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☞ Details: Proposed Audit: Information Technology Systems Projects in State Agencies

(FORM UPDATED: 08/11/2010)

WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS

2005-06
(session year)

Joint
(Assembly, Senate or Joint)

Committee on Audit...

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt** (w/Record of Comm. Proceedings)
- Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)
- Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
  (**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
  (**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

* Contents organized for archiving by: Stefanie Rose (LRB) (October 2012)

WISCONSIN LEGISLATIVE AUDIT BUREAU
AUDIT SUMMARY

Report 89-41

December, 1989

PRODUCTION AND SALE OF COMPUTER SOFTWARE BY CESAs

The 12 regional Cooperative Educational Service Agencies (CESAs) are created by statute as agencies through which local school districts can cooperatively purchase or provide services. The Milwaukee-area CESA 1 produced a school administration software package in 1985, and four CESAs began jointly marketing the software package to local school districts in 1988. This action prompted complaints of unfair competition with the private sector and raised questions about the need for CESAs to enter the software market.

Decision to Produce Software in Competition with the Private Sector Questioned

There is evidence to dispute claims by CESA 1 officials that the CESA needed to directly enter the administrative software market. CESA 1 staff did not perform an adequate needs analysis in 1985 to confirm that private companies could not meet school district software needs. In fact, CESA 1 was already losing business to private software vendors, and internal documents suggest that one of the agency's goals was to "curb the flow of business" to competitors. CESA 1 and the others CESAs still do not have policies to guide their staff in deciding when to internally produce and market goods.

Contrary to complaints, however, CESAs did not use state tax dollars to subsidize the cost of producing their software, and CESAs have implicit legal authority to produce and sell software to school districts.

Pricing Policies Needed

The software package developed by CESA 1 was funded from a reserve account containing excess revenues from various data processing charges and interest earnings. Accumulating excess earnings is appropriate only if expenditures for each product or service are accounted for separately and member school districts are aware that they are being overcharged for one service in order to develop another. We are not confident that member schools were adequately informed of the size and the planned uses of the reserve fund. The failure to separately document and account for development and maintenance costs for the CESAs software package has also left unanswered allegations that prices for the software packages are too low, resulting in the need for continued subsidies from other services and continued complaints that CESAs are competing unfairly with the private sector.

Pricing and planning deficiencies need to be addressed if the Legislature is to be confident that CESAs will, in the future, make appropriate and defensible decisions about when to internally produce and market administrative goods and services to school districts, in competition with the private sector.

For More Information Contact the Legislative Audit Bureau
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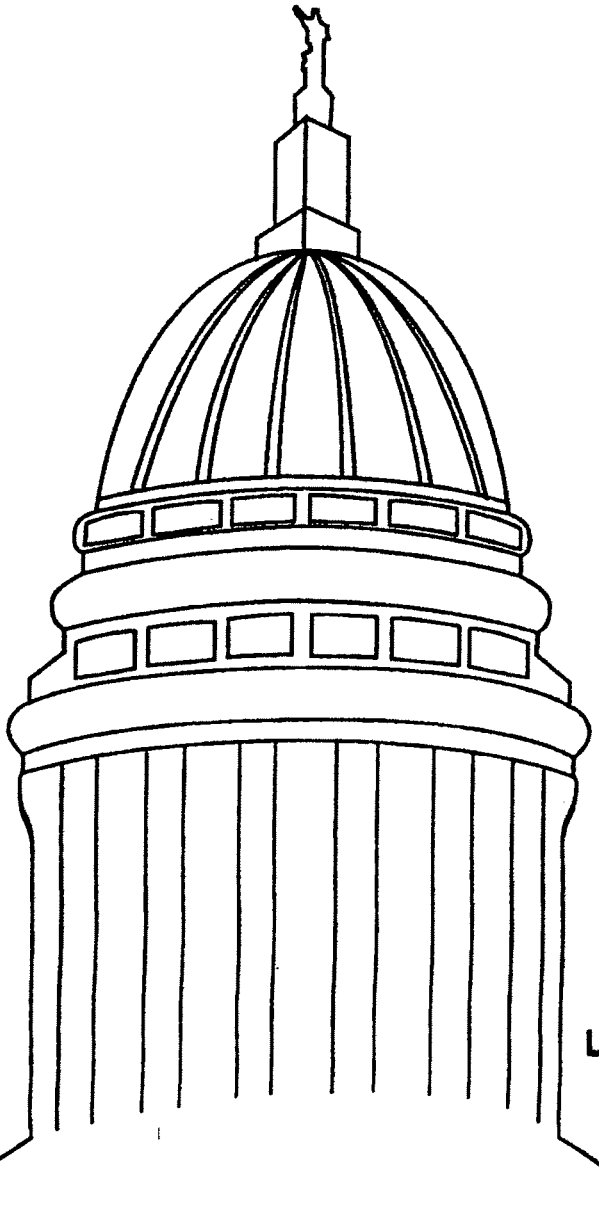
AN EVALUATION OF

COOPERATIVE EDUCATIONAL SERVICE AGENCIES
PRODUCTION AND MARKETING OF COMPUTER SOFTWARE



STATE OF WISCONSIN

LEGISLATIVE AUDIT BUREAU

89-41

AN EVALUATION OF

COOPERATIVE EDUCATIONAL SERVICE AGENCIES PRODUCTION AND MARKETING OF COMPUTER SOFTWARE

December, 1989

1989-90 Joint Legislative Audit Committee Members

Senate Members:

Brian B. Burke, Co-chairperson
Gary George
Alan Lasee
Donald Stitt

Assembly Members:

Peter W. Barca, Co-chairperson
Walter Kunicki
Jacquelyn Lahn
Marlin Schneider
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State of Wisconsin \ LEGISLATIVE AUDIT BUREAU

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December 6, 1989

Senator Brian B. Burke and
Representative Peter W. Barca, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Burke and Representative Barca:

We have completed our evaluation of computer software production and marketing efforts by Cooperative Educational Service Agencies (CESAs) as requested by the Joint Legislative Audit Committee. The Milwaukee-area CESA 1 has produced an accounting and payroll software package which CESA 1 and three other CESAs are marketing. Currently, 61 school districts and 5 CESAs use the CESA software, and the product continues to be marketed to other districts in competition with several private vendors.

The statutes provide CESAs and member school districts with implicit authority to produce computer software which can be sold to other school districts. Contrary to some complaints, CESAs have not used state general purpose revenue (GPR) to subsidize software prices and have not engaged in a pattern of overly aggressive marketing practices.

However, we found several weaknesses in the process used by CESA 1 to determine whether development of a software package was necessary. The CESAs lack policies governing their production of goods and services, and their efforts to determine whether the private market can meet school district needs are inadequate. The CESAs are also unable to justify product pricing decisions, some of which appear questionable, because adequate information on project costs and income has not been collected.

Recommendations are made to the CESAs to adopt policies on competition and improve the accountability of their decisions to produce goods and services. No legislative recommendations are included, but some options are discussed, including: 1) statutorily restricting CESA involvement in producing and marketing administrative goods and services; or 2) delaying any action pending the CESAs response to the recommendations for improvement.

We appreciate the courtesy and cooperation extended to us by CESA staff, private vendors, staff of the Department of Public Instruction, and the several school districts which we surveyed. Responses from the Department of Public Instruction and CESA 1 are Appendices I and II, respectively.

Respectfully submitted,

Dale Cattanach
State Auditor

DC/PC/tl

S U M M A R Y

Cooperative Educational Service Agencies (CESAs) are responsible for promoting cooperation among member school districts. They provide member schools with goods and services, such as assistance in developing instructional curricula and in obtaining price discounts from volume purchases of items such as food and athletic equipment. Governed by local school districts through a Board of Control, the 12 CESAs serve public school districts throughout the State and spent $70.9 million in fiscal year (FY) 1987-88.

Several CESAs have offered a variety of data processing services at some time since their creation in 1965. In response to rising demand for automation and few options in the private sector, some CESAs purchased computers and offered on-line computer services to school districts in the 1970's. CESAs also obtain price discounts on hundreds of the instructional software packages available to school districts from private vendors throughout the country.

In 1987, four CESAs began jointly to market an accounting and payroll software package developed by the Milwaukee-area CESA 1 for sale to schools in competition with private vendors serving the same market. This software package, called Integrated Management of Payroll and Accounting (or IMPACT), is being used by 61 school districts and 5 CESAs. CESA staff indicate three other administrative software packages have been or are being developed for sale to districts, and several CESAs also offer computer hardware maintenance services.

Private vendors have objected to the decision by CESAs to produce and market software. Questions have been raised as to whether CESAs are authorized to internally produce, rather than purchase, goods for sale to member districts. In addition, some vendors have argued that, even if authorized, production and sale of goods is not an appropriate activity for a public agency, especially when the private sector has demonstrated an ability to meet school district needs.

Although not clearly delineated in the statutes as part of their authority, it appears that the CESAs' efforts to develop and market computer software products to school districts are broadly consistent with the CESAs' statutory mission. However, it is less clear that the CESAs needed to enter the administrative software market. Rendering a definitive judgment on this matter is difficult, though, because the decision to develop the software was made in 1985, and there is incomplete and conflicting information. CESA staff believe concern over the apparent lack of financially stable vendors and the quality of service in the early and mid-1980's sufficiently justified their decision to develop their own software. On the other hand, other considerations, including a documented concern over a loss of data processing business and income to private sector competitors, appeared to significantly influence decisions by the CESA 1 Board and staff.

Whether the CESAs needed to enter the market remains in dispute, but we analyzed whether the CESAs adequately planned the product's development and developed reasonable and appropriate pricing and marketing policies. If these decisions are not based on careful, well-documented analyses, the CESAs risk

investing substantial funds in a product for which there is limited demand, which may not be financially viable, and which is marketed inappropriately.

Contrary to the complaints of some, there is no evidence to indicate that CESAs used state or local tax funds to subsidize the price of IMPACT, or engaged in a pattern of overly aggressive or improper marketing practices when attempting to sell IMPACT. However, we found: 1) several weaknesses in the decision-making processes used to plan the project, determine need, and establish product prices; and 2) inadequate accountability for product pricing and funding decisions.

In particular, CESA 1 officials, who initiated development of IMPACT, did not establish written policies on when to produce goods internally or to buy these goods from the private sector before proceeding with product development. None of the CESAs have yet established policies on competition. Moreover, although staff maintained an awareness of the limitations of some private sector software products, CESA 1 officials did not thoroughly analyze and document the private sector's capabilities when developing IMPACT to confirm that private vendors were unable to meet school district needs.

Further, CESA 1 raised the funds for IMPACT's product development costs by accumulating interest earnings and excess revenues from charges on other data processing services paid for by some school districts. While this type of subsidy is not inherently improper, the CESAs did not adequately document the extent and sources of the subsidy so that member schools could make an informed decision on the reasonableness of the policy. It also appears that CESA 1 did not adequately inform all members of the extent and planned uses of surplus funds, although there is no evidence to suggest that CESA 1 tried to conceal or misrepresent its development fund.

Finally, the CESAs have not maintained detailed financial records of product income and expenditures, which is necessary if the CESAs are to establish reasonable and defensible product prices. The available information suggests that IMPACT's prices are too low and have required subsidies from other data processing services.

To address these deficiencies and reduce the likelihood that serious disagreements over the appropriateness of CESA competition with the private sector will occur again, we include several recommendations for CESAs to:

- adopt policies on competition with the private sector;
- establish procedures for notifying member school districts of the magnitude, source, and planned uses of surplus carry-over funds; and
- record costs and expenditures separately for each separately priced data processing product and service.

We also recommend that the Department of Public Instruction (DPI) monitor and report to the Joint Legislative Audit Committee by September 1, 1990, on progress made by the CESAs in implementing the audit recommendations.

There does not appear to be a need for immediate legislative action, although some may argue that implementing these recommendations will not be effective and that some CESAs will continue to produce goods and services in competition with the private sector. If the Legislature wants to avoid these conflicts in the future, one option is to statutorily restrict CESA activities. Others may argue, though, this action would be hasty without first assessing the CESAs' response to the audit recommendations and would unnecessarily limit CESA flexibility to respond to unforeseeable circumstances in which CESAs need to produce a good or provide a service to meet school district needs. Therefore, the Legislature could delay action until it has reviewed the DPI report on the CESAs' progress in making the necessary changes.

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INTRODUCTION

The Cooperative Educational Service Agencies (CESAs) were created by the Legislature and are expected to promote cooperation among member school districts and to serve as a means through which schools can obtain goods and services more economically and efficiently than can be obtained by districts acting individually. Currently, 12 CESAs serve public school districts throughout the State (see Figure 1). The 12 CESAs, known by their numerical designation given by the Department of Public Instruction (DPI), spent $70.9 million in fiscal year (FY) 1987-88; 70 percent of their revenue was earned from fees paid by school districts for specific CESA services.

Each CESA is governed by local school districts through a Board of Control consisting of school board members elected in an annual convention for three-year terms. DPI has limited statutory oversight of CESAs. The governance structure, which emphasizes local school district control, has contributed to some differences among CESAs in the scope and type of services offered. However, there are commonalities in services provided by most CESAs, including teachers for students with hearing impairments or other handicapping conditions; volume purchases for items such as food, instructional materials, and athletic equipment; assistance in developing instructional curricula; equipment repair; and staff development.

In 1987, four CESAs began marketing an accounting and payroll software package developed by the Milwaukee-area CESA 1 to schools. As a result, the CESAs compete with private vendors serving the same market, and some have raised questions about the appropriateness of CESAs competing with the private sector. Others have complained that CESAs have engaged in unfair and inappropriate competitive practices. In conducting this audit, we:

- reviewed the statutory authority of CESAs to engage in the production and marketing of computer software;
- assessed whether there is a need for CESAs to market internally produced computer software; and
- analyzed whether CESAs have adopted reasonable and appropriate pricing and product marketing policies and practices.

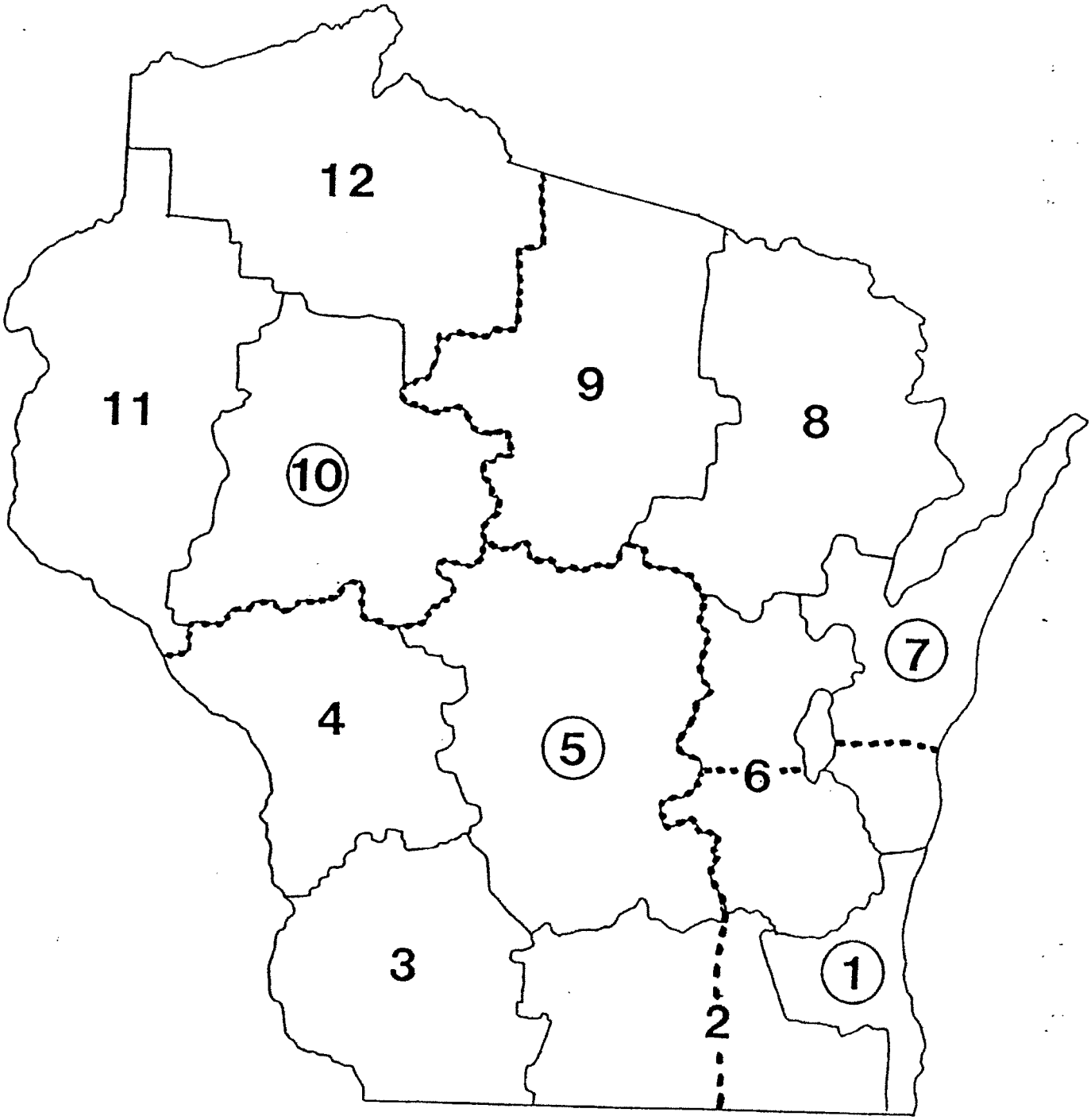
In conducting this audit, we interviewed staff of several CESAs, DPI and school districts, and private suppliers of computer products and services for the schools. We also reviewed DPI and CESA records and documents relating to the planning, production and marketing of data processing products and services.

Funding CESAs

CESAs receive very little revenue, from any source, which is not intended for specific programs or paid as a fee for services delivered. As shown in Table 1, approximately $1.2 million (or 1.7 percent) of the 12 CESAs' revenue is intended for general purposes. This includes a $25,000 general purpose revenue (GPR) appropriation to each CESA to assist in funding administrative

Figure 1

Cooperative Educational Service Agencies



NOTE: Solid lines indicate CESA boundaries. Broken lines indicate boundaries of the service areas of the four CESA data processing centers (circled).

costs and the statutorily required assessments on school districts to match that amount. Several CESAs have also established voluntary membership fees, which vary among the CESAs. In contrast, approximately 90 percent of CESA funds are derived from state and federal grants for specified programs or from fees paid by school districts for particular services.

In the accounting system developed by DPI for use by the CESAs, revenues and expenditures relating to the sale of services which are not directly instructional in nature, such as data processing, are reported in one or more

Table 1

CESA Revenue Sources
FY 1987-88

	Revenue	Percent of Total
Revenue not designated for specific programs:		
State Aid, general administration	$ 300,000	0.4
Local contributions, administration	896,237	1.3
Subtotal, non-designated revenue	1,196,237	1.7%
Revenue designated for specific programs:		
State grants and aid	6,681,560	9.4
Federal grants and aid	8,492,675	12.0
Subtotal, designated revenue	15,174,235	21.4%
Fees for services, local sources*	49,362,695	69.6
Additional sources of revenue**	5,192,297	7.3
TOTAL	$70,925,464	100.0%

* Because of differences encountered among CESA audit reports, this category contains an estimation of the fee-for-service revenue obtained by CESA 2.

** Additional sources of revenue include interest on investments and capital and non-capital sales.

of a set of separate accounts, known as the "enterprise funds." No transfers are allowed between the enterprise funds and other funds, so that all projects within the enterprise funds must be collectively self-supporting.

Trends in Providing Data Processing Services

Although CESAs have provided some form of data processing services to school districts since CESAs were formed in 1965, the type and scope of the services have changed dramatically with shifts in technology, declining computer costs, and the increased ability of private vendors to meet school district needs. Several CESAs first began operating computer service bureaus

in the 1960s by performing data entry and processing for manually recorded information submitted by the participating schools. No objections were made to CESAs providing this service, since there were limited private sector options and the high cost of computers made ownership by schools impractical.

Shortly thereafter, improved processing times, increased storage capacities, and changing communication technology allowed CESAs to establish "time sharing" arrangements in which schools directly accessed CESA mainframe computers over telephone connections with in-school terminals. CESA data processing services, however, began to change significantly in the early 1980s when the availability of small, powerful, and less costly mini- and personal computers made it increasingly possible for school districts to purchase their own computer equipment and software.

As a result, a declining demand for direct CESA mainframe computer services was replaced with a growing interest among school districts in obtaining assistance in making computer hardware and software purchases. The CESAs' response to these changing demands has differed depending on the particular product and school district need. Because many private vendors now offer a wide variety of instructional software products and services intended to meet the schools' needs, the CESAs do not produce instructional software, but assist the schools in their procurement by maintaining membership in a multi-state instructional software cooperative on behalf of Wisconsin schools. The CESAs also operate "preview libraries" in which instructors can personally examine many of the instructional software packages available from private vendors.

Unlike instructional software, however, some CESAs decided that producing and marketing some school administrative software was in the best interest of school districts. CESA 1, based in southeastern Wisconsin, perceived a need in 1985 for new software for the schools' payroll and accounting functions, and the CESA developed this software using its own staff. This software package, called Integrated Management of Payroll and Accounting (or IMPACT), is currently in use by 61 school districts and 5 CESAs. IMPACT is marketed to school districts throughout the state in competition with private vendors of school administration software, including a Wisconsin-based firm.

The Legislature is frequently confronted with issues concerning state government competition with the private sector. Proponents of limiting competition argue that the State's policy should allow the private sector to meet public agency needs when it has the capacity to do so, since this can promote competition in the private sector and contribute to limiting the growth of the size of government. Others, however, argue that broadly limiting public agency options unnecessarily limits the public sector's flexibility to respond to circumstances in which it needs to produce a good or provide a service, or can do so at a substantially lower cost or higher quality.

There is no general state policy which can be used to assess whether an agency's decision to internally produce and market goods and services to meet a need is proper. This assessment must be done on a case-by-case basis, and in this instance the primary focus of analysis is the CESAs' decision to

internally produce and market IMPACT. The first step in conducting the analysis is to confirm that CESAs have the statutory authority to produce and market goods such as IMPACT.

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DEVELOPMENT OF COMPUTER SOFTWARE

Our review indicates that CESAs have implicit authority from the Legislature to produce and market computer software. It is less clear, however, whether CESAs needed to exercise this authority to produce and market IMPACT.

Authority to Produce Software

Chapter 116, Wis. Stats., states the mission and some of the authority and responsibilities of CESAs in serving member school districts. In general, although developing and marketing new computer software products is not clearly delineated in the statutes as part of CESAs' authority, it appears that the actions taken so far by CESAs could be judged to be broadly consistent with their mission and the traditional role played by CESAs in serving and promoting cooperation among school districts.

The CESAs and several of the school districts cite not only ch. 116, Wis. Stats., as a statutory basis for producing and marketing software, but also s. 66.30, Wis. Stats., which provides for, and encourages, intergovernmental cooperation among many local governmental entities, including school districts. This section states that "any [school district] may contract with others . . . for the receipt or furnishing of services or the joint exercise of any power or duty required or authorized by law." The Legislature has stated that this provision of state law "shall be interpreted liberally in favor of cooperative action between [school districts]."

It appears, therefore, that school districts have authority to write their own computer software, either individually or collectively. In fact, there are several instances of Wisconsin school districts, independently of CESA involvement, either selling data processing services to other districts, developing and selling software to other school districts, or jointly purchasing and maintaining software with other school districts. This fact, combined with the CESAs' mission, suggests that school districts could, at a minimum, extend their authority through a contract with CESAs to have CESAs produce computer software.

Need for CESA Involvement

The question remains, however, whether producing and marketing IMPACT was either a necessary course of action for CESAs or an effective and appropriate use of their resources. There are no clear statutory or other guidelines which can be used to assess whether the actions of the CESAs were necessary. In the absence of written guidelines, most persons with whom we spoke, including CESA staff and private vendors, believe CESAs should provide services only if: 1) there are no private vendors able to meet school district needs; or 2) the goods and services developed by CESAs provide a substantial benefit to school districts either because of substantially higher quality or significantly lower price.

This is consistent with widely-held beliefs that public agencies should enter into competition with private sector companies only after careful deliberation and with caution, for several reasons, including:

- avoiding the appearance of unfairness caused by a publicly funded agency competing with private companies;

- avoiding the aggressive marketing practices which many believe are inappropriate for public agencies but which may be necessary to ensure an adequate return on investment;

- maintaining the flexibility that a technical-assistance agency, such as a CESA, needs to evaluate and select the best products available instead of being compelled to, in effect, support and promote one product; and

- avoiding the financial risks associated with developing and marketing a product.

In the 1980s, private vendors began to offer a variety of school administration software products to the schools. According to a survey by DPI in 1989, 242 school districts have purchased 30 different accounting and payroll software packages from private vendors, including 172 from one Wisconsin-based vendor. Given this evidence of a vibrant administrative software market in 1989, if CESA officials were deciding today whether to proceed with developing an accounting and payroll software and were using the criteria stated above, they would almost certainly decide against development of the new product.

Furthermore, a telephone survey of staff in 25 school districts did not discern a pattern of clear and compelling benefits which the CESA product maintained over most other products. Opinions also differ on the comparative quality of the various software products. Further, while making price comparisons is complicated and can be misleading because software packages differ in quality, capabilities, service charges, and the availability of discounts, it appears there is no clear price advantage for the CESA product, at least when compared to its main competitor. The evidence shows that:

- the regular base price of the CESA program, is $9,990, while the regular base price of the software package of its largest competitor is $13,200; although

- when annual service charges are considered, the five-year cost of IMPACT is $17,990, or about $1,000 more than the five-year cost of the software of the CESA program's largest competitor.

However, the decision by CESA 1 to proceed with developing its own accounting and payroll software for minicomputers was made in June 1985, and the decision to proceed with developing a version for personal computers was made in late 1986. Consequently, any assessment of whether the CESAs had sufficient justification to enter the school administrative software market requires a consideration of school district needs, the capabilities of private vendors, and other factors which existed a few years ago. Unfortunately, the available evidence does not clearly indicate whether the CESA decision to enter the software market was warranted.

In defense of the 1985 decision, CESA 1 staff now cite several reasons to support the production of IMPACT:

- familiarity with the available private-sector computer software for school administration led the CESA staff to believe there was no product that adequately met the needs of Wisconsin school districts, especially the complex accounting needs of larger districts;

- CESA staff perceived a need to own the computer-language code in which the software was written. This ownership would give them the ability to adapt the software to meet changing requirements or to operate on different computer systems, rather than rely on private vendors to make those changes; and

- the financial instability of some firms elevated concerns about the lack of ready access to computer-language codes and raised questions about the level of service schools would receive.

Finally, in addition to the needs of school districts, CESA 1 staff indicated their agency needed an improved administrative software package for internal use.

Some evidence exists to support these concerns. DPI had found few private vendors interested in meeting state software needs in 1980 when DPI solicited bids to design a software package to automate a uniform school accounting system. The firm eventually selected by DPI to develop a software package was reluctant to delegate to DPI the authority to make major system upgrades and improvements to the software program. DPI staff note that within a few years, corporate ownership disputes, management conflicts, and legal problems within the firm owning the software made it difficult for the vendor to respond to requests for program improvements.

Other evidence, though, suggests that other reasons prompted the 1985 decision to develop software for sale to school districts. CESA 1 documents, including materials presented to the Board, and the minutes of the Board meeting in which the decision was made, do not identify any lack of software adequate to meet school districts' needs. Instead, the documents discuss "intense competition" from many private firms providing data processing to the school districts. CESA 1 staff expressed a need to "curb the flow [of business] to other software vendors" if the CESA was to address the problem of declining demand for its data processing services.

While it is difficult to conclude definitively whether CESA actions in 1985 were warranted, we assessed whether the CESAs effectively managed IMPACT's project planning and implementation. In short, our review found: 1) weaknesses in the decision-making process used by the CESAs to plan the project, determine need, and establish product prices; and 2) inadequate accountability for product pricing and funding decisions.

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PRICING AND MARKETING OF COMPUTER SOFTWARE

Once the decision was made to proceed with producing IMPACT, it is reasonable to expect that the CESAs would have: 1) prepared a development plan for IMPACT; 2) developed an effective and appropriate pricing policy; and 3) developed an appropriate marketing plan. Contrary to some complaints, we did not find evidence that the CESAs subsidized IMPACT's price with GPR funds or engaged in a clear pattern of overly aggressive marketing practices.

However, we found weaknesses in the decision-making processes used by CESA 1 to plan the development of IMPACT and to determine IMPACT's price. A remaining concern is the lack of expenditure and income information which could be used to hold the CESAs accountable for many of their planning and pricing decisions. Improvements are needed if the Legislature is to be better assured that CESAs will make future product development, pricing, and marketing decisions in a manner more consistent with the reasonable expectations associated with public agency activities.

Planning Development of IMPACT

An effective planning process used to assess whether or not to develop a product or service would: 1) determine whether a need exists for the product or service; 2) determine which public or private agency is best able to meet the need; and 3) identify an effective and acceptable strategy for obtaining the funds needed to develop the product or service.

A consensus existed in the mid 1980's that most school districts needed improved accounting and payroll software. However, our analysis indicates that CESA 1 did not adequately analyze the availability of suitable privately produced software products before undertaking investment in producing IMPACT. Concerns can also be raised about the manner in which CESA 1 accumulated funds for developing and producing IMPACT.

Market Analysis

Since developing and marketing a new product entails a financial risk, a significant commitment of staff time, and a limit on the flexibility of CESAs to perform their traditional function of providing school districts with an objective analysis of several products and services, CESAs need to carefully evaluate when to produce a new product or service.

We found, though, that CESA 1 did not thoroughly review and document the private market's inability to meet the school districts' software needs when the initial decision was made to produce IMPACT. CESA 1 staff note they had monitored and assessed the quality of several software products offered by private vendors. However, there is limited documentation of the scope and results of this analysis. Further, it appears that none of this analysis was presented to and considered by the Board. The information presented to the Board in 1985 made note of the existence of "at least 12 private vendors" who were competing for the Milwaukee-area school districts' business, but the CESA staff did not present any evidence that these vendors were unable to meet school district needs.

In general, while staff apparently reviewed some products and were not unaware of the capabilities of some privately produced software, the significance of the decision being recommended by staff to the Board should have led the Board to demand, and staff to conduct, a thorough and well documented market analysis which considered: 1) the strengths and weaknesses of products currently offered by competitive private vendors; 2) the feasibility that one or some of these vendors could meet school district administrative software needs in the near future; and 3) the ability of the CESA to produce a quality product in a timely manner.

There are other instances in which CESAs could have used a competitive bid, or a similar process, to determine whether the private market could meet school district needs at reasonable cost. For example, three other CESAs -- 5, 7, and 10 -- each agreed to pay CESA 1 $80,000 to establish a joint ownership arrangement to market IMPACT statewide. However, these three CESAs conducted no formal process to evaluate the quality of other products offered by private vendors before deciding in 1988 to join with CESA 1, which eliminated their ability to provide objective advice.

One means of determining whether the private sector can meet school district needs is through a competitive bidding process, and most CESA staff with whom we spoke did not object, in principle, to relying on a competitive bidding process when making major software purchases. A competitive bidding process was used by DPI in 1983 to select an accounting software package to be offered to school districts, and DPI had earlier used a bidding process to commission a private vendor to write a software package.

CESA 1 staff remain concerned, though, that most private vendors would be unwilling to guarantee that software will continue to be updated and adapted in the event that the private vendor went out of business, sold the business, or changed services. However, one potential solution that has been used by other software purchasers is to have the vendor place software documentation and access codes in escrow, thereby enabling users to gain control of the software in the event that the provider fails to service the product.

One reason CESA 1 staff may not have adequately assessed private sector capabilities, and their own capability to produce a product in a timely manner, is that CESA 1 did not have in 1985, nor do any of the CESAs currently have, written policies on when to produce goods or when to buy these goods from the private sector. Written policies would assist CESA Board and staff in determining the most appropriate means of meeting school district needs, and could also be used by the Legislature and members of the public as a standard to which CESA activities could be held accountable.

To increase the likelihood that CESAs will adequately review the interests and capabilities of private vendors when deciding whether to produce administrative services and products in the future, *we recommend that each Cooperative Educational Service Agency Board adopt a written policy which delineates the criteria each CESA will use for determining when the CESA will enter into vendor-like activities not directly instructional in nature by producing administrative goods and services for resale to school districts. The policy should also:*

- *describe the means the Board intends to use to implement the policy, such as whether, and when, the CESA will use a competitive bidding process; and*

- *be filed with the state Superintendent of Public Instruction by June 30, 1990.*

Raising Product Development Funds

Developing any new product requires an effective and acceptable strategy for obtaining the funds needed to pay for product development costs. CESA 1 had, by 1985, accumulated $305,000 in a software development fund by earning more income from other data processing services, and accruing interest, than was needed to pay for current expenses. The revenue for several separate CESA 1 data processing services is included in one fund, so that excess revenue from one service is available to subsidize other services which are not covering costs. CESAs are also allowed to carry balances forward from one year to the next, so that it is possible for reserves to accumulate.

Relying on excess earnings from one program revenue operation to fund new project development in another program is not prohibited by statute or rule, and is not improper if adequate controls are in place to ensure that all contributing schools are adequately informed of the amount and planned uses of funds. Full knowledge and consent among participants is important for at least two reasons.

First, school districts in CESA 1 which have purchased data processing services at prices in excess of cost, but which choose not to purchase IMPACT, will not benefit from their contributions to the development fund, while school districts which have purchased IMPACT but few other data processing services will receive benefits greater than their contribution. Second, notifying all school districts of the CESA's plans is a critical part of the process of ensuring that an adequate market exists for the eventual product and that CESA staff fully understand school district data processing needs.

There is no evidence to suggest that CESA 1 tried to conceal or misrepresent its development fund. However, it appears that knowledge of the development fund's purpose, funding source, and increasingly large year-end balances may not have been widely distributed and may have been limited to the several schools with representatives on CESA 1's governing board.

For example, three of the four representatives of school districts in CESA 1 with whom we spoke were unaware that prices they paid for CESA data processing services were in excess of cost. One of these representatives reported that she was not told of the excess charges and development fund plans by CESA 1 staff, although she had inquired about the high cost of CESA 1 data processing services. Finally, while staff believe it was not realistic to assume all or most school districts in their service area would purchase IMPACT, only 15 of the 119 school districts in CESA 1's service area have purchased IMPACT, thereby raising questions about whether CESA 1 fully discussed district needs and objectives with all member schools.

We found other problems in the manner in which CESA 1 managed the development fund. CESA 1 did not in 1985, and currently does not, separately account for

expenditures for each separately-priced data processing service. Consequently, it is unable to document which services and service users subsidized the development of IMPACT. Furthermore, there is no evidence that staff presented to the Board, at the time it was decided to initiate a development fund in the early 1980's, a long-range development plan. A plan might have included an analysis of potential long-range data processing development needs and annual and total contributions to the fund needed to fund high priority projects.

CESA 1 does not plan to restore its development fund to its previous levels, and none of the other data processing centers have plans to accumulate a development fund. The balance in CESA 1's development fund was estimated to be $70,000 at the end of FY 1988-89. Even with the absence of current plans to accumulate large balances, it would seem reasonable to expect that all CESAs have procedures for effectively alerting all member school districts about the magnitude of, and plans for, significant carry-over balances. *Therefore, we recommend that all CESA Boards adopt procedures for alerting member school districts of: 1) when carry-over balances exceed levels necessary for a reasonable contingency fund; 2) the source of the excess funds; 3) alternative uses of the excess funds considered by the Board; and 4) the Board's decision on how these funds will be used.*

Pricing Policies

Care needs to be exercised by CESAs in establishing prices for its software product and related services. School districts purchasing IMPACT would raise concerns if prices significantly exceeded costs and CESAs were earning sizeable profits. On the other hand, private vendors competing with the CESAs would strongly object if the CESAs charged prices below costs and used these artificially low prices to capture a significant share of the school administrative software market. At the same time, though, CESAs must set prices at competitive levels or risk not earning sufficient income to pay for production and service costs. Finally, many objections would be raised if the CESAs used GPR funds to subsidize the price of products.

We were able to confirm that CESA 1 has not provided a direct GPR subsidy for the costs of developing or maintaining IMPACT. Further analysis of the relationship between the IMPACT's prices and costs is not possible because the CESAs have not maintained separate cost information for each separate data processing service. Based on interviews, though, it is evident that the CESAs set the base price of IMPACT at a level which was consistent with prices for comparable software packages marketed by private vendors, and actual costs related to production had little effect on product price. The basic purchase price for the personal computer version of IMPACT was set at $9,990.

Without this expenditure and income information, the CESAs are currently unable to document the effects of their pricing policies. Such documentation is critical in light of two pricing decisions which have apparently resulted in products and services being priced below costs, thereby raising questions about the appropriateness of CESA pricing policies and the long-term financial viability of the IMPACT project.

First, the CESAs have provided substantial price reductions on IMPACT purchases to school districts which had recently purchased the accounting

software previously marketed by the CESAs. The CESAs decided to discontinue servicing the previous software, which had been developed by a private vendor, in favor of providing service to users of IMPACT. Therefore, recent purchasers of the old software were not able to receive the full benefit of their purchase, prompting CESA officials to offer a price reduction based on the undepreciated value of the old software. The magnitude of the discount varies, but many school districts have purchased IMPACT for only $3,000, which is 70 percent below the undiscounted price.

Some may believe this policy is fair, but the discounted prices are substantially below those offered for any privately produced accounting and payroll software known to the school districts, and almost certainly do not raise sufficient revenue to pay for the unit cost of producing and installing IMPACT. Furthermore, it does appear that these substantial price discounts have had a significant effect on the sales of the CESA software. We found that:

- representatives of 7 of 12 school districts which purchased IMPACT on discount, cited price advantages as the main reason for purchasing the software, while none of the representatives of districts which paid full price cited price as their main concern; and

- 25 of the 54 school districts (or 46 percent) which have purchased the personal computer version of IMPACT did so on discount, suggesting that sales are much greater than they would otherwise have been had CESAs not offered discounts.

A second decision raising questions about CESA pricing policies concerns the CESAs annual software maintenance and support fee. All vendors charge these fees; purchasers of the personal computer version of IMPACT pay $2,000 annually for CESA staff and other support costs, while users of the minicomputer version pay $3,600 annually. The available evidence indicates that the current cost of software maintenance and customer support services substantially exceeds revenues earned. CESA officials estimate that approximately nine full-time-equivalent staff positions among the four data-processing CESAs, at an estimated cost of $450,000 annually for salary and staff support costs, were committed to maintaining and supporting IMPACT in FY 1988-89, and remain so at this time. Some of these costs were funded from income from purchases of IMPACT, but the CESAs are projected to earn only $143,000 annually from the maintenance and support fee based on 62 districts purchasing IMPACT.

Support costs are expected to decline as staff time needed to install new systems and to make major programming changes declines. Nevertheless, CESA 1 staff acknowledge that staff time and costs required to "de-bug" the program and respond to school staff questions and requests have been considerably greater than anticipated. CESA staff also report that the IMPACT project cannot be self-supporting in the long run unless:

- the price charged to the school districts for ongoing support for IMPACT is increased;

- the costs relating to the yearly support for IMPACT are substantially reduced; and/or

- additional markets for the sale of IMPACT are found.

CESA staff plan to re-examine the project's prices and levels of service within a year. This re-evaluation is clearly appropriate, but performing this analysis will be difficult because, as noted, the costs associated with IMPACT cannot be readily identified. The project is only one of several data processing services accounted for in each CESA's data processing fund and the CESAs do not separately identify costs for each data processing service.

Separately identifying the actual costs related to IMPACT and other data processing services will improve the CESAs' ability to set defensible prices. However, we believe there is additional justification for creating a separate, discrete fund for IMPACT and removing it from each CESAs' general data processing fund. Unlike any other CESA service, the project is a joint venture by four CESAs. Further, concerns about its pricing structure and continuing viability increase the importance of strict accountability. Unless a separate fund is developed, internal subsidies among data processing projects within the same fund may occur without intervention on the part of the CESA board or staff. Creating a separate fund for IMPACT revenues and expenditures will not necessarily prevent subsidies by other CESA services, but will necessitate recorded decisions by the CESA board to transfer money between the IMPACT fund and funds supporting other CESA services.

The CESAs do not need to devise a new accounting system to meet the objective of recording expenditures for each service and for handling IMPACT in a separate fund. The accounting system devised by DPI and used by all CESAs has the capability to accommodate identifying costs with individual projects, even when those projects are charged to the same fund. In fact, the manual supporting this accounting system suggests a coding system that would identify expenditures related to each separately-priced service. Not all CESAs have chosen to use this accounting capability for all expenditures. Therefore, to increase the accountability and effectiveness of CESA product and service-pricing decisions, *we recommend that each CESA begin to identify all data processing costs with the separately-priced service to which each is related, and that revenues and expenditures related to the IMPACT project be removed from the data processing fund into a separate, discrete fund.*

Marketing

Because of concerns that pressures on CESA staff to promote sales and earn sufficient income could lead to improper marketing tactics, it is reasonable to expect that the CESAs would adopt policies and procedures to ensure that staff use marketing and sales practices which are appropriate for a public entity. Contrary to some complaints, the information we reviewed did not indicate a pattern of overly aggressive or improper marketing practices, although there were a few questionable incidents:

- One CESA sent a letter to all school district administrators in its area which, while the correspondence stated that the CESA was not attempting "to discredit the product of a competitor," nevertheless unnecessarily raised questions about the appropriateness of the vendor's marketing tactics;

- A CESA staff member visited a school board meeting in an attempt to discredit the private vendor and to recommend the CESA's own software; and

- The same CESA staff member visited another school district, after it had purchased the private vendor's software, to attempt to reverse the sale.

These appeared to be isolated incidents, however, and we found no instances in which a CESA attempted to use the schools' reliance upon other CESA services as a means to promote, or perhaps coerce, software sales. According to school district staff with whom we spoke, the CESAs have maintained good working relationships with the school districts which purchased private software.

Some school district administrators did cite loyalty to the CESAs, either based on past experience or on their alliance with an agency which they participate in governing, as one factor in choosing which software to purchase. However, most school district administrators appeared to have remained objective, have expressed interest in considering non-CESA products, and have used a variety of criteria in making their selection of software products, including cost, reliability of support, quality, and references from school districts which have purchased the products.

Finally, we found only one instance in which a CESA sold the IMPACT software for less than its quoted price. A school district interested in purchasing administrative software was quoted a price by both a private vendor and a CESA. The CESA's initial price quote was lower than that of the vendor, but the district arranged to purchase IMPACT at an even lower price than that initially offered by the CESA in exchange for an agreement by the district to demonstrate the IMPACT software to other potential buyers. Since the price first quoted to the purchaser by the CESA was lower than that quoted by the private vendor, it would not appear the unique discount was given in order to undercut the private vendor.

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OVERSIGHT AND LEGISLATIVE OPTIONS

Several recommendations have been made to the CESAs to increase the likelihood of avoiding future disputes concerning CESAs' competition with the private sector. The recommendations, if adopted, should clarify the criteria used by CESAs in deciding when to produce administrative goods and services, provide for a more careful analysis of the private sector's ability to adequately meet school district needs, and increase the accountability of decisions made by CESAs.

No recommendations to change policies or procedures have been made to DPI, yet some oversight by DPI is necessary to ensure that the recommended actions are taken by the CESAs. We believe it would be appropriate if DPI, at a minimum, received reports from each CESA on the progress made in implementing the audit recommendations and report to the Legislature on the results of its survey. This type of reporting relationship exists for several other programs operated or coordinated by the CESAs on behalf of the State. *Therefore, we recommend the Department of Public Instruction report to the Joint Legislative Audit Committee by September 1, 1990, on the status of each CESA's efforts to implement this audit's recommendations.*

Even if the CESAs adopt policies on competition and make the other recommended changes, though, some are likely to question whether these changes will materially influence CESA decisions on whether to produce administrative goods and services. Some may argue that considerations such as the desire to increase program revenue will inevitably outweigh other public policy considerations. There are, in fact, some indications of expanded efforts by some CESAs to either market existing products or develop new software products. For example:

- concerns about lagging sales of IMPACT and a tightening market in Wisconsin have prompted CESA 1 staff to discuss the possibility of more aggressive marketing, including marketing IMPACT on a national basis;

- CESAs have indicated that additional administrative software packages have been or are being developed for resale to districts, and several CESAs offer computer hardware maintenance services although these services are offered in the private sector; and

- advancing technology generally makes all software products obsolete in five to ten years, but the CESAs currently plan to continue to maintain and upgrade the IMPACT product, thereby substantially diminishing the likelihood that IMPACT will ever be replaced with a private-sector product while guaranteeing continued controversy over CESAs involvement in the administrative software market.

If there is a widespread belief that some CESAs will continue to produce administrative goods and services for sale to school districts and that concerns over competition are sufficiently high to warrant greater assurances that these problems will not occur again, the Legislature could take action to restrict CESA activities.

However, others will argue that statutorily restricting CESA activities would unnecessarily limit their flexibility to respond to unforeseeable circumstances in which it would be appropriate and, perhaps, necessary for the CESAs to produce a good or provide a service to meet school district needs. Others may question the need to restrict CESA activities, at least at this time, before reviewing the effects of implementing the audit's recommendations. Therefore, another option for the Legislature is to delay action until it has reviewed the DPI report on the CESAs' progress in making the necessary changes.

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APPENDIX I

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Herbert J. Grover
Superintendent of Public Instruction

November 29, 1989

Dale Cattanach
State Auditor
Legislative Audit Bureau
131 W. Wilson Street, Suite 402
Madison, WI 53703

Dear Dale:

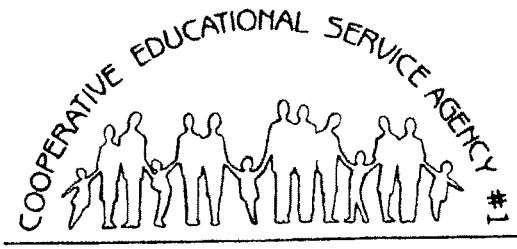
Your final audit report regarding the involvement of CESAs in the development and sale of school software has been received. Your recommendations have been reviewed by agency staff. I support the recommendations in your audit report and we anticipate the full cooperation of the 12 CESAs in this effort.

The DPI stands ready to assist in the development of policies and procedures which the CESAs will adopt in response to these LAB audit recommendations. We will be prepared to report to the Joint Legislative Audit Committee by September 1, 1990, on the status of each CESA's efforts in implementing these audit recommendations.

Sincerely,

Herbert J. Grover
State Superintendent

HJG:jmt



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December 1, 1989

Mr. Dale Cattanach
State Auditor
131 West Wilson Street, Ste. 402
Madison, WI 53703

Dear Mr. Cattanach:

Our previous experience with you and your bureau in the August 11, 1988 report was very positive and professional. Our experience with the recent audit was less satisfactory in terms of accuracy and understanding of CESA operations.

Although we support the recommendations in the report, we (CESA #1) were very disappointed in changes made in the report as a result of our November 15th meeting with your staff. When we met, our data processing staff and I spent three (3) hours responding to numerous inaccuracies, assumptions, and innuendos relative to the development of our accounting/payroll software (IMPACT). Since our concerns expressed during the November 15th meeting were not adequately reflected in the revised version received the following week, I am enclosing our response in an effort to present accurate information.

Sincerely,

William D. Bergum
Administrator, CESA #1

WDB:clm

APPENDIX II

CESA #1 Response to Legislative Audit Bureau Report

CESA #1 data processing staff and administration spent several hours with LAB auditors providing information on CESA operations. LAB auditors initially informed us in our first session that this audit would investigate CESA services in general. In contrast, this report deals primarily with CESA #1 and our development of IMPACT.

Since our CESA #1 Board of Control and staff are continuously seeking improvements in CESA #1 decision-making processes, the policy recommendations in this report are considered to have merit. Assuming that these recommendations would affect all 12 CESAs, however, we cannot speak for the other CESAs in Wisconsin.

Findings Supported in the LAB Report

We agree with the following findings:

1) The statutes provide CESAs and member school districts with implicit authority to produce computer software which can be sold to other school districts.

2) CESAs have not used state General Revenue to subsidize software prices.

3) CESAs have not engaged in a pattern of overly aggressive marketing patterns.

4) CESAs may establish funds for product development.

5) CESA #1 did not conceal or misrepresent its development fund.

Findings Clarified in LAB Report

Finding 1: CESA #1 officials did not thoroughly analyze and document the private sector's capabilities when developing IMPACT to confirm that private vendors were unable to meet school district needs.

Response 1: We agree that we may not have adequately documented the private sector's capabilities, but we continuously analyze products. During the 1985 WOS RFP process for accounting/payroll software, private vendors were invited to respond by DPI/DOA, and CESAs were invited to analyze the products of those responding. The only product deemed acceptable for Wisconsin school districts was the (WOS) software of an out-of-state vendor. The evaluation indicated no other software approached required specifications.

It should be noted that on our invitation SASI accounting/ payroll software was demonstrated at our offices. CESA #1 also participated in a demonstration of this same product at IBM offices, this demonstration having been arranged by an

IBM offices, this demonstration having been arranged by an independent third party consultant. Other CESA #1 staff, as well as staffs of other CESAs, have participated and continue to participate in demonstrations of numerous software products at sites around Wisconsin and in neighboring states.

Finding 2: CESA #1 did not adequately document the extent and sources of product development fund to enable member schools to make informed decisions.

Response 2: CESA #1 has been involved in providing comprehensive data processing services to member schools for over a decade (since 1967). CESA #1 data processing staff and the CESA administrator represent a cumulation of over 60 years of experience in delivering data processing services to school districts. Trust built in the quality and reliability of data processing services over the years may have relaxed the formulation of decision-making procedures/policies and documentation. However, it cannot be assumed that our Board of Control and data processing users were not adequately informed on software development decisions. CESA #1 has developed many software packages under the direction of our data processing users and Business Advisory Committee (BAC) made up of user districts. We followed the same procedure in making a decision to develop IMPACT as we did for other software. Basically, our users advised us to generate a fund for software development. Districts preferred to have development funds available rather than having to solicit funds each time a new software was needed in this cooperative venture.

Through numerous meetings and lengthy discussions with our users and BAC, the BAC advised us to develop our own accounting and payroll software. Major factors in the BAC recommendation included the following:

1) Previous difficulties with private vendors in making software changes.
2) Vendors going out of business.
3) Advantages of owning and controlling language source codes (tailoring software to district needs).
4) Cost controls.
5) Need for stand-alone software to replace mainframe software.

Our Board of Control made an informed decision in approving the development of IMPACT in May, 1985. We certainly can't believe, as the auditors implied in their report, that the Board of Control decision was solely based on the brief summary of the discussion recorded in the minutes. The Board of Control decision was based on frequent discussions preceding the May, 1985 meeting, reliance on staff and administration, and the recommendation of the BAC.

It should also be noted that a market analysis was done by Marketing Consultant, David Wolfson in conjunction with a CESA #1 Public Relations Plan developed by Zeppos/Remsick, Inc.

Finding 3: Districts having purchased data processing services and contributing to the development fund would not benefit if they chose not to purchase IMPACT.

Response 3: The development fund was utilized for development of all software requested by districts. Every district could benefit from any software developed by CESA #1. It was the BAC representing all users that sanctioned software development. The benefit of a cooperative is that services become available at reasonable cost. Cooperative members make the decision on services to be offered and whether they participate in those services.

All funds received by CESAs from school districts for data processing services are expended to support, enhance and develop products/services for Wisconsin school districts. In other words, Wisconsin school district dollars stay in Wisconsin.

Finding 4: It appears that knowledge of the development fund's purpose, funding source, and increasingly large year-end balances may not have been widely distributed and may have been limited to the several schools with representatives on CESA #1's governing board.

Response 4: Large year-end balances? Again, users advised us to maintain a fund which could be utilized for software development and to cover unforeseen costs, such as equipment repair, equipment purchases and increased staff costs. We agreed that a balance which could cover 3-4 months of the DP operation would be reasonable.

It should also be noted that BAC minutes and BOC minutes are mailed to all school superintendents and school boards in CESA #1. Our audit reports are obviously open to the public.

Finding 5: ...only 15 of the 119 school districts in CESA #1's service area have purchased IMPACT, thereby raising questions about whether CESA #1 fully discussed district needs and objectives with all member schools.

Response 5: In 1985 CESA #1 serviced 27 school districts on accounting and payroll. Out of 27 school districts we think that converting 15 to IMPACT is a pretty good assessment of their needs and objectives. If we would have begun IMPACT development in 1983, we probably would have converted all 27 districts.

Finding 6: The balance in CESA #1's development fund was estimated to be $70,000 at the end of FY 88-89.

Response 6: Our data processing fund balance was $70,000 at the end of 1988-89. This is not a development fund.

Finding 7: Based on interviews, though, it is evident that the CESAs set the base price of IMPACT at a level which was consistent with prices for comparable software packages marketing by private vendors, and actual costs related to production had little effect on product price.

Response 7: Auditors overlooked the fact that we documented our development costs and incorporated a depreciation schedule into our budget for those costs. Our development costs were established at $312,000. Development costs, software maintenance and support costs shared among the 4 CESA data processing centers were considered in the software pricing decisions.

Also, product pricing had to be determined well before product completion. Prices were determined February 17, 1989, 17 months prior to product implementation.

Finding 8: The CESAs decided to discontinue servicing the previous (WOS) software, which had been developed by a private vendor, in favor of providing service to users of IMPACT.

Response 8: CESA data processing centers continue to service WOS users. Recent purchasers of WOS <u>are</u> able to receive full benefit of their WOS purchase.

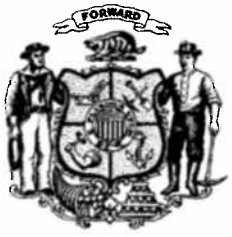
Finding 9: CESA officials estimate that approximately nine full-time-equivalent staff positions among the four data-processing CESAs, at an estimated cost of $450,000 annually for salary and staff support costs, were committed to maintaining and supporting IMPACT in FY 1988-89, and remain so at this time.

Response 9: This is a very poor estimate of FTEs devoted to IMPACT. All DP staff have responsibilities other than IMPACT.

Finding 10: ...costs associated with IMPACT cannot be readily identified.

Response 10: CESA #1 doesn't have any problem identifying IMPACT costs. The fact that IMPACT isn't budgeted as a separate fund doesn't mean we can't segregate the costs.


WISCONSIN STATE LEGISLATURE


FORWARD

WHITE PAPER **February 2006**

Technology Consolidation through Expansion

Prior to answering the question of how can an organization achieve technology consolidation through expansion, we are defining technology consolidation as either a physical, server, applications or database consolidation. To answer the question we need to take a step back and ask what is the business case for technology consolidation. Is it to reduce physical space usage in a data center? Is it to reduce overall infrastructure or application costs? Is it to address network availability? Is it to improve supportability? Is it to achieve a higher rate of ROI on your infrastructure/application investment? Or is it is all of these. For the purpose of this paper, assume that a business case has been developed for consolidation.

Now that you have pinpointed why consolidation, now we have to ask how? Now, let's say you want to take a long road trip. The first thing you would do is look at a map. With a map you can determine your current location, your destination and the paths in which you may take to get from your current location to your destination. Some paths are faster than others, and some are more scenic, yet both get you eventually to the same point. The same should apply when a trip to consolidation is in order – one must look at a map to decide the best route.

The Road Less Taken

This is where the expansion comes in. Many organizations, once they have identified that consolidation is a strategy they want to embrace, start driving without looking at the map and planning their route. Some of these organizations do not possess a map, or worse, decide to proceed without a map. Experience has proven that a process should drive technology not the other way around. Therefore, the correct methodology is to always look at a map and develop a well-planned route before beginning any journey. Once an accurate map and plan is created, an organization will have a clear view of where it is now, where it wants to get to, and what routes are available to get them to the desired location or end result.

Taking the Wrong Medicine

Unfortunately, many companies who have decided on consolidation have turned to organizations that specialize in hardware or software to understand and plan their initiatives. This would be like skipping the Doctor visit and instead going to the Pharmaceutical company for a prescription. Your health is not necessarily the primary interest. Likewise, hardware and software companies that specialize in selling systems and support for those systems, may not hold an organization's best interest in mind. The reliance on a hardware or software company dictating a direction for consolidation can create a dependency on the vendor that in the end does not support the business and processes of the organization.

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Using the Right Recipe

There is a right time to involve these vendors in this process. The time is usually when an organization knows what it wants to do, how it needs to be done and the results it expects, not as way to develop that path. This is not to say that a hardware or software vendor cannot develop an effective strategy, but typically the strategies they develop are built in and around their products. Affinity has a proven methodology which provides the expected results and return for their clients, ranging from mid-size companies to larger Fortune-1000 companies, and offers management a recipe for success. But, as in all recipes, steps must be followed in a specific order so that the desired end result is achieved. To examine consolidation as a possible strategy, the first step is to develop a business case. Why should we consider consolidation? What do we expect to achieve as a result? What are the underlying business reasons to consolidate? Once the business case is developed, an assessment phase must occur where the organization determines the lay of the land. This becomes the foundation of the map. This creates a current state view of the environment and processes that are supported.

Once this is accomplished, the desired state is mapped. What does the organization want to achieve or look like in the end? Once you have the current state and the desired state on the map, the next step is to identify the various ways in which to get from that current state to desired state. In order to develop or understand the available paths, an organization must understand the business processes that need to be supported. This information should be documented and used as a litmus test for the solutions that are developed. In other words, what are the processes this solution needs to support to get the organization to the desired state? Next, is to evaluate the available hardware and software that will potentially support the complete business process. After this phase, the organization must select the most appropriate path and solutions to take to get to the desired state. The result is a detailed and executable plan that gets the organization from current to desired state. This is followed by the actual execution of the solution. There are situations and scenarios where an additional step is added prior to execution - testing and validation. However, given the nature of consolidation, the testing and validation comes as part of the hardware and software vendor evaluation.

The next step or phase is evaluation and support. Did the executed solution achieve the desired state? Are the processes working as desired? Finally, as a step to further realize success, Affinity adds the step of Adoption. Are the users of the technology following the desired processes, using the new technology and realizing the benefits touted as part of this strategic initiative?

Summary

An organization can accomplish technology consolidation by expanding its ability to plan and execute on a sound map/process. Once a business case has been developed for consolidation, an organization needs to create a map showing the current state, the desired state and the possible paths in which to take to get to the desired state. The organization can then evaluate the various paths and decide on which path is best. Based on the path chosen, a company can then begin to evaluate hardware, tools and processes that will best support the organizations workflow. By creating and following this map, an organization will be better able to identify goals, measure achievement, and insure success. The good news is that you don't have to re-fold this map once you are done. It can be used for other strategic initiatives. Enjoy the journey.

For expanded information on the approaches/methodologies that are used in the various types of technology consolidation (Physical, Server, Applications and Database), please visit our website at www.affinityinc.net

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Affinity is a vendor-neutral organization that specializes in architecting and executing technology strategies and initiatives and providing the skilled resources that enable and improve business with the end result being client self-sufficiency.

Affinity is located at 2300 N. Mayfair Rd., Suite 400, Wauwatosa, WI 53226.
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Business Process Transformation Methodology

Our Approach

The first maxim an organization should observe before investing money in any technology is to ensure that both the business and the technology are in alignment. Seldom if ever is technology the sole element in cause for change. In fact, technology is merely the enabler. The true case for change is more often than not manifested within the business process that lies beneath. Problems or unexploited opportunities inherent within these processes often produce outcomes inconsistent with organizational vision and require evaluation and in many cases, transformation.

Our approach to business process transformation represents just such a successful, time-tested method for achieving this alignment. Please see Figure A.

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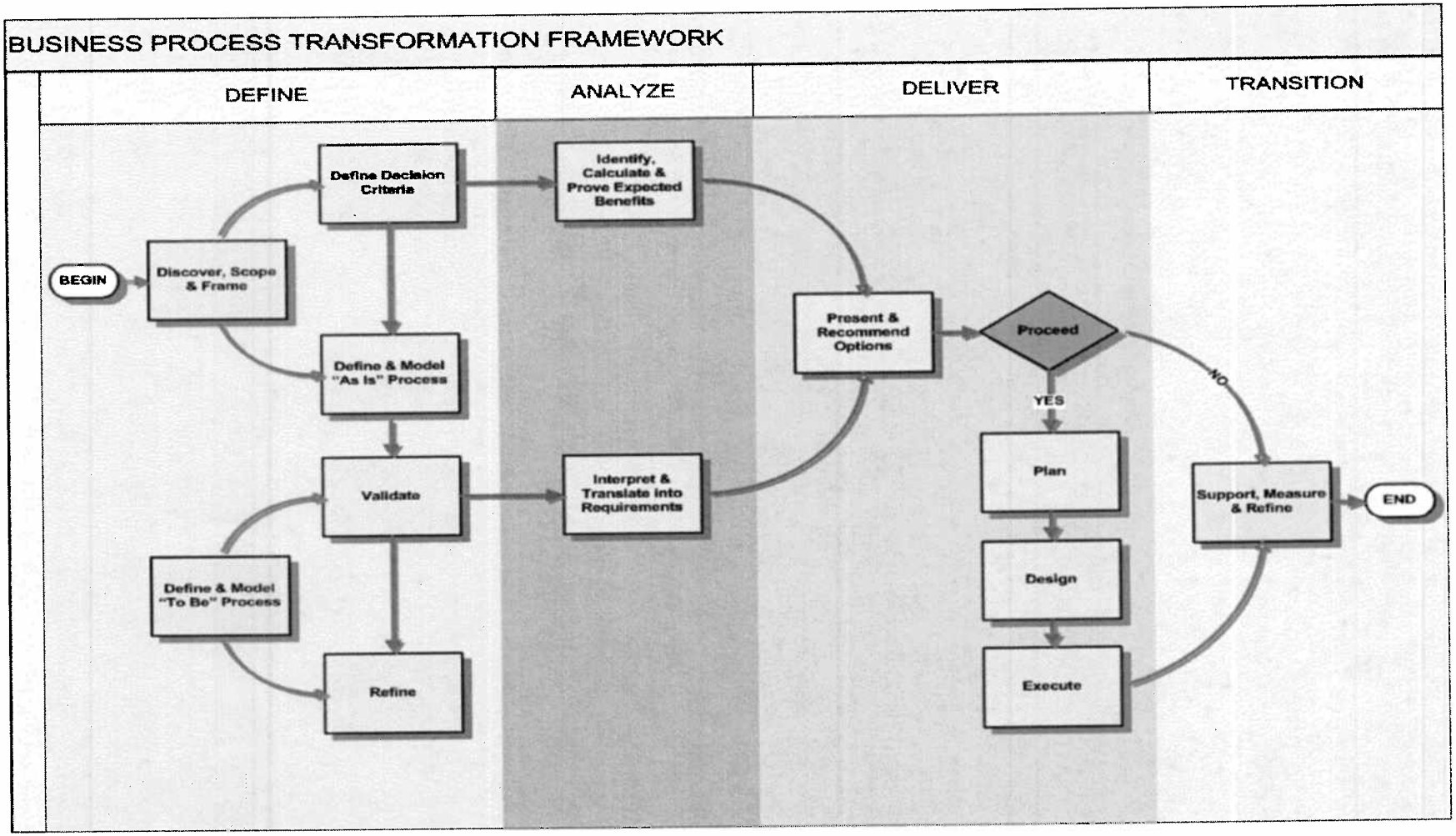
Figure A.



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The steps within this process can be elaborated as follows:

1. **DEFINE**
   1.1. Discover, Scope and Frame
   Conduct 1 on 1 or group sessions to…
   - Determine stakeholder expectation for the project outcome
   - Identify any issues or potential issues, whether business or technical
     - Opposition or challenges to the initiative?
     - Risk identification: what could go wrong?
     - Technical issues that need to be considered throughout?
   - Develop Stakeholder Map and interview matrix
   - Clarify the boundaries of the proposed initiative
   - Achieve consensus on the objectives, goals and vision of the proposed initiative across all levels: executive, managerial, and staff
   - Elaborate results of Preliminary Assessment
   - Understand process goals
   - Understand interdependencies
   - Understand critical timeframes
   - Describe process event, result and customer
   - Understand environment and culture
   - Develop initial conceptual model

   1.2. Define Decision Criteria
   - Define decision participants
   - Identify decision criteria
   - Specify intangibles
   - Filter criteria

   1.3. Define and Model the current "As Is" Process
   - Model "As Is Processes" in appropriate toolset
   - Emphasize workflow
   - Identify hand-offs

   1.4. Validate & Refine
   - Seek validation from stakeholders
   - Refine model based recommended changes based on feedback

   1.5. Define & Model the desired "To- Be" Process
   In facilitated sessions, collaborate with SME's to…
   - Identify problems and opportunities for improvement relative to "As Is" Process
   - Identify corresponding solutions to problems or opportunities in terms of the typical process enablers:

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1. Workflow Redesign
2. IT
3. Motivation & measurement
4. Human resources
5. Policies & rules
6. Facilities

- Model the "To-Be" process
- Return to validate and Refine

2. ANALYZE

2.1. Interpret, translate into requirements and analyze the gap

- Express specific needs and technology in terms of high level features, functional and technical requirements
- Analyze the gap between the "As Is" process and the "To Be" process
- Research potential options and solutions

2.2. Identify, calculate and prove expected benefits.

- Identify tangible costs and benefits
- Calculate expected payoffs
- Provide supporting evidence
- Build the business case

3. DELIVER

3.1. Evaluate options & present recommendations

- Formalize deliverables
- Develop a roadmap
- Recommend an option
- Assist the client in evaluating alternatives and in selecting an option. (If decision is to buy, this step could evolve into vendor evaluation and solution selection)

If the business decision favors an option other than doing nothing, then…

3.2. Plan

- Develop a more detailed plan
- Determine resource needs

3.3. Design

- Refine requirements to specification
- Construct data model
- Design interfaces

3.4. Execute

- Coordinate implementation

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- Track to plan
- Manage risk
- Control scope

4. TRANSITION

4.1. Support, transfer, measure & refine

- Follow-up
- Transfer knowledge needed to be self-sustaining
- Measure results of the project
- Continuously improve

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Consulting with Integrity

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DIANE HAUBNER, PMP, CISA

Ms. Haubner is a veteran management consultant with over eighteen years experience in the design, development, implementation, and support of information technology systems in a variety of business markets and hardware and software environments. She has experience in project management, strategic planning, technology assessment, best practice implementations, business process re-engineering, application development, and IT organization. Her consulting experience has ranged from Fortune 500 companies to start-up companies across multiple industries, including manufacturing, health care, insurance, public sector, higher education, and professional services.

She brings professionalism, structured methodologies, attention to detail, a client-focused approach, and highly organized reporting and follow-through to all her projects. She is articulate and conscious of the needs and work styles of hands-on team members as well as client executives. Her ultimate goal is client satisfaction, accomplished through diligent and thoughtful efforts based on integrity and honesty.

REPRESENTATIVE ACCOMPLISHMENTS

- Project Management Office – Planned and implemented the development of a project management office (PMO) for a multi-state professional services firm. The approach included both tactical (e.g. processes, templates, governance) and strategic (alignment with business goals, accountability) components and was based upon a multi-phase approach for rollout and buy-in. PMI (PMBOK) standards were exclusively used to design the PMO resulting in consistent approaches and deliverables that allowed the PMO to complement the organization's ongoing structural and business changes.

- Lawson Implementation for Gas and Oil Client - Engagement Director for one the country's largest gas pipeline companies. This engagement included managing two separate implementation teams across the country and several distinct business units. The results of detailed requirements analyses revealed critical business requirements that could not be met by the package solution. Consequently, several web based front ends were developed for the product to meet the client's needs yet retain the original code in its upgradeable format. Also conducted business process changes that allowed the client to reduce their chart of accounts from over 10,000 accounts to less than 3,000.

- Higher Ed Project Manager – Managed a 40,000 student campus university implementation of Payroll, Benefits and Human Resources interfacing with PeopleSoft Student Admin and Financials. The system-wide project was already 3 years in process when the University needed assistance for their largest campus in meeting timelines, system testing requirements and overall planning. The situation was politically challenging and required organization and process re-design strategies. Responsibilities included developing and facilitating sessions to resolve conflicts, help users stay on plan, identify and recommend solutions for critical issues, managing the implementation of over 30 interfaces, coordinating activities with the IT department, and performing project oversight recommendations to the Vice Chancellor and other key management of the University regarding the project. Worked with the system-wide project team to resolve functional and process ownership issues that became critical to gaining user acceptance.

- Lawson Implementation for BPO Client - Engagement Director and project manager for a professional services Business Processing Outsourcer organization implementing back office financial, procurement and human resource suites for internal and external clients. Functions included web deployment of applications, self-service modules and custom time and expense interfaces to project accounting systems and ADP payroll. Assisted the client with the integration of the applications and their hosted environment on an ASP solution. This integration included ASP staging services, systems assurance, delivery management and client care as well as defining mechanism to enable file transport mechanisms from the ASP host to the client network. Worked with a client, ASP, project team PMO to define and QA process throughout.

- United Kingdom PeopleSoft Implementation - Project Manager for the implementation of UK specific requirements for a Human Resource, Bonus, Expatriate Processing and Benefits system. The project necessitated several customized panels and tables to handle the specific requirements unique to the UK and the financial services industry including interfacing to ADP. Led a team of 14 responsible for requirements gathering, fit/gap analysis, design, functional and technical specifications, development, testing, conversion, interfaces, change management and user training. The client had its headquarters in the US and the team needed to work closely with the US group to ensure that proper controls were in place. Through thorough change management guiding, the UK was able to migrate smoothly and

completely to the new system without disruption. Our go-live date was delayed only one week (September 18, 2001) as a result of the destruction of our New York headquarters in the 9-11 accident.

- Risk Assessment – Conducted a quantitative and qualitative risk assessment of a 'death march' project using formal methodologies as prescribed In the PMBOK (Project Management Institute guidelines). The $20M project was late, over budget, and lacking project management processes. The assessment included the identification of risk aligned with the four project objectives of cost, time, scope and quality. The deliverable was successfully presented to top level management of the organization (37,000 employees) and effected significant change in the project.

- Solutions Assurance Review – Working as a member of the Project Management Office (PMO), developed a Solutions Assurance Program for a national insurance organization and conducted detail reviews of their five critical projects, budgeted at over $32M. In addition to reviewing the projects, developed a self-administration program for ongoing quality assurance. Findings from the reviewed identified critical risks that would have exposed the PMO to late projects. After putting together a risk mitigation strategy, stayed on to implement and mitigate the project risks.

- Lawson Financial Suite and Procurement Suite Implementation - Project manager for a team of 25 analysts and technical support members in the implementation of general ledger, accounts payable, cash ledger, fixed assets, allocations, activity management, purchasing, inventory control, requisitions and EDI for an integrated care organization including hospital, physician and clinical operations. The project was under tight deadlines to replace existing mainframe and client server based systems by the year 2000 and included installation of new vendor software, conversion of detailed transactions and development of over 15 interfaces. The system was implemented on an AIX-based system operating Oracle database.

  As project manager, responsibilities included determining project organization and identifying and interviewing project team participants, both internal and external. Also responsible for preparing and managing detailed project plans, both user and technical, which consisted of hundreds of tasks. The project included full conversion of financial data, interface development, preparation of detailed procedures and training manuals, design and setup of a project implementation facility, development and implementation of program change control procedures, full application of Oracle and Unix security plans and deployment of third party reporting tools. Designed and implemented a group ware database for setup of project tasks and tracking of deliverables as well as e-mail enabled project tracking at a task level.

  Developed and tracked project budgets, tasks, deliverables and issues on an on-going basis and participated in reviewing project activities in a hands-on manner. Conducted executive briefings and regular management briefings using consistent status, issues and budgeting reports.

- Project Management Office (PMO) – Member of a PMO that helped develop and implement a methodology based upon best practices and the ERP implementation process. The methodology included all components of the process including Initiation, Analysis, Design, Construction, Testing, Migration and Evolution. The best practices were included at both a phase level and within the toolkits for the ERP products. The rollout included developing project plans for distribution to all employees across the country.

- ERP Selection and Implementation - Led the process to select an ERP and CRM vendor for an internet technology company. In addition to determining requirements and identification of key business processes to create short list of vendors, evaluated implementation approaches for both internal and ASP solutions. Vendors included Oracle, PeopleSoft, Lawson, JD Edwards, JBA International, BAAN and SAP. Applications included financials, order management, activity management and project accounting. In addition to functional fit, the vendors were analyzed to determine their capabilities for web enabled application capabilities.

  As a result of the work results during the selection, stayed on to manage the implementation of the selected package. In that capacity, was responsible for interviewing and selecting the implementation team, working directly with the vendor for support and services, negotiating the contract, developing and maintaining the project plan, preparing for and conducting weekly steering committee meetings and presenting to executive management status and issues which needed their attention. The project had an aggressive 4-month schedule so in order to meet the timeline, worked side by side with the implementation team to conduct system testing while also working as the project manager. In addition to the standard implementation, a time-entry web-based front end was designed and developed that was one of the first created using the vendor's new web toolset.

- ERP Selection and Lawson Implementation - Conducted a software selection for a professional services company including process flow design and detailed requirements definition for project costing, time reporting, service order entry, hardware order entry, AR, GL, AP, Project Accounting, Purchasing, Commissions, Human Resources and Billing applications. After selection, stayed on as project manager with a team of 14 technical and functional analysts. Developed and tracked project activities against a detailed budget. Implemented a Lotus Notes project tracking system for tasks, meetings, issues, and time reporting to support the project infrastructure and reporting.

  The system operated on a DB2 database on an RS6000 platform with Web-based applications for activity/project costing time report and management status review. The schedule was extremely aggressive and the system was implemented in four months, including phases for requirements, training, design, conference room pilot, set up, testing, user training, procedures development, web deployment and conversion. The project came in on time and under budget.

- Siebel Program Manager - Overall responsibility for a team of 50 business and technical analysts in the implementation of a $12M PRM web-based system of Siebel eAgent for a 42-state organization. The team consisted of five project managers responsible for Siebel, SeeBeyond Middleware, Quality Assurance/Testing, Infrastructure/Architecture, CICS mainframe and Communications/Training. The project involved configuring the Siebel user interface to meet the needs of the client and developing custom middleware integration between Siebel and the mainframe via the SeeBeyond toolset. Used the Rational toolset (ClearQuest, Robot, Test Manager, Requisite Pro) for full testing including Unit, Integration, System, Performance and Acceptance. Developed an integrated project plan combining the high level tasks of the specific sub-project plans in order to manage dependencies across the entire project and control budgets Responsible for status reporting and final accountability to the PMO and Steering Committee regarding the progress and success of the project.

- Departmental Restructuring - Managed a large organizational restructuring project, combining HR, Benefits and Payroll functions into one unit from several different organizations. This restructuring included designing new organizational units such as a Call Center and Specialist functions that increased customer service as well as allowed the units to operate more efficiently. Wrote the implementation plan for the rollout, which was executed by several teams over the course of months.

- Lawson Financial Suite Implementation - Lead project manager for a team of 10 analysts and technical support members in the selection and implementation of general ledger, accounts payable, and cash management for a $750 million sub-acute health care client. The project included determining detailed requirements and preparing an extensive RFP as well as development of specific demonstration scripts and selection evaluation tool set.

  The implementation phase of the project was critical to the client since this was their first client/server, Oracle-based application. Responsibilities included preparing and managing detailed project plans, both user and technical, which consisted of hundreds of tasks. The project included full conversion of financial data, development of thirteen interfaces to the GL, multiple bank interfaces to cash ledger, preparation of detailed procedures and training manuals, design and setup of a new training facility, development and implementation of program change control procedures, full application of Oracle and Unix security plans and deployment of third party reporting tools. Designed and implemented a groupware database for setup of project tasks and tracking of deliverables. Also developed and rolled out a turnover database to track sign-off of all steps required for the appropriate turnover to production from test.

- Quality Assurance Testing - Developed and rolled out a testing program for a large insurance organization including definitions and procedures for the following types of testing: Unit, Functional, Integration, System, Stress/Performance, Regression, and User Acceptance Testing. By training all the business analysts and project managers in this more structured approach, the organization was able to approach testing in a more consistent, quality-controlled manner. Stress testing included the use of software test tools. In addition, I helped set up the QA department, writing the entire project plan including components for Testing, Configuration Management and Communication planning.

- PeopleSoft Canadian and Puerto Rico PeopleSoft Implementation – Managed a team of 10 analysts in the implementation of Canadian and Puerto Rican HR, Benefits, Payroll and Kronos time and attendance systems for a large waste disposal company Included in the project was a detailed gap analysis and identifying and setting up global screens to handle the international requirements of the business units. In several cases, customized features were developed as well as designing and developing specific Canadian regulatory reports that were not available in the

standard product. The aggressive schedule allowed the client to go in live in four months including full conversions from the existing HR system and ADP payroll.

- PeopleSoft Payroll/HR/Training Administration Implementation - Conducted software selection and implementation for a $300 million assisted living organization. Performed project management for a team of 16 full-time functional and technical analysts in the implementation of payroll, time and attendance, human resources, benefits, training and applicant tracking. The project included determining detailed requirements, analysis, custom development, report writing, 9 interfaces, conversion of electronic and manual systems, WEB deployment, IVR, time clock, and rollout to 300 locations in 36 states.

  The project necessitated the conversion of 10,000 employees from multiple data sources. Detailed conversion project plans and specific conversion tools (Convoy) were employed to streamline the process and provide quality converted data. Interfaces to and from the system included electronic transfer of data to third party providers, ADP, internal systems, and banking institutions.

  The Training Administration module included defining and setting up legal requirements for 33 individual states as well as curriculum, course, session, instructor and tracking components.

- Technical Writing - Rewrote Swedish/English text for a training program into appropriate business English for 52 program documents. The project included understanding the content of the training program and correctly translating it into formal, correct English.

- Testing Manager - Responsible for developing standards and managing a 12 person team in the Functional, Integration, System, Conversion and Stress testing efforts of large ERP project. Activities included the development of testing standards, templates and an integrated test plan. Also responsible for scheduling and coordinating all the various phases of the testing with both functional and technical team members, including those onsite and offsite.

- Data Warehouse Development - Project manager for a proof-of-concept data warehouse for the analysis of government reimbursement amounts versus the cost to provide health care services for an inpatient line of business. The warehouse included an extensive Operation Data Store (ODS), development of programs to affect RUG-III algorithms based on analytical results, and the selection and implementation of a true data mining product. The selection of DSS tools was based on requirements for knowledge-discovery and rule-based algorithms for mining the large database.

- MIS Director - During a major re-organization of a large public sector client, acted as the temporary MIS Director and lead project manager for a department of over 25 individuals. Responsibilities included remodeling of the data center, oversight of a project to convert to a new mainframe and new operating system, re-organizing the department including making major changes to move telephone and data entry functions to other departments, developing a project management system for the applications development function, writing the policy and procedures manual for the department, re-writing all job descriptions for applications development, operations and technical support personnel, evaluating all positions within the department, writing job standards and revising structure and positions to better meet needs and setting up a new change control procedure.

- Marketing Customer Relationship Management - Led a project to define requirements, design, and implement a customer relationship management system built on top of a data mart. The objective of the system was to determine buying patterns of customers in order to better develop marketing programs. The client was interested in enhancing their customer service programs by allowing faster and easier access by their end customers and use analytic systems to respond quickly. Responsibilities included rolling out the system to 25 sites across the country and creating procedures for formal turnover and help desk support.

- Utilities ERP Implementation - Engagement Director for a 42 person staff implementing complete financial and procurement applications for a nation-wide gas and oil company. Project included 24 interfaces and 15 separate conversion programs. In addition to the standard client-based applications, web based applications included procurement and financial self serve, data mart analytics and workflow. The client realized over $500,000 in cost savings as a result of improved processes and integrated services implemented on this project.

- Strategic Information Systems Planning - Managed a project to perform a strategic information systems plan for a large services firm. Activities included assessing and comparing current technology use, bench marking against other firms, defining training requirements for all levels of professional staff, preparing five year budget for hardware and recommending ways to use technologies to increase efficiency.

- Human Resources/ Payroll Post Implementation Review - Designed and led the objective post-implementation review of a human resource and payroll system. Responsibilities included development of an audit program, conducting confidential interviews, preparing summary reports, and leading the group review. Because of prior experience with project management, the vendor's software, the HR and PR process, and experience in conducting post implementation reviews, the client gained significant improvement information from this third party perspective. The project included the integration of Lawson HR software and ADP payroll integration.

- Data Warehouse Evaluation - Participated with the CIO of a large health care organization in the evaluation of an off-the-shelf data warehouse solution to determine fit with the company's overall strategic plan for data warehousing. The evaluation provided significant insight into determining the actual product offering against its marketed description and allowed the CIO to fit the product offering more closely into the company's warehouse definition. Activities included the analysis of their current Hyperion analytical environment against an integrated warehouse.

- Manufacturing RFP Development and Software Selection - Participated in the development of a Request for Proposal (RFP) for the selection of hardware and financial and manufacturing software. Responsibilities included performing client interviews, defining requirements, preparing company system flow diagrams, developing an RFP, and assisting with vendor selection. Continued on the project to implement and roll out the vendor solution which included extensive customizations to meet the client's business requirements.

- Third Party Review - Conducted an in-depth review of the applications and operational controls of a provider of on-line electronic funds transfer services to the major national networks and financial institutions. Hardware and network platforms included large IBM and Tandem mainframes. The client provides services related to electronic funds transfer, electronic benefits transfer, funds movement ACH transfers, processor and institutional settlement and management reporting.

  The scope of the review included a detailed understanding of the specific operations and procedures used by both the programming and computer operations departments. The scope further included the review of controls regarding the operating functions of specific financial applications. The end result of the review resulted in a report of the presence and acceptability of the controls, which was presented to the customers of the service organizations.

- Interface Analyst - Responsible for identifying requirements for implementing interfaces for a financial and procurement system. The client had no existing documentation nor were there any individuals still working for the company that understood the interfaces. Developed detailed documentation and flowcharts for 38 interfaces between Lawson, GEAC D&B, LastWord, IDX Bar, Medic, external bank, SurgiServe, EDI (Alliance, ValueLink, Baxter, Owens Minor), Trading Partners, Natural (Adabas), Viking Pharmacy, Cycare and custom developed systems. Wrote technical specifications for the development team and designed, wrote and executed system testing of the interfaces.

- Manufacturing Document Imaging - Determined requirements for a document imaging system for corporate accounting, legal, tax, payroll, and treasury departments of a Fortune 500 manufacturing company. Technologies included image, OCR, COLD, optical disk and workflow. Also evaluated vendors to meet requirements as well as provided project management duties for this new technology for the company.

- European System Controls Review – Conducted a multi-month review of a large Danish bank of their financial systems and controls. The client had large risks associated with the online processing applications and interfaces to multiple national organizations.

- European Financial Reporting Analyst – Provided training and developed reports for a Dutch financial services organization using end user reporting tools new to the organization. The client also had operations in the US and currency requirements were critical in the development of the correct reports.

- International Controls Review - Led an external audit and internal audit team in the review of the financial systems of the second largest bank in Denmark. The review included preparing the evaluation plan, execution of the plan, development of the final management report and final presentation with the bank executives.

- UK Manufacturing Systems Evaluation – Conducted a diagnostic of a human resource system in Manchester, England for a manufacturing company. The client needed assistance in identifying weaknesses in their system as they considered a replacement system. The evaluation included human resources, personnel, benefits and payroll applications.

- UK Manufacturing Systems Analysis and Project Management– Provided project management, systems analysis and application development support for the rollout of a global customer tracking system in Henley-on-Thames, England. The application supported both US and UK functionality for this international manufacturing company. Activities included overall project management, database design and user interfaces.

- Yardi Property Management and Marketing System Analyst - Responsible for full implementation of the Yardi marketing system integrated into a property management system. While the property management system met the client's requirements rather well, it was not a good match for the marketing component. As a result, the project necessitated extensive customizations and tailoring. Because of the custom requirements, it was necessary to implement a highly controlled analytical and design environment.

  The project began with detailed requirements, prioritized and categorized. Specific gap analysis was conducted from both a functional and data perspective. This drove further gap identification and resolution recommendations for prioritizing and costing. Created templates for designing gap resolutions, tracking master file setup values and documentation standards. Organized a change management environment, including the development of complete documentation and technical change control procedures to ensure quality implementation of customizations. Led the system test process and designed and implemented the system test plan.

- Needs Assessment and Database Design - Performed a needs assessment and detailed requirements definition for job costing, time reporting, service order entry, staff scheduling, electronic mail, customer tracking and salesperson reporting system on a local area network. Also performed initial database design, interface requirements and security requirements of the system. The project included the implementation of local and remote networks with direct and dial-in network provisions. Database requirements included the nightly distribution of database updates at remote locations with a central repository of all data.

- Marketing Database Development - Designed and wrote a marketing database to support a multi-department service company. The system included over ten separate integrated tables designed with referential integrity and full menu system secured at the field and user level. Also included the design of over twenty-five reports, which required output in printed form, downloads into Microsoft Windows, mailing labels, ASCII format to other databases and screen display.

- Educational Administration Software Selection - Responsible for the selection of software and hardware for business and school administrative systems for a school district of almost 20,000 students. Applications included financial systems, student records, student attendance, student scheduling, student grading, teacher gradebook, classroom attendance, library, facilities scheduling, facilities maintenance and food service. The project also included preparing a plan for district-wide networking and long term strategic planning for technology. Individual components of the plan included development of technical and application requirements, vendor selection, strategic plan development, integration of business and educational technology networking infrastructure and presentation to the Board.

- Educational Computing Consulting - As part of a long-term plan to improve physical, educational and technology infrastructures in one of the largest school districts in the state, a group of business professionals and educational consultants formed a team to develop strategies to accomplish this goal. Participated as both a member of this core committee and as the chairperson of the sub-committee to develop a technology plan for instructional computing. The sub-committee was charged with making recommendations for the implementation of a district wide network that would integrate administrative and instructional use of computers as a cost effective and leading edge solution for the district. `Activities included assessing and development recommendations for: using computers in classrooms as tools integrated into the curriculum, enhancing teacher productivity and providing students with the skills to graduate into a work force prepared to handle technology; integrating library services into public services; making use of computers in classrooms for teacher administrative functions and student instructional tools; integrating building local area networks

into district-wide networks; making use of satellite, video and audio technology for distance learning, connectivity to the Internet, home-based instruction, off-campus learning and school administrative functions.

- Trading and Stock System Review - Performed a comprehensive review of practices, policies and procedures associated with the trading, stock accounting and cash processing applications. Efforts focused on development methodology, internal and external balancing and controls, change management, data and access security, failure recovery, contingency planning and testing, and project management and control.

- System Test Manager - The client did not have a methodology or testing environment nor was familiar with the testing process. Designed the testing approach, developed detailed test plans, scenarios and scripts as well as rules for determining data condition testing. Prepared testing schedules and defined technical environment for testing. Set up rules for tracking expected results, retesting and sign off.

- Accounts Receivable Controls Review - Performed a review of controls and procedures for a mail order business that was experiencing large Accounts Receivable losses. Through interviews and analyses of reports, recommended solutions for A/R problems as well as overall system and procedures problems.

- Retail Controls Review - Performed a procedures and controls review of the systems maintenance process of four major systems, including catalog entry, national accounting systems, national accounts payable, and retail inventory management. The review evaluated the systems maintenance process for change management controls, program and system testing, documentation and separation of responsibilities as they relate to systems enhancements, fixes and service requests.

- Point of Sale (POS) Systems Analyst - Participated in the systems testing process for a point-of-sale UNIX-based application for a large petroleum/oil company. The application involved systems analysis duties for countrywide auto/truck stops. Individual responsibilities included writing program specifications, unit testing, system testing, documentation, user site set-up, technical support and systems analysis.

- Retail End User Computing Productivity Review - Performed a review of the maintenance process of end user computing applications for one of the largest retailers in the country. The review included interviewing personnel, examining documentation, assessing procedures and providing a complete assessment report.

REPRESENTATIVE CLIENTS

AllState Insurance
Allen-Bradley, Division of Rockwell Automation
Alterra Healthcare Corporation
Bank One
Berbee Information Networks
Borg Warner Automotive Powertrain Systems
Brookdale Living Communities
BTS
Cargill Dow Chemical
Children's Hospital of Wisconsin
Church Mutual Insurance Co.
City of Milwaukee - Employee Retirement Systems
Dane County
EFunds Electronic Payment Services (Division of Deluxe Check)
Edwards Hospital
Emjay Corporation Retirement Processing (Wells Fargo)
Firstar Corporation Banks
Franklin School District
Harnischfeger Corporation Manufacturing
HealthSystem Minnesota
Kinder Morgan Gas and Oil Pipeline
Kenosha Unified School District No. 1
Leapsource Business Process Outsourcing
Lehman Brothers
Mariner Health of Connecticut
Milwaukee County
Milwaukee Public Schools
National Business Furniture
New York State Electric and Gas
Northwestern National Insurance Co.
Olsten Staffing Services
Potowatomi Casino
Reiman Publications
Rein, Schultz & Dahl Quarries
School District of Cudahy
Sears Roebuck
Sentry Insurance
St. Catherine's Hospital
Universal Foods Corporation
United Performing Arts Center
Unibank, Copenhagen Denmark
University of Wisconsin
UNOCAL
Warman International Manufacturing
Washington County
Waste Management

West Allis Memorial Hospital
Western Publishing Co.

Whitnall School District

BACKGROUND

Acacia Consulting LLC
Partner
Responsible for the development and implementation of ERP solutions incorporating emerging technologies in support of business process redesign, web deployable applications, and software implementations.

Answerthink
Senior Director
Responsible for the development and implementation of ERP solutions incorporating emerging technologies in support of business process redesign, web deployable applications, and related projects. Led Business Applications practice area in the integration of best practices into the package implementation approach. Member of a Corporate team to design Business Process Information methodology to incorporate Hackett Best Practices into the firm's implementation strategy. Held position of Solution Assurance representative for the practice area.

USinternetworking, Inc.
Practice Director
Responsible for building and directing the Lawson implementation practice in the Midwest region covering 15 states. Responsibilities included pre-sales support, contract development and coordination, client presentations, proposal development, engagement ownership, and regional profitability. Managed recruitment, hiring, succession planning and personnel administration for 14 employees. Participated in the development of structured methodologies for rapid implementation of the Lawson product suites using an ASP solution. Coordinated all functions between the client engagement and the data center build of the product delivery and support infrastructure. Managed ongoing client relationship after implementation go-live.

Sycamore Group
Management Consultant, Engagement Manager
Senior project manager and engagement manager for consulting engagements across industries in the areas of information systems management, strategic planning, business process improvement, application selection and implementation, application development, user training and policies and procedures development.

Deloitte & Touche
Management Consultant –Senior. Manager
Performed consulting engagements across industries in the areas of information systems management, strategic planning, business process re-engineering, application selection and implementation, application development, policies and procedure development and computer auditing services. Technology platforms included large mainframe environments, client/server, mid-range and personal computer local area networks.

Allen-Bradley Co. (Division of Rockwell Automation)
Manager, Corporate Information Center
Managed a staff of five in the technical, training and consulting support for 1400 end users. Chose, installed, tested and evaluated all user tools both mainframe and PC. Responsible for implementing a company-wide PC maintenance program and writing and publishing information center guidelines, handbooks and newsletters. Sold the concept of the IC to management and promoted services and products on a charge-back basis to countrywide users.

Manager, Information Systems Automation
Directed, consulted and supported 72 sales offices in the office automation tools and mainframe communication services. Supervised a staff of three in supporting internal and external sales personnel needs. Sold and promoted an on-line sales order entry application to distributors. Worked with all manufacturing divisions in integrating sales division needs with product division requirements.

Consultant, Information Center
Implemented the consulting, support and training efforts of a new information center. Promoted its services to worldwide Allen-Bradley plants. Responsible for growing customers from 30 to over 1400 in two years. Implemented an Executive Information System for Corporate executives. Wrote and taught classes and supported users in 4th generation languages (FOCUS, SQL,

QMF, SAS), database management systems (DB2, FOCUS), financial modeling languages (IFPS), desk-top publishing, mainframe (GDDM) and personal computer graphics and PC software.

F.W. Woolworth Co.
Programmer
Responsible for designing, coding, testing, documenting and implementing new and existing application programs in the areas of inventory, accounting, capital accounts and credit. Worked extensively on JCL, COBOL and CICS applications.

Alverno College
Instructor
Wrote class curriculum and taught courses in COBOL and RPG.

Milwaukee Public Schools
Teacher
Taught English and Music to secondary education students on a full time basis. Taught summer school music for strings, directed an orchestra and taught individual and classroom Suzuki violin.

EDUCATION AND ASSOCIATIONS
Ms. Haubner's educational background includes:

Marquette University
- MA, English

Alverno College
- BA, English, Education
- BA, Music
- Assoc. Computer Science

Languages:
- Conversational Spanish
- Conversational Italian

Ms. Haubner's technical education includes:

Control Data Institute
Milwaukee Area Technical College
ERP package suites training
Data Warehouse design
Project Management Institute PMP course – PMP Certification

Ms. Haubner has participated in the following professional activities:

- Prepared and delivered a presentation to the Wisconsin ASM/DPMA on Designing and Maintaining a Data Warehouse.
- Conference Presenter at the yearly PeopleSoft America conference on managing payroll and human resource projects.
- Presented to the PeopleSoft EMEA (European Mideast and Africa) conference in Hamburg, Germany on managing projects via groupware and the internet.
- Co-developed an organization-wide methodology for an IT consulting company that included the integration of world class best practices into package implementations.
- Conducted training classes in concepts of data warehousing to a major retail organization. The presentation included basic business concepts, dimensional modeling, approach and methodology for implementation and inventory of tools by category.
- Developed a groupware based project tracking system that was accepted and used at several engagements as the model approach for projects.
- Prepared and delivered a presentation to the Wisconsin Association of School Business Managers on the topic of systems development approaches and future technologies in computing for school districts.

- Wrote and presented to the Wisconsin Association of Certified Public Accountants on the topic of EDP auditing and controls.
- Wrote and presented to a multi-divisional Fortune 500 company concerning the topic of software compliance, mainframe change control and disaster recovery planning.
- Wrote and was responsible for the publication of the major data processing newsletter for a manufacturing company.
- Published the lead article in the EDPACS magazine on implementing disaster recover on Tandem platforms.

Ms. Haubner has participated in the following professional and community activities:

United Performing Arts Fund - MIS Advisory Committee Chairperson
Project Management Institute – Member, PMP
EDP Auditors Association, Inc. - Certified Information Systems Auditor (CISA)
St. John Cathedral - Member: Administrative Services Commission, Choir, Handbell Choir
Wisconsin Department of Public Instruction - Licensed Teacher
Wisconsin Women Entrepreneurs Milwaukee
Alpha Sigma Tau - Member