

WHEN RUBBER MEETS THE ROAD – PRACTICAL APPLICATIONS AND CAVEATS ABOUT “CLOUD COMPUTING” PART 1

By Timothy B. McCormack *with Special Thanks to Pete Roberts of the Washington State Bar Association LOMAP office.*

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The “Potential” of Cloud Computing

While some of this technology is not necessarily new, it is new in terms of its price point and rollout for small and medium-sized businesses. Large firms have had this technology for some time. But, as the price comes down, “cloud computing” or cloud computing implementation as it relates to all information technology (email, phones, faxes, remote access, legal research), really represents the potential leveling of the technology playing field, allowing small firms to leverage those technologies to compete more effectively with some of the large firms.

As smaller firms, we are generally going to have lower overhead and more nimble practices. If we can be backed by the latest and greatest technologies, it can potentially allow us to compete more effectively for the best and the brightest young attorneys and staff, the best clients, and increase our own happiness and productivity while at the same time making more money. That is the “potential” of cloud computing.

The Practical Application of “Cloud Computing” – Is it Good or Bad?

As attorneys, whether we are solo practitioners, mid-sized firms, or departments in larger firms, we, like our clients, are governed by the laws of economics.¹ Setting aside the issues of providing the best service a professional can and is expected to give, as a service industry, our goal is to maximize billed service hours and minimize overhead costs.

¹ Needless to say, we are also governed by the law, including the Washington State Bar Association, authorized by the Supreme Court, and the Rules of Professional conduct. This paper tries to focus on the business issues we face as lawyers and how technology can help or hurt those business endeavors. Said another way, we are not looking at the practice of law, we are looking at the business of law along with the technology and economic forces that can impact the business.

At the same time we must keep ourselves, our attorneys and our staff healthy, happy and productive. In some ways the advent of the personal computer has changed the way law firms operate and also how the economics of the service industry are perceived. The advent of the personal computer has decreased the amount lawyers, particularly young lawyers, who dictate. Correspondingly, there is an increase in the number of lawyers who type everything they do. General wisdom indicates that a lawyer skilled in dictation is much faster and more efficient than a lawyer who types everything themselves. I dictated this paper. Dictation is great. Interestingly, I used a digital recording device and emailed the file to an off-site word processor who emailed me back the paper for my editing. I could have dictated this paper right into my word processor using the speech recognition built into Windows, although I have never taken the time to figure that out. For now, I still prefer an actual person to unscramble my dictation.

The personal computer has made it easier for lawyers to type letters themselves, format pleadings, and even communicate via email. In other ways the personal computer has increased the modern lawyer's efficiency. Our staff is more efficient, our research is faster and, literally, we need to get up from our desk less often. And this measure of productivity is inversely proportional: the more we integrate technology into our practices, the less often we are required to get up from our desks. Beware: surfing the web does not count!

An interesting question in my mind is whether there has ever been a net increase in efficiency based on the advent of the personal computer, or a net decrease in efficiency based on the personal computer? A follow-up question is, have our billing rates as attorneys correspondingly adjusted to reflect the increased efficiency or deficiency?

This same line of thought is applicable to the newest developments in personal computing, which is the topic of this CLE panel discussion, namely, "cloud computing."

As a technology lawyer and practitioner who uses personal computers and cloud computing, I am not sure that cloud computing itself represents an advance in the efficiency of attorneys. I think this is an open question.

I do believe, however, that it potentially represents an advance in decreasing overhead and increasing, or potentially increasing, attorney and employee happiness, which relates to long-term profitability and retention. Setting lawyer and employee happiness aside, which involves too many intangibles to address in this context, just because an attorney or an employee wants to stay at home and do work does not necessarily mean that having that ability will increase their happiness or their productivity.

In my opinion, there is still no substitute for coming into the office and doing work. Doing work from home can be distracting and difficult.² That being said, as

² A home-based office can be set up to accommodate the feeling of a separate office, and I have had good experience with that.

lawyers and legal professionals, we are sometimes tasked with protecting our client's interests, a task that cannot always be accomplished between the hours of 9:00 and 5:00.

If we can use technology to allow ourselves to be more flexible in spending time with our families and meeting our personal obligations, while at the same time, first and foremost, serving and meeting our client's needs, then use of the facilitating technology should result in an increased long-term profitability based on attorney and employee happiness and productivity.

Rich Lawyer / Poor Lawyer

Other good uses of a lawyer's time (when not spent supporting information technology) include:

- 1) Being a great lawyer;
- 2) New business development;
- 3) Firm leadership and planning;.
- 4) Collection of delinquent accounts.

These four touchstones of good law firm practice and management all seem to have a higher economic return than information technology support. My guess is that even if we went back to typewriters and a supposedly less efficient way of practicing law, if we could keep ourselves focused on these four touchstones, we would do better work and make as much or more money than with all of the advances in personal computing, internet, and cloud computing.

That's not to say, however, that the technology advances are not helpful, welcomed or good. Rather, as business people, we can't forget about the economic mandates of our business. I am about to make some controversial statements. Please take these with a grain of salt and as they are intended – to provoke thought. E.g., Imagine being most efficient using technology and watching your fees shrink. Why? If it takes less time to accomplish tasks using technology, the hours that you bill will decline. Said another way, technology begs the question of whether to use flat fee and fixed rate arrangements more often.

Ultimately, a happy and productive lawyer is a rich lawyer. If you are a rich lawyer and still unhappy, no amount of computer technology or remote access is going to help you. If you're a lawyer who does not do great work, find new clients, plan for the future, and collect on the work that you do, you will likely be a poor lawyer. No amount of information technology or cloud computer will help you.

Outside Vendors vs. In-House Specialists

Other important threshold considerations are these: Does a small law firm try to roll these technologies out with the help of staff or attorneys in-house? Or, do you hire a part-time IT vendor or use third-party vendors to implement the technology?

This again is an economic question. In my opinion, the lawyer in a small firm is like the captain of a ship. The captain of a ship needs to be driving the ship. The captain can't be working in the engine room. The lawyers need to be focusing on deadlines. Lawyers need to be focusing on billing. The question to ask is: What is the return on one hour of lawyer billing versus the cost of one hour of IT support? Lawyers need to have as much uninterrupted work flow as possible. They need to focus on their work, their lawyer work, and not be managing or tinkering with technology. Setting aside the basic economics, if the technology piece gets assigned to an attorney or staff person in-house, what happens when that person is on vacation?

All that being said, the captain of a ship needs to know his or her ship. A good captain will know where the engine room is and likely what kind of engines are in the engine room. And, in some cases, how the engines work. *See* "Rich Lawyer / Poor Lawyer" above.

What about assigning information technology to the paralegals or the staff? In a small firm this is almost inevitable. Again, the question should be asked: is this wise? Is this efficient? Is there a better way? I think that question is open and can be answered in different ways depending on the people, the firm and the culture involved.

One thing is certain, however, a law firm staff needs to understand how to use their equipment. Functioning in the modern practice of law includes mandatory on-line filing of pleadings and exhibits in federal court, and the soon to be prolific or mandatory on-line filings in many state courts require technology. In my opinion, one cannot function in this modern law environment without knowing how to scan documents, create PDFs, manipulate PDFs on the computer, reduce the file size of PDFs, use email, and search email. Those are just the basics. These and other emerging skills arguably should be part of an ongoing in-house training regimen championed by a staff person..

Even if the firm is large enough to find a qualified staff or paralegal that can act as a part-time IT technician, that itself is a hard role to fill. One of the exciting developments of cloud computing is that there appears to be an increased number of qualified companies and third-party vendors offering services to small businesses. When a small company can rely on a third-party vendor with a good service record and the ability to make implementation easy, quick and non-technical, many of the problems associated with IT support are minimized.

These third party vendors include the hosted email Exchange server, the off-site file storage and backup companies, the off-site file servers, and the remote PC access vendors.

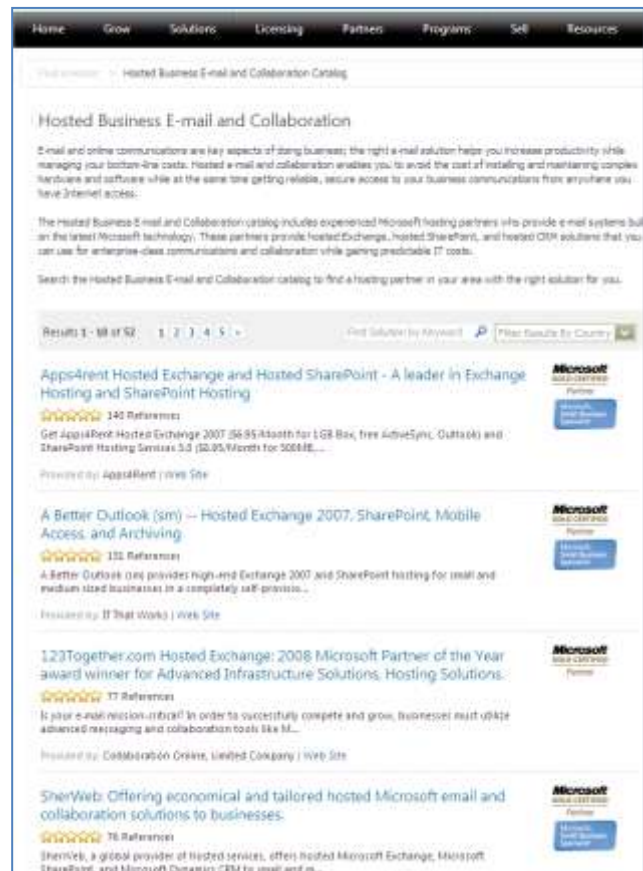
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Hosted Email Exchange Server

Looking at the question of overhead, it seems to me that cloud computing combined with personal computer technology can decrease overhead. For example, in my practice I use a hosted email exchange server. This is a third-party vendor that hosts a mainframe that we tie into across the internet. Because this is a hosted email exchange server we pay a per-user license every month and have all of the bells and whistles that the latest edition of Outlook can provide. Now, Microsoft and other vendors offer hosted email Exchange server technology on a subscription basis, available to even solo practitioners.

See several choices of vendors in the figure to the right.

I remember only a few years ago that if a small firm wanted to have the full functionality of Outlook, which can only be achieved through the use of an Outlook Exchange server, you had to buy such a server. Although the price of computers and technology has come down, such a server might cost between \$5,000 and \$10,000. In addition, there is the cost of maintenance, updates, upkeep, etc. As a result, most small and medium-sized firms chose not to use Outlook in its fullest form. They simply installed Outlook on their personal computers and used what function was there as best they could. Outlook, by the way, even in its non-Exchange environment, is still an amazing program. The big firms, however, had hosted Exchange servers and IT departments and all the bells and whistles that that package provided, including increased coordination of scheduling, increased communications, and information technology across the firm.



It is my personal belief that an email-hosted Exchange server has the potential to increase law firm productivity in a significant way. That has been my personal experience. Although these services are not advertised as “cloud computing”, that is exactly what they are.

In fact, hosted email Exchange servers are, in this practitioner's opinion, the most well developed and sophisticated implementation of "cloud computing" that is on the market today.

Off-site Backup of Data

Another area of development that I have seen in the area of cloud computing is on-line storage. Backup of computer systems across a firm, even if the firm is a solo practitioner with one attorney and staff, has always been a problem. Computers fail. Data gets corrupted. While there are many safeguards that can be taken to help protect business data, the most obvious is an off-site backup of the data.

Until recently, an off-site backup of data meant having an automated .data drive or other similar media connected to a central server where files and information were stored to run on a daily or weekly basis, and then taken off site by a staff or an attorney in the event of a fire or water damage, or hard drive failure. This is an extra administrative burden on staff and attorneys, an additional overhead cost for setting up and maintaining the system, troubleshooting the system when it fails. And this all assumes that the system works as planned, and that if something does happen, the data is able to be fully restored. In short, data backup systems have been a pain-in-the-rear.

Recently, there have been developments in the cloud computing arena that allow off-site storage of data across the internet. Of course, it should be noted that the transmission of data packets is fully encrypted by most of these vendors in such a way that not only can a third-party not access them as the packets are traveling across the internet, but the vendor themselves cannot access them without your code key.

I have personal experience with one such application. When we installed the application, everyone in the office believed it was one of the coolest things they had ever seen. Several times when a file went missing or was accidentally deleted, with a few clicks of a mouse we were able to restore the file to its original or altered state. We did not need to call the IT department. We did not need to find which backup tape it was on. We didn't need to follow any elaborate procedures for restoring the data. We simply right clicked on the folder and said "restore."

Cloud computing is new, however, and its newest applications are still not perfect. I experienced problems with traditional backup methods. I experienced problems with this new on-line method, as well.

In fact, one of my hard drives failed. Although the vendor that I was using was backed by a substantial company and was a leader in the industry, this company ultimately had trouble restoring all of the data as promised. I found this to be amazing. Fortunately, the data loss was limited because when we suspected the hard drive was beginning to fail, we took the precautionary step of backing it up on an external hard drive ourselves. All of the money we spent on off-site storage backup with that company was refunded to us. I would have preferred the system to work.

My point here is that “cloud computing” or on-line backup services is neither bad nor good. In my opinion, the potential to increase productivity and increase data security is greatly increased by the advances in the use of off-site internet-enabled data backup. However, the technology is still relatively new and it would not be wise, in my experience, to rely solely on that technology. As the technology develops in the next three to five years I believe it will probably completely replace the older more traditional methods of data backup. But, in my experience, it’s not quite there yet.

On-line Storage

A similar story can be told about on-line storage. Of course, all law firms, small or large, have a computer where files reside and are shared between attorney or attorneys and staff. This is typically referred to as the file server. Cloud computing represents the possibility of having a virtual file server. A server based somewhere else that the attorneys and staff can save files to and share files from. The advantages to this approach are many. For example, it solves the off-site backup problem because the files themselves are off-site and presumably being backed up by the file storage vendor.

The ability to share files in this way also opens many doors in terms of remote access and computing. If files can be shared securely from any authenticated PC anywhere in the world, a lawyer or staff can easily work on files from home or anywhere in the world. In some ways this is a scary thought.

The question I ask is this: Is such a technology helpful or harmful to the long-term happiness and productivity of attorneys and staff? I think if you polled most young attorneys and staff they would say they welcome the increased flexibility of remote access to their client files and matters. However, I question the wisdom of such a conclusion. Assuming that the client has needs that must be met and deadlines that cannot be avoided, the requisite number of hours to get that work done is finite.

If it’s going to take 40 attorney hours and 20 staff hours to get the job done that number is not going to be increased or decreased by remote access to files. In fact, remote access and working from home might increase the hours requested based on travel and distractions. If the burden rests on an associate to get the bulk of that work done, will that associate be more effective working from home with remote access or more effective in the office getting the work done there? Ultimately the answer to that question is probably different for different people. Some people would have their overall happiness and productivity increased based on the increased flexibility, while others would likely have their productivity decreased from the flexibility.

Another model of cloud computing uses your software licenses, such as for Microsoft Office, and loads them onto its servers. You access the software through a browser whether Internet Explorer, FireFox, Chrome, or Safari. Interestingly, you can use Apple iMACs using Safari to use Windows software with this model. The vendor is Legal Workspace.



At my firm we do not use on-line file servers. Like the off-site storage backup, the technology is not as advanced as most vendors would have you believe. In fact, one very well known service provided by one of the world's largest providers is so inherently flawed that one can only upload individual files. This means that if you have a folder with ten files in it, you cannot simply upload the folder to this online server, you have to upload each individual file. This is, of course, a ridiculous limitation. The reason I point this out is because it demonstrates the nascence of this technology in its current implementation.

I have talked with other practitioners who swear the technology is useful to them and they have gotten great benefit from it. I can imagine a time in the not distant future where everybody will be using cloud file servers. In my personal opinion, it is still too early.

Remote Access of PCs From Home Or Other Locations

Some of the other panelists have more experience and have detailed some of the ins and outs of accessing computers remotely from home or other places. There are different ways to accomplish this goal. Many of the operating systems, including XP Professional, Vista Professional and Windows 7 Professional, have built-in VPN technology. VPN is "Virtual Private Network." This technology is relatively easy to set up. Although, in my experience, it does typically require a dedicated IT person to set up and maintain. I have also had experience with third-party vendors such as GoToMyPC.com and PCNow.com. While these third-party vendors charge monthly subscriptions on a per user license, if this kind of remote access is needed in a small office, in my experience, it is easier and more reliable to use the third-party vendors. The concerns I raised above relating to whether this technology increases the economic return of a small, medium or large-sized firm is open.

If the firm has an on-site file server and the associate partner has access to the firm's network via remote PC access, work can be done at home or while traveling, which as noted above, can be either good or bad. While the technology associated with remote PC access is certainly not new, it does represent the ability to harness the power of a worldwide network, the Internet, to help run businesses. My experience with remote

PC access has been good and if used and monitored wisely, I believe the technology can increase a firm's overall productivity and employee retention.

A cautionary note, however, in my experience this technology should not be used across the board for all attorneys and staff. I think this technology should be used sparingly and as an exception to the rule that one must come into the office to do work. Of course, that completely changes if you're running an entirely virtual office.

Other "Cloud" Computing Technologies

Although not labeled as "cloud" computing, many great technologies might well fit into the rubric of the cloud concept. Services such as voice over IP phones, electronic faxes (sending and receiving), and even legal research through vendors like Westlaw and Lexis, represent advances in information technology that benefit small businesses like law firms.

Electronic faxes and digital voicemails are easily integrated into the hosted or non-hosted Outlook environment. A fax and email, a filing with federal court and a voicemail, do not become discreet sections of a file, rather they become integrated "information" that can be tapped, harnessed, categorized, and searched while the attorney or staff sits at their desk.

Westlaw / Nexis and Westlaw NEXT

Westlaw, which has offered on-line computer services for many years, is also another good example of a very traditional implementation of the "cloud computing" theory. When one is signed up for Westlaw or Nexis, one potentially has access to every case, statute, encyclopedia or secondary source of legal information that is available at any law library.

In fact, Westlaw NEXT offers the ability to search the entire Westlaw holding and review summaries of the results at no additional charge (you pay a flat fee for the search access and for documents retrieved in full). Without Westlaw NEXT, the need and price of subscriptions dictate the scope of information available, but with lawyers more and more narrowing their practice into specialties or subspecialties, the ability to slice or subscribe to specific data or legal research segments makes subscription to these services more and more cost effective. The idea of having access to all legal materials – everywhere, is becoming a reality. In most cases, lawyers and law firms, large and small, will not be able to compete (quality and price) without using this technology to the fullest extent.

VoIP Phones

In my office, we recently implemented voice over IP phones through one of the local vendors. And our phone system went from four phones to seven phones. We went from four lines to the ability to handle up to 20 calls simultaneously. The price we are

paying is increased but the increase in price is hardly proportionate to the increase in capacity. Interestingly, we can take any one of our phones, call our third-party vendor and have them adjust it to be in telecommute mode. Although we have yet to test this technology, we are told that phone could then be put in a suitcase, taken anywhere in the world that has connection to an internet and be used as though the person were sitting in the office next door. Anyone in the office (or anywhere) can call their extension and speak to them directly. Staff can also transfer a phone call to them at that extension or they can call out from the phone and appear as though they are calling from their office.

Conclusion

Technology is here. Use it. Be careful. Think about whether use of a particular technology makes sense. Is it safe? Is it cost effective? Does it increase the quality or the amount of work that gets done? Does it help the business, including lifestyle and retention issues? An open question: Does the use of such technology make a lawyer more or less competitive and/or efficient? If so, is that increase (or decrease) reflected in the billing rate? Are there ethical issues about being “competent” as a lawyer as it relates to the use of mandatory and optional technologies in the law office setting?