PAPERLESS: DON’T BURN MONEY AND TIME – HOW TO RUN A PAPERLESS LAW FIRM AND BETTER SERVE YOUR CLIENTS

Presented by the
American Bar Association
Law Practice Division,
Division for Public Services,
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This publication accompanies the audio program entitled “Paperless: Don’t Burn Money and Time – How to Run a Paperless Law Firm and Better Serve Your Clients” broadcast on March 9, 2016 (event code: CE1603LPI).
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   David J. Bilinsky
Paperless:
Don’t Burn Money and Time – How to Run a Paperless Law Firm and Better Serve Your Clients

Wednesday, March 09, 2016 | 1:00 PM Eastern
Sponsored by the ABA Law Practice Division, Young Lawyers Division and the ABA Center for Professional Development

Presented by:
Catherine Sanders Reach
David J. Bilinsky

Agenda
❖ 12 Things to Know Before Going Paperless
❖ Questions
Going Paperless

Look Familiar?

Getting to Paperless
There is much work ahead..
12 Things to Know Before Going Paperless

#1: What’s in it for ...Me?
#2: Benefits of Paperless

- Reduce costs of storage and printing
- Improve efficiency of human resources
- Decrease office-space overhead
- Expand & control document access
- Increase ability to survive a calamity

Going Paperless

Still more benefits

- Reduce document handling
- Increase security
- Decrease carbon footprint
- Expand level of client service

I wish I had gone paperless sooner!
Going Paperless

And Still More Benefits!

❖ Reduce time spent searching for files
❖ Increase knowledge management
❖ Decrease office disorganization
❖ Expand collaboration
❖ Reduce use of email

Getting to Paperless

#3: Define, Clarify and Prioritize Your Goals
Moving to Paperless

#4: Some Staff Resistance likely…

#5: Getting to Paperless is a Team Exercise
Buy-in is Critical!!

#6: Know Thy Hardware
Paperless Hardware

❖ Servers (unless Hosted)
  ❖ Price
  ❖ Degree of Use
  ❖ Scalability
  ❖ Virtualization
  ❖ IT Support
  ❖ Match to Environment
  ❖ Form Factor
  ❖ Memory
  ❖ Speed
  ❖ Operating System
  ❖ Power Supply
  ❖ Drives

Paperless Hardware

❖ Hard Drive Storage
❖ Scanners
❖ Backup Systems
❖ Monitors
❖ Voice Recognition
#7: Paperless Software

- Document Management
  - Roll your own or DMS software
- Should be:
  - Will work well with your system
  - Easy to Use
  - Works with PDFs
  - Facilitate Mobile devices
  - Supports client extranet
  - Can be client-server or cloud-based

#8: Consider Evernote as DMS

- Files are “Notebooks”
- Upload emails, pleadings, notes, video, audio, PDFs, web pages, research etc
- Tags, alarms and chat
- Or Microsoft OneNote
Getting to Paperless

❖ Analyze, evaluate and rework your Workflows

#9: Backup + Backup -and- Backup

So many reasons to have not 1, not 2 but 3 backups:

1. At the office on a NAS
2. Off site
3. In the Cloud - that only connects to do a backup

Why?
#10: Learn Safe Sharing & Collaboration
#11: Consider the Cloud

#12: Consider Apps for Paperless
Dave and Catherine’s Essential Paperless Tech

#10 Fujitsu ScanSnap ix500

- Hit with every size firm and practice
- Full duplex, 25 pages/min/colour
- Windows + Mac
- Android and iOS devices
- Bundles with Adobe Acrobat Standard and other stuff
- OCR files automatically
#9 Solo Urban 17” Laptop Bag

- Good size and well padded
- Durable
- Love the style!
- Weight
- ...and...
- Internal Color

#8 Simply File with SimplyFile
#7 WordRake

- Editing software for Word and Outlook on PCs for lawyers.
- Takes your writing
- Suggested edits to:
  - remove unnecessary words
  - improve grammar
  - make dull sentences **sparkle**

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#6 If This Then That…

- Connects apps + products
- Recipes
- Run either automatically or with a tap
- Can capture all Tweets to Evernote
- Or songs from SoundCloud to Evernote
#5 2015 Solo and Small Firm Tech Guide

- 8th edition
- Multi authored (including yours truly)

#4 Must Have Multiple Monitors

- Productivity goes up
- No temptation to print
#3 eFax

- No more fax machine
- Fax via email or VoIP

#2 Digital Paper

- Sony Digital Paper is your new electronic legal pad (but it weighs less!) plus e-Reader.
- It holds the equivalent of 17 bankers boxes worth of paper.
- Integrates with Worldox, ShareFile, more
- Costs $800
#1 Archive Outlook Email

- Adobe Acrobat DC Pro or Nuance Power PDF Advanced
- Store MS Outlook folders (and attachments) as a single .PDF file

#0 Use Better Search Tools

- X1
- Copernic
- Metajure
- Quicksilver
- Found
How do you bring about Fundamental Change?

Identify the Roadblocks
Change Needs to Happen

Status Quo is not moving forward...

Change involves confronting Fear

Don't be afraid of the technology!!
It’s Not about the Technology

It is about solving real human problems quickly, cheaply and efficiently

Focus on Low Hanging Fruit

Picture by Starfish235 on Flickr
Never get a $2^{nd}$ chance for a $1^{st}$ Impression

Change is being demanded - it just needs to be managed carefully

Focus on Who Matters Most: Enthusiasts

Leaders need to line up people who can act as catalysts of change. Look for those who can act in pilot projects. Take home lessons of success from other jurisdictions.
And...Make Sure it All Works!
Celebrate the Success

❖ Tech applied to Paperless:
   ❖ Support role to make existing processes faster

❖ Taking the Next Step(s):
   ❖ Seeks to craft new workflows and new ways of doing things
   ❖ Offers benefits beyond economic ones
   ❖ Biggest considerations are change management
   ❖ Technology become pivotal to the Paperless process
   ❖ The time has come…

Summary
Questions?

All attendees can submit questions via the chat feature on the webinar interface
Achieving the (Almost) Paperless Office

Catherine Sanders Reach, Chicago Bar Association
Why?
Attitude Is the Biggest Hurdle
Paper to Digital Approach

• It’s All About Workflow
• Two projects
  – Old piles
    • Outsource it!
    • Retention of certain documents
    • Ethics and outside parties
  – New piles
    • Create a strategy
    • Follow it!
What to Do With Incoming Paper

• Scan originals
• OCR (?)
• File it
• Get rid of the paper?
  – Return it, shred it
  – Might have to keep it for awhile
HARDWARE
Scanners
Fax Machine
Mobile Hardware
DEALING WITH DOCUMENTS
Method 1: Filing/Retrieving Electronic Docs

- Folders and File Naming Conventions
  - Create folders/subfolders
    - Client – Matter – Correspondence – Briefs...
  - Save new documents to correct folder
  - Apply file naming convention to folders
- Drawbacks – lack of compliance with file naming conventions, lack of versioning, lack of control on documents
Method 2: Filing/Retrieving Electronic Docs

• Practice Management Software
  – Save new documents to Practice Management Software
    • Eg TimeMatters, Amicus Attorney, Clio, RocketMatter
  – Helps manage all case information, including email and documents
Method 3: Filing/Retrieving Electronic Docs

- Document Management Software
  - Save new documents to DMS
    - Eg Worldox, iManage, NetDocuments
  - Repository for all documents and email
  - Searchable, browsable
  - Versions, checkin/checkout
  - Access restrictions
Archiving Email

- Finished with that email folder?
  - Convert folder to PDF document/package
  - Creates searchable, sortable PDF with emails and attachments
    - Attachments stay in original format
- Or... use practice/document/records management software to control the mess
Finding Electronic Files

• Windows Search
  – Significant improvements in 7 & 8
• Mac Search
  – Quicksilver or Found instead of Spotlight
• Try “desktop” search
  – Copernic
  – X1
• New Document Management
  – Metajure – search and retention
  – SearchYourCloud
SHARING ELECTRONIC DOCUMENTS
Publishing/Collaborating Electronic Files

Adobe Acrobat or Nuance Power PDF

- Create PDF docs or portfolios from multiple documents
- Security features
- Collaboration and review
- Forms
- OCR
- Metadata avoidance
- Archival format
Box.com
Citrix ShareFile

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Office 365 OneDrive
Using Dropbox, OneDrive, or GoogleDocs for free?
KEEP IT DIGITAL
Sneaky Paper..

- Business Cards
  - CardScan, CamCard, Evernote Hello
- Receipts
  - Shoeboxed, scan
- Handwritten Notes
  - Tablets, handwriting recognition, digital pens
- Dictation
  - Dragon Naturally Speaking; Siri
- Signatures
  - Right Signature, EchoSign, HelloSign
STORAGE AND RETENTION
Long term electronic file storage

• What file format?
  – PDF/A standard
• What media?
  – Keep an eye on it
• Retention schedules
• Written policy on scanning/storage
  – Part of the engagement letter?
Finally, Back It All Up

• Full, daily backups
• Multi-level backup
  – To hard disc
    • You are swapping those aren’t you?
  – Online
• Image backup
• Document backup
• System backup
• Backup is worthless if you can’t restore
Choose Wisely
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Managing voluminous digital documents is one of the biggest challenges for law offices. Electronic versions of documents are stored with cloud providers, local drives, network drives, mobile devices, and thumb drives. Documents are attached to emails, leading to version control issues, as well as inefficient collaboration. Finding documents can be daunting, if not impossible. Below are a number of techniques to harness and control digital information to suit any law office budget.

Document Management Solutions to Suit Any Budget

Catherine Sanders Reach, Director
Law Practice Management and Technology
Chicago Bar Association
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DIY - Do It Yourself

File Naming Conventions

The least expensive method of sharing and storing electronic documents is to use network drives or shared drive, a series of folders, and file naming conventions. It starts with a strategy that includes all lawyers and staff in the office. A small group of end users, representing everyone who creates, edits, or locates documents for the office, must sit down and create a standard naming convention for folders, subfolders, and file names. This should be easy to follow, logical even to outsiders, and checked for quality control on occasion. A “quick guide” to the structure should be created and shared with everyone who uses the system. For this method to work effectively all documents must be saved in a shared folder on the network.

While folder and subfolder names will vary depending on the type of law office in which you are working, there should be a logical basis for its continued expansion. For example, if your office identifies work by “client” then that is one logical structure that will grow and expand nicely. Create a folder by client, then by matter. Then create subfolders for the types of documents in the matter folder. If a top level folder is client, then what is the naming standard – last name, first name? Take a look at your paper based filing system. Can it be effectively replicated electronically? By scanning incoming paper and filing it electronically in your “file cabinet” you may be able to eliminate the paper and reduce filing things twice.

There are a few pointers to keep in mind when naming files. While a computer knows a lot about an electronic file: file name (sampledocument.doc), date created, date last modified, file location (C:/mydocuments/articles/xxx.docx), and much more, this information is created by the computer, and it can be automatically changed by the computer, depending on a variety of factors. Thus, the user should counter those automated fields by applying some consistent and human logic. One suggested convention is to start all file names with a yearmonthday number, so that files within a folder can be sorted by oldest to newest (or vice versa) without being dependent on the automated date field. Also add the document author name, which may differ from the system applied document author field. For instance a file could be named: 20110621_jones_lettertojsmithre:foreclosure which identifies the date the file was created, the author, and the subject of the document. Ostensibly this file would be in a client folder, under a matter subfolder.

Also note that different operating systems deal with symbols, spaces and uppercase letters differently. To avoid problems, use an underscore for a space and avoid uppercase letters.
For smaller offices, this document management system may work. However, since it depends on users consistently and properly employing the conventions, human error sometimes intervenes to prevent it from working efficiently.

**Full Text Search Engines**

A full text search engine will increase the efficiency of a simple DIY system and there are a number of fairly low cost tools available. Those with Windows 7 and 8 operating systems will find an effective search tool built into the system. Indexing and searching network folders can be done and the user has the ability to search locally (on the laptop or desktop) and search network shared folders. The search is fast and efficient, but somewhat limited in the types of files it will index. For instance, it will not create a full text index of WordPerfect document files. Mac users have Spotlight built in for search, though other search tools like QuickSilver or Found add functionality.

If you aren’t using a desktop search engine, look at [Copernic Desktop Search](#) or [X1](#). These programs can search within multiple file formats, at the speed of light. Of course, the added bonus is that these desktop search tools not only search the research folder, but also your entire hard drive or specified network drives. You will have a fighting chance at finding files, emails, and more on your desktop, even if you haven't been very organized.

[X1](#) and [Copernic](#) are two sophisticated desktop search engines that make finding content on your local machine, networked drives, or external drives a snap. Super-fast, imbued with bells and whistles, and reasonably priced, these tools have been around for some time. But, the developers have not rested on their laurels. Both of these super powered search tools now offer mobile apps, to let you search your data on the go. With [myCopernic On the Go](#) you can search your computer remotely from your smartphone, iPad or remote PC (sorry, Windows only). You will need to install the [myCopernic Connector](#) for it to work. Then from your device you can login to myCoperic On the Go! to access search for your files. You will need Internet access, and functionality is delivered through a web-based app, not a native app. Because of that it works on just about any device with a browser, including BlackBerry. This service costs $9.95 annually, in addition to the $50 for [Copernic Professional Desktop Search](#) (though it is not necessary to have Copernic Professional Desktop installed).

[X1](#) offers [X1 Mobile Search](#). A native app for iPhone or iPad, this free app will let users search their Macs or Windows PC with or without having [X1 Professional Client](#) installed (although they do mention it works best with X1 search). X1 Mobile Search also lets you view and display files, share files, and download files for offline use. Setup includes downloading the X1 Mobile Search app from the iTunes store and installing the Windows or Mac version of X1 Mobile Connect. Et voila. Connections are protected by x.509 PKI based two-factor authentication and RSA powered SSL/TLS.
Another option is Otixo (http://otixo.com), which lets you connect your cloud services, such as document storage service, Evernote, and even your desktop and mobile devices to search, sync, share and move. It creates a dashboard for your files, no matter where they happen to be. The free version provides search and connections, premium plans add sharing files, drag and drop between clouds, and more!

Finally, for really super search, there are two new tools on the market for lawyers. One, MetaJure, is more appropriate for a law firm with a network and shared file storage, document management system and other on premise information repositories. The tool can search across all places a firm saves information, with many ways to slice and dice the search and the search results. SearchMyCloud will search network files, local harddrives and the Microsoft Exchange server as well, but it adds the ability to also search cloud repositories stored on third party sites like Dropbox. SearchMyCloud will also index and encrypt files before they are sent to cloud storage.

**Email**

Email itself is often a record, and often documents and their versions attached to the email may never be saved to even the most carefully constructed DIY document management system. While manual in most cases, there are a number of ways to save important emails into a shared document repository. One way would be to have the IT administrator create group folders in Outlook or LotusNotes so that the users can drag/drop emails that need to be shared to one folder. Users can also save individual emails as a .msg or .html and save it in the appropriate folder in the file/folder structure on the network. For users with the full version of Adobe Acrobat, or similar ‘convert to PDF’ functionality, you can save the emails to a PDF format.

But, what about the attachments? Avoid attachment problems by sending internal email recipients a file path instead of an attachment. The file path will take the recipient directly to the document on the server, without creating a new version. This helps with version control AND helps ensure that the document location and file name conform to the standards. When you receive a document attached to an email make it a habit of “right” (alternate) clicking on the document and choosing “save as” to save it with the appropriate name and folder right away. A simple add-on for MS Outlook called EZ Detachi from TechHit automates the process of saving and categorizing attachments. The product is $39.95 per user, though bulk licensing and site licensing is available.

Another method of dealing with email is to keep it in a folder structure that mimics the network folder structure and use Adobe Acrobat to save the entire folder at close of the matter. Each email in the folder will be converted to PDF, and can be sorted, searched, and extracted as needed. The attachments to the emails are stored within this PDF
repository as well, though they are not converted to PDF. Nuance PDF Converter Pro also provides this option, but you can also save attachments as PDF as well.

Case/Practice Management Systems

A class of software specifically designed for lawyers is commonly referred to as practice management software. This software helps manage all aspects of a law practice, and is often divided functionally between “front office” and “back office.” Front office functions include document assembly, docket and calendaring, email management, document management, conflicts checks, contacts management, time tracking/billing, and task management. Back office functionality includes trust accounting, general ledger and accounting. The document management in most practice management software allows the user to save a document or email into the centralized database. Users assign a case/client and matter to the document, which is stored with all the work regarding that matter. The software often installs add-ons to common office suite software, making the process of saving the documents directly to the system easier. Likewise the workflow can be initiated from the case/practice management software itself.

Choices abound for practice management software. Many applications, such as TimeMattersii, Amicus Attorneyiii, and Abacus Lawiv, are standard installed desktop software available on a licensed model. Newer entries to the field are the so-called “cloud based” or web accessible programs such as RocketMatterv, MyCasevi and Cliovii. The principle behind “the cloud” is leveraging the internet to provide access to computing power and storage. Users can access files on a remote server rather than requiring an on-site physical storage medium. Many users of the internet may be using a form of cloud computing without realizing it. Those who use web-based email such as Gmail, Hotmail or Yahoo or online backup such as Mozy or Carbonite are using “the cloud”. Cloud based applications require no installation or IT support, and are available as long as the user has access to the Internet. These applications charge per user, per month. Most of these applications have a trial period. In many law offices this type of software may have its uses, but if the primary focus is document management, then the extended functionality may be overkill, and you will not see the return on investment for the product. However, if this type of software seems like a possible option, first request a demo, follow-up with questions, then request a trial period and let representative users test the features and functions.

Document Management Systems
Document management software is designed to save all documents, including email, into a central storage space on a server. In many cases the system “forces” the user to save documents to the system, though the user can mark certain documents private. When the user saves the document, the software invokes a screen that requests information about the document, for example, client and matter number, keywords, folder structure and other information designated by the administrator at setup. This structure ensures that all documents are organized, categorized, and available for full text searching. The system also provides for version control, check-in/check-out of documents, and is fully integrated with your primary office suite. Some additional functionality may include records management, which offers automated file destruction based on rules set up by the administrator.

The document management software programs commonly used by the legal profession include Worldox, Autonomy Worksite, and OpenText’s eDocx (formerly DocsOpen). Of these, Worldox is by far the most appropriate for a smaller office environment, and provides concurrent licensing (concurrent licenses are shared by all users of the system, in contrast to individually licensed software requiring each user to have a license.) An alternative option is NetDocuments, another web-based application that has been in the market for over a decade. Like other web-based applications, this is priced per user, and has the benefits of being available anywhere you have an Internet connection. NetDocuments also provides a “local” copy, so that if the Internet is down, the product still works.

Document management systems are remarkable tools for managing, collecting and searching documents and email for an entire office, or group within an office. It is robust, and often relatively expensive, software. However, considering the benefits it provides, the cost may be justified.

**Project Management Systems**

For some law offices, project management software may be the best solution. Traditional project management software, like Microsoft Project, will not necessarily solve the problems of lost documents, version control and other problems associated with poor management of electronic documents. However, web-based applications such as BaseCamp or Zoho Projects, add structure to ensure effective completion of a project, aiding in task assignment, deadline enforcement, and collaboration. A project is assigned a date for completion, and split into milestones. Each milestone is then separated into tasks, and assignments are doled out to different individuals. Documents can be uploaded into the system for review, provides versioning, and can be checked in and out for updates. Users can track time in the system as well.
The best way to determine if project management software would work for a particular office is to try it out on a small project. Although this will require some forethought about the project itself - what are the milestones, tasks, participants, etc, it will be worth the effort to test the effectiveness of the system before purchasing it. After logging in, users are presented with a “dashboard,” a common interface used now by many applications, which shows recent updates, other projects he/she is working on, and additional information. There is a system-wide search, as well as “white-boards” for loose notes and brainstorming and a messaging system to keep threaded discussions specific to the project. Users can set up email alerts to be notified when there are changes to the project that affect them, such as a new document or new task.

Most web-based project management tools are relatively low-cost. For instance, BaseCamp's most expensive package is $149 per month for unlimited users and unlimited projects with 75GB of storage. For $200 per year, Zoho Projects offers unlimited users, unlimited projects, and 15GB of storage.

**Collaboration Challenges**

While all of the above methods will help provide a central storage of electronic documents, a few problems exist that have yet to be completely and effectively solved. One is real-time collaboration on a document. To retain the look and feel of a formatted document, and allow multiple people to do real-time editing, the only tool this author has found that actually works is Google Docsxiv. Because of the terms of service of the free Google Docs, some lawyers have determined that it is inappropriate for confidential information. However, if the information is not confidential, this is an excellent tool to share a document and allow multiple authors to edit, at their leisure or simultaneously. There are many tools that purport to provide multi-user collaboration on a shared document, but after testing, many did not work as advertised. However, there is hope that this type of functionality will continue to improve.

**Cloud versus On-Premise Software**

In the above examples of case/practice management and document management, distinctions were made between cloud or web-based applications and downloaded or “traditional” software. Lawyers should understand the benefits and potential risks of software in the cloud. The benefits of the cloud model include reductions on reliance on information systems staff, and a significant reduction to the time and complexity to install and configure new software. The cloud model also reduces the need to purchase, maintain, and back up expensive servers and other peripherals, as well as provides remote access to users. Expenses for cloud applications are generally annualized (monthly fee), versus a large capital outlay for new systems. The potential risks with the cloud model include saving confidential information with a third party, subpoenas
issued to the cloud provider for data without notification to the data owner, consequences of data retrieval if the cloud application provider goes out of business, and ownership versus access issues. In many cases these risks can seriously be mitigated by asking the right questions, and taking steps to maintain a duplicate copy of the data locally.

Conclusion

With diligence, planning, and a few add-ons, any law office, regardless of budget constraints, can implement an efficient document management system. The time spent upfront to determine the best system for a particular office will be well worth the immensely improved management and control of office documents.

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1 http://www.techhit.com/ezdetach/outlook_attachments.html
3 http://www.amicusattorney.com/
4 http://www.abacuslaw.com/
5 http://www.rocketmatter.com/
6 http://www.mycaseinc.com/
7 http://www.goclio.com/
8 http://www.worldox.com/
9 http://www.interwoven.com/
11 http://www.netdocuments.com/
12 http://basecamphq.com/
13 http://www.zoho.com/projects/
14 https://docs.google.com/
Taking Your Firm Paperless

By

David J. Bilinsky BSc LLB MBA
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Introduction

“Tame the wild paper beast and transition to paperless with ease.” Well, at least that is the plan – but this lofty and somewhat innocent statement brings back the saying that it is hard to remember that your objective was to drain the swamp when you are surrounded by snapping alligators or at least lawyers waving around their paper files saying something about only being able to pull them out from their cold dead hands…

But the transition to paperless does not have to be a troubled and drama-filled exercise either. You can shift to paperless – indeed many law offices already have – with a minimum of fuss and disruption. With most technology projects – moving to paperless being no exception – the greatest hurdles are not technological at all. They are the human-based - getting everyone on board, dealing with the passive-resistors, dealing with those who feel threatened by the introduction of new ways of doing things and the like. As I say in my presentations, it is the carbon-based units that pose the greatest hurdles – not the silicone-based ones…

This highlights that there are several aspects to going paperless. Certainly part of the process is examining your technology and putting into place a well-thought out strategic technology plan that will ensure that all parts of the system are robust and can handle the load – and the lofty expectations - that will be placed on them.

So in this chapter we – you and I - will focus on how best to manage your shift to paperless and ensure you have considered all aspects of your new paperless office before making the jump. I think it is important to put in as much time to planning as you can – as anticipating problems and knowing how to deal with them is much better than having them land on your desk - unexpectedly - in the midst of the change.

We will also discuss the various procedures you will want to introduce such as scanning, OCR (Optical Character Recognition), document management and the emerging mobile and cloud-based practice of law. Security and having good off-site backups are essential. Before you start, you need to evaluate your hardware and software and in so doing, determine what needs upgrading. You need to make all necessary upgrades to your hardware, install all software and test the systems before starting to go paperless.

Then …taking that first deep breath…begin with your most receptive lawyer and legal assistant …and have them pilot the system. Having done all your
homework, planning, upgrading and piloting, you will soon see that flying paperless is not half the challenge you thought it might be…and soon the whole office will be there…

So let’s take that first step towards your future…

Transitioning to Paperless: *It isn’t (all) about the Technology (really!)*

I have spoken and consulted with many lawyers and law firms who have called about taking their law firm paperless. Certainly there is much anxiety exhibited on giving up on paper and practicing in a paper-less world (there will probably never be a situation where we fully abandon paper). Yet lawyers (and staff) express many misapprehensions in going paperless, part of which is rooted in a concern that somewhere the regulations of practice require firms to keep paper files. There is, of course, no such specific requirement – information is information and the medium that it is stored on is largely irrelevant so long as you can meet the requirements of practice (there are exceptions such as original wills and such but even these are changing as new enabling legislation comes into effect).

The typical concerns that I hear can be summed up as follows:
- There is no paper trail.
- Computers can go down.
- No backup exists.
- You can be hacked.
- Data obsolescence is a factor.
- Media degradation is a factor.
- You can lose an e-document.
- There is no structure to the documents on the system.
- Documents can be sent outside the office easily.
- Changes are required to policies, procedures and work routines.
- There will be increased time costs, including costs of running dual systems.
- There is the possibility of job elimination or reassignment.
- A lack of training could lead to a loss of face in not knowing how to work the new system.
- The firm would face increased costs of transferring a file.
- What about all the transition issues?
- How do we go from here to there?
- What about increased hardware and software costs?
- What do we do with the original documents?
The requirement in any paperless office would be that the office could produce a full and complete record of the client’s file (and render this to paper, CD-ROM, DVD or flash drive or upload to a cloud service if required). So long as you have a complete record of the file (which is organized in a manner that the whole file could be reviewed and produced if necessary), which would necessarily include documenting all transactions and the client instructions in relation thereto, it should not matter on what type of media that file is stored. (Indeed ethics rulings have been consistent in holding that transferring a file electronically is acceptable in many jurisdictions and in fact may offer greater utility than printing up and transferring a paper file).

The important consideration is that the file is well-organized, it is in a common format that if necessary, someone could review and reflects the level of documentation expected in a well-run law office. If this is met, I submit that it should not matter on what media – paper or electronic – the file is stored or transferred.

Of course, there are also many benefits of going paperless:

- You can search the entire network -and file - easily and fast, particularly compared to paper files.
- You can reuse documents easily – and thereby craft a precedent library (and build on the knowledge transfer within the firm).
- Document management software imposes greater organization as compared to a paper-based office where documents can be left in piles on desks, cabinets and floors.
- The cost of electronic storage is MUCH less as compared to paper storage.
- Paperless offices enable remote access/telecommuting for full and part-time lawyers and staff.
- Paperless offices are greener.
- Paperless systems can integrate and share data – thereby saving time and money.
- The cost of handling files can be faster, cheaper and easier.
- Offices are neater.
- There is an increased ability to meet new client needs (via SharePoint and other extranet portals for example). At a recent Corporate Counsel meeting, counsel stated that they preferred electronic war and closing rooms or portals over e-mailing documents around. You can control access, distribution and versioning and more importantly, these documents do not travel on (unsecured) e-mail systems.
- There is usually a decrease in photocopy/printing costs.
- Courts, land title offices and other organizations and tribunals are increasingly accepting paperless filings in many jurisdictions.
- It is harder to forge or alter a properly secured electronic document. Moreover, metadata associated with an e-document records a great deal of information about who created it, when it was modified and by whom etc...that is not typically accessible in a paper file.
• Your clients’ systems are electronic and they expect lawyers to be able to accept and use e-discovery documents electronically.
• Having a paperless office requires the firm to at least consider a file retention and destruction policy that is consistently applied in accordance with The Sedona (Canada or USA) Principles and current case law and ethics rulings to avoid any suggestion that files were destroyed in order to eliminate evidence.
• The Courts are calling on lawyers to be paperless in court (see Justices Turnbull’s and Granger’s posts to this effect at www.slaw.ca).

Of course there are many other reasons to go paperless (as well as arguments against it). However, there is no denying that the world is moving in a paperless direction: Barker, Cobb and Karcher, back in a 2008 publication entitled “The legal implications of electronic document retention: Changing the rules”, stated that 99 percent of business documents are currently being produced electronically. At this juncture, it is pointless going against the tide; lawyers need to adjust to the new reality, embrace the possibilities and examine the risks and benefits in moving to a paperless world. We are headed for a new horizon.

Assessing Your Office Procedures and People: How Suited are They to Going Paperless?

Moving to paperless means having to examine the workflows in the office and how they should be changed to maximize the investment that you are making in the paperless world. Your handling of paper must change, as does how you save, store, find and archive documents. Furthermore, you now must put an increasing amount of attention to security and backup procedures and the like. The one thing that you want to avoid is carrying the costs of dual systems – this provides you with no advantages and only additional costs. Before you embark on going paperless you should consider your staff – lawyers and others – to determine if you anticipate difficulties with those who will resist the change and cling to the old systems. This aspect of change management will be dealt with in greater depth herein, but being frank in your analysis and being prepared to deal with these difficulties early in the process will be a key consideration in your transition to paperless.

Here are some of the considerations with regard to office policies and procedures.

Document Naming and Filing

If you go with a DMS – a software document management system (such as Worldox, NetDocuments, DocsOpen, Amicus Cloud with its new document management features or other similar cloud-based legal practice management applications with document management incorporated therein or even PCLaw which has a document
manager built-in, each of which are used in different law firms in the writer’s experience) – then the DMS should ensure that no document is saved onto the network without being ‘profiled’ – which means the author has told the system the metadata that the DMS needs in order that everyone in the office could find the document if they searched for it (such metadata as: author, client, lawyers, file, date created, version etc…)

Document Management Software has literally exploded. This web page lists over 387 different applications: [http://www.capterra.com/document-management-software/](http://www.capterra.com/document-management-software/). Most are not legal-specific and accordingly selecting the right DMS can be a bit of a challenge when you consider the specific legal, ethical and business needs of law firms.

However not all firms elect to acquire DMS software...which then means that they have to implement a file naming and folder convention that, if followed, will allow the document to be stored – and hopefully found - in the correct location. And here is the rub – if you have people or even just one person – who doesn’t follow the convention – then the system will fall apart. It is this one factor alone which drives firms to a DMS – they need a 'traffic cop' who ensures that everyone acts appropriately and doesn’t break the rules. The DMS becomes their traffic cop.

Common naming and folder conventions use some variation of date (usually year month date in the format of 2015 08 21 for Aug 21, 2015), nature of the document (LTR for letter, PLD for pleading, etc.) and description of the document (2015 08 21 LTR to john smith on offer to settle - for example).

A common folder structure is used for files that separate electronic documents into subfolders in the same way that a ‘bucket’ folder is separated into pleadings, correspondence, research etc.

Combining a good folder structure with a good file naming convention can go a long way towards electronic file organization – provided of course, that everyone plays by the rules.

Converting paper documents to PDF

Paper is not going to go away any time soon. Accordingly, all paperless firms need a policy on how paper documents are to be converted into electronic files and in what format. The most common format is Adobe Acrobat’s PDF (or PDF/A for archive) formats.

I know that many firms like the PDF/A format as it is an ISO standard and this should ensure that the files can be opened and read years into the future. However, I dislike how PDF/A removes data from the document such as images and the like.
Personally I prefer to use the ordinary PDF format and keep all the data in the document – and hope for the best in terms of being able to open and read documents into the foreseeable future.

This raises another issue and that is whether to use Adobe Acrobat or some other application to convert your documents to the PDF format for storage purposes. Top 10 Reviews has done an evaluation of the top PDF applications for 2015 and their analysis – and suggestions on selecting a PDF application - can be found here: http://convert-pdf-software-review.toptenreviews.com.

So typically firms go one of two routes when handling paper in a paperless firm. Either they have tasked specific people with the job of taking all incoming paper and scanning it (centralized scanning on a large networked scanner/printer)...or it is left to each person in the firm (distributed scanning on smaller scanners). There are advantages and disadvantages to both.

Centralized scanning ensures that documents are handled in a businesslike and consistent manner....and that there is a degree of quality control to ensure that the scans were done correctly (for example, scans should always be dual layer – incorporating the image of the document along with OCR or Optical Character Recognition of the text in the image – that allows the computer to search the words in the document). Distributed scanning means that you have smaller scanners scattered across the office and that everyone is responsible for ensuring that the scans were done correctly.

**Document Retention**

You will also need a policy for how long to keep the original documents before shredding (*a story from one firm that went paperless had a legal secretary come to the principal of the firm and confess she had taken home and stored every single document for the last 3 years as she was convinced the system would fail and she would have to recreate all the files. Her basement became stuffed with documents and the originals were never needed*).

Typically 3-6 months should be sufficient time to catch any scanning errors before the documents are shredded.

Of course you will need a storage policy for documents that should never be shredded such as original wills, government documents etc. These can be scanned (of course!) but the originals need to be retained for evidentiary or other purposes.

**Backups and Archives**
If you put all your eggs in one electronic basket there is a consequential rule that you should watch that basket very, very carefully. Accordingly, making copies of your electronic data and ensuring that this data is stored in at least two locations, one on a hardened hard drive (such as the ioSafe line of hard drives that are designed to withstand fire, flood, temperatures, immersion etc. for extended periods of time) and the second being a cloud storage system is not only prudent but well advised.

Many firms that the writer has spoken to have been hit with the Cyberlocker malware. This application encrypts everything it can find on your network and demands a ransom to be paid - otherwise it disappears taking the decryption algorithm with it...leaving your data useless. In once case, fortunately, their cloud backup – which only backed up on a schedule and not continually connected to the network – was left untouched by the malware and they were able restore their data without paying the ransom. This is perhaps one of the best arguments for backing your data up into a secure cloud backup that can remain isolated from a malware attack such as the Cyberlocker ransomware.

It is important that you have a multiple layer redundant backup system. Don’t depend on a sole backup system...if that backup fails ... you are left totally vulnerable. It is important to test your backup system and ensure that it is operating properly so that you can restore your data as needed. I have seen situations where the sole backup system seemed to be functioning fine until the time came when it was needed – and then the realization hit that the backup was corrupted and useless. In one such case what had been backed up to Dropbox was recovered ... all other data was lost.

The benefit of having a local hardened hard drive backup is that you can restore your data quickly in the event of a loss. Cloud backups...while wonderful for preserving your data in a safe location...will take considerable time to restore onto your network since you are limited by your download speeds. However, if your system is hit with a system-wide problem, such as a Cryptolocker malware, a flood, fire or other disaster or a failure of your primary backup, you will be thanking your lucky stars for having a complete cloud backup no matter how long it takes to do the restore. Believe me, I have had to restore data from the cloud after a system-wide failure. A fast Internet connection can never be fast enough when time is money. But ultimately, having a cloud backup made the difference between sheer inconvenience and absolute disaster.

File Retention and Destruction

You should check with your local bar association and/or insurer to see what requirements and/or recommendations they put forward for file retention and eventual destruction of closed files. Certainly follow their guidelines when setting up your retention and destruction policies. You should also ensure that you follow
these policies to be able to demonstrate that you destroyed data pursuant to a written office policy that was consistently and clearly followed to avoid any allegations of spoliation of data.

Knowledge Management

The ability to start developing a consistent set of precedents, library of research memos and resources is one of the benefits of a paperless office, particularly if you incorporate a DMS that can search system-wide for work product that you can reuse. Whether you adopt a DMS or not, give some thought to how you can take documents from files and convert them to office precedents or templates (by removing names and other identifying information) and storing them in an organized template (or research) collection. Once you start along this path you will quickly see how you can add in articles, books and other resources to create your own library that supports your area(s) of practice. Consider acquiring one of the numerous systems such as Pathagoras, HotDocs, The Form Tool or other document automation systems to systematize and speed up your ability to convert existing documents into precedents or templates.

Begin with the End in Mind: Defining the Goal(s)

Stephen Covey, the esteemed author of “The 7 Habits of Highly Effective People” has stated that you should “Begin with the End in Mind”. So how do you build your plan to take yourself paperless? What are the goal(s) of the move to paperless? Here are some of the components to consider:

1. Decide on what your paperless office will look and feel like (the “VISION”). It is important to work out your vision for how the system will look like and work before you start building it. Will you aim to eliminate paper as much as possible? Will everyone be working on workstations with dual monitors, a central document repository (using a Document Management System or DMS) with remote access capability and client portals? By writing down your goals (as many as possible) you can make the transition ‘real’ and decide how to stage the transition to paperless over time. Moreover, you can visualize your system and thereby make the cost/benefit decisions that are so important in any system design and change management process.

2. Commit to going paperless. Call your staff to a meeting and explain the advantages for each of them individually and as a group. Fully involve them in the process, particularly in drafting the Vision and invite them to raise their concerns now while you are at a planning stage. Ask for their support and commitment to a successful transition. It will be your job as team leader to communicate the Vision, the benefits of the paperless system and why the
cooperation of everyone is central to realizing the benefits of the new paperless system.

3. Call in your IT support as early as possible and involve them in the plan from the get-go. They will have to check your existing computer hardware including your server, back up and RAID systems to make sure they can handle the increased load from all paperless applications (hardware and software requirements). They will have to ensure that you have a reliable backup system (including storage off-site). They will need to make sure the software and hardware will run quickly and effectively and to do this, there are many things for them to check such as adequate bandwidth from your Internet connection in order that people are not (frustratingly) waiting for the system, that you have effective security in place etc. There are many technical issues that will need to be thought about and addressed and having your IT team think these through in advance will save you countless hours down the road. Listen to them carefully when they raise potential issues.

4. Analyze your needs – now and in the future. Think about what you’re likely to need in the future as your business grows as well as your current needs. Think about which documents need to be accessed often or quickly, which may need extra security or encryption, and which could be weeded out after a certain time. After all, you don’t want to be storing all documents forever but you do have requirements for document storage and retention times from your ethics regulator or insurer (or both). For example, you may need the ability to build an electronic ‘ethical wall’ to isolate lawyers and staff from certain files; you will want that ability before the need for such a wall arises where the absence of same could potentially jeopardizes your ability to keep a client.

5. Develop a paperless transition plan and a timetable. The timetable should be tight enough to keep everyone on line but not so much so that it doesn’t allow for reasonable adjustments and setbacks. Plan to be flexible! Writing down the plan allows for everyone to read, think and provide feedback on the process, the goals and the methods. You wish to make this as painless for everyone as possible and listening to their feedback will make everyone feel part of the process and help them feel like they have a part in the plan.

6. Start small. Use a single lawyer and legal assistant who are both keen on the project to start. Learn from the pilot project so you can address any problems before broadening your scope. It is easy to correct small things at the pilot stage before they become much bigger things in a firm-wide rollout. Try, listen and learn from the experience of your must enthusiastic adopters as you expand your scope to remove or reduce any difficulties. Your detractors (and there will be those) will seize on any setbacks as an example that the system is bound to fail so try to reduce the chances of these happening.

7. Research: Do a thorough investigation of the available tools to help you (document management systems, electronic faxing, scanners, data backup systems, security systems, document conversion companies, process consultants, storage formats, storage devices, remote access devices etc...). Knowledgeable consultants can help you out a lot here!! Get references of
other law firms who have adapted each recommended product and do your due diligence!

8. **Budget:** This is required!!! Select your needs in advance (hardware, software, training and installation, consultants) and arrange to incorporate these into your budget and into your business plans. You may have to spread things out a bit to accommodate everything in the budget, perhaps over a couple of years. For software, consider what will fit with your needs, including ease of use and implementation, cost, and integration with your existing systems. Don’t neglect backup needs to keep electronic data from being lost! Also consider both present and forecast needs; you don’t want to find yourself constrained as you grow!

9. **Do a small test project:** make any needed changes; and then move to the transition into the rest of the practice, using your early adopters as change agents. This is most important.

10. **Develop a plan:** for ongoing practice-wide use. Include a document storage plan for employees with specific guidelines or clients with specific needs.

11. **Consider creating a client portal** where clients can view their file documents online without using email. This is one of the benefits of going paperless!

12. **Do a celebration followed by a post-mortem.** Learn from the experience!

### A Bit about the Hardware that You will Need

When there was no alternative to paper, the costs of building and maintaining a paper-based filing system were simply taken for granted. Rows of filing cabinets along with physical storage, associated filing clerks, photocopiers and fax machines all had to be purchased and maintained and took up (expensive) rented floor space. The environmental effects of having to manufacture all that paper had a cost as well...from deforestation to consumption of fossil fuels and electricity to taking up space in land fill sites for unwanted documents.

Today according to IBM ("IBM What is big data? — Bringing big data to the enterprise". www.ibm.com) as of 2012, every day 2.5 exabytes ($2.5 \times 10^{18}$) of data were created. One Exabyte is 1 billion gigabytes. To put this in perspective, according to Wikipedia: “Earlier studies from the University of California, Berkeley, estimated that by the end of 1999, the sum of human-produced information (including all audio, video recordings, and text/books) was about 12 exabytes of data (Juan Enriquez (Fall–Winter 2003). "The Data That Defines Us". CIO Magazine. Retrieved 2006-07-19.)

With that volume of information being created electronically, it is apparent that new ways of storing, searching, sharing, annotating, signing, retrieving and eventually destroying information had to be found. In the context of a law office, we will be increasingly under pressure to deal with all kinds of electronic records (such as for litigation discovery requirements and the results of forensic audits of hard drives,
smart phones and other devices, for example). This is where the paperless office reaches its potential since we will be building systems and procedures to move us into the paperless world and help us deal with the ever-increasing amount of digital information.

There is another consideration in moving to paperless, at least in a litigation context. Being able to handle digital discovery means that you will have the capacity to examine the metadata that should come with e-discovery. Oftentimes is the metadata about data that is vitally important (for example in a murder investigation, knowing from what narrow geographic location a text or email message was sent may be important in being able to tie someone to a specific location at a specific time. Without the metadata associated with that text or email, this bit of evidence would not be available,

So with this as background, what do we need in terms of software and hardware to implement a paperless office?

Hardware

While it is always fortunate where you find that an office’s hardware infrastructure is sufficient to implement a paperless system, in most cases that is not the case. If you host your own servers and network switches, chances are that they will require an upgrade to handle the increased load that a paperless office will place on them. If you have implemented a hosted office (where you use remote file servers that are on a third party’s platform) then you may need to increase your storage and Internet bandwidth capacity to handle the load.

Furthermore you will have to ensure that the network cards in workstations are sufficiently fast (1000 Base T would be the preferred speed). Switches should be capable of handling gigabyte speeds, as should the cabling connecting all parts of the system. Existing processors may not have the capacity to realistically run the increased load of being paperless or be capable of being upgraded to current standards (for example, there are lawyers who are still running Windows XP machines notwithstanding that Microsoft has withdrawn support for XP and these machines are increasing vulnerable to malware in addition to being outdated and slow.

Basically upgrading to paperless should not be undertaken without budgeting for an upgrade of your hardware, particularly if you have not refreshed your computers within the last 3 years (at a minimum, at least in the writer’s experience).
You will need, at a minimum, a dedicated server running up-to-date server software (such as a Windows Server operating system or a Mac server if you are in an Apple environment). A server will allow all your files to be kept and indexed in one place and allow your documents to be organized and efficient. They can manage which users can access what resources. Your server setup should be sufficient to handle your DMS – your document management system as well as host your website, e-mail system, host your print server software, host your databases, accounting software, allow remote access and more. You can see that you are placing a large load on your server infrastructure and as such it is essential to check that your server setup will be able to handle the load of going to paperless. This is why you involve your IT support at an early stage as they should be able to advise you on any necessary upgrades to your server infrastructure to support your desired paperless system.

According to PCMagazine, the top rated servers as of August 2015 were as follows:

- HP ProLiant MicroServer Gen8
- HP ProLiant DL380p Gen8 Server
- Dell PowerEdge R420
- Dell PowerEdge T620
- Dell PowerEdge T110 II
- Dell PowerEdge R515
- Lenovo ThinkServer TS200v
- Apple Mac mini with Snow Leopard Server
- Asus Server TS500-E6/P4
- HP Proliant ML330 G6
- Apple Xserve
- HP ProLiian DL380 G5
- Silex SecurePrint
- DiskSites FilePort DS-100, DiskSites FileController DS-100
- Aberdeen Stonehaven A261S

Similarly CRN’s Test Center lists the Top10 Servers here: [http://www.crn.com/reviews/crn-test-center-top-10-server-reviews.htm](http://www.crn.com/reviews/crn-test-center-top-10-server-reviews.htm)

**#1: Dell PowerEdge R720**

*Geekbench high score:* 40250  
*Processor:* Intel Xeon E5-2680 (2)  
*Frequency (GHz):* 2.70  
*Total Cores:* 16
Memory: 128 GB
IOps: 311,000

#2: **Lenovo ThinkServer RD630**
Geekbench high score: 39612
Processor: Intel Xeon E5 2690 (2)
Frequency (GHz): 2.9
Total Cores: 16
Memory: 128 GB
IOps: 241,000
MBps: 740

#3: **HP Proliant DL380p (8th gen)**
Geekbench high score: 36295
Processor: Intel Xeon E5 2690 (2)
Frequency (GHz): 2.90
Total Cores: 16

#4: **ION SR-71mach4 SpeedServer**
Geekbench high score: 35804
Processor: Intel Xeon 2690 v2 (2)
Frequency (GHz): 3.0
Total Cores: 20
Memory: 64 GB
IOps: 1,124,172

#5: **HP Proliant DL360p (9th gen)**
Geekbench high score: 33336
Processor: Intel Xeon E5-2697 v3 (2)
Frequency (GHz): 2.60
Total Cores: 28
Memory: 64 GB
IOps: 1891186
MBps: 2,640

#6: **Supermicro SYS-2027R-72RFTP+**
Geekbench high score: 34298
Processor: Intel Xeon E5 2690 v2 (2)
Frequency (GHz): 3.0
Total Cores: 20
Memory: 64 GB

#7: **Dell PowerEdge R730**
Geekbench high score: 25161
Processor: Intel Xeon E5 2690 v3 (2)
Frequency (GHz): 2.60
Total Cores: 24
Memory: 64 GB
IOPS: 530,108
MBps: 2,014

#8: Intel EPSD Grizzly Pass
Geekbench high score: 23766

#9: Dell PowerEdge VRTX M620 Blade Server
Geekbench high score: 22970
Processor: Intel Xeon E5-2650 (2)
Frequency (GHz): 2.0
Total Cores: 24
Memory: 96 GB
IOPS: 151,460
MBps: 175

#10: Dell PowerEdge C6145
Geekbench high score: 22607
IOPS: 21,606

What should you look for when purchasing a server?

- **Scability/Price:** Needless to say, you get what you pay for. A lower end server may be fine for current needs, but if your needs grow (you add additional people and/or your volume of information grows) then you may exceed the storage capacity of the server (which is supposed to store all the paperless documents on your system). Accordingly, look for a server that can have additional drives installed and which have fault-tolerance built in (RAID is the measure of fault tolerance – “Redundant Array of Independent Disks” – meaning that if one drive fails, the other drives have copies of the data that was stored on the failed drive and can take over handling the load until you replace the failed drive). If possible, I would look for a server that has at least a RAID 5 (or even better, 6 level, which has tolerance for up to two failed drives).

- **Degree of Use:** Servers typically come in different configurations. Try to anticipate the volume of transactions that you will process in any day and purchase a server that can easily handle that volume so you avoid delays in waiting for information. Your IT person should be able to assist you with deciding which configuration would be best for you.

- **Scalability:** Look for the ability to add memory upgrades and hard drive upgrades and which has a sufficiently fast processor that can handle the increased load.

- **Virtualization:** Many organizations have moved to running virtual machines housed in one physical server. There are many advantages to this, not the
least of which are energy savings, smaller data centers, almost instant
capacity increases, increased up-time, improved disaster recovery, isolated
applications, the ability to run legacy applications and not least of all, to
prepare your office to move things into the Cloud. If possible, look to build
your paperless system in a virtualized server environment.

- IT Support: If you have an experienced IT person to manage your network –
great. But if you largely have to go it yourself, then at least get a server that is
easy to administer. Also ensure that you have reliable and competent IT
support that can respond to problems quickly in order that you don’t end up
with ‘down time’ which only costs you money (and potentially places you at
risks for missing important dates and filing deadlines if your system goes
down).

- Match the server to your Environment: If you run Windows machines, then
acquire a Windows server and software. While you can marry Macs to
Windows networks, you will be increasing the complexity of your system.
Similarly with Mac-based networks. Make life easy for yourself!

- Form Factor: If at all possible, look for a rack mounted server with a large
number of drive bays that is expandable. Consider air flow, temperature,
noise level and fan quality (overheating is a common factor in crashes) in the
location that will house your server setup.

- Memory: Again the ability to add memory (RAM) is important as needs
increase.

- Network Speed: You will need multiple ports on the server as well as a GigE
network switch or switches. The slower your network the greater time spent
waiting. Accordingly have network switches connect all your devices
together that support GigE speeds.

- Cabling: Ensure that all devices on your network are connected with Cat 5 or
preferably Cat 6 network cabling and that all devices have Gigabyte
networking cards installed.

- Operating System: Is it included in the price of the server? Is it a standard
server system? Look for an up to date Mac or Windows operating system.

- Power: You will need a UPS – an Uninterruptable Power Supply – that will
allow for the orderly shut-down of your system in the event of a power
failure to avoid data loss and corruption.

- Drives: Your server should have a drive (CD/DVD/Blu-ray) to allow you to
install software.

**Hard Drive Storage**

Today you can have solid-state storage or traditional hard-drives. Traditional hard
drives have higher capacity but solid state drives (SSDs) are typically much faster.
The downside to SSDs is that they fail without warning, taking your data with them.
Whichever media you choose, buy as much as you can afford – you will not regret
having large storage capacity! Always ensure that your networked drives and
networked devices have a robust back up system to avoid any data loss when, not if, a hard drive crashes.

**Scanners**

There are two camps when it comes to scanners. A scanner (or multiple scanners) are necessary to take paper documents and transform them into electronic documents that can be brought into MS Word or converted to PDF formats (preferably both). On one hand there are firms that have one large networked printer/scanner with a good sheet feeder than can handle large print/scan jobs. Other firms have gone to small individual scanners such as the Fujitsu Scansnap iX1500s or the older S1500s that are scattered around the office. Which route you go depends on the size of your office, the volume of paper that you will need to scan, whether you will have dedicated staff for scanning or not, how your office is laid out and configured and where it will be a trek to get up and go to find a scanner. The latest iX1500s can work with both Macs and PCs and have some significant improvements over prior versions such as WiFi scanning. They also come bundled with software that make them very cost effective such as Adobe X Standard for PCs (see: [http://solutions.ca.fujitsu.com/products/scansnap/ix500/](http://solutions.ca.fujitsu.com/products/scansnap/ix500/)).

Features to look for:

- Reliability (the Fujitsu’s reputation is awesome), whether there is a sheet feeder or not and whether it can take legal sized documents as well as business cards.
- Flatbed scanners can be slower but can take various sized documents.
- Output: It is most desirable if you can directly select OCR’d PDF format (which scans the document into a dual-layer PDF and allows you to search the document as it recognizes words in a separate layer as opposed to a single-layer PDF which is equivalent to a photograph image only).
- TWAIN compliance is often cited as an important consideration as you can then open a scanned document in any software application that supports TWAIN. If the scanner is not TWAIN compliant, you may have to save the document separately before opening it in your application of choice (personally I have never really found this to be a barrier, but some feel otherwise).
- Resolution is important as is B&W and Color capability. In most cases B&W is fine, but you may want to scan some documents in color to preserve the ability to differentiate data that may be in different color inks that would be lost in B&W. Resolution is important as low resolution may lead to being unable to OCR the document or increased OCR errors. I would use a minimum of 300 dots B&W per inch.
- The ability to connect wirelessly is a nice feature as is full duplex scanning (both sides at the same time), size, weight and whether you have an Ethernet port to connect it to the network.
Backup systems

For anyone who has faced the ‘blue screen of death’ or in Haiku:

_A crash reduces_
_your expensive computer_
_to a simple stone_

You know the angst and frustration caused by data loss. Moreover, the implications can be long-reaching: many businesses that have been hit by environmental calamities, fires and even terrorist activities failed if they could not resurrect their lost data. Moreover don’t underestimate the effect that ransomware such as Cryptolocker can have on a law firm. Waking up and finding that all your data has been encrypted and you are facing paying the ransom in order to be back in operation is a terrible situation to be in.

Accordingly it is important that you match your expensive computer system with a good and robust backup system that will preserve your data and allow you to be up and running as quickly as possible. Fortunately electronic data can be backed up and stored in multiple locations easily once the system is configured and set up. Contrast that with an office with paper files in a single location: if it is hit by fire or flood the files would be destroyed with no backups...

I recommend that you backup your system to a rugged external hard drive that is resistant to fire and flood (such as the ioSafe SoloPro or for larger firms, their NAS storage devices) as well as to a cloud-based back up service.

The reasons are manifold. Your rugged hard drive can be used to restore your network quickly, provided that the hard drive survives (which there is a good chance that it will). However, if the calamity is such that your entire office is destroyed, then the cloud-based backup will be your ‘fail safe’ method of preserving your data...cheap insurance vs. going out of business (or even facing a malpractice claim).

Top10Reviews has rated the best backup software for Windows in 2015. The results can be found here: [http://pc-backup-review.toptenreviews.com](http://pc-backup-review.toptenreviews.com). The top 3 products were:

- NovaBackup
- Acronis Backup for PC
- Genie Backup Manager
Monitors

Like scanners, there are two camps when it comes to monitors in a paperless office. The benefits of having two (or even more!) monitors on your desk are easily demonstrated...you can have your reference information on one screen (or on one half of a very large screen) while you craft documents on another. Personally I always prefer to work on two large monitors as I find the time saved in not having to repeatedly open windows adds up quickly!

Consulting with an ergonomic consultant can help you design workspaces that are comfortable as well as functional (the writer has done this and I can say it was well worth it!) as improper placement can lead to neck, shoulder and back issues.

Flat panel displays are now the current state of the art.

Features to look for in a good monitor:

- Definition: While most people think that higher resolution is a good thing, it may not be depending on the age of your eyes since increasing the resolution, while it makes thing sharper, also makes things smaller. Most flat panel displays have a recommended resolution (in Windows click on START then CONTROL PANEL then APPEARANCE AND PERSONALIZATION and click on ADJUST SCREEN RESOLUTION – the recommended display resolution should be shown. On a Mac, click SYSTEM PREFERENCES then DISPLAYS and select RESOLUTION: Best for Display). Microsoft has a listing of recommended resolutions based on monitor size as well as how to set the best resolution for your monitor at: http://windows.microsoft.com/en-ca/windows/getting-best-display-monitor#getting-best-display-monitor=windows-7
- Dot Pitch: This is the spacing between different pixels on the monitor. It can range from .30mm to .15mm. Generally speaking the smaller the distance, the better.
- Brightness and Contrast: Most monitors have their own controls to set the contrast and brightness of the displays. Windows has a feature called Adaptive Brightness that will adjust the monitor display if your computer has a light sensor installed and enabled. Check for this by going to Power Options in System and Security settings and enabling adaptive brightness. Apple computers has a setting under Displays in System Preferences that allows the automatic adjustment of brightness. You can adjust contrast on external displays if you find that helps. Windows has a feature called ClearType that makes fonts easier to read and this should be turned on and adjusted to your monitor to ease your eyes!
- Size: Monitors now come in sizes up to 98 inches (NEC X981UHD for $39,999.00 USD which is 14” bigger and $10,000 cheaper than last year’s biggest monitor) but most users will want between a 24” to a 34” monitor
(or two)! Accordingly you should be able to find a monitor to match your space and size requirements.

- **Ports**: Look for multiple ports to match the ones on your computer. Common formats are VGA, DVI (digital display) and HDMI. You don't want to end up with a monitor that will only accept a DVI cable when your computer only has a VGA port (I saw that in an office where the poor lawyer was given their brand new monitor only to find out it wasn't compatible with her computer system).

- **Warranty/reviews**: I would check both the applicable warranty (2-3 years is good) that comes with the display as well as online reviews from actual users. Common problems that you watch for are the backlight failing as well as multiple pixel defects. Is there a restocking fee if you return the unit?


### A Bit about the Software that You will Need

**Document Management Considerations:**

There is much discussion about e-document formats (Adobe Acrobat PDF/A — the archival format — in particular), the media on which the electronic documents are to be stored (locally? backed up onto a remote device? on the cloud?), scanners, remote access and the like. Some firms choose to use only electronic storage for their closed files, eliminating the expensive cost of storing paper files for years, while others prefer to have all open and closed files in electronic form. Still other firms are concerned about cultural issues around going paperless and the change management process that would entail.

But lost in this discussion is a much more basic issue — one that is fundamental to taking a law firm paperless yet is often overlooked. In the paper world, there are file folders and filing cabinets, both of which help keep the documents organized. The file folder has its brads (places to attach correspondence, pleadings, etc. in date order) and the filing cabinet keeps the file folders organized.

When a law firm goes paperless, however, there typically isn't the appreciation for the electronic equivalent of the brad file folder and filing cabinet. Records — which could be pleadings, correspondence, e-mails, etc. — are usually found in numerous different places on the network. E-mails may be stored in Outlook folders, while documents, such as pleadings, research memos and correspondence, may be in saved in various Windows folders. Worse yet, Outlook stores sent e-mails in “Sent Items” while incoming e-mails are typically filed in other folders.
Unfortunately, each software application an office uses stores its data in different folders scattered across the network. As the number of electronic files grows, the ability to gather all these disparate bits of information together into a “client file” gets harder and harder. With paper files, the firm typically would print out all this information and store it in the file folder. In that situation, the way in which each application and user names and stores the records on the network and hard drives is largely irrelevant. But as the firm moves to a paperless office, the disorganized nature of electronic record-keeping starts to become a problem. It is now harder to reproduce “the file” and the collection of folders that would otherwise be found in the steel filing cabinet.

Some firms use indexing and desktop search engines, such as Windows Search or X1 or Copernic or Spotlight on the Mac, to find documents on the network, but this is not a workable equivalent to a good document management application. Other firms claim that their “standardized file-naming and storage convention” is good enough. Unfortunately, this convention only works as long as everyone, at all times, complies. Once someone decides “just this time” to not follow the convention, the system starts to break down. (The second law of thermodynamics basically says that any system, over time, goes from an organized to a disorganized state without the continual addition of energy to keep it organized — otherwise known as entropy. In a paperless office system this means that paperless file/folder naming systems will suffer from entropy unless everyone is dutiful in following the system, every time. In the writer’s experience, as the size of a law firm increases, the entropy factor grows exponentially.)

So what should a firm do? The solution is document management software. This software is the equivalent of the steel filing cabinet, organizing all “records” — be they documents, e-mails, pleadings, etc. — into the electronic equivalent of the paper folder. Document management software keeps each folder distinct from the others, offering the organizational ability of the filing cabinet.

With document management software, a document must be “profiled” before it can be saved on the network. Profiling entails keying in some information about the document: nature, author, form (pleading, e-mail, etc.), client, matter and more. This “metadata” allows the document management software to know how to categorize the document properly. E-mails, pleadings, correspondence, memos, etc. are all organized by client, matter, lawyer and date created in addition to other criteria.

Document management software also allows searching (including Boolean searches) by keyword, type of document, client name and other keywords. It offers version control, tracking and audit (who created what version) and other activities around document creation, modification and the like. Best of all, it offers the ability to draw together in one place on the network all the disparate records that would otherwise be affixed to the brad of a paper file.
Another benefit of moving to a DMS is that remote access is enabled since all documents are already in digital form. Accordingly it matters not if you are in the office or half a world away since you can sign onto your desktop and access all your files and information. Most DMS applications allow “briefcasing” or mirroring the documents on a laptop with synchronization once you reconnect to the network that eases the problem of multiple versions of the same document, since changes can’t be made to a document that is ‘checked out’.

Entropy is avoided since the user must profile the document before it can be saved. This is how the document management software achieves its goal: it imposes order on chaos. While some may chafe at this process, in the long run this is the only way to keep entropy at bay.

By making a document management system the foundation of your paperless office, you can achieve the degree of rigor, organization and systemization that will allow you to develop your business even as people change and clients come and go. Otherwise, finding a document on the network is like looking for a needle in a haystack.

What to look for in a good DMS system:

The first rule of introducing any new application into an existing system is to determine if it will work well with your existing software and hardware. Particularly with a DMS you will want to ensure that it works easily with your existing scanners, e-mail system, server and any other software that you use in the office.

Second, it should be easy to use. A DMS that is complicated with a search feature that is difficult to understand will not be well-liked in the office. Moreover it should integrate with Microsoft Outlook in order that emails are easily brought into the DMS. You should be able to create ‘profile folders’ within Outlook that will automatically profile an email according to predetermined parameters (this feature will ensure that emails are profiled and attached to a client’s file automatically once the email is dragged and dropped into the appropriate profiled folder in Outlook).

Third, it should be able to work with PDF files easily and it should have the ability to take a PDF document and “OCR” it – apply Optical Character Recognition - which is to convert a PDF scanned document (which is a ‘single layer’ PDF - equivalent to a photocopy - being black dots on a white page) into both a machine readable form (that can be searched and opened in MS Word) as well as the image file that you read. The OCR process does what your mind does when it looks at the PDF scan – it recognizes the dots on the page as being text and creates a ‘dual layer’ PDF – one that is both an image as well as a text file.

Fourth, it should facilitate mobile devices…iPads, smartphones and laptops…in order that you can have staff work outside of the office easily.
Fifth, today I think it is important that it supports a client extranet. E-mail is dying and insecure. A secure client portal or extranet allows the firm and the client to exchange documents securely and privately without the need to use e-mail.


Think about the Role of Cloud-based Services

The Law Society of British Columbia has released a report on cloud computing for lawyers along with a checklist when looking at the cloud.

Cloud computing due diligence guidelines
(http://www.lawsociety.bc.ca/docs/practice/resources/guidelines-cloud.pdf)
Cloud computing checklist
(http://www.lawsociety.bc.ca/docs/practice/resources/checklist-cloud.pdf)

There are ethical decisions and guidance from numerous bar associations as well as from the ABA here:
http://www.americanbar.org/groups/departments_offices/legal_technology_resources/resources/charts_fyis/cloud-ethics-chart.html

Before you move to the cloud, research what may be published in your jurisdiction and what steps you have to take before you jump into the cloud.

The cloud offers many benefits to lawyers in terms of the paperless practice of law and the ability to recover from a natural or man-made disaster, but these have to be balanced against possible privacy, security, ethical and client concerns. There is no right answer; rather each firm has to determine the appropriate protections and such to meet their and their client’s needs (such as using encryption with cloud applications such as Dropbox).

Think about Mobile Computing, Remote Access and Apps

Mobile computing and apps are dealt with in a different chapter in this book. However, it is worth noting that the mobile practice of law does go hand-in-glove with the paperless practice of law since all your office files are already in digital form. You need to consider how to grant access to your staff and whether this takes place using smart phones, laptops, tablets or other devices. Consider the policies that you should you put into place (such as not using any insecure public Wi-Fi hotspots as these are inherently vulnerable to a number of security risks such as
man-in-the-middle attacks that steal user names and passwords) and how you will enforce them. Particularly consider policies that will prevent what is termed the ‘rogue cloud’ – namely staff sending documents home to work on using email or file transfer services that have not been approved by the firm and which place the integrity and the safety of the office network at risk. Consider for example if the home computer in question is also used by other persons (possible loss of confidentiality), if it is infected with any malware (placing the office at risk if that document is then subsequently brought back into the office network) or if the document is transferred using a file transfer service that is insecure.

There are any number of applications for the iPhone, Android and BlackBerry smartphones (such as DocsToGo) that allow you to read, annotate and in some cases, work on documents on the road. With Microsoft Office now available for the iPad along with Office 365 for virtually any device that hosts a browser, the ability to work remotely has never been better. The enhanced ability to work remotely on virtually any device, wherever you can access an Internet connection, is definitely one of the strongest reasons for fully implementing the paperless office.

**Setting New Business Processes to Align with Your Goal(s)**

There is an expression tossed around in IT circles about ‘paving the cow paths’. AgileConnection’s web site states:

*In the IT world, "paving cow paths" means automating a business process as is, without thinking too much about whether or not that process is effective or efficient. Often business process automation initiatives require figuring out entirely new ways of doing business processes—impossible prior to automation (for example, work flow automation and digital image processing)—defining more effective and efficient process highways.*

If you are making the transition to paperless, you need to give some thought about how you can rework your business processes to make them more efficient and effective. An example of this is going to centralized conversion of paper documents to PDF – if you have a small group do this then you ensure that all documents are converted to digital form quickly and consistently. You are not waiting for certain people to take the piles of papers on their desks and bring them into the DMS system – with all the resultant tensions and delays as people wonder when the laggards in the office are going to ‘get with the program’.

Accordingly, don’t just pave your cowpaths...think about how you can make your systems better and faster by eliminating old outdated ways of working and take advantage of the new technologies in the office. A good consultant who has taken law firms down the paperless path can be worth their weight in gold as they will
guide you in the software, hardware and processes best suited to implementing the paperless practice in your firm.

**How Will You Transition to Paperless?**

There are two recognized ways of bringing the existing paper files into the paperless system. One could be called the brute force method; the other could be called the accretion method. Which one you adopt all depends on the size of your office and the willingness of your staff to pitch in and do the conversion all at once.

The brute force method typically involves the availability of a long weekend. On Friday the office closes; from that point onwards the sole task of everyone is to use as many scanners as possible and take every open file and scan & OCR the contents and bring them into the DMS system. You can see that you need a dedicated team to throw everything that they have at the conversion of the files so when you open again for business, every file is now in paperless form.

The accretion method takes a different approach. Here, the first time you need to ‘touch’ a file on or after the stated conversion date, then you stop everything and scan & OCR the contents to bring it into the DMS. In this approach, the most active files are brought in first – with the least active files last. The disadvantage is that the time to convert files may take a while and laggards have the opportunity to drag their feet.

Also consider if you have legacy servers and data and how you will bring that data into your DMS. Some firms adopt a policy that the legacy servers can continue to be accessed but you cannot save any new information into them – all document saves must take place within the DMS. This way the important information on the legacy servers can be brought into the DMS when needed.

Which approach you take all depends on the culture of the firm, the commitment of your staff to take a long weekend for work purposes and the ability of everyone to pitch in.

**Getting Buy-In from Your Team Members (Leading the Change!)**

**Change Management**

Let us discuss the change management aspects of what you are contemplating in going paperless:
Awareness about the Nature of Change

Before you start, think about and come to an understanding of the scope or magnitude of this change toward paperless that is being introduced. How many people, structures, systems etc. will be impacted by the introduction of change? Will people in the firm regard this change a voluntary one or not? How do you deal with people who feel that this change is being thrust upon them rather than change being led from within? Notice that in most cases, law firms deal with change from outside the organization – now, however, you are being a catalyst of change from within and you need to make your staff and lawyers appreciate that this will result in a better and more efficient and effective organization once the change is implemented!

The Three Levels of Change

There are three levels of change that you will deal with: Procedural, Structural and Cultural. What are the implications of each in your change to paperless?

Procedural change means the rules or policies around handling, storing, searching and retrieving documents will change. Structural change means that the office will no longer look or feel the same...paper will disappear, documents will be scanned and stored, files will be only electronic and the like. Cultural change means that people will have to adapt to living and working in a paper-less world and that new entrants will have to learn and become part of the new system.

Management of Change

The old expression states that you never get a second chance to make a first impression. Accordingly it is vitally important to give considerable thought to the plans for the introduction of the change as well as for people and organizations’ first exposure to the new system. Identify the roadblocks and strategies to cope with them well ahead of time. Identify tactics to deal with issues before they appear. Bring people into the process early on and let them shape the eventual systems, policies and procedures. Listen to their concerns and respond accordingly.

Focus on Who Matters Most

The third step recognizes that if everyone openly adopted change, there would never be any need to be concerned with implementing change. However, there will always be three groupings of people and organizations when change is involved:

- Enthusiasts (who recognize the benefits of the new system and line up to help spread and support the new system),
• Backbones (the great majority of people and organizations who are solid performers and who will support the change since they are reliable workers) and
• Resisters (those who oppose change either due to a perceived loss of power, status, money or other attribute or who simply do not wish to expend the time and/or energy to change).

Obviously you need as many people in the first two camps and as few in the last one as possible. You may have some hard decisions to make – if someone who stands in the way of the change consistently opposes you, you may have to decide if their future may lie outside of the firm.

Celebrate the Successes

Every project has its milestones, setbacks and successes. By positively communicating your successes you help keep the momentum going and the change process positive. You also need to have strategies in place to deal with the setbacks in order to avoid having your project derailed by the naysayers.

Learn

Every successful change management process lays the groundwork for the next. Learn how to gather the “take-aways” that form the institutional learning for future growth. This is known as transforming your law firm into a ‘learning’ organization that is better adapted at dealing with change.

Learning from Your Experience and Continue to Improve Your Systems

A learning organization is one that has adopted a culture of continually evaluating and learning from their change processes. Adopting the paperless practice of law is a perfect time to implement learning concepts into the firm. At each step is achieved in a change process, ask your teams: “What went right? What went wrong? How can we do this better?” Keep a record of what you have learned and draw on that each time you need to implement a change in the firm.

When you recognize that leading, dealing with and managing change is one of the most important skills that any person or organization can develop, then you have taken the first step towards implementing a learning (or change management) culture in your organization. Seek to build on this and instill it into the culture of
your firm. You – and your law firm – will be stronger, more adept and have a greater capacity to absorb the changes that are thrust upon it as a result.

Conclusions

OK you have now read all the advice that I can give you on going paperless. As you stare over the abyss, recall that anticipation is almost always worse than reality. The process can be managed by properly planning, anticipating, executing, adjusting and learning.

Don’t forget involving everyone in the project at the start – and celebrating with them at the end! The firms that have gone paperless all say the same thing: It is cost-effective, it enables remote work and greater work-life balance, it allows you to carry your documents with you and access them on multiple remote devices wherever you may be. You can take your case to court and present it with ease. Moving to e-filing in government registries and tribunals is eased. It is easier – and cheaper – to store documents electronically than on paper. Moreover it results in tangible benefits to the law firm, to the environment and to the work culture in the law firm.

So take a deep breath...and take that first step...

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