

# Melding

## the Library and Network/Computer Services Worlds

by Kathleen Daily-Herrman

Shortly after graduating with a Master's Degree in Library Science from the University of Arizona in December 1988, I accepted concurrent part-time positions for two law firms in Tucson. I was the Director of Library Services for one firm and Assistant Librarian for the other. Both firms offered me unparalleled opportunities for learning, and the expertise I gained benefited both organizations. After a couple of years, however, I felt the need to bring the best of both worlds to one organization. In November 1991, I became the first full-time Librarian at Waterfall Economidis Caldwell Hanshaw & Villamana, a law firm in Tucson with under 20 attorneys.

I had many ideas for providing the kinds of library services that larger firm libraries offer their attorneys. I wanted to move information in an automated format designed for a quick, time-sensitive, and efficient use by the attorneys. This dictated an electronic format. The ticket would be shared databases in the form of book catalogs (for research materials located on and off the premises), brief banks, and current awareness services—all tailored to our practice areas. The advent of the Internet added listservs and update services on new Web sites targeted toward attorneys' interests. However, in 1991, the platform to launch such a plan did not exist at the firm. In addition, the graphical interface Internet as we know it today was not perfected, and would not be for some years in the future. I was a one-person library with a limited resource base; anything extra would have to derive from my own entrepreneurship. If I wanted to move away from a system that was manual, labor-intensive, time-consuming to maintain, and limited in scope, the initiative to create a viable option for the library would have to be mine.

I knew that I had to tailor my vision to the existing system and obtain the skills to create a venue for the library with the hope that there would be a more firm-wide, and someday an even larger, more global solution—not only to distribute information internally but also to redirect

pertinent external sources of information back to the attorneys. Ideally, my skill level and knowledge would evolve with the platform and it would simply be an exercise in migrating data from one system to the other. I had to start somewhere, even if it was at the very beginning. I volunteered to take over the firm's computer services.

I began my indoctrination in the areas of network/computer services by supporting small LANs, standalone systems, and day-to-day user needs. Tending to small, multiple LANs and PCs was excellent preparation for the intense experience needed for installing, troubleshooting, converting/migrating from existing small networks, and upgrading computers. This led to the eventual culmination in a system that has performed very well to date.

In October 1995, the installation of a 50-user Novell 4.1 network began firm-wide. My job responsibilities and title were formally expanded to include the Network/Computer Services areas. My journey into the world of network management was about to begin.

I would like to share my experience so that any librarian who is faced with the prospect of either managing, working in concert with, or facing the prospect of having their department absorbed by the Network/Computer/MIS/IS departments of their parent organization will be prepared to meet the challenge. For my firm and me, participation in the joining of two customarily different worlds was a journey filled with discovery and excitement, fraught with challenges, and a period of accelerated professional and personal growth.

Who was I, what was I? Everyone was confused. Imagine a librarian—whose second language is teknoïd in nature—with a set of screwdrivers, swapping out computer parts, and rescuing crashed servers. One employee asked me if I took care of the electrical system.

The more challenges you can master to leap to the next level, the more confusing

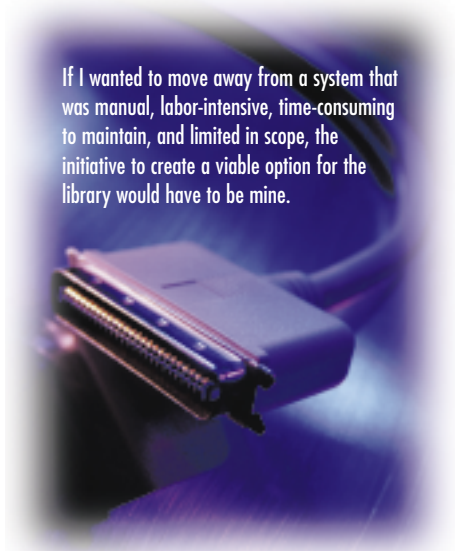
the picture becomes to onlookers. I found myself quite unconsciously creating the blueprints to a future quite unlike anything I ever envisioned.

At the time, I had no idea if there were any other librarians who had ever managed the computer resources of their parent organizations. When I began managing computer services, I was unaware of anyone else in my area or state who was attempting the same type of activity. It seems a contradiction, but I found free time to search for kindred spirits only after the network had been installed and our situation had become one of maintenance and upgrades. After conducting a cursory search, I found several librarians in sizable law firms running Library and Network/Computer/IS/MIS departments.

An in-depth survey of kindred librarians revealed the demographics of our group and was extremely helpful in the quantification of tasks. (See the sidebar, "Computing Services in Law Libraries: Survey Results.")

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My typical activities included: troubleshooting/installation of software/hardware on workstations; performing maintenance on network/server; monitoring the console for early warnings for possible server malfunctions; supervising projects that I assigned to the engineer or techs; working on plans for the next step for the system in order for the momentum to seem a seamless progression; assisting users with software; beta testing software for possible future use in the firm; and trying to keep up with advancements in both the library and computer fields.

The installation of a network is a project to approach with a great deal of respect and reverence. It is a highly complex undertaking with a multiplicity of variables to the equation: migration of existing LANs; conversion of standalone systems of all makes and models; user anxiety, preferences, and expectations; timetables;

balancing of other existing workloads or responsibilities; scope of the project; and dealing with the outside contracted agencies. It is a grand orchestration of exacting precision for countless events where a well-ordered general progression will put you in very good stead to accomplish your goals. Although the installation of the network was perhaps one of the greatest challenges I've ever encountered, it was a tremendous growth experience and it served as a bridge for other opportunities. I had the privilege to work side by side with the engineer and technicians and found them to possess creative, agile minds. I witnessed many miracles and sheer strokes of genius. I am grateful to have had the opportunity to observe excellence in its truest sense, which I try to emulate to this day. It was the next logical leap to incorporate what I learned during the installation in my everyday routine.

One of the greatest mysteries to everyone was what I did with myself all day.

My independence grew tenfold and I felt the need to help define what was rapidly developing into another area of expertise. I was able to work very comfortably and for very long periods of time without outside consultation.

One of the common features I found among my users was creativity. Since there was a great deal of freedom at the local user level, I always had to keep in mind the following variables when working with my users:

- They were able to manipulate their desktops. It always led to the creation of new and different ways of accomplishing their tasks. Even individuals within departments would accomplish the same task in different ways.
- They were able to manipulate their applications at the local level, which led to an infinite number of ways to challenge my skills as a software troubleshooter/diagnostician.

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## A DAY IN THE LIFE

What sort of events occurred in a "typical" day? I never had a typical day. Each day was different. I thrive on variety. To combine both fields, this characteristic needs to be integral to your personality. My day usually began with walking in the door to find at least six messages from users already waiting for me. Mondays were always the worst. Typical messages involved computers that wouldn't start, printers that wouldn't print, virus attacks, video problems, accidentally deleted files, and monitors going blank for no reason at all. One of the worst tasks waiting for me was to unload a tape backup job while people were working because the server insisted that it needed "Tape 2." The tape backup unit really didn't need one, it just thought it did. Performing this task usually slowed the system down, thereby incurring the wrath of users—a great way to make my phone ring.

After 11:00, I usually got back to being a librarian. I tried to turn my attention to the attorneys. They always seemed to come in on the second wave, almost always in person with their research assignments clutched in their hands. If there was a favorite part of the day, this was it. It was a good time to switch gears. I tried to carve out a quiet corner for myself.

Research projects were varied. Most of the projects had to be performed on site, as it was very difficult to leave for any length of time. On any given day, I might work on a legislative history; perform cite checking; locate and retrieve hard-to-find law reviews, medical journals, case law, monographs, federal and state statutes, and government documents; contact federal and state agencies for administrative rules and regulations; canvass public records for information on liens, addresses, and deaths; procure

information on private and public companies; provide current awareness services for attorneys; construct and run database searches; research new titles for possible addition to the collection; cruise the Internet for new advancements in the library and computer industry; keep up with my listservs; and manage the subscriptions—just to name a few—I could continue for a few more paragraphs.

One activity I found most amusing was putting the phone on speaker while waiting for technical support and walking around the room continuing to work on library tasks. I was usually able to accomplish many things as my average wait was 20 minutes or longer. I was actually disappointed when someone came on the line right away. After all, I had work to do!

My greatest challenge was to handle a server ABEND (Abnormal End) without fainting. An ABEND, Server Crash is guaranteed to strike fear in any System Administrator's heart. Fortunately, server crashes during the day were very rare. This wasn't by accident. I worked very hard to prevent this sort of incident. I took every precaution to schedule critical work after 5:00 p.m. so there was no disruption in service. We had only three day-time crashes in two and one-half years. Usually we were up and running in about 20 minutes. The system would slow down some because the drives were mirroring but we were in business! I'm proud to say that I never crashed the server during the day. Most of the crashes occurred after 5:00 p.m. during some unattended processes, which was always scheduled for after hours. These were the best crashes. I usually discovered these beauties over the weekend and was able to restart the system and be ready for business on Monday morning. Less often, the system crashed during a purge, which were always done after business hours. It was always interesting.



- The user skill level was quite diverse with many different operating systems (DOS, Windows, Windows 95, Novell, and UNIX) to set up, configure, and troubleshoot.
- Dealing with the peculiarities of different makes, models, and manufacturers of computers often led to strange problems limited to certain machines.
- It was necessary to tailor the machine to meet the needs of the user and preferences of the department when doing machine migrations.

Can librarians do this? Absolutely! I taught myself by reading, trying out what I observed, and experimenting. The Internet was essential. I used it as a tool to contact the target groups that were the guardians of the information that I needed to complete my task, setting up listservs in my interest areas so I could stay informed in order to try to achieve a seamless next step for the organization, and keep attorneys informed of current events in their area of practice as much as possible when the computer system wasn't consuming all my time. A librarian's research orientation is ideal for ferreting out the information necessary for maintaining a system on a regular basis,

and for putting together system designs and upgrades. With our intuitive/predictive natures, we are excellent troubleshooters, diagnosticians, and architects of the future. We look for and recognize patterns/facts, liken them to a research problem, extrapolate to the solution, and proceed to further the organization's forward momentum.

*The installation of a network is a project to approach with a great deal of respect and reverence.*

Librarians come to this situation with all the basic skills necessary. If the interest is present, the question is one of nurturing and refinement. A strong background in computers is essential, with training/classes/certifications in network administration targeted toward your primary operating system(s). You have to be able to deal with multiple operating environments, a plethora of software, different skill levels of users, and all levels of expectations both in the library and computer services areas. Individuals with bifurcated brains will go far.

There is a great deal of speculation about whether MIS can replace the librarian. I can only speak from a personal perspective, having performed both jobs for some time. Although there is some overlap, the library and the MIS really perform two distinctly different missions. Both have very different orientations to their missions. It's critically important to make this distinction. I found it to be a constant balancing act. You really are serving two masters. The potential to lose sight of what the original mission was is very great. My orientation is and always will be on the research end. As the system grew and demanded larger amounts of time and energy, it tended to be at the expense of the consumers of research.

Nothing can bring things to a halt like a secretary who is unable to print a document in time to file in court. Guess which scenario wins? Time is always at a premium. You become identified with the sustaining a platform rather than purveying a solution to a complex research issue. It seemed to me that the law firm was in the business of providing knowledge. A well-tuned

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# COMPUTING SERVICES IN LAW LIBRARIES: SURVEY RESULTS

(Reprinted with permission from the Summer 1997 issue of *Automatome*, the newsletter of the Computing Services Special Interest Section.)

In December 1996, Darin Fox and Sheri Lewis posted a survey of the CS SIS membership. The survey was available on the Web at <http://www.usc.edu/dept/law-lib/aall/survey.html>.

We wanted to find out who our members were: their backgrounds and interests, and what they wanted to gain from the CS SIS. A total of 137 respondents answered the survey. The complete questions and tabulation of answers follow, but a few interesting points stand out:

- Over two thirds (67%) of our members combine other responsibilities with their computing services functions; these other responsibilities range from reference (37%) and technical services (9%) to administration (14% Director/Associate Director of Library, 8% Head/Director of Computing Services).
- Almost two thirds (61%) of our members work in academic law libraries; the next largest percentage (22%) work in the private setting.
- 77% have an MLS or MLIS degree, and 39% have a law degree.
- Overwhelmingly, Web development is the topic of greatest interest (selected by 95% of respondents), followed closely by training tips and new hardware and software developments.
- 72% found that their learning needs were best served by Web-accessible documentation or e-mail discussion lists; only 9% rated educational programs at the annual meeting their best source of learning.
- 50% of the respondents expressed an interest in career paths as an educational development topic. I feel that this remains an important topic, and I hope to follow up in the next year with a more detailed survey on this issue alone.

Total Number of Responses: 137

1) Which of the following best describes your current position:

Reference/Comp Services Librarian	37%
Computer Services Librarian	26%
Director/Associate Director of Library	14%
Technical Services Librarian	9%
Head/Director of Computing Services	8%
Non-Librarian/Computer Professional	7%
Public Services Librarian	2%

2) What type of library do you work in?

Academic	61%
Law Firm	22%
Government	14%
Public	1%
Corporate	1%
Other	1%

3) What is your educational background (check all that apply)?

BA/BS	98%
MLS/MLIS	77%
JD	39%
PhD	14%

MA/MS	12%
CNE	4%

4) What Percentage of your time do you spend with respect to technology? Please rank the following from 1 (most time spent) to 6 (least time spent):

% of time selected as number 1:	
Troubleshooting	33.1%
Supervising	16.1%
Advising/Consulting/Planning	15.3%
Training	12.1%
Technology Development/Implementation	2.1%
Professional Enrichment/Development	2.4%

% of time selected as number 2:	
Advising/Consulting/Planning	23.1%
Troubleshooting	23.1%
Training	21.5%
Supervising	13.2%
Technology Development/Implementation	13.2%
Professional Enrichment/Development	5.8%

5) How long have you been in your current position?	
less than one year	27.2%
one to three years	27.2%
four to six years	23.5%
more than 6 years	22.1%

6) Which of the following professional development topics are of interest to you (check all that apply)?	
Internet and Web Development	95%
Training Ideas/Tips	83%
New Software Developments	82%
Networking/Network Administration	69%
New Hardware Developments	64%
Career Paths	50%

7) How can the CS SIS best provide you with information on these professional development topics? Please rank the following from 1 (more favored) to 5 (least favored).

% of time selected as number 1	
Web-Accessible Documentation	54%
Internet Discussion Groups	18%
CS SIS Newsletter	12%
Educational Programs at Annual Meeting	9%
Educational Programs at Regional Meetings	5%

9) How is computing organized within your organization?	
computing is a department within the library	22.2%
computing is outside the library but within the parent org	40%
computing is both a dept in the lib and in the parent org	37.8%
no computing inhouse, computing is outsourced	0%

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computer platform is very important; however, ultimately a firm's survival is keyed to producing one product: information—the best money can buy. The platform is but a conduit for the flow of information.

Librarians are able to connect the two worlds. We bring a continuity and consistency ideal for combining the technical pursuit of building the platform and for launching the information base. The question is, "Can this be done with the same level of support without sacrificing one or the other?" Both are important but require different orientations, and similar but different sets of skills. It is not a question of replacement, but of a complimentary effort. Which area demands priority depends on many different social, political, and economical factors, and structural dynamics within the organization.

Over the course of time, I developed a job description that I hope will be helpful to anyone trying to quantify a position which includes Network/Computer Services as an area of responsibility. It can be modified to fit the individual situation. It served as only a guide for assisting in defining my job. (See the sidebar, "Job Description.")

Trying to unite, combine, promote, and manage the library services and network/computer support is really quite a daunting task. Standards need to be established in terms of salary, expectations, responsibilities, skill levels, and support by the parent organization. In terms of benefits for the organization, melding the library and the Network/Computer services areas can effect profound changes in the corporate landscape and move an organization at an accelerated rate, much faster than the normal evolution. For the individual, it will be a tremendous growth experience, increasing your value and versatility. It can also be a springboard to a new career path.

I found that I had extrapolated my experience in network planning and installation, machine upgrades/conversions, working with the users,

and planning for system upgrades/new hardware installations. At the same time, I acquired a working knowledge of the software industry and its trends, interfaced with outside contractors, learned software/hardware diagnostics and troubleshooting—and incorporated it all into my being. What I didn't realize was that I was

adding project management and systems engineering skills to my repertoire. In mid-January of 1998, I began a new position as the Director of Research for Software and Systems Engineering, Inc., a Software/Electrical/Mechanical Engineering Design Consulting company

with offices in Tucson and Phoenix. The research skills were just as coveted as the more recently acquired skills.

*Kathleen Daily-Herrman became Director of Research at Software and Systems Engineering, Inc., a Software/Electrical/Mechanical Engineering Design Consulting company with offices in Tucson and Phoenix, in January 1998. Previously she combined the duties of librarian and Network/Computer Services at Waterfall Economidis Caldwell Handshaw & Villamara in Tucson, Arizona.*

A librarian's research orientation is ideal for ferreting out the information necessary for maintaining a system on a regular basis, and for putting together system designs and upgrades.

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## JOB DESCRIPTION

### Director of Library Network/Computer Services

Individual must be able to function with a high degree of independence. Required: innovative approach with initiative to translate creative ideas into practical reality, and a vision of and enthusiasm for the future of electronic technologies.

**Research Services:** Provides and performs client research, from database searches to on specified topics to creation and maintenance of a current awareness program for attorneys by augmenting the in-house library collection through the use of outside resources in (electronic, print, etc.). Also projects to continue to promote the technological advancement of the firm.

Responsible for cooperative lending relationships with outside libraries.

**Database Services:** Design, implement and maintain databases for library and inventory control of computer equipment and software.

Be active in **professional** library and computer associations, attend continuing education activities and maintain memberships in AALL chapters, other library and computer professional organizations (e.g., UNIX and Advanced Computing Systems Professional and Technical Association; System Administrators Guild).

#### Manage library collection.

Provide **library and computer support**. Requires working knowledge of various computer operating systems (DOS, Windows, Windows 95, Novel, UNIX). Administer the network. Act as liaison and site

administrator for Internet provider and domain. Supervise outside contracted computer vendor and proprietary outside contracted services for internal bookkeeping.

**Install, configure, and troubleshoot software and hardware**, including Web browsers and plug-ins and specialized software related to attorneys' practice areas.

**Education And Experience Requirements:** Master of Library Science from program accredited by the American Library Association, three to five years' experience in Corporate/Law Library setting with extensive experience in providing reference, bibliographic, and online research on computerized database systems such as WESTLAW/LEXIS and associated gateways, public/court electronic information services, OCLC, RLIN, and other types of research formats. Extensive experience with the Internet from a research and technical vantage. Must be able to respond to users' research needs/questions and able to provide proactive current awareness services. Technical expertise in the creation, installation, updating, troubleshooting and maintenance of Internet accounts in conjunction with an ISP Unix system.

Two-to-three years' experience with 50-user Novell 4.1 LAN and day-to-day user support of word processing, database, and spreadsheet applications. Excellent skills with the installation setup, troubleshooting, and maintenance with a site with mixed computer architecture, and multiple operating systems (DOS, Windows, Windows 95, Novell, and UNIX). Working knowledge of Archserve and Folio software.