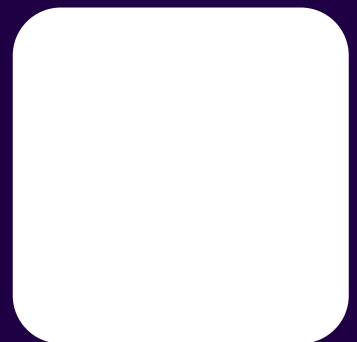
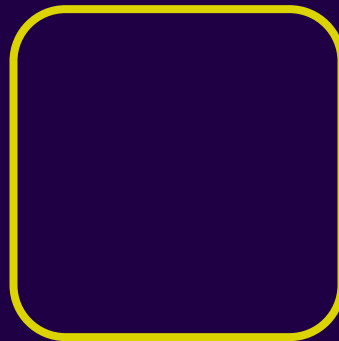
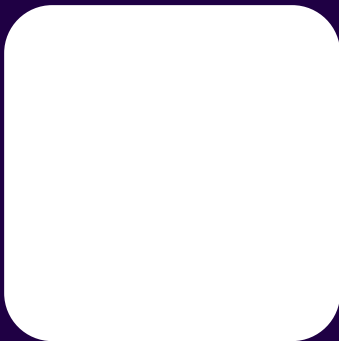
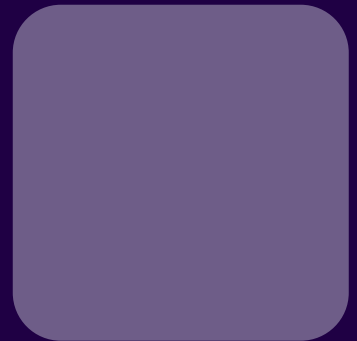
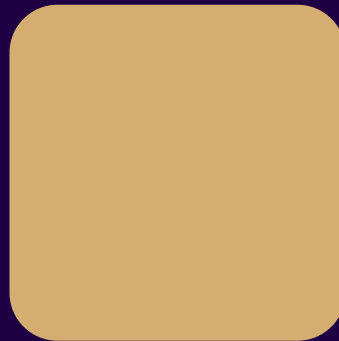
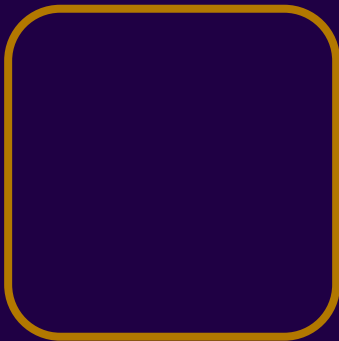
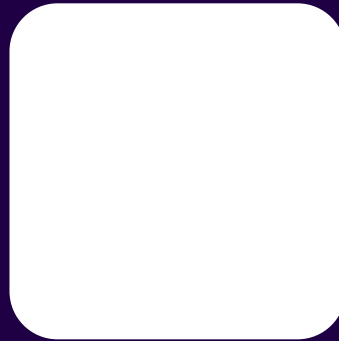
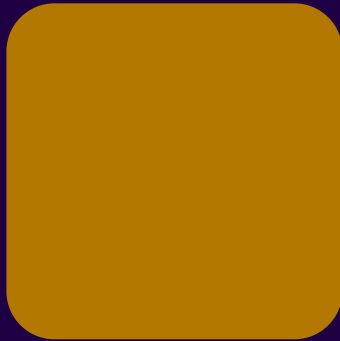


Small Firm, Big Technology

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Contents

Videoconferencing: Now Scaled and Priced for Small Law Firms	2
<i>by Jack M. Sheekey of Videotelecon (VTC)</i>	
Hosted Time & Billing: A Technology Solution for Small Law Firms	6
<i>by Patrick Hurley of Elite Information Systems</i>	
Get Prepared!: Small Firm Business Resumption Planning	8
<i>by Scott Randall and Sarah Hill of Advanced Legal Systems, Inc.</i>	
LawNet's 2002 Tech Survey: More Responses, Fewer Big Changes	12
<i>by Clay Gibney of Woods Rogers & Hazlegrove PLC</i>	

Editor's Note

Small law firms may have fewer attorneys than large ones, but that certainly doesn't mean they have less critical technology needs. In fact, in these changing and challenging times, and thanks to the increasing scalability and affordability of so many types of hardware and software, small firms are thinking bigger and bigger, technologically.

That fact comes through loud and clear in our 2002 Technology Survey, an invaluable look at stats on how member firms of all sizes are using hardware and software to facilitate and bolster their business procedures. We've put the magnifying glass on the small firm stats in this publication.

This survey recap is only one of four timely articles comprising this white paper that we believe will better arm you for the coming year and beyond. Researched and written by insiders who know their subjects through experience, the other three articles—Videoconferencing, Hosted Time and Billing Systems, and Business Resumption Planning—focus on vital business needs that law firms, big or small, face today and can solve with the help of technology.

We gratefully acknowledge the hard work of our authors, from whose experience, expertise and professionalism we can all benefit.

Randi Mayes
LawNet, Inc.

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Videoconferencing: Now Scaled and Priced for Small Law Firms

by Jack M. Sheekey of VideoTeleCon (VTC)

Videoconferencing, like most technologies, has evolved and improved rapidly in recent years. Quality, dependability and feature availability have all increased, while the cost of owning and operating a state-of-the-art videoconferencing system has dramatically decreased. The result: videoconferencing is becoming as common in small law firms as it is in large ones.

This article highlights the applications of videoconferencing for small law firms. Our goal is to provide a framework for the adoption and use of videoconferencing from both a technical and business perspective. What is outlined here is not a comprehensive review of every technical detail or business application, but rather an overview of the important technical issues and their implications. It will provide the reader with a framework for successfully navigating through the major decision points in the process of adopting this powerful communication technology.

GLOSSARY OF INDUSTRY TERMS

BRI - Basic Rate Interface. A connection typically used when a videoconferencing system is plugged into ISDN lines and/or a partial T-1 line.

Bridge - A piece of hardware or service designed to bring together all parties in multipoint conferences. The service is generally provided by large phone companies.

"Broadcast Quality" - The 30 frames-per-second frame rate required to match the TV or VHS quality viewing experience. A throughput rate of 384kbps (three ISDN lines) is required to achieve this level of quality.

Desktop Videoconferencing - Webcams and related technology used with a computer, usually between an individual on each end.

Document Camera - Often referred to by the brand name ELMO. Document cameras are used to capture and display paper documents, x-rays and physical objects on a TV monitor or screen.

Gateway - As it applies to videoconferencing: a hardware/software configuration or service designed to connect an I.P. based videoconferencing system with a "dial up" (ISDN) system. The service is generally provided by large phone companies.

Group Videoconferencing - The application of videoconferencing using equipment specifically designed to serve a group seated around a conference table or in rows of "stadium" style seats.

H.320 - The videoconferencing protocol used to connect via ISDN lines.

H.323 - The videoconferencing protocol used for an I.P. connection.

I.P. - Internet Protocol is the method or protocol by which data (videoconferencing or other) is sent from one computer to another on the Internet (or LAN/WAN).

ISDN - Integrated Switched Digital Network. ISDN is similar to a regular phone line in that it is a direct point-to-point "dial up" phone connection. It has an area code and phone number like a regular home or business line (actually 2 "channels" bonded together). ISDN transmits voice and/or data at a rate of 128kbps (64kbps across each channel).

Multipoint - A videoconference involving three or more locations.

Point-to-Point - A videoconference involving only two locations.

PRI - Primary Rate Interface, the configuration of a high speed connection often used when a videoconferencing system is plugged into a dedicated T-1 line.

Public Room - A room equipped with videoconferencing technology and related amenities that can be rented by the hour or day. Public rooms can often be found and booked by using a "Public Room Network" as a sort of broker.

QoS - "Quality of Service", the general level of dependability and picture and sound quality of a videoconference.

Scan Converter - A device frequently used in videoconferences to convert a computer signal to a video output for a standard TV, allowing the display of computer media files during a videoconference.

T-1 - A super fast connection used for voice and/or data transmission. A T-1 transmits data at a rate of 1.536mbps (equivalent to 12 ISDN lines).

VPN - Virtual Private Network. A dedicated, private, secure "tunnel" through an I.P. based network that enhances the quality and security of the data transmitted through it.

Videoconferencing Applications in the Practice of Law

Many firms of all sizes have integrated videoconferencing into their practices. As a result, the application of videoconferencing varies greatly. But regardless of firm size, cost savings is the primary quantifiable. For example, Akin, Gump, Strauss, Hauer & Feld, L.L.P. was cited in the *Washington Post* this year as saving "about \$250,000" in just five months from their travel budget. Most smaller firms could enjoy a much smaller, though proportional savings.

Firms would certainly not be relying on videoconferencing to such a growing extent were it not a dependable tool. Dependability, always a major consideration when meeting with witnesses, clients and judges, is a prime advantage of videoconferencing. Yet, like many technologies, it is not perfect. But when implemented and supported properly, potential issues can be eliminated or minimized. For example, the most common issues associated with videoconferencing—frozen video or dropped audio—can usually be addressed by simply redialing into the conference. And thanks to advances in the technology, users of videoconferencing can now expect a broadcast quality experience from each connection.

A typical implementation of the technology using current equipment over stable (384Kbps) ISDN connections with a reputable long distance company provides a perfectly acceptable QoS, even for mission critical legal applications. Even a slightly more advanced I.P.- based configuration over a VPN provides a dependable videoconferencing environment.

Putting Videoconferencing to Work

Before continuing with the technical configuration issues that impact videoconferencing QoS, let's discuss when, why and how to apply the technology to the practice of law.

Given the current level of QoS, videoconferencing has proven to be an effective tool in such applications as:

Expert Consultations: Draw from a greater pool of experts, including out-of-town specialists. With videoconferencing in-house, you can confer with experts face-to-face from your own conference room. In addition, you may choose to videotape these sessions and review them later ("time shifting") with clients or colleagues who were unable to attend the meeting.

Witness/Trial Preparation: Prepare out-of-town witnesses during a trial, right up to their scheduled appearance in court, without having to fly them in early.

Depositions: Broadcast quality connections provide more than adequate sound and picture quality to capture a deposition. Frequently, jurisdictions allow you to use your own local reporter even if the witness is on the other end. To create videotapes for use in court, you'll still want a videographer with the witness.

Settlement Conferences: Meet as a group of three or more as part of a multipoint and show laptop presentations (e.g., Trial Director, MS PowerPoint™, scanned documents), day-in-the-life videotapes or documents/x-rays as part of a multimedia presentation. Arbitration and mediation companies are also effectively using videoconferencing to expedite their proceedings.

Trials: Hundreds of court rooms are already set up for videoconferencing. With videoconferencing you can include a witness who might not otherwise be able to appear (e.g., unable to travel due to a scheduling conflict or illness).

Partner/ Internal Management Meetings: Small firms often have regional offices that can use videoconferencing for everything from training sessions and weekly updates to strategy sessions, crisis management and other internal communications, particularly those that may benefit from visual accompaniment.

Recruitment: Now smaller firms can recruit highly talented candidates from anywhere, just like the large firms. After a thorough vetting via videoconferencing, only the most serious candidates can be flown in. Videotaping interviews and sharing with others in the firm will help the whole group participate earlier in the process and lead to better decisions earlier on.

Board Meetings: Attend last minute or "emergency" meetings while traveling or otherwise unavailable for in-house meetings.

Client Meetings: Plan strategy, collaborate on projects and generally meet more often to discuss business "face-to-face". It's especially useful when sharing other media (videotapes of experts, documents, etc.). It's not lunch or golf, but it's better than a phone call.

Training Sessions: Meet with vendors/consultants and videotape the training sessions. "Custom" training tapes that deal specifically with your firm's issues are an ideal way to bring new employees and those who miss the original meeting up to speed.

Some of the common benefits of these applications are:

Meeting witnesses/partners/clients "eye-to-eye" now, when it matters most, not days or weeks later when travel schedules can be coordinated.

Sharing information, especially visual types, immediately within a group to make better decisions.

Recording events to "time shift" them.

Increasing options (pool of experts, witnesses and training resources, etc.)

Saving time and money (and often stress) by not having to travel.

These applications are enhanced by integrating common technologies into the videoconference. These include video recording and playback using a standard VCR, document/x-ray presentations using an ELMO, and computer generated presentations via a scan converter, typically using MS PowerPoint™ or other images or documents commonly stored on a laptop. Integrating these related technologies into the videoconferencing process greatly enhances the application's overall functionality.

Talking Technology

Now let's touch on the technology required to perform these applications dependably. There are two primary paths, and they relate to connectivity not to the equipment. They are not mutually exclusive, and each has variations. The two approaches are I.P. (H.323) and ISDN (H.320).

I.P., a bit newer technology, is potentially more complicated, as you will typically deal with a telco for a package of bundled services. It is a perfectly acceptable way to go, yet over 95% of the "Public" videoconferencing centers choose to connect via ISDN, which is better established and has a proven reputation for dependability in the videoconferencing world. And, there has even been some reluctance by some "Public Room Networks" to send work to rooms using I.P.-based systems.

Does this mean that I.P. doesn't work well? Absolutely not. When properly configured, it is an excellent choice and for some applications may even provide unique benefits. I.P. is definitely not "bleeding edge," but implementation is generally more complex than ISDN, with generally greater up-front expense.

Advantages of each type of connection include:

I.P.

Potential for greater clarity ("frame rate") using higher bandwidth and dedicated VPN.

Less expensive (no long distance charges) when used for connecting with other I.P. connected sites over the same VPN.

ISDN

Dependable broadcast quality connection over three ISDN lines (384kbps).

Less expensive to deploy.

Easier to administer and support

I.P. connections generally make the most sense under the following conditions:

The primary application is between locations under the control of the same administrator (i.e., regional offices), not out to public rooms.

Each office has dedicated bandwidth, at least a partial T-1 and all offices are connected by a VPN, not the "open" Internet.

Bridging a multipoint conference internally requires at least 384Kbps of bandwidth for *each office connected*, at the office that is bridging the call. For example: if headquarters wants to bridge a broadcast quality conference between itself and three branch offices it must have *slightly more than* a dedicated T-1 (1.536Mps) connection. Each branch office requires a *slightly more than* 384Kbps connection. Note that videoconferencing over I.P. requires *slightly more* bandwidth than over ISDN to achieve equivalent QoS.

The firm should have an I.T. person who is comfortable supporting the technology on staff.

In addition to the videoconferencing equipment itself, the firm will need to invest in additional software and hardware (routers, gateways). These are sometimes provided as part of a bundled solution from a telco/VPN provider.

It is also technically possible to use IP to connect over the "open" Internet without a VPN. This is NOT recommended (at any speed) for QoS reasons, as data "packets" may be lost or delayed during transmission. This is not an appropriate environment for capturing a deposition or conferring with a client or judge.

Videoconferencing over I.P. may achieve parity in terms of QoS over a VPN, but it is not without its constraints and costs.

For small firms, ISDN may well provide the best combination of QoS and value. Perhaps most importantly, it is flexible. Because you never know where the next expert, job candidate, witness or judge may be, you will most likely connect to them via one of the world's nearly 3,000 ISDN-based public rooms or via an ISDN-based private room. Although you pay a long-distance fee, it is often about what you would typically pay a bridging company to gateway from I.P. to ISDN, anyway.

For many smaller firms that have multiple offices (plus ample bandwidth), configuring their systems to tap into both types of connections (I.P. and ISDN) makes a lot of sense. Most group videoconferencing systems support both I.P. and ISDN connections. Many systems can be easily configured to connect via I.P. and/or ISDN. Firms can run the system over

ISDN to other public rooms or simply dial out over I.P. to connect through their VPN to a branch office. For firms with branch offices, this configuration is probably best. For many small firms without branch offices, a connection via ISDN (only) will be the way to go.

The Gear

Videoconferencing systems have evolved rapidly over the years, but like telephones, they operate on an open set of international standards that ensure interoperability. Most systems from 10 years ago can be upgraded to interact with the latest models.

Adding to the stability of the technology is a recent spate of vendor consolidations, most notably Polycom's acquisition last October of PictureTel. Currently, Polycom has a dominant market position in the number of group videoconferencing units shipped (roughly 54%), with the remaining market split among a number of other manufacturers (Tandberg 28%, Sony 8%, Others 10%)*.

*Wainhouse.com Q3 group videoconferencing unit sales

Currently, "settop" systems dominate the group videoconferencing market. The camera and most of the system sit atop a standard TV monitor, with a VCR and some components inside a cabinet. These systems typically supply one or more microphones that sit on the conference room table. Almost every feature of the system is operated from a remote control that is often easier to operate than the typical TV remote control.

More sophisticated "rack mounted" systems have one or more cameras that can be mounted in the walls or ceiling. They can even support the use of more customized audio integrations (speakers and microphones). The system itself is often located in another room or video closet. These sophisticated systems are usually implemented only in extremely large boardrooms. Typical settop systems should satisfy the needs of almost any legal application imaginable, especially for smaller firms.

Desktop videoconferencing, often referred to as "web conferencing", is a desirable technology, useful in helping participants feel "closer" than communicating by phone. But it does have drawbacks. Implemented for one-on-one communication over a LAN, it does not provide the "true meeting environment" of a group videoconferencing system in a conference room. The small computer screen window hinders the sharing of documents unless integrated into a program like WebEx or Microsoft's NetMeeting. It is not, therefore, commonly used for "mission critical" applications like deposing a witness but may be an appropriate communications link to some tech-savvy clients. When considering desktop conferencing keep in mind that network traffic over the LAN is problematic. Even a few attorneys conferencing simultaneously can slow a robust network to a crawl.

Costs

Group conferencing systems come in a variety of configurations to fit every budget and ego, from practical settop systems to wall sized touch-screen behemoths sporting ceiling mounted cameras and audio mixers. For 98% of the applications previously described, a settop system mounted

on a 32" TV is more than adequate for the typical attorney. Depending on features, system and accessory prices can vary considerably. For example, a scan converter can range from \$200-\$2,000. For the purpose of this analysis, we are assuming a "typical" small firm that is budget- *and* quality-conscious. The following costs will provide a realistic guide of what to expect:

Single Office ISDN Setup Implementation:

Complete System W/BRI* (installed): \$6,000 - \$10,000 (up to \$15,000 including internal bridging capability)
TV/Video cart and VCR: \$1,630
ELMO Document Camera (auto focus/back lit): \$2,250 (up to \$4,000+ w/additional features)
Scan Converter (to plug in laptop): \$200 (up to \$2,000 w/additional features)
ISDN installation and wiring: \$650 (varies considerably by state)
Total: \$12,730, assumes system cost of \$8,000

* Varies based on vendor installation fee, support agreements and features

Monthly ISDN Line Charges: \$210 (total for three lines)
Long Distance Charges (only billed for outgoing calls): \$35-\$90/hr.
Bridging fees for multipoint conferences: \$55-\$100/hr.
Gateway fees to public rooms: n/a

Single Office I.P. (+ISDN) Setup Implementation (for firms with branch offices):

Complete System W/BRI* (installed): \$15,000 includes internal bridging/multipoint capability
TV/Video cart and VCR: \$1,630
ELMO Document Camera (auto focus/back lit): \$2,250 (up to \$4,000+ w/additional features)
Scan Converter (to plug in laptop): \$200 (up to \$2,000 w/additional features)
T-1/VPN installation and wiring: \$1,000-\$3,000+ (varies considerably by vendor/contract)
Total: \$21,080, assumes \$2,000 T-1/VPN installation

* Varies based on vendor installation fee, support agreements and features

Monthly T-1/VPN: \$350-\$900. This can vary considerably by vendor/contract:
Monthly ISDN Line Charges: \$210 (total for three lines)
Bridging fees for multipoint conferences (less than 4 parties): n/a (+\$55-\$100/hr for more than 4 parties)
Long Distance: n/a to other I.P. based rooms, \$35-\$90/hr. to dial ISDN.
Gateway fees to public rooms: n/a over ISDN

Again, prices may vary depending on system features, vendor support, TELCO fees, TV and accessories. However, these are essentially all of the categories of expenses (down to the TV Stand) that you'll be dealing with unless you have a specific need to do something different.

Public Rooms vs. Going "In-House"

A great way for small firms to pay as they go is to outsource the entire operation and rent a nearby "public room," as needed. Almost all will provide a broadcast quality experience and supply the necessary accessories needed (VCR, ELMO, Scan Converter) along with trained administrators to help. Most will also arrange bridging for multipoint confer-

ences and help you find a room on the other end for your witness, colleague or whomever. In the legal market, many court reporting firms now provide this service and are conveniently located near most courts and legal centers so that additional legal services are often available on site. They provide private and professional conferencing environments and often provide amenities including food and beverage service for longer conferences.

Most of the public rooms bill approximately \$200/hr. for use, plus a single long-distance fee of around \$90/hr. for a typical point-to-point videoconference. Be aware that the long-distance fee only applies if they dial the call. If you initiate the call from your own private room, you are billed for the call by your long distance provider. Multipoint conferences require multiple long distance charges (one for each room dialing in) plus a bridging fee of between \$50-\$70/hr. per room.

Renting a public room is not inexpensive, but for many meetings it is almost always more cost-effective than travel. So, should you take the plunge and buy a system now or rent a public room as needed? Applying a fairly simplistic cost analysis to this situation yields the following:

Assuming the cost of system ownership, including all the accessories and ISDN installation charges amortized over three years, the average firm would incur a cost of \$546/month. [\$210/mo. for phone lines + \$354/mo. for system, installation and accessories] Fixed cost amortization: \$12,730 fixed costs/36mo. = \$354/mo. So, if you think your firm will use videoconferencing more than once a month for just over two hours, it will save you money to bring a system in-house. You will still have to pay for use of public rooms, but that is a fixed cost either way.

Bottom Line: Take a Close Look at Videoconferencing

Videoconferencing has proven itself to be a highly effective and dependable communications tool that now rivals the phone and e-mail as a productivity tool for lawyers in firms of all sizes. The dramatic decrease in cost and increase in QoS has made the use of videoconferencing a cost-effective alternative to travel for even the smallest law firms.

Videoconferencing is being used strategically by attorneys in their practice and in the management of their firms to make better decisions, get closer to clients and increase their options and effectiveness in a variety of areas. The applications for small (and large) law firms are as diverse as the communication needs of attorneys in general.

As the cost of technology and reliable bandwidth continues to improve, videoconferencing will ultimately migrate and standardize on new I.P. based connectivity protocols. This will ultimately lead to even greater QoS, and group conferencing applications that are not yet viable or even imagined. Until then, videoconferencing, like e-mail (and faxes and phones before it), has the ability to improve communications and efficiency in the practice of law.

It may even get us out of the office at the end of the day to see our kids' soccer games and school plays.

Hosted Time & Billing: A Technology Solution for Small Law Firms

by Patrick Hurley of Elite Information Systems

When it comes to time and billing systems, small law firms are faced with several unique challenges. Previously, these challenges have pushed firms to make compromises in features and flexibility; but today, solutions are available specifically designed to meet the economic, infrastructure and resource constraints of the small firm.

If you are engrained in the culture of the small firm, you know that the issue of money overshadows other factors that led to your making a compromise with your time and billing solution. Fact is, a small firm simply cannot afford the price of the enterprise-style time and billing systems designed for mid- and larger-sized firms. And even if the budget allowed for the purchase price of a top-of-the-line billing system, other issues might make such a purchase prohibitive, including:

Resources: The top dollar, feature-rich, most flexible billing systems available are, understandably, at the cutting edge of technology. As such, they require technically advanced in-house personnel to support and maintain their databases and servers. Such resources are expensive and difficult to retain. Likewise, complex billing systems offer so many features and options that initial end-user training for billing, accounting and administrative staff is labor-intensive and very costly, and there is a need for continuing education and training, all requiring a substantial annual budget.

Infrastructure: Top-of-the-line billing systems have client server and web-based options, workflow approvals, custom report writers, and bill generators; each of these features and modules is likely to require a separate server. Looking at the price of software alone is misleading. Plus, there are issues with cabling, network bandwidth between satellite offices and between end-user computers and the servers, and data redundancy and fail-safe solutions. Often, additional office space is required: server rooms are expensive to build out and square footage is only getting more expensive.

Process: The key processes must be as efficient as possible. There is not enough manpower available in a small firm to commit to processes that are easily supportable in a large firm environment. Capturing time and expenses, previewing and editing bills, generating bills, processing credits and managing A/R are all processes that must be handled by the lawyers and secretaries in a small firm and thus need to be as easy and efficient as possible.

Faced with these challenges, many small firms opt for the compromise with the smallest price-tag: a time entry system purchased from a retail software store. In the long-run, however, an off-the-shelf software solution will probably cost the company additional money for several reasons: with little technical support and no maintenance, IT staff may be required; periodic (and sometimes expensive) software updates must be purchased; there is no vendor-client relationship to build upon; and additional hardware may be required.

The Advantages of a Hosted Application

Because a software system is PC- rather than web-based, it lacks features, flexibility and scalability. A hosted application does not. What is hosting? At its most basic, it is a software program that the vendor "hosts" for its client, eliminating the need for onsite hardware and software at the law firm.

In the 1980's, hosted solutions were fairly popular for small law firms, but they came with many flaws inherent in the technology available at the time. Nowadays, small firms can get the same features and flexibility offered by the top-of-the line billing systems in a hosted billing system. Hosted systems today take

advantage of the web, which of course means that any computer with an Internet browser and web access can run them.

Let's look at the specific challenges mentioned above and how a hosted application addresses them:

Resources: If there is no hardware or database onsite, and the only software needed on a user's computer is an Internet browser (which is now always pre-loaded on any computer you buy,) a hosted application requires virtually no in-house technical resources to support and maintain. By leveraging multiple clients' fees for many fewer but larger servers and databases, the vendor is able to employ vastly fewer expensive IT personnel. In addition, several of the currently available hosted applications are specifically designed with the small firm in mind, and thus require, literally, no training. New versions are applied automatically, and there is no charge for upgrading or re-training.

Infrastructure: The only requirement is Internet access—no extra hardware, no extra cabling, no extra space in a server room. Hosted applications guarantee 24x7 access and have a variety of fail-safe solutions. Servers and databases are housed in data centers that are virtually fire, disaster and terrorism-proof. Databases are backed-up as often as hourly, and guaranteed redundancy is offered for hardware or site failures. Most large law firms don't even have such fail-safe solutions for their time and billing systems. With a hosted application, looking at the cost of the service is the full picture.

Process: The hosted applications designed specifically for small firms have no direct sales force and often little or no advertising budget. They survive and thrive simply by gathering clients who have found them via a simple web search. As such, these systems were designed to be as intuitive as possible, so that a casual web surfer could log in, sign up for a free test period, and begin using the software on his own without any training. A minimum of key strokes and screens, no additional modules you have to log in to or open, and general workflow procedures built into these applications allow for the most efficient billing processes possible. Unlike the top-of-the-line billing systems, which have evolved incrementally over the years (can you say "spaghetti code?"), these new hosted applications were designed from scratch, often by the same vendors of the top-of-the-line systems. They were thus able to take advantage of their years of experience in the industry to specifically address the needs of the small firm with this new model.

Currently, there are two basic models of hosted applications available. One model merely offers to host the hardware. Logging on via the web to a terminal server-like middleware at the vendor's data center, users run the same software that

they would run had they purchased the non-hosted, top-of-the-line solution. The advantages are: no hardware or other infrastructure costs, and no expensive IT personnel to support and maintain same. In this model, many law firms typically share one server, although the databases are unique to each firm.

This *hardware outsource model* is an excellent choice for the better capitalized of the small firms to enjoy all of the benefits (and few of the headaches) of the top-of-the-line billing systems, yet save a good deal of money on infrastructure and resources.

The *complete solution model* incorporates all of the advantages discussed above. The software is specifically designed for small firms, so the issues of training and process are removed. In addition, many of them offer features not even available in traditional billing applications. For example, some vendors will print and mail your bills for you. This is an excellent idea for the very small firm, where resources are especially strapped. Imagine a lawyer on the road who settles a case. While waiting for the flight home, he or she can log on to the billing system via an Internet kiosk, enter the last time and expense entries, preview, edit and generate the bill. The vendor prints the bill and mails it, all before the plane leaves the ground.

Other features available on some of the complete solution systems include built-in time and expense entry approvals. If that same traveling lawyer needs to have an expense report approved by the managing partner before the bill is generated, an e-mail can be sent automatically to the partner requesting same. Also available are such natively integrated features as electronic billing via e-mail or built-in client portals, direct online payments via the same client portals, automatic e-mail of bills and reports, and offline time entry that can be synchronized when connected to the Internet.

Each of the hosted application solutions offers different pricing models. For the hardware outsource model, firms are typically charged a one-time up-front fee, plus an annual or monthly fee per user or timekeeper. Getting into this model requires substantial up-front money, as the vendor's training and consulting services are also required and charged separately.

The complete solution model usually requires no money up-front. Clients pay a small monthly fee, per timekeeper, charged each month to a credit card or their bank account, and they can cancel at any time. This is an excellent pricing model for firms that do not have a lot of capital, and it enables them to manage their monthly expenditures quite closely and accurately. As they add or subtract timekeepers, the monthly fee goes up or down, in direct and immediate proportion to revenue.

In summary, hosted applications are the way to go for the small law firm. Deciding on the type of solution and billing plan offered is merely a matter of determining how small is small, with regard to what the firm can afford.

Get Prepared!:

Small Firm Business Resumption Planning

by *Scott Randall and Sarah Hill*
of *Advanced Legal Systems, Inc.*

Business resumption planning, the current phrase to describe disaster recovery planning, presents law firms with a unique challenge: dedicating time, money and manpower to a plan that may never be activated, that in fact we hope will never *have* to be. Of course, as systems folk, we're well aware of the threats facing our firms, but we often find it difficult to sell management on the redundancy necessary for protection. However, with 9/11 and subsequent events so fresh on our minds, it's time to raise the issue again, and we hope this article will help provide focus.

Smaller Firms, Bigger Challenges

For many smaller law firms, the components of an even minimal business resumption plan such as hot sites, clustered servers, disaster recovery consultants and other "elegantly expensive solutions" are financially out of our reach. Add the constraints of limited time, a large case load and limited staff, and we find ourselves asking: is our current tape backup solution sufficient to protect us in the event of a disaster? The short answer is no. Tape backup solutions, while undeniably a critical component of a successful business resumption plan, are simply not sufficient for most. A successful plan must leverage existing resources to meet critical needs. The first step is to define what those needs are. This initial evaluation process cannot be skipped, and the results, while perhaps similar, are unique to each firm. The evaluation process must take into account the scope of redundancy.

Scope of Redundancy

Define The Critical Needs

Determine what critical functions, work product and records are needed to resume business at your firm. Such functions as document production, accounting functions including time keeping, accounts payable and receivable, and communication systems are critical. Perhaps less critical but important is e-mail, although the data contained within the e-mail system may be part of the data that needs to be restored in the event of a disaster.

Set Time Frames

When the required functions have been identified, a reasonable time frame should be determined. This decision should be made weighing the cost and resources required for an "instant" business resumption plan, vs. the practicality of allowing for several hours or an entire day to pass as the system is restored.

These three components—hardware, software and data, each with different requirements on the timeframe for recovery, must jell in order for the system to resume operations. Both the software and data may be readily available with traditional backup systems, but most small firms do not store a spare server in a closet or safety deposit box. The source and availability of replacement hardware in the case of a catastrophic event where the physical box is not available or has been destroyed is an important aspect of the recovery plan.

Identify Data Sources

The location and format of your critical data is central to how your resumption plan is structured, and it determines the breadth of the data to back up. These factors include the document store (either a document management system or file directories), the accounting and time keeping system data, and the communication system data, such as the Exchange information store.

Analyze Work Product

The creation of work product requires more than the restoration of the file server or document management system. There are likely several tools that the firm uses in the workflow process. This process needs to be analyzed so that the critical tools can be identified and included in the resumption plan, tools such as template and macro packages, as well as customizations that have been made to the critical applications. In this case “reinstalling” software and making existing documents available will not suffice. You must make sure that all aspects of the workflow process of your firm are addressed in the plan, even if they do not seem part of the critical or initial restoration.

Identify Applications Required

When determining the critical functions of the firm, certain applications should also be identified as a necessary part of business resumption. Applications related to document production may be the foremost concern and the only application included in the plan. For other firms, the timekeeping and accounting applications are also critical. The important part of this process is to identify any applications that may not be available in a recovery environment so that user documentation for this scenario can be created.

Consider Intellectual Property

Law firms possess intellectual property crucial to the continued success of the firm but not necessarily of immediate concern when executing a business resumption plan. This IP should nevertheless be protected. Many aspects of the firm’s IP may lie outside of the current systems department, so while the responsibility for disaster recovery may ordinarily fall on the systems department, other “data sources,” including paper files and the entire records department, should be involved in the creation of a comprehensive business resumption plan.

These steps determine the “recovery environment”, what it contains and does not contain, as well as what functionality is available. The next step is to organize the systems department and resources to execute the plan.

Scope of Involvement

People: Each member of the team is charged with responsibilities for certain functions (i.e., backup tape retrieval, end-user documentation and communication, and physical restoration from tape).

Vendors: Determine whether your firm is required to bring outside vendors into the team if traditional systems employees are unavailable. It may be advantageous for small firms to have outside resources in the event that critical functions cannot be completed. This vendor should be chosen as part of the plan and should have a comprehensive understanding of the process as it has been described. You do not want to waste time during

those first critical hours bringing a vendor up to speed on the structure of your existing network or business resumption plan.

Leverage Existing Resources to Meet the Need

When determining what our existing resources are and how we might leverage them, we must keep in mind that we are a small firm with an average of three offices and approximately 150 users. A firm of this size typically has an IT staff of three to four. The cost of many larger solutions (and the requirement of a much larger staff) does not preclude an effective plan for the small firm. There are many products and methods available today to protect firms of all sizes successfully.

With our scope of recovery identified (i.e., the data sources to be recovered and the time frames within which the data is to be recovered), it is time to look at the possible methods of implementing the recovery process. There are three main options for recovery:

Tape Backup

Data Replication

Server Clustering

Tape Backup

With the restoration of data and resumption of business as our ultimate goal, the firm’s existing tape backup process is the foundation of a successful recovery. That said, tape backup solutions have several drawbacks.

First, the information stored on a network backup tape is only as recent as the date and time of the backup itself. In most instances, this means that the data is, at a minimum, 24 hours out of date. Depending upon the scope of recovery, 24 hours latency may be acceptable, but for many firms, that may be unacceptably out-of-date.

Second, as we network administrators are painfully aware, the network tape backup process often misses critical information. Even with Open File, Exchange, GroupWise, SQL and Informix agents in place, there is always the possibility of missing information. Ironically, the files often skipped are the critical files needed for a successful recovery.

Third, the restore process often only works when restoring to the same number of servers from which the backup was generated. When resuming from a catastrophic failure, it’s often unlikely that the same number and types of servers will be available. As a result, the traditional tape restore process becomes sufficiently complicated that other procedures should be evaluated.

Data Replication

Recognizing some of the limitations of the traditional tape backup and restore processes, the firm should evaluate other alternatives for the resumption of business. Again, the goal is to resume critical business operations within an acceptable amount of time. For firms with multiple servers and/or multiple offices, data replication becomes a viable alternative. Data replication provides the firm with a more current “real-time” data set and eliminates the need to restore data from tape backup. Thus, replication decreases the amount

of time required to resume critical business operations. Data replication considerations include:

What data can be replicated?

How frequently should data replication occur?

Should data replication be one-way or two-way?

What method should be used for data replication?

What Data Can Be Replicated?

The first step in determining the viability of data replication is to determine whether the data sources identified during the evaluation process are candidates for data replication. Not all data sources can be successfully replicated. For instance, data files that remain open when in operation are not, by themselves, candidates for replication. Basic data replication requires files to be closed before the replication process can occur. However, depending upon which method of replication is chosen, it may be possible to replicate open data files as well.

How Frequently Should Data Replication Occur?

The issue of frequency largely depends on the bandwidth available for replication and determining an acceptable level of degradation in network services. Frequency is determined by the needs of the firm, as balanced against the resources available. For firms with limited bandwidth between offices, real-time replication of data to a secondary server in the branch office may prove too costly in that it would severely degrade normal network operations. The determining factors for frequency include the amount of data to be replicated, the frequency with which that data changes, the bandwidth available for data replication, and the acceptable cost to normal network operations.

Should Data Replication Be One-Way or Two-Way?

One of the key decisions that must be made when creating the firm's replication strategy is to determine whether to implement one-way or two-way data replication. In one-way, the concern is that files inadvertently modified on the replica will not propagate back to the primary and, thus, critical information could be lost. Firms implementing one-way replication must ensure that the replica cannot be accessed except when in a recovery mode and that plans are in place to update the primary servers when moving from the recovery mode back into normal operations. In two-way, the concern is that files on the replica server could accidentally overwrite files on the primary server.

What Method Should Be Used?

When implementing data replication, there are a number of methods from which to choose. For instance, today's existing tape backup software does more than backup data. With the right software, we can copy data files from one file server to another with ease. For firms on a tight budget, perhaps the most cost-effective solution is to leverage the existing infrastructure. By utilizing the tape backup software in tandem with the built-in properties of the network operating system, we can create a backup procedure that copies only the files with the archive bit set to "on" (i.e., files that have changed since the last time the procedure ran); and once

copied and verified, sets the archive bit to "off" so that the file will not be copied again until it has changed. One may argue that this method is not truly data replication, since a simple copy job can only create and/or modify data files. In that there is no process to delete files from the replica, firms implementing a copy job solution are likely to have data files that were deleted from the primary server but retained on the replica server. A procedure for the removal of deleted files from the replica server should comply with the firm's electronic data retention policy.

Moving a step up from traditional copy jobs, data replication can be deployed using the built-in functions of the firm's network operating system. Windows 2000 Server, for instance, includes Microsoft's Distributed File System (DFS). One must proceed with caution if using these built-in features. They often require the firm to deploy replication based upon the software manufacturer's "vision" which, in many cases, may differ from the firm's requirements. With DFS, for instance, the firm must be willing to utilize two-way replication, have sufficient bandwidth between primary and replica servers for prompt file updates, and utilize DFS shares to ensure that the correct file version is retrieved.

For firms needing to create an exact replica, perhaps the best solution is a third-party application designed specifically for such purpose. For instance, the Double-Take software application (created by NSI Software) can replicate data between servers with a high degree of efficiency and can be tuned to the needs of the firm. With third-party applications, the firm can limit the amount of bandwidth being used by the replication process and can set different bandwidth levels depending upon the time of day.

In addition, most third-party applications can replicate open files including Microsoft Exchange, Novell GroupWise, and Microsoft SQL Server.

Clustering

This is the final step on the tour of business resumption technologies. Clustering allows the firm to create a group of servers that can function together, and, when one server fails, the others continue running without interruption to the business. When this group of servers is geographically separated, the firm is well on its way to creating a hot site from which business operations can resume. Be aware, however, that clustering is a highly complex and expensive technology.

There are many considerations that must be evaluated when a firm is considering clustering. To successfully create a cluster of servers, the servers should be of identical hardware. In addition, sufficient bandwidth must be available to allow the servers to join successfully and remain members in the cluster. Finally, clustering requires a one-to-one server deployment. Tape backup and data replication allow the "pooling" of data from several different servers to one replica server.

Testing—the Key to Success

Regardless of method, the successful business resumption plan requires routine testing to ensure, in the event of emergency, that the firm is able to move successfully to the

recovery environment. You'll also want to know exactly how long it takes to restore individual servers for electronic mail, document management and accounting. The testing process should answer the following:

How frequently will the data recovery process be tested?

How frequently will the business resumption plan (in its entirety) be tested?

How much time is required to resume operations?

How will future hardware / software deployments be incorporated into the business resumption plan?

Bottom Line: Start Thinking about the Unthinkable

While you hope never to have to implement a disaster recovery plan, not having one could be irreparably disastrous to your business. Still, because of the tough economic times and "fear" of the unknown resource and technological requirements, many firms may be delaying such planning. Our best advice: consider what is critical to the resumption of business, and then balance those objectives with costs and resources. And remember, there is always a possibility that the unthinkable will become a reality.

LawNet's 2002 Tech Survey: More Responses, Fewer Big Changes

by Clay Gibney of Woods Rogers & Hazlegrove PLC

In analyzing the responses from LawNet firms of all sizes—more responses than in any previous year—we discovered both similarities and notable differences in how small firms are implementing hardware and software systems and applications, compared to their larger cousins. We also found that the double-punch of a struggling economy and dramatic declines in the technology sector lowered the tide of intense changes of technology adoption in these firms. Overall, responding firms appear to remain quite active with operating system upgrades, new server installations and a host of other law office software installations.

Before we share what our 481 member firms told us, let us explain our size categories. LawNet firms were classified based on number of users—small: 1-150; medium: 151-250; large: 251-500; and very large: over 500. A comparison of these four groups revealed some significant variations, though it's apparent that size doesn't always dictate technology choices. While some readers may not see eye-to-eye with us about what constitutes a small, medium, large or very large firm, we trust this analysis will prove interesting and helpful to you.

Windows 2000, NT or NetWare?

Both small and very large firms have similar percentages for their choice of operating systems. At 71%, small firms are a bit less likely than larger ones to have implemented a Windows 2000 Server (vl: 82%; l: 80%; m: 80%) or Windows NT (vl: 70%; l: 73%; m: 72%; s: 68%).

As for a firm's primary file/print network operating system, firms of all sizes use a Windows product rather than NetWare's (57% vs. 42%).

Putting on the Red Hat

The Linux operating system has tiptoed its way into 14% of LawNet firms. Interestingly, more large firms have added a Linux server to their network (l: 20% vs. s: 11%).

What's in a Name: Compaq, Dell or IBM?

As to computer equipment, Compaq brand file servers are favored by both very large and small (vl: 64%; s: 53%), with firms of all sizes less likely to have picked a Dell or HP server. For desktops, Dell ruled for both small and very large (vl: 56%; s: 49%), while Compaq PCs appear on more desks at a large firm than a smaller one (31% vs. 24%). And when it comes to laptop computers, Dell is a favorite for firms of all sizes (53% average), with Compaq and IBM trailing. Compaq and Toshiba laptops are the medium size firm's second choices (both 15%). Compaq laptops are the small firm's second favorite selection.

The Latest Word on Word Processing

It probably won't come as a surprise that the larger the firms, the more likely they are to have converted to Microsoft Word. It dominates in very large firms at 89% and holds a respectable 69% share in the small firms.

Macros & Templates & Forms, Oh My!

In the area of Macro / Template packages, the share of firms who use their own custom package is roughly similar at all firms (vl: 38%; l: 45%; m: 40%; s: 51%). When it comes to a third-party solution, SoftWise and MacPac are tied in small firms at 7%, while the larger firms use SoftWise (19% average) or MacPac (17% average) in roughly equal shares. Medium size firms prefer SoftWise to MacPac (23% vs. 12%).

Document This!

In regard to Document Management Systems (DMS), Hummingbird has a higher percentage in LawNet firms of all sizes, with the larger firms especially favoring it (vl: 62%; l: 61%; m: 41%; s: 34%). iManage is gaining ground in medium size firms (vl: 30%; l: 22%; m: 31%; s: 25%), and WORLDOX shows its greatest penetration in the small firm category (vl: 2%; l: 7%; m: 8%; s: 13%). At 17% each, small and medium firms told us they use no DMS at all, while the percentage drops to near zero for larger firms.

It's in the E-Mail

There's not much distinction among firms in the area of e-mail / groupware systems. Microsoft Outlook is number one among firms of all sizes (vl: 72%; l: 67%; m: 70%; s: 64%). GroupWise comes in second, with 15% of the very large and 25% of the large firms using it, while small and medium size firms claim Novell's product at 29% and 28%, respectively.

Staying in Touch

The Contact Management / Client Relationship Management (CRM) market is currently splintered among many products. However, InterAction is significantly ahead of other CRMs for larger firms, with 58% of the very large firms and 32% of large firms indicating they use it. Only 5% of the small firms and 17% of medium size ones acknowledged using it. Small firms (15%) are slightly more likely not to have any CRM solution than the very large, large or medium size firms (vl: 2%; l: 7%; m: 9%). Of the firms using MS Outlook for CRM, 26% are very large, 22% large, 40% medium, and 37% small.

What's Life Without a Personal Assistant?

Personal digital assistants (PDAs) like Palm handhelds, BlackBerries, Pocket PCs and many other brands, are a rapidly growing part of the technology that firms support. According to this year's survey results, an impressive 87% of us are providing technical support for Palms. In fact, there's no difference between small firms and large ones (86%). While technical support is generally less for BlackBerry among firms of all sizes, the percentage provided for this mobile e-mail device increased noticeably over last year (vl: 85%; l: 60%; m: 45%; s: 34%). The third most popular PDA, Handspring, is also supported by a significant percentage of firms (vl: 47%; l: 52%; m: 35%; s: 35%).

Who's Springing for Those Handsprings?

While large and very large firms provide a large percentage of technical support for a Palm (86% and 88%), by contrast, they provide a very small percentage in financial support (vl: 10%; l: 18%; m: 16%; s: 21%). BlackBerry is the exception, with 51% of very large firms providing some level of financial support for it, in contrast to 19% of the small firms.

Just the Fax, Ma'am

Almost half of the small firms have no network fax system (47%). Of the ones that do, RightFax is by far the most popular, and 40% of those small firms have inbound network faxing capability. However, very large and large firms are much more likely to have both inbound and outbound capabilities (vl: 69%; l: 64% vs. m: 47%; s: 40%).

Timely Data

The Time & Billing system market is fairly splintered. Many different systems are in use at LawNet firms. The most popular one, Elite, is in use at firms of all sizes, but small firms are not as likely to run it (vl: 51%; l: 40%; m: 46%; s: 32%). CMS, the second most popular system, is even less likely to be found in a small firm (vl: 12%; l: 30%; m: 23%; s: 8%). Omega, Juris and ProLaw are more likely to be installed in small firms than in larger.

Litigation Support Tools

Without exception, all the various litigation support tools are found in a higher percentage of large firms than in the medium or small firms. The most popular tool is Summation, used in 80% of both large and very large firms, 70% of the medium, and 57% of the small firms. Concordance is rarely seen in small firms, but more than half of the large firms use it (vl: 55%; l: 30%; m: 23%; s: 11%). Finally, a notable percentage of small firms use no litigation support tools at all (18%).

Votes for Remotes

All of us are venturing into the realm of remote access technologies. The most popular choice by far is Citrix Metaframe, with 66% of LawNet firms running it. As with most of the other categories in the survey, large and very large firms are more likely to have such high-end technology. A few products from the survey, however, were more likely to be found in the small firms. This includes Outlook Web (37%), PCAnywhere (27%) and GroupWise Web (23%). For all other remote access technologies, large firms outnumber the smaller firms. For example, Citrix Metaframe can be found in 79% of very large firms and 75% of the large ones. A VPN connection is not uncommon in firms of all sizes (vl: 56%; l: 36%; m: 26%; s: 24%). One remote access technology found in similar percentages at all size firms is Microsoft Outlook Web Access. An average of 42% of firms use it, and small firms aren't far from that mark with 37% usage rate.

The Portals are Starting to Open

Portal technologies are still fairly new and their adoption rate low—it's interesting to see implementation differences between the large and small firms. But as you might expect, large firms are much more likely to have a portal project implemented (vl: 17%; l: 11%; m: 5%; s: 3%). Firms of all sizes have portal product pilots (vl: 24%; l: 17%; m: 6%; s: 4%), but that's lower than last year. And "Next Year" is when firms indicated they would launch portals (vl: 16%; l: 24%; m: 36%; s: 27%).

Out of a list of seven common portal products, none had more than a 16% slice of market share. A few of the product choices are practically nonexistent in any but the larger firms, but several portals are found in all four size categories. For example, the iManage and Hummingbird portals can be found in small, medium, large and very large firms, but the Plumtree and LawPort portals are seen in only large (2%) and very large (9%).

New Questions, New Data

This year, we asked nearly 20 new questions. Three of them focused on the use of software for case management,

docketing, and IP/Trademark management. It's interesting to note that for all three categories, "none" is the most common choice for more than a third of the firms, regardless of size, with no one product obtaining more than a 16% share of the market in its respective category.

We also asked firms if they had videoconferencing equipment. The current percentage of firms that do stands at 39%, a figure that climbs to 88% for the very large firms. It will be interesting to see if this percentage rises over the next few years as travel costs and concerns increase and the cost of technology decreases.

Keeping Up With Bandwidth

In regard to Internet bandwidth at LawNet firms, the selection of bandwidth speeds in the range of 3Mbps to 100Mbps increased by some 25% for LawNet firms, with exactly half employing a redundant Internet connection.

When Disaster Strikes

A majority of firms are working on "business continuity plans" in the event of a disaster, while 30% already have one in place. Looks like our 2003 survey will be the year of Business Resumption Plans!

Small Firms Enjoying Big Technology!

Technology has leveled the playing field in all business sectors, and the legal profession has especially reaped the benefits from the cornucopia of highly functional and affordable software and hardware available today. Bottom line, small firms are now getting the double advantage of being able to employ many of the same tools so commonly found in the larger firms, and often being able to deploy those tools faster and more effectively than The Big Guys.

If you would like to view/print a copy of LawNet's 2002 Technology Survey, you can do so from
<http://www.peertopeer.org/PDF/2002TechnologySurvey.pdf>.