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Field-Based Intelligence

How to Cull Data Before You Use TAR

By David Deppe

Has acceptance of technology-assisted review (TAR) finally turned a corner and earned broad acceptance in the legal community? Some recent comments by the influential and technology-savvy Magistrate Judge Andrew Peck, published in a March 2015 decision would seem to indicate that TAR has moved beyond the controversial stage and entered into the mainstream of e-discovery practice. See, *Rio Tinto PLC v. Vale S.A., et al.*, No. 14 Civ. 3042, U.S. District Court, SDNY (March 2, 2015) (<http://bit.ly/1VJwcXQ>).

CULLING BEFORE TAR

"In the three years since *da Silva Moore*," writes Judge Peck, "case law has developed to the point that it is now black letter law that where the producing party wants to utilize TAR for document review, courts will permit it." *Id.*, referencing *Da Silva Moore v. Publicis Groupe*, 2012 U.S. Dist. LEXIS 23350 at 19 (S.D.N.Y. Feb. 24, 2012). Judge Peck points out, however, that courts have not generally approved of requesting parties trying to force producing parties to use TAR, and he also notes there are still "open" issues related to use of the technology — most notably the degree to which parties need to be transparent and cooperative with regard to selection

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Dispositive Questions Every Law Firm Should Ask of the Cloud

By Mike L. Chase

Cloud service providers (CSPs) offer myriad choices to law firms of all sizes who, in return, have become one of the fastest adopters of hosted cloud infrastructure worldwide. Nonetheless, asking the right questions is essential to learning cloud limitations, similarities, differentiators, caveats and benefits. From niche providers to the top five, not everything is as it seems when it comes to what is offered, how it's offered, and the up-front and hidden costs of each.

GETTING STARTED: LEVERAGING THE CLOUD CHANNEL

Setting up a new law firm or transitioning an existing law firm to realize the power and savings of the cloud can be a daunting, if not distracting, task. Enter the cloud channel: national/international resellers, such as CDW and Insight Enterprises, and specialized resellers that focus on the legal vertical, like Binary Pulse, LLC, utilize cloud portfolios filled with various providers, professional and managed service teams. These partners can perform due diligence on what you have, what you need, and where to get them at pre-negotiated prices. In addition, they can monitor and maintain various aspects of your infrastructure, wherever they may exist, over the long term.

THE DIGITAL LANDSCAPE OF THE CLOUD

Whether you leverage the channel or do it yourself, understanding the digital landscape ahead when pondering the cloud is paramount. While we can't possibly cover in one article the hundreds of questions one should ask when searching for the right CSP, a glimpse of the big picture, plus highlighting some of the most dispositive questions, will help steer the conversation in the right direction.

- **Choices.** What cloud products do you need? Hosted virtual servers, physical servers, virtual desktops, cloud storage, applications, regulatory concerns/security, business continuity, failover and redundancy, plus much more. Finding out who offers these — and who doesn't — narrows the field considerably and quickly.

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Cloud

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- **Migration.** How do you get there from here? Cloud migrations can make or break you. Where does your data live today? On a storage area network, your local hard disk, or another cloud provider, such as Dropbox or others? Getting stuck half-way in a migration could cripple your firm.
- **Interoperability.** Will you migrate everything to the cloud? If not, then how do your remote offices and workers interact *with* the cloud? This is where virtual desktops and other mechanisms come into play, that is, *if* the CSP even offers them. Know your current needs and at least some future requirements.
- **Hidden Fees and Limitations.** The dark side of the cloud that few want to talk about! Are there data transfer fees for every byte of data moving in and/or out of the cloud? Who is responsible for backups/snapshots? What are the limitations around performance (e.g., CPU/memory/disk)? Where does the CSP's support obligations end, yours begin, and how do you fill the gaps which are important to your firm?
- **Security and Regulatory Schemas.** Which cloud architectures help, and which hinder your goal to keep data secure in a world where data and identity theft are rampant? What about liability and indemnification? How are unforeseen risks or concerns mitigated?

Mike L. Chase serves as the EVP/Chief Technology Officer for din-Cloud, a cloud services provider that helps both commercial and public sector organizations migrate to the cloud through business provisioning, provided via its strong channel base of VARs and MSPs.

- **Performance, Failover, and Other Critical Metrics.** How do you get the biggest bang for the buck out of the cloud? Is your chosen provider and/or solution set going to be able to scale with your business across the different metrics that matter to you, such as geography, performance, features, etc.?
- **Exit Strategy.** Knowing how to get *out* of the cloud is just as important as getting *in*. How much notice is required? What format options are available to get your data back? Is migrating out all your responsibility, or what other options exist?

FIVE DISPOSITIVE CLOUD QUESTIONS, AND WHY YOU NEED TO ASK THEM

1. Where are your datacenters located and do you give tours?

Some of the largest cloud providers on earth will waiver on this simple question, and for good reason. Some of these so-called "datacenters" are merely renovated shopping malls, or other commercial/industrial spaces, which were never originally designed for the task they now serve (but have been utilized nonetheless). If your provider isn't using a reputable datacenter provider, or isn't giving tours to back up its lofty claims of "high security" with "guards, cameras, man-traps, cages, etc." then don't buy into the hype.

Personally, I never pick datacenters that are in downtown areas because it's harder to get personnel or fuel to the site in an emergency because the roads shut down quickly when chaos erupts. Facilities which are newer, close to airports (where the personnel and fuel are flown in), and not in flood, earthquake, fire zones are optimal. Additionally, physical security is just as important outside as it is inside. For example: someone rents a moving truck, packs it with explosives, and drives right up to the datacenter (there's no defensible space, fencing, concrete

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Four Keys to Litigation Technology Innovation in The Next Five Years

By Steven Ashbacher

Electronic discovery is a complex business that requires continuous professional learning from litigation team members and ongoing innovation from technology solution providers. To help stimulate discussion and drive innovation, The Legal Innovation 2020 (LI 2020; <http://bit.ly/1LDwqea>) Working Group was formed at the beginning of 2015 in order to help legal-industry leaders identify the keys to success over the next five years.

Below are some of the observations, concerns and solutions expressed at sessions held over the course of the past year. It's worth noting, these ideas are categorized by discussion and reflect the collective views, from senior leaders across corporate counsel, law firms and legal technology, as recorded during these sessions as follows:

- Early case assessment;
- Data security;
- Flexible workflow; and
- Machine intelligence.

EARLY CASE ASSESSMENT

According to Gartner, by 2020, information will be used to reinvent, digitalize or eliminate 80% of business processes and products from a decade earlier. That trend line appears to be right on track in the legal industry, where evolving tools and technology in the area of early

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case assessment provide just one example of how information governance is being reshaped.

At the April 2015 meeting of LI 2020, thought leaders from both corporate legal departments and law firms exchanged ideas about the fallout they're observing due to evolving early case assessment technologies.

Work Shifting Away from Associates

Document review, which has historically been a time-intensive task assigned to teams of associates in law firms, is increasingly being handled by machine-learning software tools and other outsourced processes. This is true for both e-discovery in litigation and due diligence in transactions.

Greater Discipline in Data Management

With more corporations adopting the "you can't manage what you can't measure" mantra, attorneys in both corporate and private practice are being pushed to impose new disciplines to the way information is managed in their organizations. One example is the use of the Six Sigma methodology: Define-Measure-Analyze-Improve-Control (DMAIC), a data-driven improvement cycle used for creating stable business processes during early case assessment and throughout e-discovery.

Rise of Artificial Intelligence

Fueled by IBM's initiative to make its Watson machine-learning system available in the cloud, some legal technology observers foresee continued progress in the application of artificial intelligence to legal information governance and e-discovery. As the industry is introduced to better early case assessment diagnostics, the new insights will continue to drive better processes.

'Highest and Best' Use Of Law Firms

Corporate legal executives are learning that the best way for them to get optimal outcomes for less money is to "in-source" some early case assessment functions by partnering with appropriate legal technology vendors that can present

them with better data, and do it faster and cheaper. Once the data is in hand, they bring in their law firms for counsel and to assist with laying out the smartest legal strategy, which in-house counsel agree is the highest and best use of a trusted outside law firm.

DATA SECURITY

The efficient management of legal data has never been easy to achieve, but the stakes are suddenly much higher for in-house counsel and their outside law firms. With an alarming number of large American companies and government agencies victimized by organized cybersecurity breaches in recent months, corporate legal executives, their colleagues in IT and their outside counsel are mobilizing to confront the threat.

At the January 2015 meeting of LI 2020, participants provided some examples of what they're seeking this year in order to help them do a better job in the areas of data security and information governance.

Standardization

The legal industry needs common language that supports collaboration between corporations, law firms and third-party legal technology vendors.

Best Practices

More case studies and specific "best practices" of how other companies have achieved successful process improvement in their information governance plans.

Security Staffing

An accurate and independent report on employee head count at corporations of various sizes with respect to data security and information governance teams.

Legal Clarity

As a global community, we need greater clarity on laws in various countries around the world governing how we must treat data involving both employees and customers.

Knowledge Management from Both Sides of the Table

Better insights into challenges faced by each player in the industry

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Innovation

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— the corporate client, the outside law firm and the legal vendor — so we can learn from each other and better work with each other.

FLEXIBLE WORKFLOW

In the complex and costly world of e-discovery, the Insource vs. Outsource debate has been raging for the past decade. Does it make more sense for corporate clients to continue allowing their trusted outside counsel to manage the e-discovery workflow in litigation, bring that work back in-house for corporate litigation support professionals to manage, or perhaps in-source the work and contract with third-party service providers to get the job done?

At one major American corporation, what appears to be emerging is a more flexible approach that seeks to improve litigation outcomes and reduce cost exposure by calling on all three modalities as circumstances warrant.

“My strategy is designed to help the company realize the greatest value from the highly skilled and valuable attorneys from various law firms around the world who represent us,” says Aaron Crews, Senior Associate General Counsel at Walmart, where he oversees the company’s e-discovery processes and strategies.

“I believe the highest and best use of our outside counsel is to rely on them for their core skills, things like legal judgment, business counsel, risk assessment and litigation strategy. When it comes to collecting evidence into databases, filtering out tens of thousands of irrelevant documents in e-discovery, and narrowing the landscape of electronic evidence down to a smaller pool of data that truly needs to be reviewed by an attorney, I feel there are often more efficient ways to get that early case assessment work done.”

Crews is a member of the LI 2020 Working Group. Following the April 2015 LI 2020 program, he shared his

thoughts on the keys to successfully insourcing certain pieces of the e-discovery workflow.

Start With the Right Questions

Crews explains that his team is now asking the same question of every piece of the e-discovery workflow in a given case: Is this function something that our outside counsel should be doing because they do it really well, or is this something they’re doing just because it’s part of the greater litigation process? “If the answer is the latter, then we apply a series of objective tests to determine whether it would be more advantageous to the company if that function were insourced and, if so, whether it would make more sense to handle the work with full-time employees at Walmart or by partnering with a third-party litigation support services provider,” he explains.

***Lawyers and legal
technology professionals
are struggling to grasp
the vast potential of
“machine intelligence”
to reinvent the way
we litigate in the U.S.***

Stay Flexible

Crews’ team advocates a multi-pronged approach that uses in-house resources for certain early case assessment work, hands-off complex and time-intensive pieces to an appropriate service provider (e.g., forensics investigations, early data assessment, e-discovery processing, etc.) and then turns to litigators from a trusted outside law firm for more complicated elements of the workflow. “We always want to remain flexible enough to make sure we’re applying the right model to the right need,” Crews says. “You can’t get stuck with a single prism through which you view all insource/outsource decisions in e-discovery.”

Internal Buy-In

“Before making any changes to the way the company has historically managed litigation, it’s important to identify potential sources of resistance both inside and outside of the organization,” Crews says. “Once that is mapped out, you can concentrate on securing the participation of those individuals in the planning of your new strategy. You’ll need that buy-in from key people in order for the company to remain committed to the idea of insourcing certain functions that have been historically handled by outside counsel.”

Know Thy Costs

It can often be very difficult to wade through piles of invoices and trace expenditures throughout a global corporate legal department — but it’s essential if you want to succeed. “Not only do you need to know what those costs are in order to make the best possible decisions on insourcing or outsourcing work, but you’re also going to need that data in order to measure how effective your new approach has been in bringing down costs to the company,” he says.

Incremental Moves

“I have a simple motto around here: Think Big, Start Small, and Move Fast,” explains Crews. “The idea is that we want to prioritize our tactical initiatives and then just pursue a few chunks at a time. This allows us to make progress, realize some results, and keep the momentum going as we re-think how we manage e-discovery and litigation management.”

LOOKING TO THE FUTURE:

MACHINE INTELLIGENCE

Looking ahead to 2020, there is one promising body of technology innovation that has the potential to have a major impact on e-discovery processes and workflows.

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Four Essential iPad Deposition Apps

By John Edwards

While iOS devices have inspired the development of dozens of trial-related apps, the fact remains that many cases are essentially won and lost in deposition. Although deposition-oriented apps remain far scarcer than trial offerings, mobile attorneys toting iPads can turn to several useful apps to help them handle various deposition-related tasks easily and flexibly from almost anywhere. Here's a look at four powerful deposition tools optimized to take advantage of the iPad's relatively spacious display and keyboard space.

DEPOVIEW FOR IPAD 1.6

A simple, easy to use deposition review and management tool, DepoView for iPad allows attorneys to view complete depositions or instantly navigate to key discussions with a word index. A highlighting feature allows users to create single segment or multi-segment clips and then share them with the click of a button. Users

John Edwards (www.gojohnedwards.com) is a Phoenix-area technology writer. This article also appeared in *Legal Tech Newsletter's* ALM sibling, *Legaltech News*.

TAR

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of seed sets used to "train" the TAR system to identify evidence likely to be responsive.

Litigants are increasingly turning to TAR because they haven't found an efficient way to separate what they are looking for from what they are not prior to document review. After all, document review is still the most material cost driver in discovery, and TAR,

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can create a case folder and add transcripts or synchronized video depositions through Microsoft OneDrive, Box, Dropbox or iTunes for review or clip creation. Video clips can be edited and shared with others via e-mail. Publisher: inData Corp., Gilbert, AZ.

Compatibility: Requires iOS 6.0 or later. Compatible with iPad.

Price: Free.

LIVEDEPOSITION 5.5.29

Designed for use with the LiveDeposition streaming platform, the LiveDeposition app allows iPad users to participate in depositions either locally or remotely. The app lets users follow along with the real time transcription feed, watch the live video feed of a witness' testimony, listen to the deposition through a headset or earbuds, participate in a private group chat, send video and audio to other attendees, search and highlight keywords and download and view exhibits.

Publisher: Live Cloud Depositions LLC, Encino, CA.

Compatibility: Requires iOS 5.1.1 or later. Compatible with iPad.

Price: Free (requires purchase of the LiveDeposition local or Web streaming platform).

MOBILE TRANSCRIPT FOR IPAD 1.9

An app that gives mobile attorneys the ability to conveniently review

deposition transcripts, Mobile Transcript for iPad offers a wide range of interactive features. Users can highlight key testimony with the tap of a finger and quickly e-mail selected points (in Excel format or PDF with yellow highlights) to associates or expert witnesses. Users can also e-mail highlights to a paralegal to create a deposition summary. The app can also log its user's billable time.

Publisher: Mobile Transcript LLC, Seattle. Compatibility: Requires iOS 4.3 or later. Compatible with iPad.

Price: Free (plus a monthly fee of zero to \$99 for cloud storage and other services).

TRANSCRIPTPAD 2.2.0

Designed for reviewing depositions, TranscriptPad lets users highlight, underline, flag, add notes, create issue codes and then produce a shareable report. TranscriptPad automatically imports folders and organizes transcripts according to deponent name and date. Users can also create their own custom folders and organize them by issue or witness.

Publisher: Lit Software LLC, Miami.

Compatibility: Requires iOS 7.1 or later. Compatible with iPad.

Price: \$89.99.

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when planned and executed correctly, has the potential to cost less than linear document review. That being said, corporate law departments, law firms and their clients are looking at any and all options to *defensibly* reduce their total project cost and annual budgets.

Challenges to TAR thus far have highlighted methodologies executed by parties to minimize the document universes they subject to TAR. In *In re Biomet*, No. 3:12-MD-2391 (N.D. Ind. April 18, 2013), the defendant used keyword searches and deduplication to reduce its potentially responsive universe from 19.5 million to 2.5 million documents. In *Rio Tinto*, the defendant used search terms to eliminate almost 75% of the documents in its universe. The plaintiffs in both matters lost challenges asserting that keyword

searches do not return an acceptable recall of responsive information, and the respective courts approved these culling methods prior to TAR. One key takeaway is that subjecting the entire collected data universe or even entire user directories to TAR without first intelligently filtering is cost prohibitive.

FIELD-BASED INTELLIGENCE

In most cases, information gathering in preparation for discovery is disjointed: A hold notice is issued to employees selected by the company. Outside counsel is hired by the company. Outside counsel conducts substantive interviews with the custodians (although this is not always the case). Data is collected and sent to a vendor, but none of

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the intelligence gathered in the interviews is passed on to the vendor. Outside counsel comes up with search terms. The vendor runs search terms and reports volume to outside counsel. Terms are revised based on volume reports — but no one looks at a single document or the relationship between the documents containing a search term. At this point, a large universe of documents has been identified for review and the client must decide: Will TAR be less expensive than linear review? That, however, is the wrong question.

A better question would be: “What percentage of the documents we review get produced?” I have been asking this question for the last two years, and the average answer is 10%. That means there is a 90% opportunity to reduce the most significant costs associated with those documents.

So where do we begin? “Field-based intelligence” is gathered during data collections, custodian interviews and the process-driven exchange of information between the custodians, outside counsel, the client and the consultant driving the technology. Examples include names and details of the opposing party’s employees, specific custodians communicated with and the nature of the communications related to the claims at issue, specific types of documents likely to be responsive to requests, and the nature of communications sought by counsel. That intelligence can then be applied to the collected data to quickly — and in the first instance — find what you are looking for. With this approach, you can begin to identify sets of non-responsive documents returned by your search terms that comprise the 90% not being produced.

Think of field-based intelligence as a surgeon using a scalpel rather than an axe. It involves making a concerted, human-led, machine-assisted effort to understand what the custodians know, with whom they have communicated and the types of data used around each claim or issue.

This exercise enables the practitioner to quickly identify and validate specific examples of what they *are* looking for. Using those positive validations to identify false negatives in the search for relevant data actually results in significant false data reduction, which has a material impact on cost savings and maximizes the richness of the dataset prior to TAR or linear review.

Unlike TAR, which is primarily machine-driven, field-based intelligence leverages a combination of targeted automation *and* the data analysis expertise of experienced consultants to reduce data volumes and aggregate intelligence in a systematic way, and at an earlier stage of the e-discovery process.

At my own organization, we use a process and application called Questio. Here’s how it works: In-house and outside counsel have an opportunity to directly engage with the collected dataset. They view the application of the aggregated intelligence in the Questio platform during sessions driven by a Questio consultant. We identify “hot” or responsive documents and non-responsive documents in the first 24 hours. Outside counsel then validates those result sets and the documents move on to the next stage. Positive results are promoted to a review platform and negative results are excluded and remain in Questio. To be clear, outside counsel or the client is making the call based on clear defensible intelligence, not UnitedLex or Questio. The idea is to perform highly targeted, intelligent extractions after collections and before processing, hosting and review, then apply the aggregated intelligence to the dataset in Questio.

ADVANTAGES OF INTELLIGENCE-BASED APPROACH

Of the many advantages, perhaps the most significant is the enhancement of the downstream e-discovery process. Understanding the relationships between litigating parties’ employees and key issues that may otherwise not have been identified for months can change a litigator’s strategy. The ability to quantify cost savings at the matter level is critical. Relying

solely on TAR at the review phase can significantly limit timely identification of key documents, relationships and areas of risk, as well as increase the total project cost. An intelligence-based approach offers a logical blend of technology and services earlier in the e-discovery process.

In fact, we developed this technology and process because there was nothing available on the market through which a scientific data reduction process could be applied before processing. The growth of complex data and file types is increasing the number of documents that are resistant to most TAR systems and thus require manual review. The presence of such documents, coupled with the need to perform full review of post-TAR responsive sets, can easily undermine the total project cost reduction rationale that often justifies the use of TAR.

In determining the cost implications of TAR, take the time to measure your discovery spend on past projects so you have a better understanding of the kinds of data you typically deal with and know what it costs to funnel it through the discovery process. Here are two ways to measure your discovery spend per matter and compare across all matters:

1. Total project cost (all e-discovery and document review costs) divided by the volume of data (GB) ingested. This gives you the cost per GB you ingested to search to compare across matters.
2. Total project cost divided by the number of documents reviewed to give you a total cost per document reviewed.

These are metrics you can easily obtain historically, as well as apply to existing and future matters to measure your success in achieving your lowest total project cost. If you calculate your average total project cost per GB ingested, perhaps you will have just materially simplified your bidding process. To bid all services across the litigation lifecycle for a fixed cost per GB ingested would end the challenges associated with rates and line item comparisons and fully align the interests of all parties.

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Cloud

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barriers, etc.) — the datacenter can be taken down without ever busting in at all.

Additional questions to ask specific to the datacenter include:

- If you're augmenting cloud with colocation of equipment (assuming your CSP offers both and there's gear you just want hosted in a better datacenter), does the datacenter have smart hands support 24x7? You might need something done at 2:00 am, and not having to drive down to the datacenter location can be a life saver.
- Does the datacenter have onsite mechanical engineers 24x7? Be wary of sites that rely on all contract-based workers, because when emergencies happen on a city-wide or regional level those contractors are few and far between to respond.
- Is the datacenter SSAE16 compliant (*see*, http://ssae16.com/SSAE16_overview.html)? Ask for a copy of the annual report. You may not be in the financial sector, but this is a common certification for datacenters that meets the financial industry's requirements and in turn, often meets your own. There are a lot of standards one can support, but this one is so ubiquitous that if the site doesn't have it, think twice about hosting there.

2. How will you migrate all my existing servers, data etc. to the cloud?

This is where most cloud providers drop the ball. It's either "not their problem" or they claim they can do it, but don't have the right certified experts on staff or tools to get the job done. The more you ask them for examples, details and references, the more you will find the truth. Look for a cloud provider who knows what it is doing. It should be able to migrate a physical server into a

virtual server or provide colocation of that resource, ingest data over the wire or via removable disks you ship them, and offer a variety of replication, backup and data migration tools to get the job done. The devil is in the details, so if you're not hearing specifics then recognize sales speak for what it is: an empty promise that could leave you in the lurch.

Beware of data transfer fees. It's okay to charge a fixed fee to onboard your firm, but look out for complex cost calculators and again, more subterfuge. One trick cloud providers use is making inbound data free, but charging a small amount for outbound data. This is nonsense because nearly every communication is bidirectional. Ninety-nine percent of data moving applications in the world use an underlying protocol known as TCP and it's always a two-way communication: packets are always heading outbound not just inbound and charges will incur therein if your provider has "data transfer fees." Find a cloud provider that doesn't charge data transfer fees and has fixed-fees for everything else it does. They exist, but you will have to hunt.

3. Does the CSP offer virtual desktops?

Any cloud provider can host your servers and data, but only a few actually host virtual desktops. Desktops/servers have a client/server relationship (the closer together they are, the better they work together), plus, in a major disaster, your PC, laptop, and other devices might become lost, destroyed, or somehow unavailable. The ability to have every resource you need to get back to work immediately is essential to your survival.

4. How will you protect my data?

This should happen in several different forms:

- **Daily or Hourly Replication.** Any cloud provider worth its salt offers replication. Make sure you use it to replicate your environment to another datacenter, which is at least 1,000+ miles away to avoid regional emergencies or outages of any kind. I've seen

datacenters on fire, flooded, crashed into, experience extended power outages or the cooling system gets impaired or destroyed, downtowns turned into anarchy zones — you name it. If you see trouble around the corner, getting your business out of there is a key to survival.

- **Daily Backups/Snapshots.** Make sure you have a *daily* backup and/or snapshot of your entire cloud environment. I can't even count the number of customers we saved last year from Ransomware like CryptoLocker and others using this strategy. The ability to roll back the clock to a time before disaster struck is sweet music indeed.
- **Encryption.** If a cloud provider can't encrypt your data at rest (on disk) and in flight (over P2P VPN or private connections between you/them) using state of the art AES256 or better methods, then run!
- **Two-Factor Authentication.** If a cloud provider isn't *requiring* two-factor authentication of *all* its customers, then you might be the next star of a "Murder in the Amazon Cloud" type scenario (*see*, <http://bit.ly/1GArUFY>).
- **Traffic Filtering.** If a cloud provider isn't filtering all of its traffic in/out of the cloud to prevent botnets, malware and brute force attacks, then look for one that does. In my opinion, failure to do this means it either doesn't care, isn't secure, or wants to charge you those dreaded "data transfer fees" for a lot of "noise traffic," which has nothing to do with you, but was aimed at your niche in its cloud, thus incurring a charge. Talk about adding insult to injury! Internet "sewage" should be stopped at the Internet border routers, not passed on to customers for a profit.

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5. How do I get OUT of the cloud?

You may want to transfer all and/or part of your service to a different cloud simply because someone else is doing that piece better, cheaper, or faster. Or, maybe your current provider has let you down one too many times. Perhaps you just want to stare at some servers again. The choice is yours, or at least it should be, if you ask the right questions up front:

- Will your current cloud provider put all your virtual resources, files, etc., onto a removable drive and ship them

to you? Are over the wire transfers an option? What is the turnaround time, fees, etc., for each option?

- You might have entered the cloud from a VMware ESXi, Microsoft Hyper-V, or Linux KVM environment. Years from now, you may want those exported to a different format then how they were originally imported/hosted. Is that an option with the cloud provider?

CONCLUSION

Despite any caveats, the real question isn't, "Do you leverage the cloud at all?," but rather, "How many clouds should you leverage?" As CTO of a CSP, I can certainly

differentiate my company's value from the competition, but I'm still a fan of advocating a cloud strategy for my customers that isn't all about us. For example, I advocate keeping a customer's loose files (e.g., the "stuff" scattered all over your PC's C: drive or on network file shares) on the Egnyte cloud and Outlook e-mail over at Microsoft Office365. But one thing is clear: Leveraging the power of a multi-cloud strategy is the best way to protect your investment, keep costs down, and use technology as a bridge to get to revenue in your business that you couldn't otherwise reach while letting you sleep great at night.

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Innovation

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Lawyers and legal technology professionals are struggling to grasp the vast potential of "machine intelligence" to reinvent the way we litigate in the U.S. A 2011 article in the *New York Times* reported on the broad sense that we were on the cusp of a game change with machine intelligence in e-discovery (see, "Armies of Expensive Lawyers, Replaced by Cheaper Software," <http://nyti.ms/1MiaS1c>), but four years later there are still lots of questions about precisely how and when this revolution may take place.

As explained in a report earlier this year from Blue Hill Research: "Machine learning refers to the capacity of software to automatically adjust its performance and operations based on the consideration of past results, pattern recognition, and user feedback to predefined rules and heuristics. As such, applications of machine learning involve a legal intelligence engine that automatically improves and recalibrates with use." See, <http://tinyurl.com/njss6ho>.

The most common initial applications of machine intelligence appear to be predictive coding and technology-assisted review in e-discovery. However, a big question is how litigation teams can get started down a path that might lead to the Promised Land.

In the May 2015 meeting of LI 2020, thought leaders from both corporate legal departments and law firms discussed some incremental first steps that law firms and their clients should consider as they chart a course on the road to machine intelligence.

Change Management

Machine intelligence is innovative by design so it's likely to be quite disruptive to the organization, requiring very thoughtful management of change to staffing, talent needs, among similar requirements.

Metrics and Measurement

It's important to build an entire culture from day one that is committed to a clear sense of using consistent metrics to measure progress toward goals (e.g., speed, accuracy, costs, etc.).

Better Use and Understanding Of Analytics

Initiate a conversation now with your key stakeholders (e.g., leader-

ship, law firm partners, clients, IT staff, etc.) to put in place the best analytics possible.

Test Cases and Use Scenarios

Define a clear use scenario (i.e., a simple narrative for a typical use case of the technology) to help you explore the set of tasks and interactions required for your process design.

Client Demand

Try to gauge where your clients are most focused (e.g., cost? accuracy? speed?) and assess their expectations from the use of such cutting-edge technology for performing highly technical litigation-related tasks.

CONCLUSION

The e-discovery industry is right now at the exciting intersection of people, process and technology. The way we innovate and continue to improve in the next five years will have a substantial impact on the way litigation is managed in the U.S. legal system.

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