

Wiring the Small Law Office for Less than \$10,000

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Technology is an amazing thing. It's also confusing and expensive. It takes time to figure out what you need, and to earn the money to buy it. But, it takes even more time and money to replace what you bought when it won't do what you need.

In this article, I hope to explain how a small or solo law office can use effectively technology at a reasonable price. In other words, you can profit from my mistakes.

A couple of caveats. First, my opinions (and they are my opinions, not those of ATLA, NCATL or the Section) are based on my practice, my knowledge, and my use of technology. I like tinkering, and I don't mind learning about computers.

If no one in your firm understands how computers work, and you're not comfortable opening a computer case and doing some minor fiddling around inside, find someone who is. A computer consultant will make setting up your network easier. Ask colleagues for a recommendation. Or, go to your local community college. Most have advanced students or instructors who would love to make a few extra bucks installing hardware and software.

Second, technology is not an end in itself. There are lots of new gadgets and programs that are fun to play with, but don't help us practice law. The programs that do help take dedication to use. There's no panacea.

Third, this article assumes you have a small or solo law office. I am a solo practitioner with a full-time secretary and part-time bookkeeper, with occasional law-clerk help. If your office is bigger, then your costs will be higher. I do not have a "server" network system, because I don't need one. I have a Windows peer-to-peer network, with both computers running Windows 2000. (A "network" is how computers link together to communicate. It allows me to access files on my secretary's computer. If you don't understand the difference between peer-to-peer and server networks, you need a consultant.)

Finally, I'm cheap. I never buy the newest or best thing. I wait for technology to prove itself before I jump in. Even then, I buy the prior generation of technology, once it gets the "kinks" out. I order products off the Internet from one or two sources I trust. If a device or program doesn't enhance office productivity or case presentation, I don't buy it.

That said, let's look at the goals of using new tools and methods:

1. Make information more readily available;
2. Increase productivity of lawyer and staff;
3. Give peace of mind that work is getting done and deadlines are being met; and
4. Keep confidential data secure and backed up.

I. **Hardware.**

The hardware is the core of your system. If your hardware is cheap, nothing will work. I

don't buy Cadillacs, but I also don't lease Yugos.

A. Computers.

1. Secretary's Computer.

You don't need the latest, fastest computer capable of high-end graphics rendering if your secretary is going to type, use your computer case-management system, and do some spreadsheets. A relatively low-end computer is fine. My recommendations:

- **Brand:** Any brand will do. I often look to Dell, TigerDirect, or other vendors for refurbished computers. Refurbished computers have been returned for some reason, repaired, and recertified for sale. Never had a problem with one. Check the vendor's reputation for technical support before you buy.
- **Processor:** The processor does the actual work. You don't need the fastest on the market. Unless you plan to do video editing, I recommend 750 megahertz to 1 gigahertz. Look for a good deal. I have had Pentium and AMD processors. Both are fine.
- **RAM:** Random Access Memory, the stuff that holds the data your processor is churning. It gives the processor quick access to information, instead of reading from the hard drive, which slows the computer down. RAM is cheap now. Get at least 256 megabytes. (If you already have a computer with less than 256 MB, you should upgrade. I just bought 256 MB of RAM for \$70 from TigerDirect.)
- **Hard Drive:** Stores information long term. Get at least 20 gigabytes to hold your work product.
- **Monitor:** Spend a little money here. The cheapest computer deals include 15-inch monitors. Either upgrade or buy a 17-incher. Any smaller and your secretary will (rightfully) complain.
- **CD/DVD Combo Drive:** While a CD-ROM may be adequate, DVD (which holds about seven times more information) soon will be standard for distributing large programs. They're not just for watching movies.
- **Keyboard/Mouse:** I like the Microsoft Natural keyboard. It looks funny, but my hands rest nicely on it. Supposed to prevent repetitive-stress injury. I also like LogiTech's wireless mouse. No cables to get in the way.
- **Operating System:** Your computer should come pre-loaded with the latest version of Windows 2000 or XP Professional. Do not get Windows ME.

TOTAL COST: About \$1,200

2. Lawyer's Laptop.

I recommend attorneys get laptop computers. Most laptops now have all the power and features of a desktop, with full-size keyboards. I just insert the network card into my PC card (PCMCIA) slot, and I'm on the network and ready to go.

Other laptops have "docking stations." When you get to your office, you slip the laptop into the docking station, which has built-in network, monitor, keyboard, and mouse connections.

I have a refurbished Dell Latitude CPX, Pentium II 500 MHz. I paid about \$2,800 for it two years ago, and got a real bargain; now it sells for under \$1,000. Since purchase, I've upgraded the hard drive and added RAM (I now have 392 MB).

I like Dell. I know IBMs are good quality, as are the Sony Vaio series. Others swear by Toshiba. My recommendations:

- **Processor:** As above, 750 mhz is fine, but go faster if you can get a good deal.

- **RAM:** At least 256 MB. Make sure the computer has room to add more.
- **Hard Drive:** At least 12 GB. Twenty is better.
- **Monitor:** 15-inch, active-matrix display. Your eyes will thank you.
- **Drives:** CD/DVD drive. I have a floppy drive I can attach to the computer by a cable, but in two years I've never used it. The DVD is great for watching movies on airplanes or in hotel rooms.
- **PC Cards:** If it's not built in, get an Ethernet network card to fit in the PC card slot. Ethernet is the most common type of network. 3Com is a good brand. Make sure the card supports 100 mbps (100 megabits per second), or your network will be slow. Also, get a modem card (for Internet, faxing, etc.). I have a PC card with network and modem built in together. Try to avoid cards that need "dongles" or attachment cords to work. You'll lose them like I do, or forget to take them on the road.
- **Operating System:** Pre-loaded with Windows 2000 or XP Professional.

If you do take your laptop on the road or to court, always take along an extension cord, three-prong to two-prong plug adapters, extra telephone cord, and telephone-cord connectors.

TOTAL COST: About \$1,800

B. Peripherals.

This refers to everything that's attached to, but not part of, the computer.

1. Printer/Scanner/Fax Machine.

I used to dislike "multi-function" combos, which combine a printer, scanner, and fax machine. Main objection: If one part breaks down, you lose all three.

I've changed my mind. I realized it's a waste essentially to buy two printers – one to hook to the computer, and another for faxes.

That's when I found the HP LaserJet 3200. It's a combination high-quality black-and-white laser printer, scanner, and fax machine. I can fax from my desk across the network without printing anything. It also serves as an emergency copier.

The 3200 prints 7-9 pages per minute, and scans about six pages per minute. It's not for super-high volume scanning, but it's perfect for my office. I also like HP's support, which was pitiful for a few years, but now is much better. The LaserJet 3200 doesn't have the misfeed problems of the 5L and 6L.

When you buy any printer, be sure to check the cost of consumables (toner, etc.) I had a Brother HL-1040. The printer was good, and it was fairly cheap to buy. But the cost of the toner and drum cartridges more than offset its low initial cost. While the 3200 isn't cheap, it has only a toner cartridge to replace, at a cost of \$60 (I use about one a quarter).

If you need color, Lexmark has a new color inkjet printer/scanner/fax machine for \$199. Inkjets cost more per page than laser printers, and the quality for black-and-white printing generally is not as good. Color lasers remain very expensive. I recommend a black-and-white laser multi-function machine, such as the HP LaserJet 3200, and separate inexpensive color scanner and printer (see below).

TOTAL COST: \$600

2. Color/Mobile Printers.

I keep a color inkjet printer in the office. Cost about \$60. Doesn't need to be high quality. I use it for making low-quality prints of scanned photos to send out in discovery, if I'm too lazy to go to Kinko's for color copies.

I also have a Canon BJC 85. It's a small, mobile ink-jet printer designed to be carried around. Very light. I often take it with me to court to draft orders, jury instructions, emergency motions, etc. I also use it on trips to print argument outlines and letters. The prevents having to fax documents to yourself in hotels. You can find it online for \$280. For a little extra, you can buy a scanning module, and turn it into a portable scanner.

TOTAL COST: \$340

3. Color Scanner.

The HP LaserJet 3200 is a black-and-white scanner. I often want to scan color photos, receipts, and the like. For that, I have a Visioneer One-Touch 8200, but any inexpensive color scanner will do.

TOTAL COST: \$60

4. Backup.

Every hard drive will fail. Whatever is on that drive when it fails likely will be totally lost (or at least be inaccessible for three weeks while some expert charges you \$800 to get half your data back. Do I sound bitter?). There simply is no substitute for backing up your computer. And, since offices are known to have fires, tornadoes, or unhappy employees who like to delete things after they get fired, off-site backup is a necessity.

I back up the entire hard drive on my laptop and my secretary's computer once a week. I know many experts say you only need to back up your data, as you can always reinstall software. This ignores: a) the time it takes to reload your programs; b) the loss of all the updates, upgrades, authorization codes, customizations, etc., since you first loaded the programs; and c) that if your office burns down, you may not have your disks. So I back up everything weekly.

I also back up my most important data, such as my case-management software, every night.

a. Nightly Backup: CD-Writer.

In addition to just being fun to play with, I use an HP 8210e CD-Writer Plus (external) for nightly backups of my case-management files. Because it's external, the 8210 hooks into the USB port. It's slower than an internal drive, but it's portable. I can use it on my laptop, back up over the network, and then take it home to burn music CDs (only my own music, of course). I use a rewritable CD for my case-management backup, and keep that CD in my pickup. I bring the CD-RW in every day at 6 p.m., back up what I need, and take it out again. That way, if a hard drive fails, all data is current to within 24 hours. The 8210e has now been replaced by the 8230e.

TOTAL COST: \$80.

b. Weekly Backup: USB Hard Drive.

For the weekly full backups of my laptop and the secretary's computer, I bought an external BUSlink USB 30 GB hard drive. It too hooks into the computer's USB port, and Windows sees it as any other drive. Using backup software that comes with Windows 2000, I can back up over the network to the USB drive, or back up directly from my computer. USB transfer is relatively slow, so I set Windows to do unattended backups automatically on Thursday nights.

The drive is about the size of a West soft-cover Federal Civil Procedure rules book. It's so small and light, I can take the USB hard drive home, so I have at most a week old copy of the entire contents of both computers' hard drives.

I also use the USB hard drive to store music, photos, copies of important documents, and

backups of PowerPoint and other presentations. If my laptop's hard drive crashes on the way to court or a seminar, I can borrow a computer and use the backup.

TOTAL COST: \$210.

5. Miscellaneous Hardware.

There are lots of other little things I use:

- **Ethernet Hub.** This lets me hook my bookkeeper's computer into my peer-to-peer network by connecting one cable. Cost: \$50.
- **Digital Camera.** Not high end; just a cheap little thing to take simple pictures, photos of clients, etc. Cost: \$50, cheaper if you look for specials on the Internet.
- **PDA.** I had high hopes for this one. I found it useful, but only moderately so. I mainly use it to keep handy my calendar and contacts when I'm out of the office and don't want to bring my laptop. I still print off daily, weekly, and monthly calendars to take to court. I like the Handspring Visor Platinum and Handspring's expansion modules. Links to my case-management software. Cost: \$200.
- **USB Hub.** Lets me hook multiple USB devices to my laptop's single USB port. You can add hubs on top of hubs to connect up to 128 devices to one USB port. Cost: \$40.

TOTAL MISC. COST: \$340

TOTAL COST FOR HARDWARE: \$4,630

II. Software.

This is the stuff that makes the machines worthwhile. Most of us base software purchases on what we know, have used, and with which we are most comfortable. My recommendations:

A. Word Processing.

I love WordPerfect, and have since version 4.1. I can't imagine not having the "reveal codes" function. However, many of my clients and other law firms use Word. So I have both on my system. Most law firms will need only one, and likely will have one already. Many new computers come with Microsoft Office and Word installed.

Regardless of the program you use, I have a system that works well for getting documents out the door: 1) I dictate letter. 2) Secretary types the letter and saves it in a directory/folder on her computer called "Proof." 3) Over the network, I pull up the document on my laptop, correct it, and save it in a directory/folder called "Ready." 4) Secretary prints the letter and places it in a red folder on her desk. 5) I walk by and sign the letter. Secretary copies it, prints postage from www.stamps.com, and it's mailed. Saves time, trees, and money.

Cost for WP or Microsoft Office XP upgrade is about \$200 each.

TOTAL COST: \$200.

B. Case Management.

This is a very personal decision, and I suggest you look at different programs before deciding which one best suits your practice. The leading programs seem to be Amicus Attorney, Abacus, Time Matters, and Needles. Once you make a decision, it can be tough to convert data to a new program. The programs vary in price, from a few hundred to several thousand dollars. Evaluate as many of the programs as you can. Ask the companies for demo disks and users in your area. Visit other firms to see what they use and if they're satisfied. Because these programs become the heart of your office, don't base your decision solely on price.

But there's more expense than the program's cost. There's learning time for you and

staff, time to input your case information, technical support costs, etc. Do your homework before you invest. Look at past issues of ATLA's *Trial* magazine (Paul Bernstein has written some wonderful articles on case management), or *Law Office Computing* for reviews. Don't buy a "techie" program if your staff prefers manual typewriters.

I use Amicus Attorney, so I'll mostly discuss what it can do. I like the program's ease of use and intuitive interface. Most staff can use it after a couple of hours of training, and can handle advanced tasks within a couple of days.

AA is central to my office. It organizes files, contact information, calendar, phone calls, documents, time sheets, and notes within an electronic "file" for each case. I can instantly tell what's going on in a case, what last happened, what deadlines are approaching, and what's next. If an adjuster calls me and says I never responded to his last offer, I know from looking at AA that I left him a phone message last Thursday rejecting the offer, and made a counteroffer.

I also can look at my notes of past phone calls with the adjuster in other cases to know that when she says she has no more authority, she'll go 10% higher.

Many lawyers remain hooked on their paper DayTimer and tickler systems. They work fine, but programs like Amicus allow you to see more of your practice information at a glance, take that information with you, and track deadlines more effectively. The programs also allow staff to send you electronic phone messages (no more phone slips!), see your calendar, make appointments, and tell clients their next court date.

With Amicus, you also can set up "precedents," in which you use deadlines from a prior case (like send out discovery 10 days after answer received, notice first deposition within 30 days, prepare Pre-Trial Order 30 days before trial date) for new cases. Saves lots of time.

Most case-management programs, including the newest version of Amicus, allow remote access by telephone, so you can work at home. Some (including Amicus) allow you to telephone your computer, and the program will e-mail you unreturned phone messages. Even without remote access, you can work with Amicus and your practice information when you're not hooked onto the network. When you next log on, the program will automatically update your changes.

On the downside, I've been frustrated with Amicus' tech support. It costs too much, and the support people often don't know the program very well.

Regardless of what you choose, I can't stress enough how important it is to have some sort of case-management software. If nothing else, buy it to sleep at night, secure that (if you or your staff put them in the computer) you haven't missed deadlines.

TOTAL COST: \$700 (two users)

C. Document Generation.

Here's how most offices draft a Power of Attorney. Step 1: Pull up a past POA. Step 2: Find all the places with names, addresses, phone numbers and dates. Step 3: Delete the old information. Step 4: Type in the new information. Step 5: Check the document to make sure you caught all the stuff you were supposed to change. Total time: about five minutes.

Need to also do a Health Care Power of Attorney, living will, and simple will? Repeat steps 1-4 for each document. Total time: about 15 minutes.

Here's how it's done in my office. Step 1: Click on "Estate Documents" in HotDocs. Step 2: Answer about 8 questions from HotDocs. Step 3: Hit "OK" and print. Total time: about 45 seconds for all four documents. It even generates a personalized letter to the client explaining what the documents mean and what to do with them.

By using this single program, I cut out more than 14 minutes of my or my secretary's time

for each set of documents. Multiply that by two sets of documents a month, that's a savings of more than five hours a year, just for the estate documents! If you do the same thing for retainer agreements, medical authorizations, and similar documents – you can save days of your time and staff time.

HotDocs and similar programs allow you to take a document you've drafted, such as a Power of Attorney, and use "variables" for the information that will change. For example, I used "Name" where the name of the person who's giving the POA will go. Since the person's name appears several times in the document, so does the variable.

You can use the same variable in multiple documents. The person's name will be the same in the POA, Health Care POA, living will, and will. I type the name once, and HotDocs fills inserts the name about 15 times, with appropriate capitalization, underlining, etc.

Want to do more advanced work? A domestic complaint may have multiple claims: child custody, child support, post-separation support, alimony, equitable distribution, and TRO to prevent waste of assets. Why dictate new pleadings each time, or have a secretary cut and paste claims from other documents? In HotDocs, you set up a master document which includes all the claims. When the next case comes in, you tell the program which claims to include. HotDocs asks appropriate questions to fill in the blanks, and produces a final document with all the information filled in and stating only the claims you wanted – complete with Verification!

Have Amicus Attorney or a case-management program that links to HotDocs? HotDocs can "grab" the information from your case-management system and put it into your document, only asking for extra information it needs.

It does take time to set the documents up, and a willingness to delve into the program. But the time savings is worth it. Word and WP have their own merge functions, but neither is as complete or easy to use as HotDocs.

There are other programs that can do the same thing, but HotDocs is the one I know, and it has a great reputation. It also was included free in the WP 8 Legal Edition.

Ease of use and time savings more than justify the cost of this program and the time it takes to set up your documents.

TOTAL COST: \$230.

D. Knowledge Management.

This is relatively new to the legal realm, at least for small offices.

Don't know what it is? Sure you do. You do it all the time. You take notes on yellow pads and stick them in a file. When the time comes for deposition, you review your notes to figure out what to ask. Time for trial? You take a look at hundreds of pages of notes, scores of memos, and dozens of deposition transcripts. But who was it that was standing on the corner and said the light was red? What was that guy's name? Where did he work? Who else said the light was red?

Dissatisfied with the legal-pad system, tech-savvy lawyers began setting up databases to handle this stuff. But databases can be hard to design and implement, and even harder to modify once created.

Enter CaseMap. This program has revolutionized how I prepare cases and keep track of information.

CaseMap is made by CaseSoft (www.casesoft.com), which also makes two other programs I love: NoteMap and TimeMap (see below). The company makes quality software, listens to its customers, and has the best tech support I've ever found. They give free personal

initial training on CaseMap, and support all their products through toll-free numbers.

CaseMap is like a database on steroids, specifically designed for litigators. It replaces your yellow pads, deposition summaries, and memos. It puts all your information in one place, linked to the source, the issues in your case, your evaluation of the information, whether it's disputed, the date, and anything else you want to include. You can add documents, Bates numbers, witness employers and addresses, phone numbers, etc. CaseMap becomes the central repository for your case data.

What sets CaseMap apart from other databases, though, is its Data Refinery. Need to know everyone who said the light was red? Can do. Want to find everyone who said the light was red and was standing on the southeast corner, which is not disputed by the other side? Can do. Want to see everyone who said the light was green in a deposition and was standing on the southeast corner, listing the page and line where they said it? Can do. Every fact and witness linked to the damages issues? Can do.

You can be up and running with CaseMap immediately, though its advanced features can take time to learn. It takes discipline to force yourself to review and input documents, depositions and notes. But it's worth it. It makes motions, responses to Summary Judgment, and trial easier. It also forces you to think critically about your case.

CaseSoft has the most progressive license of any software company I've found. It allows all its products to be installed on multiple computers with just one license, so long as only one copy of the program is open at a time.

TOTAL COST: \$495

E. Outliner.

I know, Word and WP have built-in outliners. Why buy one?

Because Word and WP's outliners are pains in the rear. They're limited in what they can do. Consistent formatting is virtually impossible. Moving notes around is difficult. For those of us who like to outline arguments, examinations, and trial strategy, the word processors are woefully deficient.

Enter CaseSoft and NoteMap. The company developed this program after users on the CaseMap online forum bemoaned the lack of a true outliner program.

CaseSoft did it right. NoteMap links with CaseMap, so you can exchange information from the outline into the database. Formatting is a breeze. You can "hoist" portions of an outline to work solely on a small part, or "fold" (hide) parts you're not working with. You can link documents and images to your outline. You can "lock" portions of an outline so they can't be edited. You also can insert "comments" within the outline. It's easy to move parts of an outline, change levels, or even merge outline portions.

You don't need NoteMap. But if you do a lot of outlines, as I do, it's worth the money.

TOTAL COST: \$99

F. Time Lines.

Have you ever wanted to show a judge or jury the order in which things happened? You could list them by date and time, but that's ponderous and doesn't give a sense of the distribution of actions over time. You could try to do your own time graphic. Problem is, it's tough to be accurate with the spacing between acts, yet still be able to add and delete items.

Once again, CaseSoft came to the rescue with TimeMap. Just click to make a new entry, fill in the date and time, and enter the text for the box. That's it. TimeMap automatically resizes the time line and places the box in the proper place. You can insert a "break" in the time line,

skipping months or years. Charts can be up to 20 pages wide. With a color printer, you can use different colors for actions by different parties.

There's no better way to show a jury how the defendant sold 10,000 widgets, when it received reports of defects, how it continued to sell more widgets, when the first complaints were filed, and when your client was injured.

TOTAL COST: \$199

G. Time and Billing/Accounting.

Even if you don't bill, it's a good idea to keep track of your time. It helps justify fees, if necessary, and shows you where your time goes.

I dictate my time to my secretary to enter into Amicus. Amicus and most case-management programs allow you to track time. But if you do any billing, you need third-party software to compile and track bills and receivables.

I like PCLaw. TimeSlips is the industry leader, but I've read too many complaints about problems with support and its latest upgrade.

PCLaw has been very responsive when I've called. Though it's not as intuitive as I'd like (I've actually had to look at the online help), it's not bad. Simple billing and receivables is \$195 for two timekeepers. For more money, you can add network support, past-due modules, payroll, and deposit slips. There is no limit to the number of cases you can have. Avoid programs that charge you by the number of cases.

For accounting, try Quicken or Quickbooks. With check software, you can write checks in Quicken or Quickbooks and print them out on checks you print yourself. Why pay a check printer?

TOTAL COST: \$250

H. Presentations.

For static presentations where all you want to do is run through the same "slides" over and over, Microsoft's PowerPoint (included in MS Office) works fine. You can easily put documents, photos, sound, and video into slides which will advance just like in a slide projector.

But PowerPoint is of limited use for dynamic presentations; that is, if you want to take a document and enlarge portions, compare documents, or highlight portions of a document on the fly. For that, I recommend Sanction from Verdict Systems.

Sanction costs hundreds or thousands of dollars less than similar software. After scanning in a document, you can easily enlarge the most important paragraph, have an expert insert an arrow pointing to the break in your client's bone, or highlight the president's marginalia. With another click, you can save the new document, with the original unchanged. Add a projector or big-screen television, and you can easily move between documents or photos in a presentation to a jury.

The software allows you to track which exhibits have been entered into evidence; save parts of documents on which witnesses or experts have written or modified; and print those documents for the record. You can even scroll a deposition transcript alongside a video of the deponent. The Department of Justice purchased Sanction for all of its U.S. Attorney offices for trial presentations.

TOTAL COST: \$395 for Sanction I; more for Sanction II.

I. Scanner Software.

I like PaperPort, sold by ScanSoft. It uses a folder system, similar to Windows Explorer. It's easy to scan, annotate, and manipulate documents.

I use PaperPort and its FormTyper function to scan in discovery I have to answer. I drop the document into FormTyper and type my answers to discovery directly onto a scanned image of the original. Saves my staff from retyping interrogatories. If there's not enough room to answer, I just attach a sheet (as the Rules allow).

Most scanners will come with document-management software. If you don't get PaperPort and want it, you can usually pay a modest price to switch.

For OCR, I use a program from a Russian company, Abbyy, called FineReader (www.abbyy.com). FineReader has the best OCR accuracy of any program I've found. One of the best things about the program is it can export OCR'd documents into Word or WP and save all formatting.

However, I don't do a lot of OCR. (OCR takes an uneditable scanned image, like a page of discovery, and turns it into a document which you can edit in your word processor.) I find OCR unnecessary and a waste of resources. If I need to be able to search for a document, I save the image and use PaperPort's ability to list keywords to identify a document.

TOTAL COST: \$198 (for both programs)

J. Miscellaneous.

- **DtSearch.** This little gem will create an index of words in a list of documents, directories, or drives you specify. You can then do Boolean (and/or-type searches) and "fuzzy" searches to find that one document you need. It will search across document types, and displays results in context.

DtSearch can even create an index of deposition transcripts or your summaries. You can then search for "car w/5 red light w/3 corner" to find which witness was standing on the corner and saw the red light. Or, it will find the Complaint in which you alleged fraud, unfair trade practice, breach of contract, and punitive damages. Can't remember which Complaint had a claim for abuse of process? DtSearch will find it. Works better and faster than the Windows or WordPerfect find functions. If you look closely, you'll find that many programs use DtSearch's engine to power their own search functions.

COST: \$199

- **Internet.** I use Internet Explorer 5.1 and Outlook Express. Why? Came with my computer, and they're all I need. They work well, so I'm not going to upgrade unless I have to. And they're free.

I use AT&T as my dial-up provider. Costs \$20/month for unlimited access. I have a host for my web site, also at a cost of \$20/month. Ask for recommendations for a web host. I use adSight.com, because their webmaster was the quickest to answer my questions when I sent e-mail to several web hosts. I like good service.

Want to speed up your Internet access, eliminate pop-up ads, and reduce other tricks by advertisers that slow down your pages from loading? Try AdPurger, www.adpurger.com. Great little program for a one-time cost of about \$13.

COST: \$13, plus \$40/month

- **Legal Research.** Surprise, you're not limited to West or Lexis!

For North Carolina statutes and case law, as well as the U.S. Code, I use West's CDs. I want the disks so I can take them with me on the road and to court.

I often do legal research during trial breaks, or at counsel table when arguing a point of evidence.

For federal cases and for states other than North Carolina, I use VersusLaw, www.versuslaw.com. For \$9/month (yes, nine dollars per month), I get unlimited access to every state and federal appellate court. The drawbacks? The search engine is limited, no hyperlinks between cases, and you have to return to the search results list to get to the next case. But you can't beat the price.

COST: About \$600 per year

TOTAL MISC. COST: \$212, plus \$1,080 per year

TOTAL COST FOR SOFTWARE: \$2,978, plus \$1,080 per year

TOTAL COST, HARDWARE AND SOFTWARE: \$7,608, plus \$1,080 per year.

Thus, the total initial outlay for hardware and software for one lawyer and secretary is \$8,688 for the first year, with about \$1,080 per year in recurring costs for Internet access, web hosting, and legal research. You should budget \$500 to \$750 per year for software and hardware upgrades, including money to replace computers every two to three years.

A few things I haven't discussed:

- **Voice Recognition.** I have dabbled with it, but don't think it's ready for regular use. Even if it's 95% accurate, that means five of every 100 words is wrong. By definition, the computer will generate a word – often an incorrect word correctly spelled. Proofreading becomes very difficult. I found the extra time needed to proofread and make corrections outweighs the value of voice recognition.
- **Digital Copier.** I investigated a combination digital copier/printer, but the cost was too high. Also, the warmup time before the first page printed was too long, though second and third pages printed quickly. I'm sticking with a standard copier for now.
- **"Paperless Office."** Some lawyers and consultants dream of paperless offices, where every document is scanned and stored electronically. Lawyers read mail on their computers, and can take entire case files home without packing a single piece of paper.

I don't think this is necessary for most small firms. One, the amount of digital storage required is tremendous. Two, it requires a high-volume scanner, and the staff to use it. Third, it can be difficult to review multi-page digital images, rather than paper copies. Finally, I don't like the idea of putting evidence into a format that can be altered.

- **Video Capture.** This means taking regular videotape and converting it to digital movie clips that play on the computer.

I love using video in cases. I also use it in settlement brochures, including PowerPoint settlement presentations. But I find it cheaper to send out the video I need to a local computer store and get a CD back than invest in a video-capture card and a machine with enough horsepower to run it.

- **Wireless Networking.** Great for home use, not so much for a law firm. I just don't see how it's secure and confidential.

- **Anti-Virus Software.** Ummm. . . I don't use any. I've tried it in the past, but found it slowed down and crashed my system. I've tried McAfee and Norton, and prefer the Norton product. But it seems to me that anti-virus software is like closing the barn door once the horse is out. By the time the software company updates its virus definitions and you download the updates, likely you're infected already.

How do I avoid viruses without a software defense? First, I only get on the Internet when I have a reason, and only stay on as long as necessary. Prevents "sniffers" from having time to find and infiltrate your system. Those of you with "always on" connections who stay online all the time are asking for trouble.

Second, I don't download anything from the Internet unless I'm as sure as possible that it's virus-free. That means no music, no little utilities that haven't been vouched for, no games. I don't even download program updates for at least two weeks, so others can see if there's an embedded virus.

Third, I don't open e-mail attachments that I don't expect to receive. E-mail attachments are the number one way viruses spread. I never open attachments, even from people I know, unless I expect it. My mother forwards me hundreds of jokes. I never open them. Even when I expect an attachment, I don't open it if it has an *.exe, *.bat, or *.vbs extension.

Finally, I turn off the preview pane in Outlook Express. That way, I can delete e-mail without viewing it. This defeats some of the new viruses embedded in HTML code which runs when you view the e-mail message, even without clicking on it.

So, if you budgeted \$10,000 and follow my plan, you've got money left over. Use the extra dough to buy faster computers, more storage, a better digital camera, a headset so you can work hands-free from your telephone (and save the cricks in your neck), or to hire a consultant to help make some choices and install your systems.

The "wired" office can be done. It's not easy. It takes patience and persistence to use the computers and software to your best advantage. But I'm convinced that the only way a solo or small office can litigate with the big defense firms is to use technology. If you're ready to take the plunge, I hope this road map helps.