TECHNOLOGY USE BY NONPROFIT ORGANIZATIONS IN SOUTHWESTERN PENNSYLVANIA

SEPTEMBER 2001
FORWARD AND ACKNOWLEDGEMENTS

In January 2001, the Bayer Center for Nonprofit Management at Robert Morris College launched its technology program as the result of a comprehensive business planning process. After exploring the management needs of organizations in the region, the Bayer Center discovered that, although several organizations were providing valuable technology support for nonprofit organizations on a small scale using volunteers or in subsector-specific programs, there was no nonprofit technology support initiative serving the entire nonprofit sector with full-time staff in the Pittsburgh region.

One conclusion of that planning process was that better use of technology could produce enhanced accountability, more effective communication and improved efficiency in nonprofit organizations in the region. In order to make technological improvement sustainable and to leverage technology’s contribution of the organizations meeting their mission, the Bayer Center saw the value of incorporating a technology initiative into a full-service management support organization. To be effective, technology planning must be incorporated into all areas of the organization’s life. From fundraising to human resources to collaborating with peers to financial accountability, technology tools can make sparse resources go further for the public good.

The Bayer Center’s technology program has been generously funded by the Buhl Foundation and the Heinz Endowments. Invaluable support for the launch of the initiative has been provided by Dewey and Kaye and the Chicago-based IT Resource Center.

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Executive Director    Director of Technology Services

September 2001

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EXECUTIVE SUMMARY

In late summer 2000, the Bayer Center for Nonprofit Management at Robert Morris College conducted a self-assessment technology survey of nonprofit organizations in the region. Approximately 180 out of 1800 recipients responded to the survey.

Respondent Profile

More than half of all survey respondents fall into three categories: Human Services (27%), Education (18%) and Arts, Culture and Humanities (16%). The smallest categories include Religious (7%), Environmental (3%) and International and Foreign Affairs (1%) organizations. This breakdown maps closely with the distribution of nonprofits in the region with the exception of Arts organizations, which are overrepresented and health organizations, which are underrepresented.

The vast majority of responding organizations (85%) are located in Allegheny County with the majority listing a Pittsburgh address. An additional 12% are located in the adjacent counties of Armstrong, Butler, Washington and Westmoreland.

Half of the organizations have annual budgets of less than $500,000, and 80% have annual budgets of less than $2 million. By budget size, the organizations are larger than the national pool of nonprofit organizations. Half of the respondents employ 7 or fewer full time equivalent (FTE) employees and over 70% have fewer than 15 employees.

Technology Policy

Only 28% of responding organizations have a formal technology plan. Among organizations with more than 20 employees, however, 43% have a technology plan.

A variety of people are responsible for technology management in organizations. Leaders include a staff person with part-time technology responsibilities (26%), the executive director (19%) and staff who are de facto responsible due to their interest in technology (16%). Only 7% of organizations have an MIS department with 2 or more employees.

Only 42% of organizations have a specific technology budget. Those that do budget specifically for technology spend approximately $1000 per computer per year, although this average is skewed high by some organizations that spend upwards of $3000 per computer; 56% of organizations actually spend less than $1000 per year.

Less than a quarter (23%) of employees in Pittsburgh area nonprofit organizations received formal technology training as part of their job in 2000. Less than a third of organizations (31%) include technology skills in their job descriptions and performance evaluations. A connection appears to exist between these two policies: organizations that include technology skills in job descriptions send their employees to training at twice the rate of those that do not.
Approximately 17% of organizations have a board technology planning and evaluation committee. Those that have a board committee tend to be smaller than those that do not. Board involvement can have a significant positive impact on technology use and policy: where the board is involved, 63% of organizations track technology expenses in the budget versus 40% where the board is not involved. In organizations with a board technology committee, 40% include technology requirements in their job descriptions whereas only 29% of organizations with no board involvement include tech requirement in job descriptions.

**Computer Systems**

The vast majority (83%) of the computers represented by the survey are Pentium class machines; approximately 9% of all computers in the survey organizations are outdated 486 models. Macintosh computers account for 5% of all computers in the sample.

More than a quarter of organizations (28%) do not have a computer network. The majority of organizations do, however, with four types of Client-server (49% total) and PC peer-to-peer (13%) accounting for the majority.

Almost all organizations (86%) are connected to the Internet. However, only 32% have a broadband connection. The majority have either a dialup connection on an individual machine (38%) or a shared dialup (17%). The survey results show a positive, direct relationship between staff size and the speed and quality of Internet connectivity. Not everyone uses the Internet, however: in over 40% of organizations, fewer than a third of employees use the Web and email as part of their work.

Microsoft Office is used for basic productivity tasks in 90% of organizations.

Although more than half of organizations use a commercial accounting software for tasks like general ledger, accounts receivable and accounts payable, no one software has more than 21% of the market. Quickbooks (21%) and Peachtree (11%) are the leaders. Most organizations tend to use one package across all accounting functions. Payroll is the accounting function most likely to be outsourced.

Many list management tasks are not handled in databases. While a majority of client management (64%) is done with databases, less than half of fund-raising (47%) is managed that way. Almost half of all volunteer management is done manually.

**Areas for Improvement and Resource Needs**

Only 13% of organizations indicated that they needed no improvement to their computer systems. These organizations tended to be small. The biggest improvement need cited was training (89% of organizations) followed by Software (70%) and Hardware (68%). Larger organizations cited a need for minor hardware improvement and major training improvement.

From a list of topics about which they would like more information, the most popular choice again was training in specific software applications (50%) followed closely by group purchasing with other organizations, creating an Internet marketing plan and
creating an overall technology plan. The choices that garnered the least interest were accessing the Internet and creating a disaster recovery plan, both at 11%.

**Conclusions**

There is reason to be proud, happy and confident about the use of technology by nonprofit organizations in the region. Many organizations have current, appropriate equipment for their work and the staff know-how to use it well. Funders have provided grant funds that have created valuable returns in the form of improved service delivery and efficiency. Organizations in the nonprofit sector do have opportunities to improve their use of technology, and cooperation will be the key to success.

There is a need for technology training that is appropriate for nonprofit employees and is focused on building internal capacity in organizations.

A technology focus must be brought to functions in the organization such as strategic planning, human resources practices and board governance. When incorporated into all facets of organizational policy and practice, technology can aid both revolutionary and evolutionary change.

Improvement in technology use will require a financial investment. Internally, organizations need to budget annually for the total cost of technology, including staffing, upgrades, maintenance and training. Externally, the funding community must invest strategically for the long-term health and efficacy of organizations serving the public good.

Two additional essential ingredients to technology success in nonprofits are: an appreciation for the tremendous community resources that already exist and further research. The Bayer Center is prepared to provide what it can in both areas by sharing its findings and encouraging other research and partnering with other service-providers in all sectors.
INTRODUCTION

The primary goal of the survey was to better understand the technology needs of nonprofit organizations. The survey was conducted in late summer of 2000. It was sent to approximately 1800 organizations in the region, of which 178 responded. As an incentive to complete the survey, the Bayer Center offered a coupon that allowed survey respondent organizations to receive either a free on-site technology assessment or a 15% discount to any of the Bayer Center’s workshops in nonprofit management. Approximately 70% of organizations selected the technology assessment.

The survey instrument was developed with the guidance of Deborah Strauss and Tim Mills-Groninger of IT Resource Center in Chicago. It was reviewed by a group of technology leaders with the assistance of Sarah Wertheimer and Kate Dewey of Dewey and Kaye in Pittsburgh. A copy of the survey instrument is included in the appendix.

Although all responses are self-reporting, validation has been conducted through on-site technology assessments. During assessments, Bayer Center technology staff discuss the programs the organization runs and the resources it uses to deliver services. In this context, the organization’s technology use – its computer systems – and policy – technology planning and management – are evaluated. In addition, an organizational technology culture diagnostic is used to evaluate attitudes toward technology in the staff and leadership of the organization. The assessments have helped to create a picture of what the numbers in the survey results mean in the day-to-day life of organizations serving the public good in the region.

This report will present the findings of the technology survey. First, we will provide context for the responses by profiling the organizations that responded to the survey. Second, we will cover the lessons learned about technology policy. Third, we will cover the computer systems that are currently in place, including hardware, software and connectivity. Finally, we will summarize the areas that organizations cite for improvement and deepening of knowledge.
RESPONDING ORGANIZATIONS

This section of the report will detail the types of organizations that responded to the survey, including characteristics of organization type, geographic location, budget size, and staff size.

Organization Type

The survey allowed organizations to choose from a top-level list of categories from the National Taxonomy of Exempt Entities. Because some organizations work in multiple categories, they were allowed to choose as many options as they considered valid. While the majority (60%) of organizations chose only one option and another 20% chose two, several organizations chose more than that, including one that chose six. In addition, 7% of organizations chose none of the options listed.

More than half of all survey respondents fall into three categories: Human Services, Education and Arts, Culture and Humanities. The smallest categories include Religious, Environmental and International and Foreign Affairs organizations.

The breakdown of survey respondents does not align in all categories with the regional pool of nonprofit organizations. Arts organizations are represented at twice their proportion in the regional pool; 16% of survey respondents were arts organizations versus 8% of all organizations in the region. Health organizations were underrepresented with only 6.5% of health-related survey respondents, while 18% of the organizations in the region are health-related.
Two explanations are offered for the disproportionate number of arts organizations. First, more than some other categories, arts organizations must interact with the public as customers in an intensive manner. This customer contact forces these organizations to streamline processes, and technology often plays a key role. These organizations are proud of their use of computers and are more prone to respond to a survey about technology. Second, the arts community in Pittsburgh has likely been affected by the presence of the Center for Arts Management and Technology (CAMT) at Carnegie Mellon University. For several years, CAMT’s staff has raised the consciousness level about technology tools for the arts and assisted many Pittsburgh area organizations (as well as national clients) to better utilize technology through consulting and training.

The low response from healthcare organizations is likely due to the fact that medical practices have been forced by their relationships with insurers and by law to keep records in an efficient manner. Databases have been imposed on paper file systems, and technology is so fully ingrained into healthcare organizations that they differ from many of their nonprofit counterparts.

**Geography**

The vast majority of responding organizations (85%) are located in Allegheny County with the majority listing a Pittsburgh address. An additional 12% are located in the adjacent counties of Armstrong, Butler, Washington and Westmoreland. The remaining three percent come from outside the 5-county region.
### County

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Organizations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td>152</td>
<td>85%</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>10</td>
<td>6%</td>
</tr>
<tr>
<td>Washington</td>
<td>8</td>
<td>4%</td>
</tr>
<tr>
<td>Butler</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Armstrong</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Other¹</td>
<td>5</td>
<td>3%</td>
</tr>
</tbody>
</table>

### Budget Size

The organizations in the respondent pool tend to be small as are most nonprofit organizations nationally. Half of the organizations have annual budgets of less than $500,000, and 80% have annual budgets of less than $2 million. Still, there is a wide variety of budget sizes from a tenant council with a budget of $1,050 and no staff to a multi-faceted educational agency with a $100 million budget.

#### Survey Respondents by Budget Size

- $<100,000: 9%
- $100,000-$499,999: 41%
- $500,000-$999,999: 16%
- $1 Mil-$4.99 Mil: 24%
- $5 Mil-$9.99 Mil: 5%
- $10 Mil+: 5%

When compared with the national breakdown of nonprofit organizations by budget size, however, the survey organizations look larger. The National Center for Charitable Statistics at the Urban Institute produced a data set of nonprofit organizations nationwide by budget size in 1996. The survey pool contains a much smaller proportion of tiny organizations – organizations with budgets under $100,000. The balance for this is found in a higher proportion of small to midsize organizations and almost twice the national percentage of truly large organizations.

¹ Other counties include Cambria (2), Lawrence (2) and Venango (1)
Two factors may explain this size difference, one relating to the climate for nonprofit organizations in the Pittsburgh region and the other being a selection bias for a technology survey. First, Pittsburgh may have larger-than-average budgets in its nonprofit organizations due to the depth and breadth of its philanthropic community. The steel and coal fortunes of the 19th and early 20th centuries produced a tremendous amount of wealth in the region, which remains in the form of family and corporate foundations. According to the Pennsylvania Directory of Foundations, in 1998, there were 371 foundations in Southwestern Pennsylvania with over $7 billion in assets. Pennsylvania ranked third in the country in amount of wealth in its philanthropies with $21.18 billion in assets, trailing only New York ($46 billion) and California ($38 billion). Southwestern Pennsylvania foundations distributed over $425 million in grants in 1998; this translates into giving per capita of $137. The national average giving per capita was $72\(^2\). Due to the amount of grant money available, nonprofit organizations can more easily grow and flourish in Western Pennsylvania.

The second possible influence that would skew the budget size in this survey respondent pool is that very small organizations may lag behind standard practice in the area of technology. Due to their limited use of computers, they might have chosen not to respond to this particular survey.

**Staff Size**

A similar profile of mostly small nonprofits emerges when the staff size of responding organizations is examined. Half of the respondents employ 7 or fewer full time equivalent (FTE) employees. An additional 20% of organizations have more than 7 but fewer than 15 employees. Some organizations are run entirely by volunteers or with as little as one part-time staff person.

As with budget size, however, the range of staff sizes is immense; the largest organization that responded to the survey employs 1000 FTEs.

Survey Respondents by Staff Size

![Bar chart showing percentage of survey respondents by staff size in Full-time Equivalents (FTEs).]

While we assume a similar skew with national figures, we were not able to locate regional or national data sets with which to compare our survey pool on the measure of staff size.

The effect of small staff sizes on technology use is that technology management is often an understaffed function in the organizations. The staff person or staff persons who are most naturally interested in computers conduct planning and troubleshooting on an ad hoc basis. This work often goes undocumented in job descriptions and performance evaluations.
Several survey questions covered organizational policy relating to computer use. Topics such as planning, staffing and technology spending fall under this umbrella.

**Technology Planning**

One of the most vital ingredients to effective use of technology is organized planning for its acquisition, maintenance and use. Technology planning differs from general strategic planning in that because of the constant development of new hardware and software, the time horizon for a technology plan should be no longer than three years, and the plan must be reviewed at least annually to prevent the implementation of obsolete solutions.

Our survey indicates that relatively few nonprofit organizations plan strategically for the technology function. Only 28% of responding organizations have a formal technology plan. This may be a stand-alone plan specifically focused on technology, or the organization’s strategic plan might address technology issues. There is some evidence that larger organizations are more likely to plan; among organizations with more than 20 employees, 43% have a technology plan.

![Organizations by Technology Plan Response](chart.png)

**Technology Management**

Because of limited resources, nonprofit organizations often officially understaff technology management with responsibility falling to the most technology savvy staff person. Best practice benchmarks indicate that for a certain number of employees, an organization should have 1 full-time equivalent technology staff person. Some experts
say this ratio is as low as 15 employees to one technology person, while others use a higher ratio of up to 40 employees to one technologist.

The survey form defined technology management as “the primary source of technology decision-making; who decides what gets purchased and what gets thrown away?” This responsibility is handled by a variety of people and departments in organizations.

For the purposes of the survey, options were originally limited to:
- Don’t know/not sure
- MIS Dept. with two or more employees
- Finance Dept.
- A staff person with full-time technology responsibilities
- A designated staff person with part-time technology responsibilities
- Unofficial staff interested in technology
- Other

This group of options was presumed to cover most of the arrangements that organizations make to manage technology. The responses gathered under “other” on the survey, however, suggest a reorientation of the options. Despite the fact that it wasn’t one of the checkbox options, 19% of organizations indicated that the executive director is responsible for technology management. Another unforeseen group is the operations or administration department handling technology. A small number of organizations also indicated that their board members or a volunteer manage technology. This approach tends only to be appropriate for very small organizations, but it can work with a faithful, qualified volunteer and the appropriate relationship with staff.

The distinction between unofficial staff interested in technology and staff members whose job descriptions include full- or part-time technology management responsibility is an important one. Retaining technology staff is easier when these responsibilities are officially incorporated into an employee’s job description and compensation. Although it may seem counterintuitive, the Finance Department often ends up as de facto managers of technology due to their control of acquisitions. For the purposes of the survey, if more than one person works full-time on technology, they are considered a department.

Only 7% of organizations have an MIS Department, and these organizations tend to be larger. The vast majority (75%) of respondents with an MIS department have 60 or more employees. Although one might assume that the executive director manages the technology function only in small organizations, some executive directors of organizations with hundreds of employees and several-million-dollar budgets are still making technology decisions.
Technology Management

- Executive Director: 19%
- Unofficial Staff: 16%
- MIS Dept: 7%
- PT Tech Staff: 26%
- FT Tech Staff: 11%
- Other Responses: 21%

Technology Spending

Another key to good technology use is the treatment of this function as an ongoing expense with an annual line item. Computing systems will not be used efficiently if an organization’s entire inventory is replaced at one time. Spending in large bursts tends to trap an organization with widespread obsolescence and a dependence on another large infusion of outside support in order to replace their machines.

The survey indicates that fewer than half (42%) of organizations in the region have a specific technology budget. The organizations that do track technology expenses separately tend to be slightly larger than those that don’t. Median staff size of the former group is 7.6 FTEs versus 6.0 for the latter. Also, the organizations that have a specific technology budget tend to have larger overall budgets.

Even those organizations that do have a technology budget tend to spend less than generally accepted benchmark amounts. One benchmark is that technology spending should be about 6% of overall annual spending. The survey organizations that have technology

The Voice of Experience

If organizations consider only the replacement of hardware and software when they budget for technology, they may find these budget benchmarks high. Why should an organization spend more than $1000 per year per user when workstations go on sale for well under $1000? The answer is that the total cost of owning and operating computers includes far more than computer acquisition. The benchmark rule is called the 70-20-10 rule, which states that 70% of tech spending covers training, support and maintenance, while only 20% is spent on hardware and 10% on software. If organizations are budgeting only for what they need to buy, they will not have enough left over to train staff or to ensure that what they buy remains in working order.

3 Other responses includes Finance Dept(8%), Board/Volunteer(4%), Operations/Admin(4%), Don’t Know(2%), and Outsourced(2%)
Budgets tend to spend 1-4% of their annual budget on technology. Guidelines for spending per machine per year vary, but most experts say that organizations should budget $1000 to $3000 per year. On average, survey organizations with technology budgets spend approximately $1000 per computer, but the majority (56%) actually spend less than that. Another 22% spend above the benchmark range.

### Technology Spending per Computer

![Technology Spending per Computer Chart]

**Staff Training**

In our survey pool, very few employees receive formal technology training as part of their jobs. In nearly three-quarters of organizations, fewer than a third of staff received technology training. Only 12% of organizations indicated that 67-100% of their staff received training. A weighted average based on the employees represented in the sample and their organizations’ training rates indicates that approximately 23% of employees in Pittsburgh area nonprofits received technology training in 2000.
Technology Skills in Job Descriptions

One way to improve technology skills in the organization is to incorporate technology skill requirements into job descriptions and regular, formal evaluation. If employees are found to be lacking in certain skill sets upon hiring or in a transition to higher demands on computer skills, those lacks can be highlighted and mitigated through training. In our survey response pool, less than a third (31%) of organizations include technology skills in job requirements.
Tech Skills in Job Descriptions Related to Training Rate

Those that do, however, have much higher rates of staff technology training. On average, organizations that include technology skills in job descriptions have more than double the training rate (33%) of organizations that do not (15%). In the chart below, this disparity is striking. Organizations that do not include technology requirements in job descriptions are three times as likely to send none of their staff members to formal technology training. On the other hand, those that do are three times as likely to send 67-100% of their employees to training.

![Tech Skills in Job Descriptions vs. Staff Training](chart)

Board Involvement

The survey asked participants if they had board involvement in a technology evaluation and planning committee. The results show that only 17% of organizations have a board technology committee. The organizations that have a board technology committee tend to be smaller than those that don’t. The median budget size for organizations with board involvement is $274,000 versus $500,000 for those that do not. The median staff size for organizations with a committee is 4.5 versus 7.8 in those that do not. When the distribution by budget and staff size is examined, the existence of a board committee is more prevalent at the extremes. More of the smallest and very largest organizations have a committee than do not.
Survey results indicate that board involvement can have a significant positive influence on technology use and policy. Half of organizations with a board technology committee have a written technology plan; a quarter of organizations without a committee have tech plans. Where the board is involved, 63% of organizations track technology expenses in the budget versus 40% where the board is not involved. In organizations with a board technology committee, 40% include technology requirements in their job descriptions whereas only 29% of organizations with no board involvement include tech requirement in job descriptions.

<table>
<thead>
<tr>
<th></th>
<th>Board Committee</th>
<th>No Board Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have Written Technology Plan</td>
<td>50%</td>
<td>24%</td>
</tr>
<tr>
<td>Job Descriptions List Required</td>
<td>40%</td>
<td>29%</td>
</tr>
<tr>
<td>Technology Expenses Separately</td>
<td>63%</td>
<td>40%</td>
</tr>
</tbody>
</table>

There may be a “chicken or the egg” effect at work in this finding. Did the staff’s good use of technology drive the creation of the board committee, or did the board impose good practice on the organization through its specific involvement in technology evaluation and planning? Perhaps these effects take place simultaneously. The key point here is that individual or group leadership can have positive effects on an organization’s use of computing resources regardless of size.
**COMPUTER SYSTEMS**

The common perception that all nonprofit organizations have outdated equipment is too simplistic. Just as organizations vary in strategic effectiveness and efficiency in meeting their mission, they vary in the value they place on having appropriate hardware and software. Some survey respondents are still using very outdated hardware, including 486-level machines and even older models. Others regularly replace their hardware and maintain networks that allow tremendous efficiencies.

**Hardware**

Although it is difficult to assess the features of the hundreds of computers represented by our survey pool, certain indicators of the power and currency of computers – such as processor speed and RAM – can be used. According to these measures, most of the organizations in the survey pool are using Pentium Class PCs. In total, 83% of the computers represented by the survey are Pentium class machines, with more than half being fairly current models with more than 64 MB RAM. Less current machines are still in use, however; approximately 9% of all computers in the survey organizations are outdated 486 models.

![Computer Type Diagram]

Although 486es can be used to good effect in thin-client architecture, it is presumed that the 486es being used in nonprofit organizations are there due to cost concerns and are being overtaxed as regular user machines. The organizations that do have 486es are disproportionately human service, health, education and public/societal benefit organizations. Continuing to use computers that are several generations old is an

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4 Other Computers include laptops of various specifications and PCs with Celeron or AMD processors.
indicator that an organization may be behind trends across the board. In organizations that still have 486es, they account for 24% of all computers. In addition, in these organizations, only 27% of their computers are the highest level Pentiums versus 48% in the general survey pool.

It is difficult to draw clear causality between staff size and many of the measures in the survey. Retention of 486 computers, however, seems to be the special provenance of the smaller mid-sized organizations. The total number of computers an organization owns follows a basically linear progression as shown in the graph on the left below. The proportion of 486 computers to all computers, however, does not have a linear relationship to staff size. In fact, organizations with 11-20 employees tend to hang onto this outdated technology much more than their counterparts of other staff sizes. This tendency may be related to the relative funding disadvantage of mid-size organizations. The smallest organizations could ask for a complete technology upgrade for a small amount of money because they might only be replacing 5 or fewer computers. On the other hand, larger organizations have robust and diversified funding streams that enable them to replace machines in waves, reducing their proportion of outdated equipment. The mid-sized organizations lack either of these advantages. A total overhaul of their systems might create a grant request out of proportion with their budget size, but their budgets lack the flexibility of a larger organization.

The proportion of Macintosh computers (5%) mirrors the wider marketplace pretty closely. In addition, the wider trend of Mac prevalence in educational organizations is borne out in the survey; education organizations account for 28% of organizations using
Macs. Arts and Public, Societal Benefit organizations are also slightly disproportionately represented among Mac-using organizations.

<table>
<thead>
<tr>
<th></th>
<th>All Orgs</th>
<th>Orgs that use Macs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts, Culture and Humanities</td>
<td>15.6%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Education</td>
<td>18.3%</td>
<td>27.5%</td>
</tr>
<tr>
<td>Environment</td>
<td>3.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Health</td>
<td>6.5%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Human Services</td>
<td>26.6%</td>
<td>15.0%</td>
</tr>
<tr>
<td>International, Foreign Affairs</td>
<td>0.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Public, Societal Benefit</td>
<td>12.9%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Religion</td>
<td>6.8%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Mutual/ Membership Benefit</td>
<td>2.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Unknown</td>
<td>7.2%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**Connectivity**

**Local Area Networks**

Computers become infinitely more valuable when they are linked to each other. Metcalfe’s law states that information increases in value exponentially with the number of computers connected to a network. Tim Mills-Groninger of the IT Resource Center in Chicago offers this example and interpretation for nonprofit organizations in his paper “Enabling Technology Funding”:

“A document on the local hard drive of a single computer is useful only to the user of that computer, but, when made readily available to the full range of staff in an organization, it may well be the essential, “just-in-time” piece of information needed to make a decision…. Metcalfe’s Law is a powerful argument for both LANs and Internet connections in the nonprofit sector.”

Networks enable information and resources to be shared in an organization. Even the smallest network can enable a workgroup to share documents, databases and peripherals such as printers.

The majority of organizations in our survey pool have at least some of their computers connected to a network of some kind. More than a quarter, however, do not have any machines networked. Although some of the organizations that are not networked have no computers or only one computer, most of them have at least two machines. Some of these organizations have more than 15 computers that are not networked. In some cases, money that could have been spent on network design and installation has instead been spent on providing a printer for every computer because they can’t be shared over a network.

Survey Respondents use a variety of network structures and operating systems. The most prevalent form of network (49%) is Client-server in which workstations are connected to one or more central servers that run software.

**The Voice of Experience**

One of the major changes organizations report between Fall 2000 and 2001, when the Bayer Center has gone on-site for technology assessments, is the installation of client server networks in offices that had been run with multiple stand-alone computers. Although organizations have made this investment in networking technology, some networks have been installed without an awareness of the efficiency and effectiveness to be gained from using a network. Despite a new network that enables sharing printers, some organizations maintain the ratio of one printer to each computer that was necessary before their network. More important, some organizations have not integrated stand-alone databases into one multi-user database that encompasses all of the organization’s information management needs. A leap in network infrastructure must be accompanied by strategic planning for the use of that network.
and store shared files. Most of these client-server networks run Windows NT (42%) or Novell (35%). A smaller but substantial number of organizations run Windows 2000 (20%), and a very small number use Linux (4%).

### Local Area Networks

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>28%</td>
</tr>
<tr>
<td>Not Sure What Kind</td>
<td>7%</td>
</tr>
<tr>
<td>Peer to Peer</td>
<td>13%</td>
</tr>
<tr>
<td>Client-Server</td>
<td>49%</td>
</tr>
<tr>
<td>Macintosh</td>
<td>3%</td>
</tr>
</tbody>
</table>

In addition, 13% of organizations network their machines peer to peer. Users can access files on other users’ machines rather than on a central server, and resources can be shared through connections directly between computers. Peer to peer networks are viable with up to 10-15 users on them, and survey respondents who use them tend to fit this size.

### Internet Connection

At first glance, the responses to the question about Internet connectivity seemed to provide good news. Almost all organizations (86%) are connected to the Internet. Upon further examination and after talking to organization representatives in on-site assessments, however, the picture is not as bright. The chart below shows that most organizations use dial-up connections either on a single machine or shared through a network. In all but the smallest organizations, this setup is unsatisfactory. Individuals find it difficult or impossible to use dialup connectivity productively for work. Less than a third of organizations (32%) have a broadband connection such as DSL or a T1 line.
Connection Type Related to Organizational Size

The survey results show a direct relationship between staff size and speed and quality of internet connection. Dialup predominates in organizations with fewer than 4 staff members, while the majority of organizations with 16 or more employees use broadband connections. Shared dialup connections are most common among mid-size organizations.
Internet Use

Although most organizations have access to the Internet, not everyone in every organization uses the Web and email as part of their work. In fact, the survey indicates that in over 40% of organizations, fewer than a third of employees use the Internet as part of their work. On-site assessments have revealed that in some organizations, there are large classes of users who use computers very little. For instance, in human service organizations, case workers often use their computers (which are often shared among several people) only for word processing to keep simple records of service delivery or treatment progress.

<table>
<thead>
<tr>
<th>Percentage of Staff Who Use the Internet in Their Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

Internet Use Related to Connection Type

Aside from work duties, however, the type of Internet connection an organization uses has a direct positive relationship with the rate of use by staff. Only 44% of organizations with dialup connections on individual machines reported that most of their employees use the web and email as part of their job versus 55% of organizations with broadband connections.

Again, the question of which element in this relationship is the driving factor can be raised. On-site assessments have revealed that in some organizations, there are large classes of employee who use computers very little. For instance, in human service organizations, caseworkers may only use their computer (which is often shared) to keep simple records of service delivery or treatment progress. Since large groups of employees are not using a connection, the organization may not feel

The Voice of Experience

Peter Lucas, CEO of Maya Design and a member of the Bayer Center’s Technology Advisory Group, draws a distinction between broadband and “always on” Internet connectivity. It is possible to share a dialup connection through a router on a network and make the Internet continuously available at each workstation. The ability to use the web and email on demand at the user’s own desk will revolutionize the way work is accomplished far faster than a single high speed connection on a computer that all staff line up to use.
able to justify broadband. On the other hand, staff have indicated in some cases that if the connection were faster, more dependable and “always on”, more research and interaction would be done via the web.

Software

The survey covered three categories of software: basic productivity, accounting tasks and database or list management tasks. While basic productivity software use is relatively uniform, accounting and database tasks are handled in a variety of ways, including manual systems, spreadsheets and outsourcing.

Basic Productivity Software

Organizations do not have a lot of options in basic productivity software. Almost all (90%) of organizations use Microsoft Office (Word, Excel, PowerPoint, Access). Some of those organizations also use Corel Office (WordPerfect, Paradox, QuattroPro, Presentations) or the Lotus Suite (Approach, 1-2-3, WordPro).
There are typically two types of reasons why organizations run more than one basic productivity package: divided user preferences or outside forces. Sometimes a group of users (or even a single user) prefers WordPerfect while the majority of the organization uses Microsoft Word. In these cases, the organization’s IT staff are forced to support two software packages that serve the same function and are not always compatible with each other. In other cases, however, organizations run a second office package in order to be able to communicate with peers in their field in which that package is standard. For instance, any nonprofit organization that does legal work need to run Corel Office because WordPerfect is the leading word processing software in the legal profession.

### Accounting Tasks and Software

In fulfilling the obligations of accounting tasks, organizations use solutions ranging from manual systems to spreadsheets to a specific software package designed for the purpose.

<table>
<thead>
<tr>
<th>Accounting Tasks</th>
<th>General Ledger</th>
<th>Receivables</th>
<th>Payables</th>
<th>Payroll</th>
<th>Budgeting</th>
<th>Cash Flow</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Response</td>
<td>12%</td>
<td>17%</td>
<td>16%</td>
<td>17%</td>
<td>19%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>N/A</td>
<td>2%</td>
<td>6%</td>
<td>3%</td>
<td>4%</td>
<td>1%</td>
<td>6%</td>
<td>26%</td>
</tr>
<tr>
<td>Manually</td>
<td>6%</td>
<td>7%</td>
<td>5%</td>
<td>5%</td>
<td>6%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Manually+Spreadsheet</td>
<td>1%</td>
<td>3%</td>
<td>2%</td>
<td>1%</td>
<td>11%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Spreadsheet</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
<td>25%</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Specific Package</td>
<td>60%</td>
<td>51%</td>
<td>56%</td>
<td>23%</td>
<td>35%</td>
<td>37%</td>
<td>16%</td>
</tr>
<tr>
<td>Outsourced</td>
<td>12%</td>
<td>10%</td>
<td>11%</td>
<td>44%</td>
<td>3%</td>
<td>8%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Organizations tend to use one software package across the accounting functions of general ledger, receivables, payables and cash flow. That said, there are only two packages that have appreciable market share in this pool: Quickbooks (21%) and Peachtree (11%). Payroll is the most likely function to be outsourced. Budgeting and cash flow are most likely to be managed using spreadsheets. A very small number of organizations use custom-designed systems for accounting functions.

### Database/List Tasks

The general category of database and list tasks includes the information management connected to the organization’s programs and support. Ironically, the majority of these tasks, which are perfect database applications, are not managed with databases. First, each task has some group of organizations for which the task does not apply or for which they did not respond in the survey. In the main three tasks – client management, fundraising and volunteer management, roughly 30-40% of organizations indicated that the task didn’t apply to them. In the three additional tasks on the right, 80-90% of organizations indicated that they did not do ticketing, quality assurance or contract performance tracking. It is difficult to draw conclusions about the systems used for these tasks due to the low response rates.
The three most common list and database tasks, however, deserve some additional examination. If we remove the organizations for which the task does not apply, we see a more realistic breakdown of how organizations manage vital information.

### Database/List Tasks

<table>
<thead>
<tr>
<th>Database/List Task</th>
<th>Client Mgmt</th>
<th>Fundraising</th>
<th>Volunteers</th>
<th>Ticketing</th>
<th>QA/RA</th>
<th>Contract Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Response</td>
<td>18%</td>
<td>18%</td>
<td>20%</td>
<td>33%</td>
<td>34%</td>
<td>33%</td>
</tr>
<tr>
<td>N/A</td>
<td>16%</td>
<td>13%</td>
<td>21%</td>
<td>47%</td>
<td>54%</td>
<td>41%</td>
</tr>
<tr>
<td>Manually</td>
<td>12%</td>
<td>19%</td>
<td>28%</td>
<td>8%</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>Manually+Spreadsheet</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>5%</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>Spreadsheet</td>
<td>8%</td>
<td>15%</td>
<td>8%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Database Software</td>
<td>43%</td>
<td>33%</td>
<td>21%</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Outsourced</td>
<td>2%</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

In client management, although a majority of organizations use database software, 64% is still a low rate for the information-intensive work of managing client contacts and relationships. Organizations are split – 51% commercial and 49% custom databases – in their use of database software. There is no leading commercial product used for client management. Some packages are required by a government funder for reporting purposes.

In fund-raising, fewer than half of organizations manage their mailing list through database software. Manual and spreadsheet systems predominate. A slight majority (55%) of those that do use fund-raising software use commercial products. The market leader in this group is Blackbaud's Raiser's Edge.

Almost half of all volunteer management is done manually, although more than a third of organizations use database software. Applications for volunteer management tend to be custom-designed; two-thirds of organizations use custom-built volunteer software.

The Voice of Experience

Despite the fact that volunteers are vital to many organizations’ ability to meet their mission, the volunteer management function is typically an afterthought. Making effective use of an army of volunteers requires extensive and complicated coordination. The volunteer management function is particularly ripe for database applications. From call lists to task assignments, relational databases can automate work that can involve hundreds of individual constituents and often demands productivity on strict deadlines.

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5 Database software indicates either a commercial package such as Blackbaud’s Raiser’s Edge or Metafile’s Results Plus or a custom-built database in Microsoft Access, Lotus Approach, Filemaker Pro or SQL. Most of the custom-built databases are in MS Access.


## Areas for Improvement and Resource Needs

The survey also gathered information on the perceived needs in the organization for improvement in technology management.

### Improvements to Computer Systems

Respondents were asked about changes they would like to see their organizations make in computer systems. The question allowed them to say that no changes were necessary because everything is under control. Only 13% of organizations said that they saw no need for changes. With the exception of one organization with 72 employees, the organizations that were content tended to be very small. Average staff size was 3.2, and average budget was $388,963.

Most organizations identified changes desired. They could choose minor or major changes to their hardware, software and training and utilization. The largest need by far was training. Almost all organizations (89%) that felt they needed improvements cited training as a need.

### Organizations by Improvement Needed

![Organizations by Improvement Needed](image)

Within each category, the breakdown between major and minor improvements needed is different. Organizations are equally split between major and minor hardware improvements. The majority of organizations, however, feel that they need minor software improvement and a major improvement in training.
There is some evidence that needs for improvements are correlated with organization size. Different-sized organizations find the barrier to better technology use in different places. Larger organizations feel that they need minor hardware improvements while smaller organizations feel it’s major. Regarding training, however, small organizations feel that the need is minor while larger organizations feel it is major. This may be because larger organizations have more complicated problems to solve or because communication and administration in a larger organization are more complicated. Smaller organizations are more likely to face the barrier of acquiring and maintaining hardware and network components. Larger organizations are more likely to have the infrastructure in place and need to invest in their “humanware”.

<table>
<thead>
<tr>
<th>Improvement Area</th>
<th>Degree</th>
<th>Budget Size</th>
<th>Staff Size (FTEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor</td>
<td>$950,000</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Major</td>
<td>$600,000</td>
<td>10</td>
</tr>
<tr>
<td>Hardware</td>
<td>Minor</td>
<td>$500,000</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Major</td>
<td>$850,000</td>
<td>10</td>
</tr>
<tr>
<td>Software</td>
<td>Minor</td>
<td>$500,000</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Major</td>
<td>$688,286</td>
<td>13</td>
</tr>
</tbody>
</table>

**Resources Needed**

Survey respondents were asked to identify topics in the area of technology management about which they would like more information. Again, training was cited as the biggest need. Also among the top group were group purchasing, creating a marketing plan addressing the issues and opportunities of the Internet and creating an overall technology plan. Training is the most *felt* need. More organizations may benefit from an
overall technology plan, but not as many select it because they don’t sense their lack of technology planning on a day-to-day basis and they don’t have a good idea of what creating a plan would entail or the benefits to be gained from it. Because most organizations have at least a dialup connection to the Internet, accessing the Internet got one of the lowest responses, along with creating a disaster recovery plan.

Additional Information Desired

<table>
<thead>
<tr>
<th>Topic</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Training for Specific Software Apps</td>
<td>90</td>
</tr>
<tr>
<td>Group Purchasing with Other Non-profits</td>
<td>80</td>
</tr>
<tr>
<td>Creating a Communications/Marketing Plan</td>
<td>70</td>
</tr>
<tr>
<td>Creating an Overall Technology Plan</td>
<td>60</td>
</tr>
<tr>
<td>Technical Support Providers/Resources</td>
<td>50</td>
</tr>
<tr>
<td>Purchasing Hardware</td>
<td>40</td>
</tr>
<tr>
<td>Creating a Networked Office</td>
<td>30</td>
</tr>
<tr>
<td>Purchasing Specific Software Packages</td>
<td>20</td>
</tr>
<tr>
<td>Accessing Internet</td>
<td>10</td>
</tr>
<tr>
<td>Create Recovery Plan</td>
<td>0</td>
</tr>
</tbody>
</table>
CONCLUSIONS

The results presented above shatter the image of nonprofit organizations as monolithically unsophisticated in their use of technology. Many organizations have current, appropriate equipment for their work and the staff know-how to use it well. Some of the smallest organizations lead the way in technology use due to the savvy of their leaders. Funders have already invested grant funds in organizations that have created valuable returns in the form of improved service delivery and efficiency. Organizations in the nonprofit sector do have opportunities to improve their use of technology, and they can effectively cooperate to move this agenda forward.

The high level of interest in technology training for staff in nonprofit agencies calls for courses specific to nonprofit organizations. When software is being taught, the examples should be nonprofit-focused. Trainers also need to understand the time pressure of working in small organizations in which one employee plays many roles. Training should be focused on building internal capacity in organizations.

Technology should occupy the minds of executive directors and other leaders in addition to receiving attention from IT staff. A technology focus must be brought to functions in the organization such as strategic planning, human resources practices and board governance. Effective use of technology does not occur spontaneously. When incorporated into all facets of organizational policy and practice, however, technology can aid both revolutionary and evolutionary change.

Sustainable improvement in technology use by nonprofits will require a significant investment. The funding community must take a realistic, long-range view of the positive impacts of technology investment on the ability of organizations to meet their missions. Government agencies, foundations and corporate and individual donors should value contributions to enhanced technology and view them as creating a strategic advantage for their recipients.

Internally, organizations need to realistically assess the total cost of technology in constructing their budgets. Annually, there should be space in the budget for staffing, maintenance, upgrades and training. To be effective, technology spending must occur in a steady stream rather than in large bursts several years apart.

In the long term, the above steps will build on the appreciation for and sophistication about technology that already exists in nonprofit organizations. Two additional essential ingredients to technology success in nonprofits are an appreciation for the tremendous community resources that already exist and further research into this issue. One of the marked strengths of the nonprofit sector is the willingness of its leaders to share success. Organizations with complementary strengths can join forces to create a whole that is more than the sum of its parts.

One of the essential components of the Bayer Center for Nonprofit Management’s assistance to nonprofit organizations is research. Therefore, the Bayer Center intends to continue to conduct research and assessment of technology use by nonprofit organizations in the region. The Center plans to conduct a similar survey to this first one on a bi-annual basis. We will continue to conduct on-site technology assessments both
for the value of that input to individual organizations and for the wider lessons learned about the sector. We will continue to encourage research by our peers and share data and solutions throughout the nonprofit community.
TECH@YOUR ORG; A NONPROFIT TECHNOLOGY CONFERENCE

The results of this survey were presented at the first ever conference focusing on the use of technology by nonprofits in Southwestern Pennsylvania. The Bayer Center for Nonprofit Management hosted “tech@your org” on June 7, 2001 at the Sewall Center at Robert Morris College’s main campus in Moon, PA. Over 100 people from 88 different organizations attended the event, which featured local and national experts in the intersection between nonprofit organizations and technology.

One of the most successful features of the day was a community dialog on the state of technology use by nonprofit organizations in the region. The discussions confirmed some findings from the survey, such as the need for technology training specifically targeted to nonprofit organizations and the prevalence of unofficial “technology champions” taking on technology responsibility in their organizations. The dialog also articulated a number of organizational culture issues regarding technology. From the relationship to mission and service delivery to age of users to the crisis mentality often associated with replacing obsolete equipment, cultural forces deeply affect an organization’s willingness and ability to use computer infrastructure well.

An unanticipated outcome from the discussion was a desire for peer learning among organizations. Participants expressed a desire to hear about successes and positive examples of innovative and effective use of technology. Bayer Center staff suggested that horror stories – accounts of failures in attempting to use computers – might be just as informative as successes. In particular, participants were interested in hearing more about successful collaborations using technological tools.

Participants also stated an interest in collaborating as customers of information technology services. Nonprofits would like to explore the advantages available from purchasing hardware jointly and sharing IT architecture and staff.

We asked participants to answer the question “Who is not here who should be?” They answered and we agreed that not enough executive directors and board members attended the conference. Participants felt that decision-makers sent their technology staff rather than attending themselves. While the conference was helpful for and provided a successful networking opportunity for IT staff to share issues, the absence of top decision makers is symptomatic of the pattern of technology being viewed as separate from (and even opposed to) the central mission of the organization. Technology planning and decisions about solutions must be made in the context of overall organizational strategy.

Finally, we attempted to outline what the nonprofit community in the region could do to move forward. The Bayer Center cites three places to go from here. There is much work to do, and we acknowledge that we can only do our part to help improve the use of technology by nonprofits in the region.
• We plan to offer a unique form of technology training starting in fall 2001. Rather than teaching the content based solely on a piece of software and its functionality, the curriculum will be aimed at teaching “solutions packages.” Participants will learn about how to manage their mailing list, for example or their accounting function. In the former case, the tool used will be the relational database, Microsoft Access. In the latter case, the tool taught will be Quickbooks.

• There was tremendous support at the conference for a way to give momentum to the information sharing that happened among the community represented there. The links provided on our web site direct users to national Listservs on nonprofits and technology. The Bayer Center is exploring the creation of a listserv for the technology-focused across the nonprofit sector in the region.

• One next step that does not require a large initiative is peer collaboration among organizations. For example, several organizations have computer labs in their facilities. Other organizations have staff, board members or volunteers with technology experience to share. These two ingredients can form the basis of one-time or continuing partnerships to provide relevant training to the staff of both the organizations with the facilities and the organizations with experts who could train staff. There are other collaborative efforts that we think can be formed on the basis of new or existing relationships between organizations. There are in-house resources at many organizations that could be leveraged to great effect across the sector.
Organizational Technology Self Assessment

Organization: _______________________________  Date: _______________________________
Completed by: _______________________________  Title: _______________________________
Address: ________________________________________________________________

Phone: __________________ Fax: __________________ E-mail: __________________________

Part 1: About your organization:
Please complete this section to the best of your knowledge. For questions 1 through 4, your answers should be consistent with your agency's IRS form 990 filing.

1) Our overall agency budget is $____________ for the fiscal year ending _____________.
2) Our technology budget is $____________ or  □ We don’t track technology expenses separately.
3) Number of Full-time Equivalent employees (FTEs) __________.
4) We can best be classified as: (check all that apply)
   □ Arts, Culture, and Humanities  □ Education
   □ Environment and Animals  □ Health
   □ Human Services  □ International, Foreign Affairs
   □ Public, Societal Benefit  □ Religion Related
   □ Mutual/Membership Benefit  □ Unknown, Unclassified
5) We have a written technology plan that is integrated into the overall strategic plan and mission of the organization. (check only one)
   □ Yes (If your organization has a functioning strategic plan that addresses technology issues as a way to leverage organizational effectiveness)
   □ No (If you have a technology plan, but no strategic plan)
   □ Don’t know/not sure
6) Internally, technology management in our organization is the responsibility of: (Identify the primary source of internal technology decision making: who decides what gets purchased and what gets thrown away? Check all that apply)
   □ Don’t know/not sure  □ MIS Dept with two or more employees
   □ Finance Dept  □ A staff person with full-time technology responsibilities
   □ A designated staff person with part-time technology responsibilities
   □ Unofficial staff interested in technology
   □ Other ________________________________________________________________
7) We wish to make the following changes in our computer systems: (check all that apply)
   □ No changes are necessary; everything is under control.
   Minor improvement in:  □ Hardware  □ Software  □ Training and utilization
   Major improvement in:  □ Hardware  □ Software  □ Training and utilization

8) Our job descriptions list required technology skills and are part of employee evaluations. (Answer ‘yes’ if, for each person using computers and technology as part of their job, the required technology skills are a written part of their job description, and their supervisor regularly – at least annual – evaluates those skills.)
   □ Yes  □ No  □ Don’t know/not sure

9) My organization would be interested in learning more about: (Please indicate the products and services you believe are important to your organization in the future.)
   □ Creating an overall technology plan and budget
   □ Creating a communications/marketing plan addressing issues and opportunities of the Internet
   □ Purchasing hardware
   □ Purchasing specific software packages
   □ Staff training for specific applications
   □ Technical support providers/resources
   □ Creating a networked office
   □ Accessing the Internet
   □ Creating a disaster recovery plan for our Information Technology in case of fire, flood, theft or virus attack
   □ Group purchasing with other nonprofits to leverage costs

10) We have Board involvement in a technology evaluation and planning committee. (Answer Yes if your agency has a technology committee AND at least one board member participates in any capacity.)
    □ Yes  □ No  □ Don’t know/not sure

11) Our biggest challenge with technology is: (Describe the issues and challenges facing your organization’s use of technology. Indicate anything that you feel is important to your agency: funding, staffing, bad vendors, expensive vendors, etc.)

12) Additional comments?
Technology Inventory and Resources

If you feel that you have a good understanding of how technology is used in your organization, please complete this section. If you are unsure, please place a check mark in question #1 and return the survey.

1) □ I am not comfortable answering these questions and am returning the survey at this time.

2) □ What percentage of staff use the Internet (WWW and e-mail) as part of their jobs? (What percentage of staff both require and use Internet access as part of their work for the agency? Check only one.)
   □ None □ 1-33% □ 34-66% □ 67-100%

3) □ Last year, what percentage of staff received some formal technology training as part of their job? (Training can be classroom or computer based, but there needs to be a curriculum. Check only one.)
   □ None □ 1-33% □ 34-66% □ 67-100%

4) □ We use the following types and quantities of computer(s): (Indicate the number of machines in use in any administrative or program delivery capacity – including client-oriented computer lab.)
   □ Macintosh Number: ____
   □ PC: 486 or older Number: ____
   □ PC: Pentium with less than 64 mb RAM Number: ____
   □ PC: Pentium with 64 mb or more RAM Number: ____
   □ Other (please specify)_________________________ Number: ____

5) □ What type of Internet connection does your organization have? (Check the one answer that best describes how most people connect to the Internet from their offices.)
   □ We don’t have an Internet connection at this time.
   □ We have one, but I’m not sure what it is.
   □ Dial-up modem on individual machine(s) Speed: _________
   □ Shared modem (multiple staff share one modem from their desks) Speed: _________
   □ Broadband/always on (ISDN, DSL, Cable, T1, ATM, etc.) Speed: _________

6) □ We use the following Local Area Network (LAN) Network Operating System(s): (How are computers connected for file and print sharing. Check all that apply)
   □ None □ We have a LAN, but I’m not sure what kind it is.
   □ Novell Netware □ Win 9x – peer-to-peer
   □ NT □ Windows 2000
   □ Macintosh □ Linux
   □ Other ______________________
7) What hardware does your organization use? (Check all that apply)

- Telephone system with voice mail
- Telephone call management/automation (Check yes if you have a call center, automated attendant, or other advance telephone system features.)
- Fax machine (At least one stand-alone fax machine – combination printer/fax machines qualify.)
- Scanner (Any scanner for Optical Character Recognition (OCR) or imaging.)
- CD ROM burner (Can you make your own CDs anywhere in the agency?)
- Single bin laser printer (Any laser printer that uses only one tray at a time.)
- Multi bin laser printer – including envelope feeders (Users can specify one of several available paper trays for their print jobs.)
- Ink jet or other color printers (Any ink jet or bubble jet type printer)
- Specialty printers (Any ticket printing, label or other printers built for a specific task.)
- LCD projector (Any projectors for computer or video)
- Digital camera (Any still or motion picture camera producing electronic images)
- Jazz/Zip drives (Any removable high-density storage)
- Tape backup (The ability to back data from one or more computers to tape)
- DVD (Digital Video Disk)
- Other __________________________________________

8) What kinds of basic productivity software packages are in regular use? (Check all that apply – if you have standardized on a specific package, check only one.)

- Microsoft Office (Word, Excel, etc.) version: ______________
- Corel Office (WordPerfect, Quatro, etc.) version: ______________
- Lotus Office (WordPro/AmiPro, 123, etc) version: ______________
- Other ___________________________________________________

9) We regularly use the following communication channels to maintain contact with key constituent groups (organization members, donors, clients, board, staff, advocates, etc.)? (Check all that apply for both incoming and outgoing communications. ICQ, Chat, IM are Internet-based real time text based meetings.)

- Print
- Fax
- Voice Mail
- Web page
- ICQ, Chat, IM, etc.
- Conference calls
- Phone
- Broadcast Fax (one fax to many people)
- E-Mail
- Interactive or e-commerce oriented Web page
- Video Conferencing
- Other ________________________________________________
10) How does your organization manage the following accounting tasks? *(Indicate how your organization handles accounting issues. If you don’t do a task, place an “X” in N/A; Xs are appropriate for manual (paper and pencil) and spreadsheet solutions. Please indicate the software or vendor for Accounting Software and Outsourced solutions. Common software packages include Quicken, QuickBooks, American Fundware, Fund EZ, and others.)*

<table>
<thead>
<tr>
<th>Tasks</th>
<th>N/A</th>
<th>Manually</th>
<th>Spreadsheet</th>
<th>Accounting Software (specify)</th>
<th>Outsourced</th>
<th>Other (specify)</th>
</tr>
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<tbody>
<tr>
<td>General Ledger</td>
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<tr>
<td>Accounts Receivable</td>
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<tr>
<td>Accounts Payable</td>
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<td>Cash flow</td>
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<tr>
<td>Inventory</td>
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</tbody>
</table>

11) How does your organization manage the following database/list management tasks? *(Indicate how your organization handles database management issues. If you don’t do a task, place an “X” in N/A; Xs are appropriate for manual (paper and pencil) and spreadsheet solutions. Please indicate the software or vendor for Database Software and Outsourced solutions. Common software packages include Raisers Edge, GiftMaker, Anchor, MS-Access, and others. The task QA/RU refers to Quality Assurance/Resource Utilization; Contract Performance refers to any performance-based or other contractual reporting tasks.)*

<table>
<thead>
<tr>
<th>Tasks</th>
<th>N/A</th>
<th>Manually</th>
<th>Spreadsheet</th>
<th>Database software (specify)</th>
<th>Outsourced</th>
<th>Other (specify)</th>
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</thead>
<tbody>
<tr>
<td>Client Management</td>
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<td>Fundraising</td>
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<td>Volunteers</td>
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<td>Ticketing/point of sale</td>
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<td>QA/RU accreditation</td>
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<td>Contract Performance</td>
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<tr>
<td>Other:</td>
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</tbody>
</table>
12) We use the following resource(s) for technology training: (Where does staff go for training on the technology they use in their jobs?)

- We don’t have a formal training plan; people learn on their own.
- Peer support
- Commercial classroom-based providers (specify: ________________________________)
- Internet-based or distance learning training providers (specify: ____________________)
- Computer Based Training (CBT) or video (specify: ________________________________)
- Books, periodicals, self-paced learning

13) What Technical Support Providers do you use? (What’s the go-to solution for any problems with technology?)

- We have no formal approach to support; staff do the best they can.
- Technical support contracts with one or more providers (specify: ____________________)
- We contract for technical support on an as-needed basis.
- In-house MIS staff
- Volunteers to our agency
- Friends and family of staff
Appendix B

**Improvements to Survey Instrument**

A few of the questions on the survey could be slightly improved. Some of the changes could not have been foreseen without the data analysis that followed, but nonetheless, we submit them in the hope that if the survey is used by others interested in the use of technology by nonprofits, they can learn from our experience.

Part A:

Organization contact information – The survey does not ask respondents for their organization’s web site URL.

Question 5 – The question about strategic planning does not offer an exhaustive, mutually exclusive set of options. To capture the full range of possible scenarios, the response options should be amended to:

___ Yes, we have a strategic plan that addresses technology
___ Yes, we have a strategic plan, but it doesn’t address technology
___ Yes, we have a technology plan independent of our strategic plan
___ No, we have neither a strategic plan nor a technology plan
___ Don’t know/not sure

Question 6 – We couldn’t have foreseen this, but the “other” responses produced three groups with significant enough replication to merit inclusion as options: Executive Director, Board/Volunteer, Operations/Administrative Staff or Dept.

Part B

Question 11 – A typographical error: Accounting Software is repeated in the heading (from Question 10). The heading should simply say “Software”.

Appendix C

Organizations Responding to Technology Self-Assessment Survey
Bayer Center for Nonprofit Management, Robert Morris University

A Second Chance Inc.
ACLU Greater Pittsburgh
Affordable Comfort, Inc.
Alcoa Foundation
Allegheny Intermediate Unit
Allegheny Valley Assoc. of Churches
Allegheny Youth Development
Amani CCDC
American Red Cross- Armstrong County Chapter
APEX Consortium
Asset Inc.
Auberle
Audubon Society of Western PA
Bach Choir of Pittsburgh
Beginning With Books
Bethlehem Haven
Brakeley, John Price Jones, Inc.
Brew House Association
Brushton Family Learning Center
Building Owners and Managers Assn.
Butler Area Public Library
Calliope Pgh. Folk Music Society
Catholic Youth Assoc. of Pittsburgh, Inc.
Center for Creative Play
Center for Theater Arts
Central Northside RIF
Christian Student Fellowship
City Rescue Mission
Collaborative for Learning
Communities in School of Pittsburgh-Allegheny
Community Action Southwest
Community Design Center of Pittsburgh
Community Foundation for the Alleghenies
Community House Learning Center
Community Human Services Corp.
Community Loan Fund
Community Prevention Services Of
Westmoreland County
Conemaugh Health Foundation
Consensus Organizing Institute
Conservation Consultants Inc.
Continuing Education Office Pittsburgh
Theological Seminary
CORO Center for Civic Leadership
De Bence Antique Music World
Early Learning Institute
Eastside Neighborhood Employment Center
Elder-ado Incorporated
Every Child Inc.
Executive Service Corps of Western PA
Family Resources
First Night Pittsburgh Inc
FISA Foundation
Flying Mammal Wildlife Rehab
Freeport Area Community Center
Garfield Jubilee Association, Inc
Gateway Rehab Center
Gateway to the Arts
Girl Scouts of South Western Pennsylvania
Grantmakers of Western PA
Greater Pittsburgh Convention and Visitors Bureau
Greater Pittsburgh Literacy Council
Harmony Assoc., Inc.
Homestead Hi-Rise Resident Council
House of the Crossroads
Hoyt Institute of Fine Arts
Hunger Services Network
Intestinal Disease Foundation
Jeannette Public Library
Jewish Family & Children's Service
Jubilee Association
Kingsley Association
Latin American Cultural Union
Leadership Pittsburgh
Lincoln Larimer Lemington Belmar Citizens
Revitalization Development Corp.
Little Lake Theatre Co.
Local Government Academy
Ma's Pantry Food Bank
McKeesport Symphony Orchestra
Mental Health Association of Allegheny County
Mental Health Association of Butler County
Minority Enterprise Corporation
Miryam's
Mom's House
Mon Valley Initiative
Mon Valley Unemployed Committee
Mt. Ararat Comm. Activity Ctr
Mt. Lebanon Montessori School/ Academy
Mt. Washington Childrens Center
Mt. Washington Community Development Corporation
Murrysville Community Library
Nahemow Associates
Neighborhood Legal Services Association
Neighbors In the Strip
North Hills Youth Ministry Counseling Center
North Side Common Ministries
Norwin Public Library
Oakland Planning and Development Corporation
Outreach Teen & Family Services Inc
PA Cleanways
PA One Call System Inc
Pb X, Inc.
Penn Township Recreation
Pennsylvania Economy League - Western Division
Pennsylvania Environmental Council
Pennsylvania Resources Council Inc.
Pennsylvania Trolley Museum
Peoples Library
Peoples Oakland Inc.
PHASE
Pittsburgh Action Against Rape
Pittsburgh Ballet Theater
Pittsburgh Cares
Pittsburgh Center for the Arts
Pittsburgh Concert Chorale
Pittsburgh Council for International Visitors
Pittsburgh Dance Alloy
Pittsburgh Glass Center
Pittsburgh Mediation Center
Pittsburgh Musical Theater
Pittsburgh New Music Ensemble
Pittsburgh Playback Theatre Co.
Pittsburgh Poetry Exchange
Pittsburgh Vision Services
Pittsburgh Voyager
ProArts
Providence Volunteer Ministries
PUMP
Reconciliation Ministries
Redeemer Lutheran
Reemployment Transition Center
Renaissance & Baroque Society
Renaissance Center Inc.
River City Brass Band
Ronald McDonald House Charities of Pittsburgh
Rx Council
Schenley Heights Community Dev. Program
Sewickley Valley YMCA
Shady Lane
Shakespeare in the Schools
Sickle Cell Society Inc.
Sisterson & Co. LLP
South Pittsburgh Economic Revitalization Team
Southwestern PA Human Service, Inc.
Southwinds Inc.
Stepping Stones Children's Center
TADISO Inc.
TeamPA Career Link
The Allegheny Regional Asset District
The Center Against Violence
The Emmaus Community
The Mentoring Partnership of SW PA
The Presbyterian Church, Sewickley
The Pressley Ridge Schools
The Program for Female Offenders, Inc.
The Westmoreland Trust/Palace Theatre
The Whale's Tale
The William & Mildred Orr Compassionate Care Ctr
Three Rivers Center for Independent Living
Three Rivers Connect
Three Rivers Youth
Transitional Employment Consultants
Try-Again Homes Inc.
Tuesday Musical Club
United Jewish Federation
United Methodist Foundation of W PA
Unlimited Horizon Phase II
Urban Impact Foundation
Ursuline Services, Inc.
Valley Care Association
Watchful Shepherd USA
Wellness Alliance
Westmoreland Arts & Heritage Festival
Westmoreland Museum of American Art
Women's Enterprise center
Y Music Society
Young Men and Women's African Heritage Association
Youth Works
YWCA of Westmoreland PA
Appendix D

BAYER CENTER FOR NONPROFIT MANAGEMENT
ROBERT MORRIS UNIVERSITY

ADVISORY BOARD
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The Buhl Foundation
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Richard King Mellon Foundation
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The Claude W. Berdellum Foundation
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Mayo Design Group
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The Denali Initiative

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Gene Hastings
Information Renaissance
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Carnegie Mellon University

Jeanne Berdik
Pittsburgh Technology Council/SPIRC
Peter Lucas
Mayo Design Group
Elbie Yaworsky
diNetwork

Bethann Casar
Jewish Family & Children's Service

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Jennifer Chubinski
Nonprofit Management Fellow

Samuel Coleman
Office Manager

Jeffrey Forster
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Lisa Kuzma
Director of Consulting

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Yvonne Van Haitsma
Director, Collaboration Project

Sallie E. Wormer
Technology Services Analyst