considerations		
1.	Are the electronic records capable of meeting the auditing and investigation standards for accounting records maintained by the Trust Audit Department of the Law Society of British Columbia?		
	a. Can electronic records be printed on demand? (or exported to PDF format?)		
	b. Are electronic records available at the time of request and in a format acceptable to the Law Society of British Columbia?		
	c. Can the metadata regarding the electronic records be made available to the Law Society of British Columbia on demand?		
	d. Is a full and complete trust ledger either printed or PDF'd at the close of each client matter?		
	e. Are bank reconciliations (for all trust and general bank accounts) printed or PDF'd the same day they are completed and stored?		
	f. A master billings file should always be maintained in hard copy or PDF.		
	g. Do you print or PDF all accounting records required by Division 7 Part 3 of the Law Society Rules on an ongoing basis (and store them appropriately)?		
2.	Do your trust account reconciliations show the date that the reconciliation was completed?		
	a. With appropriate background information?		
	i. Are all background information imaged (front and back including blank pages)?		
	b. Is the data of the reconciliation incapable of being overwritten?		
	c. Do Billing records record the creation and all modification daters?		

Pa	art G – Law Society of British Columbia Considerations (continued)	Yes	No
	d. Is an acceptable audit trail available (and printable) on demand in a comprehensible format?		
	i. The audit trail must be complete showing all postings into the software		
	ii. Transactions must correspond with specifically assigned transactions corresponding with dates.		
3.	Cash receipts must still be retained in hard copy form.		
4.	For all records, does the system record the creation date, edits and the dates that such edits were made?		
	a. Does the system preserve all metadata regarding electronic documents?		
5.	Do you agree that: when the Law Society of British Columbia copies your electronic records, they can rely on these copies as best evidence?		
	a. Where a member disputes the quality of the electronic records of the lawyer, the onus is on the lawyer to provide a forensic copy of these records at the lawyer's expense.		
6.	Can the Law Society of British Columbia obtain view and printing access to all records when required?		
7.	Have you ensured that the cloud provider supports your professional obligations?		
	a. Including compliance with the Law Society of British Columbia's regulatory process		
	b. Will the cloud provider support you in complying with Law Society of British Columbia investigations?		
8.	Does the cloud provider archive data for periods that meet or exceed the Law Society of British Columbia's retention requirements?		
	a. Are electronic records retained for a minimum of 10 years from the final accounting transaction?		
9.	What is the dispute resolution method in the cloud provider's SLA?		
	a. What is the governing law for the SLA?		
10	. Consider your professional obligations that arise when you lose custody or control of your records (e.g. Law Society Rules rule 3-68(4)).		

Pa	rt H – Fees	Yes	No
1.	What is your initial set-up fee?		
2.	What are your monthly (ongoing) fees?		
3.	Are there usage or bandwidth fees?		
4.	Does using this product increase your in-office costs?		
5.	How often (and by how much) can the provider increase fees?		
	a. Is there a cap on price increases?		
6.	What are your total internal costs (hardware, software and soft-costs) in converting to this cloud service?		
	a. Do you have any anticipated cost-savings?		
7.	Have your compared the cost of the cloud service vs. non-cloud alternatives (present value calculation)?		
8.	Can the cloud provider cut off your access to your data in the event of non-payment of fees or for other reason(s)?		

As HP has stated in their publications, when moving to the cloud you have to think like a lawyer. Hopefully this checklist assists you in the considerations that should be undertaken prior to moving to a cloud-based service or application. If you have any suggestions on improving this checklist, please mail them to Dave Bilinsky at daveb@lsbc.org.