



Meritas in the Cloud: The Digital Law Office



Contents

- Meritas in the Cloud: The Digital Law Office2
- The Past: A Brief History of Law Office Technology5
- The 2011-2012 Meritas Technology Survey
 - About the Survey**
 - Methodology16
 - Additional Information17
 - Survey Responses**
 - Brief Overview17
 - Demographics18
 - Meritas Leadership Institute Survey Results**
 - Overview of Commitment to Technology20
 - Overview of Respondent Technology Use21
 - Client Services (Extranets)22
 - Mobile Computing23
 - Information Storage25
 - Technology Costs27
 - Reported Roadblocks28
 - Conclusion28
- Top Ten Findings of the 2011-2012 Meritas Technology Survey 31
- Cloud Computing: Definitions and Benefits 33
- Regulation of “The Cloud” in the EU 38
- Cloud Computing in Latin America 42
- US Perspective: Is “The Cloud” Safe? 48





Meritas in the Cloud: The Digital Law Office



Meritas in the Cloud: The Digital Law Office

Technological innovations in the digitization of information and communications have greatly changed the practice of law in the past decade and will undoubtedly continue to do so at an accelerating pace. While lawyers and law firms are widely viewed as being cautious in adopting new technological innovations, history demonstrates that technological innovations, beginning even with the written word itself, have been driven by the needs of those who practice law. *See The Past: A Brief History of Law Office Technology* (page 5).

An examination of the history of technological advances in the practice of law also provides context to the collective new struggles and questions raised by the digitization of information. As indicated by a survey conducted of worldwide Meritas member firms, law firms have made significant commitment toward a paperless office in recent years. *See The 2011-2012 Meritas Technology Survey* (page 16). However, Meritas member firms are only beginning to wrestle with the ramifications related to storage of the ever-growing amount of digital information in “the cloud.” *See Top 10 Findings of the 2011-2012 Meritas Technology Survey* (page 31).

Cloud computing promises a new model of scalability and flexibility that frees digital information from the tethers of hard drives, servers, and software licenses and offers the potential for increased security of data. However, the cloud presents new challenges that legal practitioners must consider. These concerns range from a lawyer’s obligation to maintain the confidentiality of client information to the problems that may arise if a cloud service provider is unable to continue hosting data. *See Cloud Computing: Definitions and Benefits* (page 33).

Virtually every jurisdiction has unique issues that must be considered before conversion to the cloud. Our inquiry into and analysis of the cloud has focused on three regions, the European Union (*see Regulation of “The Cloud” in the EU*, page 38), Latin America (*see Cloud Computing in Latin America*, page 42), and the U.S. (*see US Perspective: Is “The Cloud” Safe?*, page 48), which represent the regions or countries in which the Meritas Leadership Institute Class are admitted to practice law. However, our research suggests that regions and

countries not specifically addressed herein face similar issues and have organizations that are similarly working on best practices for the use of cloud services.

The benefits of the cloud are prompting many businesses, government entities, and even law firms to convert from traditional on-site storage of data to storage in the cloud. By exercising reasonable care in the selection of a cloud service provider and in the implementation of cloud storage, lawyers in many jurisdictions should be able to safely and effectively harness the benefits of the cloud and continue to comply with their professional obligations, including their obligation to maintain the confidentiality of client information.



The Past: A Brief History of Law Office Technology



The Past: A Brief History of Law Office Technology

While the practice of law has a reputation for being staid and traditional, the reality is that the profession has never been slow to avail itself of technological innovations. Indeed, technological innovations, beginning with the written word itself, have often been adopted to satiate a need in the legal system.

Even the earliest history of technological innovations in the law reveals their connection to some legal issues that have been present since time immemorial. For instance, in about 1700 BCE, King Hammurabi of Babylon imprinted and publicly displayed his code of laws in the daily language of Babylon. They were available for any man to read, in order to prevent any man from claiming ignorance of the law. “Ignorance of the law is no defense” was not one of the 282 laws, but it was apparently already a well-developed defense tactic, and the code was carved on large stone stele in Hammurabi’s kingdom for all to see.

While practical, large stone monoliths were not very portable, and portability was a necessity even in the ancient practice of law. Legal documents and documents from a ruler’s courts were among the few deemed important enough to be written on materials such as papyrus, developed in Egypt around 2500 BCE, or parchment, used commonly beginning about 1000 BCE.

Practical and portable written documents would not become more widely available until the advent of paper. The oldest known archaeological fragments of paper date to 200 BCE in China. However, Chinese tradition credits the invention of the pulp papermaking process to government official Ts’ai Lun, under emperor Ho-Ti of the Han Dynasty, in the year 105 AD. Paper eventually became widely used in the Middle East in the ninth century and in the West by the 13th century, and remains the standard medium for legal documents to this day.

In Europe, Charlemagne's conquest centralized the legal system and strengthened the royal court system. This centralization consequently resulted in the development of case law, which, following the Norman conquest of England, would develop into a body of precedent that would become the common law.

As the weight of judge-made law increased, the decisions began to be reported. The earliest example is the Book of Years, which recorded decisions of high courts as early as 1268. In the United States, the West Publishing Company began publishing its National Reporter System, regularizing the method by which lawyers conducted legal research, in the 1880s. At about the same time, Shepard's Adhesive Annotations, perforated sheets that could be pasted into the pertinent margins of case reporters, were introduced and began a burgeoning market of legal research.

A hundred years ago, the primary technological innovations that aided in law practices were the typewriter (invented 1874), the adding machine (commercially available in 1884), and the telephone (invented in 1887, but not readily available until after the turn of the century).

The pace of innovations would increase as emerging technologies began to be adopted into offices and law practices in the 20th century. The middle of the last century saw technology move away from the mechanical toward the electrical. This progress began with the electricalization and automation of existing technologies. Early computers, for instance, were developed as advanced adding machines to assist in complex calculations. The photocopier was developed by adopting a process for document copying that was actually discovered by James Watt, inventor of the steam engine, in 1779. Patent attorney Chester Carlson later refined a process he called "xerography," and the company he formed was named Xerox. The bestselling Xerox Model 914 of the 1950s, so called because it could copy up to 9x14 papers, was a revolutionary innovation. It could make a copy at the then-unheard-of speed of one every 26.4 seconds.

These and other technological innovations would come to revolutionize the practice of law and fundamentally alter the administration of justice in the coming decades.

1960s

In the 1960s, the “pre-tech” office made its last stand. Office systems were still generally based on age-old technologies, with the telephone being the sole nod to modernity in many offices. However, the technological advances developed through the 1950s began to be implemented, and ideas for greater advances took shape.

Prior to the 1960s, office documents were copied using either carbon paper or a mimeograph machine. With the advent of the Xerox 914 in the late 1950s, that began to change. By the mid-1960s, there were 40 different companies manufacturing photocopiers, and their integration into mainstream office work was well in place.

The dictation machine also made important advances in the 1960s. The invention of magnetic tape in the 1950s made using a dictation machine practical. By the 1960s there were several recording formats from which to choose: plastic discs, embossed belts, and magnetic belts. In 1962, the Philips compact cassette machine came on the scene and was quickly a popular office choice.

Other technological advances in the 1960s would eventually revolutionize office practice. For example, modems were invented in the early 1960s, and by 1964 American Airlines linked 2,000 of its terminals in 60 cities to one mainframe using telephone lines and modems. In 1961, the world’s first telecommunications satellite, Telstar, was sent into orbit, creating a worldwide communications network for handling telephone, television, and data transmission. The first personal computer was developed in 1962 (at a cost of \$43,000). By 1964, there were 17,000 computers in the US, up from only 15 a decade earlier. In 1969, ARPANET, the “mother of the internet,” was started as a US government experiment linking researchers with remote computer centers and allowing them to share hardware and software resources.

These and many other innovations in the 1960s had little, if any, immediate effect on the practice of law, but they laid the groundwork for the digital law office as it began to be implemented in the decades to come.

1970s

The typewriter, which had been used since the 19th century, was still the ruling technology in law offices and businesses in the 1970s, but electric models began to become very popular. IBM's Selectric models were the market leaders. These replaced inked fabric ribbons with "carbon film" ribbons that had a dry black or colored powder on a clear plastic tape. Early film ribbons could be used only once, but later models featured a cartridge that was simple to replace.

A side effect of this technology was that the text typed on the machine could be easily read from the used ribbon. This characteristic raised issues when the machines were used for preparing classified documents (ribbons had to be accounted for to ensure that typists didn't carry them from the facility). A variation known as a "Correcting Selectric" introduced a feature in which a sticky tape in front of the carbon film ribbon could remove the black-powdered image of a typed character, eliminating the need for little bottles of white dab-on correction fluid or hard erasers that could tear the paper.

Some of IBM's developments were later adopted in less expensive machines from competitors. For example, Smith-Corona electric typewriters of the 1970s used interchangeable ribbon cartridges, including fabric, film, erasing, and two-color versions. At about the same time, the continuing advancements in photocopying meant that carbon copies and erasers were less and less necessary; only the original need be typed, and photocopies made from it.

During this decade the telegraph still had a level of importance, as it was the fastest way to send short written messages long distances. Telephone communications, particularly long-distance calls, were plagued by poor sound quality and delayed reception.

Due in part to these issues, most contract negotiations during the 1970s were conducted face to face. Businessmen preferred to travel long distances to close transactions, rather than relying on the technology available at the time.

Technological advances of the past decades had helped to make computers smaller, faster, and more capable information managers, but they were still not quite “friendly” to most office workers. By the 1970s, integrated circuit technology made producing a small and relatively inexpensive personal computer possible, but many computer manufacturers elected not to develop a personal computer. They could not imagine why anyone would want a computer when typewriters and calculators were sufficient. However, between 1974 and 1977, companies such as IBM (5100 computer) and Apple (I and II versions) broke this pattern by creating the first personal computers.

Other innovations during this decade:

- In 1971, Alan Sugart and IBM created the “floppy” disk. Its nickname came from its flexibility.
- In 1976, Steve Wozniak and Steve Jobs founded the Apple Computer Company, which made affordable computers designed for easy use, including the Apple I and II mentioned above. Eight years later they introduced the Macintosh, a microcomputer with an intuitive user interface, familiar icons, and a mouse.
- Meanwhile, Paul Allen and Bill Gates were busy with their new company Microsoft, developing the technologies that, in the 1980s, would be introduced as the operating systems DOS and Windows and become so extensively used.

In the 1970s, it could take several years for offices to update their technology after the launch of new alternatives. The use of new technology was not as immediate as nowadays, but the pace of advancement and implementation would increase in the decades to come.

1980s

The 1980s offered law firms and businesses numerous innovations to meet the growing demands of a “fast-moving, get-it-done-now world.” Federal Express used this catchphrase in 1982 to describe the advancements in business that caused companies to seek new ways to increase their efficiency. With the benefit of hindsight, we know that the “fast-moving, get-it-done-now world” of the 1980s merely whetted our appetite for the proliferation of technology we now see each day.

The technological revolutions in the 1980s were spearheaded by the introduction of personal computers in the mid- to late-1970s. As noted above, IBM broke through in 1981 with the introduction of the first commercially successful “PC.” Apple later introduced the Macintosh, the first PC to have a graphical user interface, which allowed users to alter the graphics on the screen (as opposed to using computer code).

While individuals enjoyed what we would describe today as the limited functionality of the first PCs, law firms were slow to integrate PCs into their day-to-day practice. Computers’ primary function in law practices during this decade was billing, not research, communication, or daily word processing.

The primary word-processing duties in 1980s law offices remained with electric typewriters. The storage capacity on PCs was still too limited to handle large word-processing projects. Devices that could store “large” amounts of information cost well over \$50,000 and occupied entire closets, if not rooms. Portable storage devices were similarly limited. For example, the mid-1980s produced 3½- and 5¼-inch “floppy disks” that had the storage capacity of approximately 700 KBs. That is roughly 100 times less than the storage capacity on a garden variety CD we purchase today and far less than the storage capacity of cell phones sold today.

During this time, computers’ communication ability was also limited and required users to endure the obnoxious rings, beeps, and screeches of the dial-up modem. The brave few who were

undaunted by this song of progress could access newspapers such as *The Washington Post*, *Newsweek*, *The Economist*, and *U.S. News and World Report*, as well as news services such as Reuters and the Associated Press, through the relatively new service companies LexisNexis and Westlaw. (It seems hard to believe that 30 years ago the primary online resources were newspapers and that firms paid handsomely for these services, which are now free or are relatively low cost to access.)

In the late 1980s, facsimile or “fax” machines, once considered too bulky and costly to be practical, became commonplace in law offices. Fax machines shrank to half the size of personal computers and dropped sharply in price to less than \$1,000 per machine. The annual sales of fax machines rose from about 250,000 units in 1987 to about 400,000 in 1990. The speed and cost of fax machines became far more desirable than overnight mail. To send a letter overnight by Federal Express could cost up to \$12; the same letter could be faxed in a matter of seconds for less than 50 cents. (Now, of course, you can email the same document across the world in matter of seconds and for free.)

Another important innovation in the 1980s was the development of software for law offices. For example, a company called Micro-Craft, Inc. created Verdict® practice-management and billing software, in collaboration with NASA engineers and a law firm that wished to automate its manual tracking of time and production of billing statements. The success of that original Verdict system, propelled by a groundswell of word-of-mouth and a series of ads running in various computer magazines and *The American Bar Association Journal*, led to Verdict becoming the first and most successful PC-based software of its type on the market. Nevertheless, most law firms were slow to integrate this software, preferring to keep time on traditional time sheets.

Despite the 1980s’ reputation as a “fast-moving, get-it-done-now” period, the pace of technological advancement in office life during this decade was easily surpassed by the breakneck speed of innovations in the 1990s. In the 1990s, law offices would be forced to

improve efficiencies by incorporating new technologies or face the prospect of getting left behind.

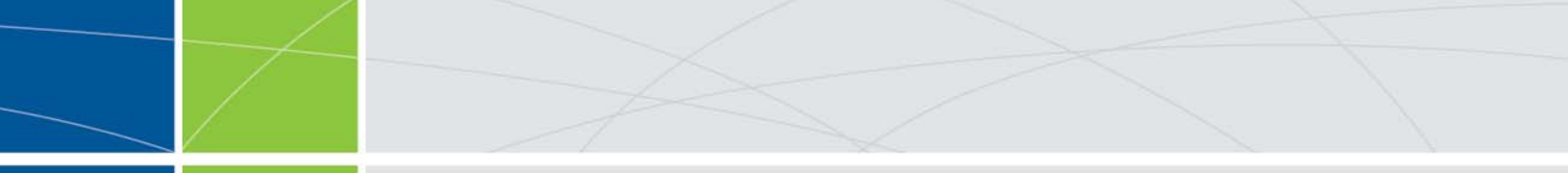
1990s

The 1990s was the decade in which the world got a lot smaller, thanks to a slew of technological innovations that changed the way people interacted with each other. Inventions in the 1990s included some of the most important communications advances to ever find their way into human hands. During this decade the PC settled everywhere, and the desktop computer became a powerful tool. The internet was received with open arms as a form of communication, a platform for customer contact, and a conduit for business transactions. Though the internet itself had existed since 1969, it was with the invention of the World Wide Web in 1989 that the internet truly became a global network. The explosive growth that the internet experienced led to many far-reaching and substantial innovations that can perhaps be best compared to the invention of the printing press in the 1400s.

The 1990s saw the expansion of Wireless Local Area Networks (Wireless LANs), which link two or more devices using a wireless distribution method and usually provide a connection through an access point to the wider internet. This innovation gave law office users flexibility, enabling them to move within a certain coverage area and still be connected to the network.

In October 1991, Apple Computers introduced the Macintosh PowerBook 100, 140, and 170, all with a notebook-style design that would become increasingly popular and allow more mobility in the practice of law. Technology was developing so quickly that a computer costing \$3,000 in 1997 would sell for \$2,000 two years later and only \$1,000 the following year.

In 1993, the Pentium processor appeared, setting the stage for a big leap in computing power on the desktop that enabled a powerful set of useful applications and eventually online trading. Thereafter, lawyers could undertake multiple tasks on their computers at a very reasonable



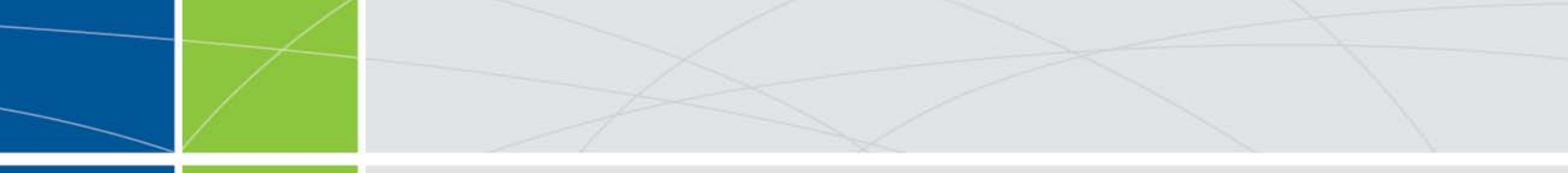
speed. Data compression—i.e., fitting a given volume of information to be processed, transmitted, or recorded into a smaller amount of space—was also developed during this period.

Microsoft Office was initially released in 1990. While Microsoft was not the first to implement the idea of packaging a spreadsheet, a word processor, and a graphics package in a single productivity tool, it developed the concept and standardized business computing better than anyone else.

Also in the 1990s came the development of document management, so indispensable in law practices. World Software was launched in May 1988 to market the innovative utility EXTEND-A-NAME, which liberated desktop computer users from MS-DOS's frustrating file-naming restrictions. World Software's leadership in file and document management was confirmed in 1991 with EXTEND-A-FILE, a full-featured Document Management System for MS-DOS. This product introduced fully customizable profiles, indexed text searching, and version control. Later, in 1992, World Software moved to Microsoft Windows with the announcement of Worldox. Rewritten from the ground up, Worldox featured the now-famous "Outside/In" file viewer, becoming the first legal document manager to incorporate this attribute.

In 1993, Adobe, the American computer software company founded in 1982, introduced its Adobe Acrobat and Reader software and the Portable Document Format (PDF). The company has historically focused upon the creation of multimedia and creativity software products, with a more recent foray toward rich internet application software development. With PDF, e-filing and paperless law offices became a far more reachable reality.

Another important tool for lawyers, developed in the 1990s for use as we know it today, is Lexis-Nexis. This major electronic publisher and information provider serves customers in more than 60 countries, offering legal, business, government, academic, and financial information through the Web, CD-ROMs, and books.



The widespread use of cellular phones began in the 1990s, when the second-generation (2G) mobile phone systems emerged, primarily using the GSM standard. These differed from the previous generation by relying on digital instead of analog transmission, as well as fast out-of-band phone-to-network signaling.

Other advances include the web cam, a video camera that feeds its images in real time to a computer or computer network, often via USB, internet, or Wi-Fi. It was first developed in 1991, making IP (Internet Protocol)-based video conferencing possible, along with the development of more efficient video compression technologies.

The personal digital assistant (PDA) was created in the 1990s. In 1996, Nokia introduced the first mobile phone with full PDA functionality, the 9000 Communicator, which grew to become the world's best-selling PDA. The Communicator spawned a new category of mobile phones: the "PDA phone," now called the "smartphone."

Finally came the DVD, which is an optical disc storage media format invented and developed by Philips, Sony, Toshiba, and Panasonic in 1995. This popular storage format is the size of a regular CD but can contain as much as 10 times more information.

Due to inherent limitations, the versatility afforded by technology during the 1990s generally required an equally versatile set of gadgets to take advantage of it: a mobile phone for voice and perhaps e-mail, a pager for text, a digital camera for photographs, and a CD player or media player for music in addition to a personal computer or laptop for web browsing, deep multimedia integration, and the management of large-scale storage media, such as optical discs.

This began to change in the year 2000, however, as miniaturization, improvements in display technologies, data compression, and wireless networking began allowing for smaller, all-encompassing devices. These are the breakthroughs responsible for today's smartphones and tablets, which are capable of voice, text, e-mail, fully functional internet access and browsing, high-definition photo and video recording and playback, and even management of mass storage via remote access



2011-2012 Meritas Technology Survey



About the Survey

Methodology

The Meritas Leadership Institute Class of 2011-2012 (MLI) conducted a survey of lawyers and information technology professionals from each of the 174 Meritas law firms worldwide from September to December 2011. Members of the MLI developed the 48-question survey (the survey) in order to collect information for a MLI program at the 2012 Meritas Annual Meeting in New Orleans, Louisiana, USA. The survey instructions stated that the results would be published, but that the identity and responses of individual survey takers would be kept confidential by the MLI.

The survey was distributed by Meritas Headquarters to the designated Member Contacts at each of the Meritas law firms, yielding 289 completed responses. The conclusions in this report are based upon the tabulation by the MLI of these survey responses.

In some portions of the survey, a positive answer to a question resulted in the respondent being asked additional questions not available to respondents who had given a negative response. In most cases, this is because the negative response indicated that the additional questions were not applicable to the particular respondent. Accordingly, the number of responses, and thus representative nature of the responses, may vary on certain questions. Efforts have been made to identify the questions with less than a full number of responses.

Additionally, respondents were permitted to offer individualized, free-form responses to certain survey questions. Where possible, these individually generated responses have been tabulated or grouped at the discretion of the MLI.

Additional Information

If you have further questions regarding the MLI survey, please contact Kim Heinrich, Global Marketing Manager at Meritas, (612) 604-0083, kheinrich@meritas.org. For those who are interested, graphic question-by-question survey results are available here:

http://docs.meritas.org/Meritas/Full_Survey_Results_for_Written_Deliverable_-_FINAL.pdf

Survey Responses

Brief Overview

The MLI surveyed Meritas law firms on their digital technology commitment and use. After asking for an overview of the respondents' own attitudes in practice and comparing those to their firms' general commitment on digital technologies and paperless solutions, the survey focused on how those technology proficiencies are used by the respondents in practice. Respondents provided information on the technologies they frequently use, but the responses were limited to the digital technologies covered in the questionnaire, such as legal research databases, web conference programs, cloud computing, online legal services, mobile computing, and extranets.

The next series of questions concentrated on the relatively new phenomenon of "eLawyering," asking the respondents whether their firms are providing online client services or online file access to clients. The survey also queried about the scope and potential restrictions inherent in offering such online client services. The questionnaire then asked respondents about their use of mobile devices and what impact the use of mobile devices has on their practice.

The survey also explored the methods of information storage within the Meritas law firms, covering electronic and paper storage, shared and remote storage, and potential restrictions with regard to the exclusive use or maintenance of electronic documents.

The survey went on to ask about the financial commitment of Meritas law firms to technology.

Finally, the survey respondents had the opportunity to add general comments. Many of these comments have been taken into account in the report that follows.

Demographics

The survey respondents were overwhelmingly North American, with 63% of the responses coming from the US and another 10% from Canada. Eleven percent of the responses came from Europe, 7% from Latin America, 4% from Asia, 3% from Australia/New Zealand, and 2% from Africa. This roughly correlates with the composition of Meritas itself, except that the US and Canada are slightly overrepresented and Asia and Latin America slightly underrepresented.¹

With regard to age, the respondents were fairly evenly distributed, with the major age categories (>35, 36-45, 46-55, 56-65) each representing 19% to 32% of the respondents. Lawyers aged 66+ represented only 4.5% of the respondents. Unsurprisingly, the respondents' years of experience as a lawyer correlated closely with age: 45% of the responses came from lawyers with 11 to 25 years' experience, while lawyers with less than 10 years and those with between 26 and 40 years' experience each represented 20% of the responses. Again, about 4.5% of the respondents had more than 40 years' experience.

While survey takers' ages were evenly distributed across Meritas as a whole, they varied by region. Survey respondents skewed toward younger lawyers, under age 35, in Europe and Latin America. Younger lawyers in both regions represented 38% of the responses from those regions, nearly double their representation in the survey overall. In contrast, only one young lawyer took the survey in Africa, Australia/New Zealand, and Canada combined. The more experienced respondents, those over age 66, were overwhelmingly from the US, with 10 of the 13 responses by survey takers in the over-66 group coming from this region.

¹ Based upon regional demographic data provided by Meritas as to its various regions. *See e.g.* <http://www.meritas.org/main.aspx?link=127>

The respondents were not as evenly divided across Meritas as a whole with regard to gender as they were by age; men outnumbered women by almost a three-to-one margin. There was no significant regional variation.

The respondents were primarily from medium-sized firms, corresponding to the overall makeup of Meritas. Small firms of less than 10 lawyers accounted for 11% of the responses, firms of 11 to 25 lawyers for 34%, firms of 26 to 50 for a quarter of all responses, firms of 50 to 100 for 16%, and Meritas affiliates with more than 100 lawyers for 12% of the respondents.

More than half of the responses came from firms that have been in existence for more than 50 years, a quarter from firms that have existed for at least 30 years, and another 14% from firms in existence for at least 16 years. Only 3% of the responses came from firms formed in the last five years and 5% from firms formed in the last 10 years.

A wide variety of practice areas were represented in the survey, but more than half of respondents selected Business/Corporate as a primary practice area, with nearly as many selecting Litigation. Real Estate, Employment, Contracts/Sales, Tax, and Intellectual Property round out the top responses.

Considering all demographic information together, the typical survey respondent was a lawyer working in the US who is male, approximately 45 years old, has at least two decades of experience as a lawyer, and practices as a commercial litigator in a well-established mid-sized firm.

Meritas Leadership Institute Survey Results

Overview of Commitment to Technology

In order to gauge Meritas lawyers' commitment to the use of technology, the survey first questioned respondents as to their personal commitment to the use of digital technologies and paperless solutions in the practice of law. Only 3% of respondents stated they personally had made no commitment, while nearly 30% stated they had made a significant commitment. The majority indicated that they had made a limited commitment. Of the last group, nearly half stated they were actively making a greater commitment while 17% were doing nothing to become more paperless.

These results had a very strong correlation to the results of a similarly worded question as to their *firm's* commitment. This correlation indicates that lawyers' individual attitudes toward the use of technology are a significant predictor of their law firm's commitment toward incorporating technology into the firm's practice.

The survey asked respondents how paperless their personal practice is compared to that of other lawyers and how paperless their firm is compared to other firms. Less than 10% rated themselves as Poor or Below Average, with 46% rating themselves as Average and 44% as Above Average or Outstanding.

The percentages were similar when respondents were asked to rate their firms, though it would appear respondents believe themselves to be more paperless than their firm is. Only 27% ranked their firm Above Average or Outstanding compared to other firms, which is 17% lower than those answering Above Average or Outstanding for their *personal* rating. Sixty-two percent of respondents view their firm as Average, compared to just 46% who consider themselves Average.

When asked to give the same ratings with regard to the overall use of technology, the same patterns applied. Nearly 60% of individual lawyers ranked their own use of technology as Above

Average or Outstanding when compared to other lawyers, and only 9% ranked themselves as Poor or Below Average. Respondents ranked their firms as slightly less ahead of other firms, with only 37% meriting the Above Average or Outstanding designations, and 54% ranking as Average.

These results tend to demonstrate that the lawyers at Meritas law firms who responded to the survey are, at least in their own opinion, overwhelmingly above average in their adoption of paperless initiatives and technology in the practice of law. They recognize themselves to be more technologically proficient than their peers.

However, in general, respondents believe their firms are lagging behind their own efforts and overwhelmingly merit the description Average.

Overview of Respondent Technology Use

How are Meritas lawyers using their technological proficiency? The survey responses show they are doing so in several interesting ways. Because computers and mobile devices have become commonplace across the globe, it is unsurprising that a vast majority of respondents, 89%, said they use mobile devices to stay connected to their practices, and 78% use digital technology for legal research.

What is somewhat more surprising is that 70% of respondents indicated they had the ability to remotely access work files, and half of all respondents said they use digital technology to electronically file documents in courts. The latter is a concept that was the subject of only a handful of pilot programs a decade ago.

Meritas lawyers are also using digital technologies to communicate in “virtual” meetings. Half of respondents indicated they regularly use web conference programs and more than a quarter use video conferencing in their practices. Thirty percent of the respondents answered that they have extranets available to clients or others in order to collaborate or work cooperatively on projects.

However, only 20% indicated they regularly utilize cloud computing, where data storage is outsourced, and only 10% responded that they provided online legal services or virtual law offices, collectively known as eLawyering.

A third of the respondents said their firms use news blogs to keep clients informed about the law firm or areas of practice. Over half of firms that have blogs publish or update them weekly or daily, with about a quarter updating on a monthly basis, and the same percentage only on occasion, as news happens.

Client Services (Extranets)

The survey covered the challenging phenomenon of eLawyering, or delivering legal services online. Typically, a client would have access to a law firm's web site through a password-protected portal where both the lawyer and the client may interact and share documents, and where legal services are provided to the client. While eLawyering is relatively new, it is a growing segment of the legal industry as more clients expect to be able to access billing or case information through the internet.

The survey revealed that Meritas law firms typically do not provide such services. Only 17% of respondents said their firms provide online services or specific client access to their web site (other than access available to the general public via a firm web site). Of the minority that provide eLawyering services, 11% provide basic legal services online for client access and interaction (e.g., estate planning, immigration matters, forming corporate entities, etc.), with the remainder simply sharing information. Over half of respondents who provide online services or specific client access said they allow their clients to access information on their cases or matters online.

Some Meritas law firms also use eLawyering services to deal with the business aspects of the practice. More than 26% of firms who provide specialized access to clients do so in order to

provide their clients the ability to pay for legal services online, and 15% allow their clients to review billing information online.

eLawyering raises the demand for a “secure web space,” commonly known as a secure “client portal.” Surprisingly, only 65% of respondents stated that their online client file access allows secure sharing of confidential communications.

While eLawyering is a growing phenomenon, current law firm policies restrict such access. Forty-three percent of respondents answered that their law firm policies prohibit the online sharing of confidential communications with their clients and prevent their lawyers from providing online client access. It is not indicated in the survey results whether such internal law firm policies are influenced by or reflect restrictions by domestic law or ethical bar rules. Individualized comments provided by respondents indicate this is certainly a factor that keeps a large majority of Meritas firms from providing eLawyering services to clients.

Mobile Computing

This part of the survey questioned respondents on their use of mobile devices (other than a computer) for work purposes and on the impact of mobile computing on a lawyer’s practice. It was not surprising that 93% of respondents said they utilize mobile devices for work purposes. The results only confirmed the fact that staying connected has become commonplace in business life across the globe. However, of the 18 respondents who do not currently use a mobile device for work purposes, only three intended to change that in the near future. This indicates that we may have hit saturation on this point.

Respondents to the survey estimated their colleagues are lagging behind their own practice when it comes to staying connected. Only 62% of survey respondents reported that a significant majority of lawyers in their firm use mobile computing in their practice; 22% estimated that the percentage is greater than half; and 13% of respondents estimated that less than half of their

colleagues in their Meritas firm use mobile devices in their practice. These numbers indicate much less use by respondents' colleagues than by the respondents personally.

Nowadays, clients seem to expect their lawyers to have a smartphone or tablet and to respond to them from outside the office. This phenomenon is overwhelmingly observed by 95% of respondents. Even though staying connected has clearly become part of the job, however, only 56% of Meritas law firms fully reimburse their lawyers' expenses for mobile devices. Another 26% of Meritas firms contribute partially to the expenses of their lawyers' use of mobile computing, and the remaining 18% provide no reimbursement, according to the survey.

Besides the advantage of being able to access working data from everywhere in the world, the use of mobile computing obviously affects lawyers' leisure time. More than half of respondents said they check their emails from their mobile device at regular intervals when they are not working, 34% react whenever a message comes in, and 10% check their emails at least twice a day. Only 3% of respondents do not check email outside of working hours.

In the survey, an overwhelming 92% of respondents reported working from home or another remote location at times. Over half (55%) of these respondents work remotely sometimes, but not regularly; however, over a quarter (29%) work outside the office every day. Only 3% of respondents reported rarely working outside the office.

Those who reported working remotely come from almost every corner of the globe. Of the total respondents from the United States, 95% reported working remotely, as did 90% of the total respondents from Canada, 84% from Europe, 81% from Latin America, 89% from Australia/New Zealand, 92% from Asia, and 75% from Africa.

Not all of those respondents who reported working from home or another remote location have access to electronically stored documents away from the office. In the survey, 82% of

respondents reported having remote access to electronic files and documents; this is almost 10% less than the number of respondents who reported working from remote locations.

Of those respondents who have remote access to online files, the vast majority use either a virtual private network or VPN (42%) and/or a remote access software, such as Citrix (39%). Nine percent reported using an internet-based service, such as GoToMyPC.com or LogMeIn.com. Five percent of respondents reported that they regularly email working documents to themselves, so they can open the document elsewhere and email it “back to work.” Some of the respondents, 5%, had remote access, but didn’t know the means used because the remote access was set up by another person.

Of those who aren’t able to access electronically stored documents away from the office, less than half reported that they plan to implement remote access in the coming year. This means that nearly 6% of the total respondents (or their firms) are apparently content without remote file access.

Information Storage

The survey also asked respondents what they do with documents and files received in the course of their practice. Increasingly, lawyers are receiving documents from clients or other outside sources electronically; about half stated that they routinely print such documents in order to have a copy of the document for a physical file.

However, a larger percentage, 62%, routinely scan or image documents received in paper format to create an electronic version. Of these respondents, only 28% routinely destroy the original paper document after the electronic version has been created; the remainder keep a paper document in the format received, in addition to storing it electronically. Thus, while the majority of respondents create electronic files when they receive paper documents, a much smaller percentage rely exclusively on the electronic file.

Of those who keep the paper document, over half (54%) reported practicing in areas of law that do not include Litigation. Just over half (52%) of these respondents practice Business or Corporate Law; the remainder reported practicing in areas such as Tax; Real Estate; Wills, Trusts, and Estates; Contract/sales; International; Employment; Construction; Securities; Antitrust; Bankruptcy; and Environmental Law.

The survey also explored the use of shared and remote storage. An overwhelming 90% of respondents who reported saving an electronic version of paper documents keep that file on a shared server; this represents 63% of the total survey respondents. Only 8% store that file remotely in “the cloud.”

Of those who utilize cloud computing for document storage, 73% of respondents are located in the United States, 20% in Europe, and 7% in Africa. These lawyers practice in a wide variety of areas of law, including Business/corporate, Employment, Entertainment, Intellectual Property, and Immigration.

No respondents reported providing documents to other lawyers or clients via fax on a regular basis, which may be indicative of the end of the fax machine in the practice of law worldwide. However, 9% of respondents said they most commonly send paper documents. The remaining 91% of respondents reported transmitting files digitally, with 88% sending via email or a posted link allowing download, and 3% sending electronic files physically, via a disk containing the file.

In the survey, just under a quarter (22%) of respondents reported that aspects of their respective area of legal practice prevent the exclusive use or maintenance of electronic documents. Respondents stated that the most common sources of these restrictions include local court or bar rules, audit regulations, governmental agency rules, service requirements, estate planning requirements, real estate requirements, or the fact that electronic versions are not treated as “originals.” Respondents also demonstrated a lack of confidence in electronic storage, reporting

that not keeping the paper original could be “malpractice” if the electronic version were to become unavailable.

Almost half (45%) of respondents reported having an internal firm policy regarding the use of electronic storage for client documents or firm work product, remote access of client documents or firm work product, or reducing paper usage in the office. Thirty-five percent of respondents reported that their firms do not have such an internal policy, and 20% did not know if their firm had such a policy.

Of those respondents with an internal policy, 94% reported that the policy was *not* prompted by a decision of a court to require exclusive electronic filing. This indicates that this is an issue Meritas law firms and lawyers *choose* to address across practice areas and around the globe.

Technology Costs

The survey sought to determine whether respondents believed their firm was spending the appropriate amount on technology. Building on respondents’ exposure to the earlier questions and on their individual experiences, the survey asked whether they believe the money spent on technology at their firm is appropriate, should be increased, or should be lower.

About 10% of respondents felt their firms were *overspending* on technology. The majority (55%) felt that spending is about right, but 29% believed spending should increase. Six percent reported that their firms should consider spending considerably more and would derive a considerable benefit from such expenditures.

While these results indicated that most respondents believe their firm has its technology expenditures about right, it is notable that only 10% of respondents reported their firm is overspending, while 35% stated spending should increase. This indicates that respondents generally see a value to technology expenditures that could result in increased efficiency or long-term cost savings. The survey results showed that it is not exclusively young lawyers who are

favoring spending more on technology; only 24% of the responses advocating for greater technology spending (six of the 25) came from lawyers younger than 35. Only one such response, however, came from a lawyer over the age of 66.

Reported Roadblocks

Respondents reported that the biggest roadblock to creating a paperless or digital office is the time and commitment involved; this option was selected by 31% of respondents. Of the other potential roadblocks: 22% of respondents cited the difficulty in training users in new technologies, 17% reported the expense of new technology, and 10% believed the current system works just fine. Six percent responded that the pace of technology change makes new implementation out of date too quickly, and 6% of respondents reported being uncomfortable with using computers. Most of the respondents in this last group practice law in the United States (20 out of 27 total responses), are male (18 out of 27), and fall within the middle age groups (17 out of 27 reported being between 36 and 55 years old).

Respondents also reported other roadblocks, including a general reluctance to change within the firm, a fear that documents will not be available when they are needed, and the convenience and familiarity that accompanies reading paper documents. Several noted that the greatest roadblock was simply inertia that kept existing systems in place.

Conclusion

The survey responses demonstrated that mobile computing has become a common working tool in the practice of law. The advantages of accessing data remotely may lead to an increase in workload for the lawyers, but also to greater opportunities to perform this work outside of the office. However, since mobile devices are regularly used for working purposes during non-work hours, they blur the line between work and leisure time.

Despite all of the technology advances already accepted within Meritas law firms, a majority of Meritas lawyers have not implemented eLawyering in their practice. Depending on the practice area and the client's need, eLawyering may be a helpful tool or a hindrance.

Interest in and intent to use eLawyering is certainly influenced by the practice area of the responding lawyer. More than half of the survey respondents selected Business/corporate and nearly as many selected Litigation as their primary practice area. But only 11% of all of the respondents said that their firms provide clients with online legal services or online access to files. Typical eLawyering tools are mainly used in other areas of law, such as Real Estate, Estate Planning, and Intellectual Property. In the area of Business/corporate law, eLawyering services are often provided to a very limited extent, such as in forming corporate entities.

In addition to online legal services and online file access, eLawyering encompasses other online services, such as allowing clients to access information or ongoing updates on their cases or providing billing information. The survey results demonstrated a significant awareness that there is client demand for more digital service in the practice of law. This is recorded in the written additional comments of respondents, such as:

“Clients are demanding and driving much of these changes, etc.”

Some of the Meritas law firms who presently do not offer online legal services indicated they are currently working on the implementation of eLawyering services, and they invest a certain amount of time and money to develop adequate digital tools for their clients:

“[...] we have certain volume practice clients that require us to exchange matter information electronically, including downloading new files from their system into ours, and updating case information from our system into theirs. So we work with a programmer to configure these systems and they run automatically throughout the work day.”

Most Meritas firms do not allow online client access and many respondents cited internal law firm policies as prohibiting the practice. It is not clear from the survey results whether such decisions are exclusively based on internal policies or eLawyering restrictions provided by guidelines/rules of bar associations² or domestic law. It is also unclear whether the policies are recently developed or are based upon past uncertainties regarding security and fail to appreciate new advances.

One comment addressed most of the current concerns expressed by Meritas firms that do not intend to implement forms of eLawyering:

“Security, costs, and computer training are obstacles to creating a digital office.”

The current use of eLawyering throughout Meritas is limited to 17% of the firms responding to the survey. However, individual respondent comments indicate that member lawyers have an interest in gathering more information on eLawyering and intend to become involved in eLawyering services in the near future.

² The eLawyering Task Force (see <https://www.elawyering.com>) of the Law Practice Management Section (see <https://www.lawpractice.org>) of the American Bar Association provide “Best Practice Guidelines for Legal Information Web Site Providers”

Top 10 Findings of the 2011-2012 Meritas Technology Survey



1. **89%** of respondents use mobile devices to stay connected to their practices
2. **78%** use digital technology for legal research
3. **92%** report working from home or another remote location at times
4. **82%** have the ability to remotely access work files, with 70% doing so via a VPN, internet service provider, or remote access software
5. **90%** of respondents who save electronic documents store them on a shared server
6. **8%** who save electronic documents store them remotely in “the cloud”
7. **48%** of all respondents use digital technology to electronically file documents in courts
8. **47%** indicate they regularly use web conference programs and more than a quarter use video conference in their practices
9. **30%** have “extranets” available to clients or others in order to collaborate or work cooperatively on projects
10. **19%** provide online services or specific client access to their web site (other than access available to the general public)



Source: 2012 Meritas Leadership Institute Technology Survey



Cloud Computing: Definitions and Benefits



Cloud Computing: Definitions and Benefits

In recent years, the term “the cloud” has become ubiquitous—thanks in part to the high-profile marketing campaigns launched to introduce Apple’s “iCloud” and Microsoft’s “private cloud.” But what, exactly, is “the cloud”?

What is “Cloud Computing”?

Often described in industry jargon that can be difficult for a layperson to understand, many lawyers may be unable to readily define this somewhat elusive concept. *The New Oxford American Dictionary* adopted the following definition in 2010:

cloud computing n. the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Even this definition is not entirely divorced of techie jargon, but it conveys the basic concept that cloud computing is the centralization of data storage, processing, and management.¹ Instead of being required to purchase hard drives or servers to store and manage data (like email, documents, pictures, movies, etc.) or purchase software (like Microsoft Office), the end-user (whether an individual, law firm, corporation, or government agency) subscribes to a cloud service that stores, manages, and allows the user to process the data remotely.

By subscribing to a service, end-users are able to outsource the burdens of purchasing, licensing, or maintaining the hardware and software that is necessary to locally store and maintain data. Like other shared services (think mass transit, electricity, city water systems), the cloud allows individuals to tap into, use, and pay for data management and storage based on their consumption at any given point in time. In other words, the cloud provides scalability. The

¹ The US National Institute of Standards and Technology (NIST) developed a more technical and explanatory definition that has been widely accepted in the industry, available at: <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

flexibility of the cloud model is a major reason that the largest names in computing—Apple, Microsoft, Amazon, and Google, among others—now offer cloud-computing services.

Are You Already in the Cloud?

Many consumers and businesspeople are already, perhaps unwittingly, utilizing the cloud. If you use Gmail, store photos on Snapfish, upload or view videos on YouTube, or have a Facebook account, you are utilizing the cloud. If you access documents remotely via Citrix or conduct legal research on Lexis or Westlaw, you are using the cloud. Put simply, the cloud is everywhere. Surveys conducted within the cloud services industry reflect that roughly 50% of businesses in the United States and United Kingdom are using at least some cloud services, primarily for data storage, email, or security.² And the sky may be the limit; cloud computing is expected to be a \$149 billion industry by 2015.³

What are the Benefits of the Cloud?

The benefits of the cloud range from purely economic considerations to the security of data in the event of a natural disaster. While some benefits are immediate and undeniable—for example, the ability of employees to access data and documents remotely—the jury is still out on whether the cloud effectively reduces long-term costs.

Some of the potential benefits of the cloud to businesses and law firms include:

- **COST SAVINGS.** One of the most widely discussed benefits of shifting to the cloud is cost savings. Rather than purchasing or licensing hardware and software maintained in-house by a full-time information technology team, a law firm can outsource many of its IT needs (including email, data storage, and security) to a cloud service provider. Costly and time-consuming in-house software and hardware updates are eliminated

² Mimecast Cloud Barometer Survey 2010; available at <http://www.mimecast.com/Documents/Surveys/barometersurvey.pdf>.

³ Kundra, Vivek, “Tight Budget? Look to the ‘Cloud’”, *The New York Times*, August 30, 2011, available at <http://www.nytimes.com/2011/08/31/opinion/tight-budget-look-to-the-cloud.html>.

because they are implemented by the cloud service provider.⁴ In a survey of 3,645 cloud users conducted by CSC, a US-based technology service company, in eight countries (the US, UK, France, Germany, Brazil, Australia, Japan, and Singapore), 47% of the respondents reported lower IT operating costs after transitioning to the cloud. However, for many cloud users responding to the survey, cost savings were relatively modest.⁵

- **MOBILITY.** Because the cloud is accessed remotely through the internet, employees are able to retrieve data and documents from any location. One-third of the respondents to the CSC survey (discussed above) reported the need to connect employees who use many different computing devices as the number one reason they transitioned to the cloud.⁶ The mobility allowed by the cloud permits employees to be productive remotely, whether while traveling or at any given workstation throughout an office.
- **SCALABILITY.** Businesses storing data in-house invest in servers in anticipation of their future data storage needs and pay IT staff to maintain them. Many businesses dedicate office space to the servers, which often require dedicated cooling systems. In addition to hardware, businesses are required to have software licenses for each computer terminal. Cloud service providers reduce these inefficiencies by eliminating the need for on-site servers and allowing customers to pay only for the storage space they are actually using at any given point in time and for technical support by the hour.⁷ Additionally, since it is a monthly service, software licensing is part of the package supplied by the cloud supplier and the user pays only for the services utilized.

⁴ Kundra, Vivek, "Tight Budget? Look to the 'Cloud'", *The New York Times*, August 30, 2011; Shulman, Brendan M. and Samantha V. Ettari, "Cloud Computing Meets E-Discovery," *The New York Law Journal*, October 3, 2011.

⁵ CSC Cloud Usage Index, December, 2011, available at http://assets1.csc.com/newsroom/downloads/CSC_Cloud_Usage_Index_Report.pdf

⁶ CSC Cloud Usage Index, December, 2011, available at http://assets1.csc.com/newsroom/downloads/CSC_Cloud_Usage_Index_Report.pdf

⁷ Shulman, Brendan M. and Samantha V. Ettari, "Cloud Computing Meets E-Discovery," *The New York Law Journal*, October 3, 2011.

- **INCREASED SECURITY.** Once an appropriate cloud service provider is selected, the security it is able to offer is generally greater and more comprehensive than a firm's internal security procedures. This is because data is stored in highly secure and specialized data centers that are monitored around the clock and subjected to routine security testing. In other words, security is outsourced to the cloud service provider.
- **REMOTE STORAGE.** Cloud service providers use secure storage centers, thus removing the risk that a hurricane, earthquake, or other event may pose to business files and records. Most large cloud service providers also provide duplication of storage, meaning that data is physically stored at multiple remote sites, virtually eliminating the risk of loss of data to any particular natural or manmade disaster.

While these benefits make the cloud appealing, lawyers must be cautious in converting to the cloud. As explained in *US Perspective: Is The Cloud Safe?* (page 48), *Regulation of the Cloud in the EU* (page 38), and *Cloud Computing in Latin America* (page 42), lawyers must be aware of security and other risks that use of the cloud may pose and should take reasonable steps to ensure that client and other data stored in the cloud is secure. Lawyers must also take into account the professional and ethical obligations they are subject to in the respective jurisdictions in which they practice, before converting to the cloud.



Regulation of “The Cloud” in the EU



Regulation of “The Cloud” in the EU

The EU faces similar barriers to the use of cloud computing as the rest of the world, such as data security, reliability, data privacy, and legal concerns. But, because of the specific legal obligations of each EU country regarding personal data protection, the EU is required to address these issues both in relation to the provision of cloud computing services and the protection of the rights of citizens. The rigorous system for protecting personal data of individuals within the EU poses a unique challenge for those interested in moving to the cloud, because of the divergence of detailed national implementation requirements. These fragmented requirements might create additional barriers and uncertainties for users of cloud services.

The EU already has a comprehensive system of data protection in place that covers almost every collector of personal data. The European system is laid out in Directive 95/46/EC (the Data Protection Directive), and member states have enacted national laws to implement the Directive. However, the Data Protection Directive never fully anticipated the cloud-computing phenomenon. Although the Directive applies to cloud services in principle, it is not clear how and to what extent the Directive’s provisions are specifically applicable to cloud computing. Several components of the existing system of data protection may guide the EU in how to address and clarify the regulations for cloud service providers and users.

The EU already has adopted The Council Framework Decision 2005/222/JHA of 24 February 2005 on attacks against information systems (the Framework Decision), which aims to fight cybercrime and promotes information security. The Framework Decision imposes a requirement on EU member states to impose criminal sanctions for cyberattacks, including hacking and interference with networks or data stored in computer systems. However, in most of the EU member states, cloud computing providers still have no right of action against perpetrators of cybercrime.

In 2009, the revised e-Privacy Directive 2002/58/EC (the e-Privacy Directive) introduced a mandatory data-breach notification procedure for the telecommunications sector to the EU.

Pursuant to the e-Privacy Directive, telecommunications and internet service providers are required to report certain data breaches to their national regulator and to affected individuals. Mandatory notification duties only apply to providers of electronic communication services and, thus, probably exclude most cloud providers. Yet, the release of any part of the massive aggregations of customer data held by cloud providers, whether accidentally or maliciously, may be harmful to customers, particularly if they are unaware of the breach.

The European Commission has already published a press release seeking views from citizens, the industry sector, public authorities, and other interested parties on how to fully benefit from cloud computing and how to address existing cloud computing issues. Responses to the online public consultation will be used for the preparation of a European cloud computing strategy that the Commission intends to present as part of its digital agenda in 2012. The industry sector recommendations to EC Vice President Neelie Kroes on the Orientation of a European Cloud Computing Strategy, November 2011, include a number of useful suggestions to the Commission, such as the creation of EU-wide harmonized rules and globally interoperable rules to facilitate information flows with appropriate security and privacy protection.

The European Cloud Strategy for 2012 will also include global proactive policy efforts aiming to, *inter alia*, set the conditions for more suitable regulatory frameworks for cloud computing and provide for different actions to clarify issues on standards, privacy, data portability, legal liability, and applicable jurisdiction(s). One of these policy efforts is the creation of a European Cloud Partnership between public authorities and industry with a view to standardizing requirements for public cloud procurement. The Commission will also propose an EU data protection reform designed to improve privacy online while allowing for the development and use of cloud services. As Kroes has said, the aim is to make Europe not just cloud-friendly, but cloud-active.¹

¹ EU Data protection reform and Cloud Computing “Fuelling the European Economy” event, Microsoft Executive Briefing Centre Brussels, 30 January 2012.

Initial drafts of the new regulatory framework still contain restrictions for the transfer of personal data outside the EU. This is particularly troubling for law firms considering a move to the cloud. The cloud does not have readily identifiable boundaries, and restricting the movement of data outside the EU is therefore a challenge. Whether a cloud services provider or its contractors could necessarily guarantee that data is not moved beyond the physical boundaries of the EU remains a question. However, the draft regulations currently being circulated may undergo substantial changes before being adopted and all EU firms should monitor these new regulations and policies closely as they are revised and adopted.



Cloud Computing in Latin America



Cloud Computing in Latin America

The concept of cloud computing (e.g., storing email, data, and documents off site, in most cases in the hands of a third party) can seem diametrically opposed to our ethical obligation to treat our clients' information with the utmost confidentiality. The fact is that, notwithstanding all its related benefits, cloud computing does raise several specific issues and possible concerns relating to the potential theft, loss, or disclosure of confidential information.

And yet, it seems reasonable to assume that, at some point, most legal practitioners will interact with cloud services to some degree, if they haven't already. The use of cloud technology seems on the fast track to becoming more widespread, and the challenge lies in identifying what measures can be taken in order to minimize the risk of inadvertent disclosure of confidential data in the context of making broad-scale plans for the use of said technology.

The following are a few factors to be taken into account when carrying out due diligence on a potential cloud service provider and/or negotiating a cloud service contract:

1. **Encryption:** Was the cloud provider's encryption scheme tested by an independent auditor?
2. **User access:** Can cloud service provider personnel access the stored data? If so, is their access restricted and cataloged?
3. **Data segregation:** How will the stored data be segregated from the data of other users?
4. **Recovery and support:** How does the cloud service provider back up the stored data? What measures have been implemented to recover data in the event of a server failure? What happens to stored data if the cloud service provider goes out of business?
5. **Legal considerations:** Is there any legal standard for data safeguarding applicable to the cloud service provider? If so, does the cloud service provider meet the requirements set forth therein?

With regard to legal considerations, it is important to realize that, unlike the U.S. or Europe, which have federal and/or regional legal frameworks or standards for data security, management,

and/or protection¹, Latin America does not have an equivalent. Each Latin American country provides its own cloud computing legal provisions and you must study each and every jurisdiction's laws that may affect your business or your cloud service provider(s).

This white paper addresses other factors that impact how useful, effective, and/or secure cloud computing can be in Latin American countries.

Adoption of Cloud Computing Technology in Latin America

Cloud computing is undeniably a hot topic in Latin America. In 2011, according to the Information Systems Audit and Control Association (ISACA), businesses in general implemented cloud technology enthusiastically and at a brisker pace than their European counterparts.² Unfortunately, no law firms participated in this survey and we must ask ourselves if the same level of interest shown by business-at-large would be seen in Latin American law firms and legal professionals.

Several regional factors seem to erode the benefits associated with cloud computing (e.g., reduced implementation costs and timeframes, scalability, remote access, and storage), while potentially exacerbating the associated risks (e.g., data privacy, confidentiality, security, and compliance). These regional factors would have to be taken into account in order to make a sound decision regarding the extent of the implementation in each case.

Limited Local Expertise

The fact that there are not as many cloud implementation experts and consultants in Latin America as there are in the U.S. or Europe presents a significant obstacle to adopting cloud technology. Large IT solution providers in the region tend to be in the early stage of developing their local cloud computing capabilities.

¹ Examples of this are the Gramm-Leach-Bliley Act (in the case of financial institutions and as an observable standard) in the US and the Data Protection Directive in the EU.

² ISACA, 2011 Risk-Reward Barometer, <http://www.isaca.org/Pages/Survey-Risk-Reward-Barometer.aspx>; 32% of ISACA's Latin American members had implemented some form of cloud computing plan, compared to 29% and 39% in Europe and the US, respectively.

The limited availability of local expertise also has an impact on the drivers for cloud adoption in the region. So while the cloud may effectively be perceived as an opportunity to reduce IT costs via the implementation of basic cloud offerings such as email and collaboration, it is rarely seen as an opportunity to innovate and create incremental business value, such as via company extranets and online services. Additionally, and perhaps most importantly, limited local expertise may impact the ability to identify potential data security risks in the implementation of cloud computing technology. In general, this issue generates a side effect of its own: the tendency to rely on foreign providers.

Dependence on Foreign Service Providers

While the cloud generally implies a shift in the location of all forms of data to a location off premises, the fact that said data, which includes personal and client confidential information, is going to another jurisdiction altogether raises additional concerns regarding the core privacy and third-party use issues generally associated with the cloud. Data stored in another jurisdiction may well receive less legal protection from access by third parties outside of the cloud services provider. These third parties include law enforcement and/or government agencies, which may be able to obtain information from the foreign service provider more easily than from the original owner or creator of the content.³

Moreover, how would service downtime or data loss be handled? What compensation would be obtainable from the foreign cloud service provider? These questions naturally generate additional caution in the implementation of cloud computing solutions, especially if said solutions go beyond basic services.

As existing local providers make their service offerings more robust⁴ and as foreign providers establish local footholds⁵, these particular factors appear to be changing at a brisk pace. Even

³ World Privacy Forum, Privacy in the Clouds: Risks to Privacy and Confidentiality from Cloud Computing; <http://goo.gl/KKOxD>.

⁴ Cloud-based Services Expected to Account for 40% of Claro's Enterprise Revenues, <http://goo.gl/ge2Up>.

⁵ Amazon Expands its Cloud to South America, <http://goo.gl/cxnoH>; IBM Opens Four Cloud Computing Centers to Meet Growing Demand in Emerging Markets, <http://goo.gl/FOuE3>.

once locally established, however, foreign providers would still need to be evaluated carefully with regards to privacy and confidentiality considerations due to the potential implications of their legal frameworks of origin.⁶

In any case, cloud service providers should always be subject to due diligence. Contract provisions should also be reviewed and negotiated in order to accommodate the firm's requirements and establish the guarantees necessary to protect both its clients' and its own data in conjunction with firm's ethical and legal requirements.

Internet Service Quality and Latency

While broadband internet access is generally available, Latin America has traditionally lagged behind the worldwide average with regard to the level of broadband penetration.⁷ This appears to be changing rapidly, thanks to fiber optic and WiMax deployments and initiatives such as those in Argentina, Brazil, Chile, Dominican Republic, and Uruguay, for example.⁸ Still, reduced penetration and access to broadband remain an issue, generally the result of a combination of factors, with infrastructure and insufficient competition being chief among them. Thus, there tends to be considerable margin for improving the quality of broadband in Latin America.⁹ As a result, average and entry-level connection speeds tend to be lower, notwithstanding generally higher costs.¹⁰ This slower speed, in turn, tends to make cloud solutions less attractive if high volumes of data are to be handled, particularly for small and medium-sized firms.

Additionally, the time it takes for data to get from one point to another, which tends to be closely related to service quality, can also play a role in making cloud services less attractive. This delay, referred to as "latency" in the field of networking, can negatively impact file access and application performance (e.g., how quickly information reaches the end user or how long it takes

⁶ Microsoft Admits Patriot Act can Access EU-based Cloud Data; <http://goo.gl/m16Y3>.

⁷ BuddeComm, Latin American Broadband and Internet Market; <http://goo.gl/bvddz>.

⁸ See <http://www.fiberopticmania.com/2011/06/developments-in-fiber-optic-market-in.html>.

⁹ Regional Dialogue on the Information Society (DIRSI), Broadband in Latin America: Opportunities to Reduce Tariffs, Improve Quality and Expand Service; <http://goo.gl/UcwXl>.

¹⁰ *Ibid.*

to download a file) and will tend to be more prominent in lower-quality and lower-speed connections. And given that the primary factor for latency tends to be the distance between the end user and the corresponding data center, the difficulties generated by it can be amplified when foreign cloud service providers are involved.

Legal Framework

The use of cloud computing tends to cause greater exposure of firm and client data to the risk of cybercrime, since the data in question is taken out of a physical security perimeter and placed within a virtual one. In light of this, evaluating whether local legal frameworks provide effective recourse in the event of a breach becomes increasingly important. Table 1 identifies cybercrime statutes by jurisdiction.

It is generally considered that most Latin American countries do not yet have legal frameworks on par with those of the US or Europe with regard to cybercrime. However, as the internet continues developing, pressure is inevitably exerted on national legal systems to take these issues into full account. As a result of efforts such as those helmed by the Inter-American Telecommunication Commission (CITEL) and the Inter-American Committee Against Terrorism (CICTE), many Latin American countries have made or are making efforts to bring the rule of law up to date with current needs.

Country	Statute
Argentina	Law 26.388 (2008)
Bolivia	Law 1768 (1997)
Brazil	Cybercrime Law (2008)
Chile	Law 19223 (1993)
Colombia	Law 1273 (2009)
Costa Rica	Law 8148 (2001)
Dominican Republic	Law 53-07 (2007)
Ecuador	E-Commerce Law (2002)
El Salvador	Criminal Code (1998)
Guatemala	Bill 4055 (Pending Approval)
Mexico	Federal Criminal Code (1999)
Nicaragua	Criminal Code (2009)
Panamá	Law 14 (2007)
Paraguay	Law 2473 (2011)
Perú	Law 27309 (2009)
Uruguay	Ley 1273 (2009)
Venezuela	Cybercrime Law (2001)

Table 1 – Latin American Cybercrime Statute Status



US Perspective: Is “The Cloud” Safe?



Is “The Cloud” Safe?

While the benefits of the cloud make its use appealing, lawyers must be aware of security and other risks that use of the cloud may pose and take reasonable steps to ensure that client and other data stored in the cloud is secure.

Disclosure of Confidential Client Information

Under ethical and professional conduct rules in many jurisdictions, lawyers must exercise reasonable care in protecting a client’s confidential information. This generally includes a lawyer taking reasonable steps to prevent the inadvertent disclosure of confidential information by third parties (like cloud service providers) that are retained by a lawyer to assist in providing services to the client.

BEST PRACTICE: Ethics advisory opinions in a number of U.S. jurisdictions (including Arizona, Iowa, New Jersey, New York, North Carolina, and Oregon) have found that it is permissible for lawyers to electronically store client information. Generally, these opinions require that lawyers take “reasonable steps” or exercise “reasonable care” to ensure that a cloud service provider keeps data secure and confidential. *See e.g.*, Oregon State Bar Association Formal Ethics Opinion No. 2011-188 (“OSBA Opinion No. 2011-188”), November, 2011; North Carolina State Bar Association Formal Ethics Opinion No. 6, January 27, 2012 (finding lawyer must exercise “reasonable care” when utilizing a cloud service provider to store client information and files).

An opinion issued by the New York State Bar Association Committee on Professional Ethics recommends that lawyers using cloud service providers act with “reasonable care” and undertake the following steps:

- 1) confirm that the provider has an obligation to protect the confidentiality and security of data and that the lawyer will be informed if the provider is served with process requiring the production of client information;
- 2) conduct due diligence on the provider’s security measures, policies, and recovery and other relevant procedures;

- 3) use technology to protect against hackers or any outside attempts to access data; and
- 4) investigate and confirm the cloud service provider's ability to purge and delete data or to move data to a different provider if desired or necessary.

See generally, New York State Bar Association Committee on Professional Ethics, Opinion 842, September 10, 2010.

These ethics advisory opinions make clear that because advances in technology may undermine security features being employed by a cloud service provider, the lawyer has a continuing obligation to reconfirm that the provider's security measures remain effective. *See e.g.*, OSBA Opinion No. 2011-188. The cloud service agreement entered into between the lawyer and cloud service provider should contain provisions reflecting these considerations.

Security Breakdowns

Despite the very real trend toward the use of cloud services, concerns relating to protecting confidential data remain. This concern is not misplaced. On June 20, 2011, Dropbox, a major cloud service provider that offers free data storage for individuals and recently launched a pay-as-you-go service for businesses, confirmed that it had experienced a security breach due to programmer error. The breach lasted for nearly four hours, during which time data being stored in Dropbox accounts could be accessed without a password. Episodes like the Dropbox security failure could potentially expose a lawyer or firm to ethical violations and malpractice claims, particularly if the lawyer failed to use "reasonable care" in selecting the service provider.

BEST PRACTICE: Security procedures are not yet standard among cloud service providers. Accordingly, due diligence should be conducted on any provider before a law firm subscribes to a cloud service. Due diligence may include speaking to current or former clients of the provider and determining what security procedures are utilized by the provider. Reputable cloud computing vendors in the U.S. typically store data in centers that have undergone an audit under Statement on Auditing Standards No. 70 (SAS 70 Audit), promulgated by the American Institute of Certified Public Accountants. Organizations that undergo an SAS 70 Audit must demonstrate

that they have adequate controls and safeguards when they host or process data belonging to third-party customers.

Cloud service providers' applicable cloud service agreements may also limit their liability in the event data is stolen. Lawyers should confirm that the cloud service provider's agreement does not limit the provider's liability when a loss of data is caused by the provider's own negligence or wrongdoing.¹ The cloud service provider agreement should also require that data be backed up and that the backup data be stored in a separate location.²

Law firms should also review whether their general liability insurance policies cover monetary losses from the loss of data or cyberattacks; most do not. Some insurers are now offering policies that will cover cyberattacks, but the policies can be expensive.

Expansion of Personal Jurisdiction

Use of cloud-related services can increase the possibility of establishing unintended personal jurisdiction. For example, a New York Court held that personal jurisdiction was established in New York, in part, because the defendants set up a virtual data room that permitted the plaintiff to review uploaded documents in New York. *See Forward Foods, LLC v. Next Proteins, Inc.*, 873 N.Y.S.2d 511 (N.Y.Sup. 2008). Ultimately, the court transferred the case under the doctrine of *forum non conveniens*, but the case remains illustrative of the inherent risks in placing documents in a cloud that can be accessed from another jurisdiction.

BEST PRACTICE: To minimize the risk of being hailed into another jurisdiction, clients and lawyers should analyze all the contacts with any jurisdiction where information can be accessed via the cloud. Such factors include what types of documents can be accessed from the other jurisdiction; the quantity and quality of emails, letters, or phone calls to that jurisdiction; revenue derived from the jurisdiction; and a physical presence in or trips to that jurisdiction. Lawyers and clients should also consider their firms' exposure to personal jurisdiction in the jurisdiction

¹ Fernando M. Pinguelo and Bradford W. Muller, "Is Your Business Venturing into the Cloud? Beware of the Fine Print!," Bloomberg Law Reports (2011).

² *Id.*

where their cloud service provider is domiciled. Transactional lawyers should consider including choice of law, venue, and jurisdiction provisions in acquisition documents for any transaction that may utilize cloud services for due diligence, to the extent those provisions are not already included in such documents.

Difficulty Complying with Discovery

Lawyers and their clients should consider e-discovery issues when moving to a cloud or as soon as they become aware of a potential lawsuit that may involve discovery of documents stored on the cloud. Generally speaking, best practices for “normal” e-discovery should be followed, but there are a few unique aspects to consider when it comes to e-discovery stored in the cloud.

BEST PRACTICE: When possible, work with your clients to negotiate their cloud service agreements to ensure the contractual obligations are clear in any situation involving a litigation hold or production requests, including requests made by subpoena. Information stored in the cloud is considered by most courts as within your “control,” potentially subjecting parties to sanctions for failure to preserve the data. Therefore, it is critical that the cloud service agreement allows you to comply with e-discovery laws in the applicable jurisdiction, including preservation of metadata, and that it comports with the client’s own retention policies. Pay particular attention to any provisions in the cloud service agreement that establish routine deletion of electronically stored information, address advanced search capabilities for information in the cloud (and their costs), or allow the cloud service provider to assign the agreement to another entity or to utilize another entity that stores the information in a different manner.

E-discovery requires that lawyers understand their client’s data management systems. To assist in understanding data management, it is often advisable to create a data map outlining where and with whom information is stored. This step will also guide you in determining what individuals or entities should receive litigation hold notices. It is best to advise opposing counsel as soon as possible that relevant information may be stored in the cloud and reach an agreement on what steps are sufficient to preserve it. If no agreement can be reached, have the court address the issue early in the case so you do not face spoliation arguments. Finally, always document your

efforts to preserve or produce relevant data within the cloud, just in case your cloud service provider fails or neglects to comply with your request. This will allow you to argue that you proceeded in good faith to meet your e-discovery obligations.

Vendor Continuity, Reliability, and Termination Issues

One of the biggest concerns for both law firms and their clients is what happens if they lose access to data. A real-life example of that concern was realized in January of this year when the US Department of Justice (DOJ) shut down Megaupload Limited after indicting and arresting its owners for copyright infringement. Concerns were immediately raised about what would happen to files that had been uploaded on the site after the DOJ announced that the web site's terms of service warned users to keep backups of any files uploaded onto the site, that users assumed the risk of losing their files, and that Megaupload reserved the right to terminate use of the site without notice.

Such terms of service are not likely to be found on cloud service provider agreements considered by most law firms, but some clients may be unaware of these pitfalls and could use cloud service providers with loose terms and conditions and lose access to documents or information that may be relevant in a lawsuit. The freeze of Megaupload's platform also raises the question of what you should do to avoid delays in obtaining information when a service provider becomes insolvent, has software or hardware stability issues, has its platform frozen by a government (temporarily or permanently), terminates your agreement, or corrupts your files.

BEST PRACTICE: The obvious solution is to back up your files elsewhere or only use the cloud for file backup. Of course, this can lessen the hoped-for cost savings that are often a key reason to move to the cloud in the first place. You should also do your due diligence on cloud service providers and negotiate the terms of your agreement to address the issues illustrated by the Megaupload situation, including but not limited to post-termination retrieval of documents.

Be wary of statistics touted by some cloud service providers regarding their reliability. Does the service provider calculate its "downtime" or "service time" based on the whole year or by

month? If a service provider calculates its percentage of downtime based on an entire year, it could mean that in a specific week or month the critical features of the site were down for significant periods of time during your business hours, as compared to a few hours a month on the weekends in the middle of the night. Further, make sure the agreements have provisions in place that give you notice of potential insolvency, times when new software or hardware is being installed, or other prolonged shutdowns anticipated. Establish consequences for periods of prolonged shutdown and require your written consent to any modifications to the terms of service. Also, make sure the cloud service provider regularly backs up your data and make sure your agreement does not exclude damages for recreating or reinputting data.

Failure to Comply with Export Controls

Under U.S. regulations, sending or uploading controlled information to a computer in another country could be deemed an “export” and may require prior authorization from a licensing agency. This means that cloud service providers and users have to factor U.S. licensing issues into how cloud services may be sold and used. Through the issuance of two Advisory Opinions, the U.S. Department of Commerce’s Bureau of Industry and Security (BIS) clarified its position on many of these questions.

In a 2009 opinion letter, BIS found that the provision of cloud services to a user in another country or a foreign national located in the U.S. *is not* an “export.” However, sending software to a foreign user to enable the use of cloud services or sending technical data about how to access and use the computational capacity of a cloud *is* an export. BIS also found that exporting controlled software and technology to and from the cloud is subject to the export control laws. The opinion stated that neither the cloud service provider in the U.S. nor the cloud user abroad is the exporter of any data that users place on and retrieve from the cloud. This leaves only the cloud services user in the U.S. responsible for ensuring the compliance of any exportation of its software or technology that takes place.

In a 2011 advisory opinion, BIS clarified that because cloud service providers are not exporters, such companies would not need to need to obtain the otherwise required “deemed export”

licenses for their foreign national IT administrators who have access to users' controlled technology. Again, this appears to leave the U.S. user responsible for any license requirements.

BEST PRACTICE: Cloud service users in the U.S. should: (a) take precautions when establishing their cloud computing arrangements to preclude cloud providers from allowing their foreign network administrators to have access to user-generated technology that is controlled by U.S. export laws, and (b) evaluate technical data and software programming stored in the cloud for export controls and ensure that export licenses or license exemptions are in place before such data is moved to a computer outside of the United States. Similar concerns may exist in other countries and should be fully explored and addressed before committing to using the cloud.

Conclusion

The benefits of the cloud—including increased security of data, remote access, scalability, and potential cost savings—are prompting many businesses, government entities, and even law firms to convert from traditional on-site storage of data to the cloud. By exercising “reasonable care” in the selection of a cloud service provider and in the implementation of cloud storage, lawyers in many U.S. jurisdictions should be able to safely and effectively harness these benefits and to continue to comply with their professional obligations, including their obligation to maintain the confidentiality of client information.



www.meritas.org | +1.612.339.8680