

Turnkey Systems: High Risk for Libraries?

By Joseph R. Matthews

CLEARLY THE turnkey automated system marketplace is active, with revenues of almost \$86,000,000 in 1984.¹ Additional vendors continue to join an already crowded field.

Eyring Research Institute, the parent organization for Dynix, has acquired the marketing rights for a Tandem-based automated library system developed in Denver by the Colorado Alliance for Research Libraries (CARL). Eyring's initial customer is the Pike's Peak Library District. Another recent entrant to the marketplace is McDonnell Douglas Computer Systems Company, marketing a system called URICA that runs on Microdata equipment. Both of these vendors demonstrated their systems at the ALA Conference in Chicago.²

A marketplace shakeout?

Some have suggested that some kind of shakeout in the marketplace is likely to occur soon. This likelihood is heightened by trends in the technology itself—a shakeout is currently occurring in almost all sectors of the computer industry.

Fears and risks associated with selecting a turnkey vendor have increased. Anyone watching the roller-coaster performance of Data Phase, Inc. (for-

merly DataPhase Systems, Inc.) over the last three years will immediately see that the selection of a turnkey vendor per se does not reduce risk for a library. Some Data Phase customers can personally attest that the "ride" has been more thrilling than they ever imagined. As resources have been applied to and withdrawn from Data Phase, problems have been alternately eased and created. Among Data Phase customers that are currently unhappy are the Chicago Public Library, the Boulder Public Library, the Memphis-Shelby County Library, and the Denver Public Library, among others. Ron Zazzara, president of Data Phase did not respond to repeated telephone requests for clarification about the system capacity problems being experienced by some Data Phase customers.

Problems of system capacity and late delivery of software have been also experienced by other vendors, including CL Systems Inc., Geac, and Universal Library Systems, among others.

What is a library to do?

As vendors gain experience with the system requirements of their systems—especially as additional functions, e.g., online catalog with authority control, acquisitions, etc., become operational in several libraries—they will revise their computer programs that develop estimates of the CPU and disk storage requirements for a given library.

But, if a library can't count on the turnkey vendor to handle an admittedly complex and important issue—and the provision of the automated library sys-

tems which support functions such as circulation control or an online catalog is definitely a challenge—what is a library to do?

The answer is not simple. Steps can be taken to mitigate the risk for the library. If the selection and contract negotiation process is conducted properly, the turnkey vendor should assume *some* of the responsibility for the successful implementation and maintenance of an automated library system. More important, the turnkey vendor should assume *all* responsibility for providing sufficient CPU memory and disk storage space, provided the library is willing to purchase all necessary equipment.

The intent of this article is not to reiterate the steps that should be taken by a library when considering, selecting, and contracting for an automated library system. This topic has been covered in several books³ and by Sue Epstein in her continuing series of articles in *LJ*. Suffice it to say that a host of factors should be considered when evaluating both the *vendor*, e.g., financial stability, commitment to the market, track record for delivery of software on time, complaints from current customers, quality of training and documentation, etc., and the *system*, e.g., software capabilities (functions), system response time, system reliability, etc. Above all else, the library must provide consistent, detailed information to all potential vendors so that a vendor can install a system that will handle both immediate and future service needs.



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What Information Is needed?

The following information will help a prospective vendor to provide the "right" system.

• *Size of database:* number of titles, number of volumes, number of patrons, number of authority records, number of acquisition vendors, etc. The size of the bibliographic records that will be maintained in the system files, i.e., full MARC or less than full MARC, must also be indicated.

• *Volume of transactions* by type of transaction: check outs, check ins, number of holds, number of fines, number of inquiries by staff, number of acquisitions orders placed, etc. Annual figures must be provided for the current year, a five-year future projection, and the anticipated (projected) one-hour worst-case peak load of transactions.

• *Acceptable response times* by type of transaction: circulation—holds, patron name inquiry, item number inquiry, author, title or subject heading inquiry, keyword inquiry, etc., must be specified.

With this information, the vendors can make the necessary calculations to determine the system hardware requirements needed to satisfy the library's current, future, and worst-case needs. Too often a library purchases a turnkey system that admirably meets its *average* needs but fails miserably during peak periods. The result? Long patron lines at the checkout counter, and patron and staff frustrations.

Why have libraries failed?

1) While the number of libraries that have issued Requests for Proposal (RFP) has increased over the last several years, I would estimate that only 60 percent did so during 1984. And of the RFPs issued, too many were poorly written. Requirements were vague or even conflicting or the librarians simply did not know the right questions to ask. This is a serious problem, since the RFP forms the foundation upon which the turnkey vendor/library relationship will rest.

The solution: Read, and talk to your peers who have recently selected a turnkey computer system about the process used. What would they do differently if they had the opportunity to repeat the selection process? Examine and use the best parts from other RFPs, but *don't* simply include specifications that are not understood or applicable to your library. Consider using a consultant (even if you only have the consultant prepare a critique of the RFP that you and your staff developed).

2) Librarians often fail to provide the right information, in sufficient detail, about the size and likely growth of the library and its database. Then they wonder why the computer system must be upgraded (a new and larger computer must be bought and installed, or additional terminals and/or disk drives must be installed). In some cases, the library has added branches or has expanded the size and scope of the data-

base by adding new collections to the files, e.g., government documents.

The solution: Identify all pertinent data that is needed and provide it. Who knows better than the librarians where and how the library is likely to grow over the next five years? Do not rely on the vendor to make the correct assumptions!

3. Libraries fail to include appropriate acceptance tests to determine if the proposed system can meet the library's operating requirements.

The solution: Read⁴, and most important, incorporate the use of acceptance tests in your contract.⁵ The three most common acceptance tests include: the System Reliability Acceptance Test (typically a 45- or 60-day test to verify that the system up-time stays above a set standard, e.g., 99 percent), a Functional Performance Acceptance Test (Has all the software been delivered, and does it work correctly?), and a Full-Load Response Time Acceptance Test (a specified number of terminals performing a prescribed number of transactions per minute—usually at the anticipated worst-case five-year projected levels of transactions). A Benchmark Test, similar to a Full-Load Response Time Acceptance Test, may be required by a library in order to reduce risk. A Benchmark Test is used when the vendor does not have installed systems comparable to the fifth-year anticipated transactions levels and/or size of the database.

4. Libraries often select systems solely on the basis of "low bid" prices, an approach that places almost irresistible temptations in the path of some vendors.

The solution: Don't use low bid first-year purchase prices to select any system. Rather, identify the total out-of-pocket expenses likely to be incurred by the library over a seven-year period. This is called the "Least Total Cost" approach to cost analysis. Obviously, the cost of a system should only be one of the many factors used to evaluate and select a system. Other factors that might be used to evaluate a vendor and its system include response times and system reliability in other installed customer libraries, functional capabilities of the software, financial stability of the vendor, location of hardware maintenance, etc.

5. Libraries sign vendor-provided standard form contracts. Such contracts, in most cases, are designed to protect the interests of the writer (read "vendor").

The solution: Once again, read.⁶ Vendors, in most cases, negotiate several contracts a month (year) while a library is likely to negotiate a contract only once every seven to ten years. Yet, in the eyes of the law both parties are perceived to be *equal*. Therefore it would seem prudent to get experienced

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help in addition to the necessary legal review. A consultant can either review drafts of the necessary contracts or be an active participant throughout the contract drafting and negotiation process. While such advice might be construed to be self-serving, the vast majority of libraries that have sought assistance with an experienced consultant have reaped significant benefits. And remember, if the vendor is unwilling to put a verbal claim or assurance in writing and have it become a part of the written contract, then don't count on it. In the words of Louis Mayer of MGM, "a verbal contract isn't worth the paper it's written on."

6. Libraries are unaccustomed to doing business in a business-like way.

The solution: Be more professional in your relationships with vendors. Use telephone logs to record all contacts with vendors and all instructions and/or directions received from the vendor. If an acceptance test calls for a formal written notice, prepare the document. Pay attention to procedural details.

7. Buoyed with the success of the initial one-function system, e.g., circulation, the library decides to expand the scope of the automated system to additional functions, e.g., online catalog, acquisitions, serials, etc. Thus, expectations are raised. But, with increased capabilities will likely come additional costs for terminals, disk drives, software, and even a new and larger computer. And maintenance costs will also increase.

The solution: Develop a realistic assessment of the fiscal and staff requirements for automating additional functions. Talk to your peers about their experiences in this area.

How vendors fail

1. The competitive forces in the marketplace are powerful. Some libraries still choose a system solely on the basis of first-year or "low bid" costs. Thus, the vendors experience great pressure to provide only that which is minimally required in order to win the bid. This industry practice, frequently called "low balling," almost always results in a library having to add additional equipment, e.g., disk storage capacity, CPU memory, and terminals, to meet the needs of the library—often within 12 months of system installation. The old saying, "once they gotcha, they really gotcha" is applicable here.

The solution: Vendors need to be more concerned about establishing and maintaining a "good" reputation in the marketplace than in short-term sales. (And yes, I believe in the "force" and the "tooth fairy.")

2. When libraries don't provide sufficient information, some vendors play "dumb" in an attempt to get the business.

The solution: The vendors should both request any additional data needed to prepare a complete and true written proposal and explain to the library why the data is needed. Remember: sales calls and demonstrations of a ven-

dor's system should be viewed as an opportunity to continue the education of the library staff members.

Seize control of the process

It is possible to provide the necessary information to all vendors and have the vendors provide a system that will meet a library's future needs. After all, who knows more about the system than the vendor? In addition, most libraries have great difficulty obtaining the up-front funds necessary to purchase the computer system. The library should not have to go back to the well one or more times for upgrades.

It is possible, as a number of library consultants have demonstrated, to obtain the cooperation of the vendors in establishing reasonable estimates of the anticipated growth of the library and installing a system adequate to meet those estimates. The vendor should sign a contract with warranties guaranteeing that a vendor will add CPU memory, additional disk storage capacity, and/or modify the software to ensure that the performance measures are maintained during the life of the contract between the library and the vendor.

Finally, note the long list of things a library must do versus the short list for vendors. That's because responsibility for change does truly rest with librarians. The marketplace dynamics say that vendors will only change when it's clear that changing will get them more business. It's up to librarians to seize control of the process.

References

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