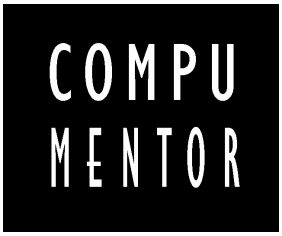
Technology Recommendations for *Organization*

Prepared by
Our Consultant
XXXX@compumentor.org



CompuMentor
435 Brannan Street
San Francisco, CA 94107
Phone: 415-512-7784
Fax: 415-512-9629
http://www.compumentor.org

May 5, 2003

1 Introduction

The purpose of this technology plan is to evaluate the Organization's (*ORG*) existing technology infrastructure and usage in order to make recommendations for future planning and direction. *ORG*'s staff worked with CompuMentor technology consultants to produce this plan.

1.1 About CompuMentor

CompuMentor is one of the nation's leading nonprofit technology assistance organizations helping nonprofit organizations and schools use technology more effectively to achieve their missions. Programs include TechSoup.org, an online non-profit technology portal, Mentor Matching and Consulting Services as well as DisounTech.org, providing software, hardware, and training products for non-profits.

1.2 About Organization

Organization provides respite care, kinship support, and intensive home-based services to families in the four Bay Area counties of Alameda, Contra Costa, San Mateo, and San Francisco. Our mission is to help caregivers nurture their children and keep their families intact.

1.3 Project Goals

The goal of this project is to help *ORG* better manage its technology by providing:

- An inventory of *ORG*'s current technology assets.
- Documentation *ORG*'s needs.
- A prioritized plan, including a budget, for addressing these needs.

1.4 Methodology

CompuMentor consultants conducted an interview with *ORG*'s staff, examined its current technology assets and documented the results in this technology plan. The plan includes recommendations based on specific needs identified during the assessment phase as well as information on practices that we recommend to small nonprofits hoping to improve their use of technology to achieve their mission. CompuMentor surveyed the current state of technology and followed up to review the survey findings and to discuss technology needs and priorities.

Note: CompuMentor recommends that this plan be reviewed by the *ORG*'s staff and updated every year as part of the budgeting process to ensure that it remains relevant to *ORG*'s circumstances.

2 Executive Summary

ORG provides services to families from offices located in both San Francisco and Oakland. It operates 4 offices that house nearly 50 computers. *ORG*'s technology challenges include unstable computers and networks, old computers, incompatible versions of office productivity software, a fragmented Internet web and email strategy, and a lack of training.

In the coming months, *ORG* will be combining its *WHITEHALL* office with its *PEABODY* office. Therefore, *ORG* should focus its plans on acquiring technology and putting in management practices which will help create a solid computing infrastructure in the new combined office. In the meantime, small projects should be undertaken to stabilize the network at the *WHITEHALL* office. In addition to the *WHITEHALL* and *PEABODY* offices, *ORG* has acquired the *T.F.E.* (Txxxx Fxxxx Exxxxx) program which is currently located at another location in Oakland but will be moving to a shopping mall in the coming couple of months. The technology at the *T.F.E.* location is very new including utilizing a wireless network and supports only a small staff of three people. The San Francisco office has been supported by Russ King through CompuMentor's scheduled support services and therefore its stabilization needs have already been addressed and suggestions made to improve the infrastructure.

In order to improve productivity and user satisfaction throughout the organization, *ORG* should start by replacing its old Pentium computers. A large portion of the computers at both the San Francisco and Oakland offices are nearly 7 years old and have barely enough memory to run the basic office productivity applications. There is a very high potential that many work hours are continually wasted waiting on these computers as they cope with the lack of adequate memory and power to run the Windows 2000 operating system and Microsoft Office applications.

The next step in increasing staff performance is to standardize on a common version of Microsoft Office. *ORG* runs several versions of Microsoft Office which are sometimes incompatible with each other. *ORG* should upgrade to Microsoft Office XP to standardize. In addition to streamlining file sharing, having a common user experience across the organization helps improve opportunities for peer training and focuses the support and training burden on a single product.

In order to help ensure continuous service delivery *ORG* should enhance its risk management strategy. As one component of that strategy *ORG* should adopt a comprehensive virus protection program. The San Francisco and the *PEABODY* location both should implement a server-based virus protection system while the A.R.S office should remain with a workstation-based product. A server-based system will ensure operational continuity and provide data protection from virus attacks for the entire organization while reducing the administration overhead to ensure that all of its workstations are protected.

Another important element of protecting an organization's data is a backing-up. *ORG* presently does not employ a consistent data storage and backup strategy that ensures the backup of all of the organization's data. While *ORG* has tape backup drives at the San Francisco office and both primary Oakland offices, it doesn't backup data stored locally on workstations and there is no policy of users storing files centrally. *ORG* should take several steps to better utilize its existing backup hardware and software by changing how it organizes data and creating a more comprehensive backup procedure.

In order to more easily share its data, documents, and other electronic resources, *ORG* should network its offices together to create an organization-wide network. This can easily be achieved by implementing Virtual Private Networking capable routers at each location. This will allow users access to the network resources at each location. Additionally, the *T.F.E.* office is too

small to justify its own server; by networking this office with the entire organization it could utilize the server resources of either the San Francisco or Oakland offices. A side benefit of implementing a Virtual Private Network solution is *ORG* staff members could securely access documents and other network resources from remote locations.

ORG should streamline its Internet strategy. Presently, it has three domains which all receive email at each respective location. *ORG* administrators expressed a need to consolidate the *ORG* domains into a single address so that there is less confusion for the public. *ORG* should undertake a transition plan to consolidate its email and website around a single domain. At the same time, *ORG* should adopt Microsoft Exchange as its email server and groupware package to facilitate better email management, group calendaring, and further information sharing across the organization.

Finally, *ORG* should organize a technology management team to oversee these projects and to guide ongoing technology support and planning needs. A good technology management team guides the organization's use of technology, facilitates the planning process, and helps resolve recurring technology related issues.

2.1 Statement of Needs

- Establish projects that meet current outstanding issues as well as facilitates the eventual merging of *WHITEHALL* and *PEABODY* networks.
- Establish a stable, fast network at *WHITEHALL*.
- Replace old workstations.
- Connect offices together as a single network.
- Establish automated, reliable backups at each location.
- Establish an organization-wide anti-virus program.
- Improve network and file security at all locations.
- Clean-up computers.
- Establish a common version of Microsoft Office.
- Streamline Internet presence and enhance website offerings.
- Implement group calendaring and groupware applications.
- Implement policies and procedures.
- Establish a training plan for applications, policies, and procedures.

2.2 Recommendation Summary

CompuMentor recommends the following technology projects in order of priority in each area. While these recommendations are generally in order of priority, they do have dependencies on each other.

2.2.1 Increase Technology Management Capacity

- Create IT management team.
- Document Procedures and Policies
- Improve network server and file security.

- Evaluate need for regular systems administration.
- Establish a formal technology budget.
- Create training plan.
- Secure lab computers.

2.2.2 Strengthen Existing Computing & Network Infrastructure

- Resolve Internet connectivity problems at the *WHITEHALL* office.
- Improve network performance at the *WHITEHALL* office.
- Implement an organization-wide backup system.
- Implement comprehensive server-based virus protection.
- Replace old workstations at all locations.
- Replace the network server for the future *PEABODY*/*WHITEHALL* office.
- Migrate all workstations at *PEABODY* to log into domain.
- Standardize network resource names.
- Setup Macintosh file sharing.
- Connect offices to create a unified network among the three sites.
- Eliminate TEAM/Apex Internet gateway devices.

2.2.3 Improve Data Management Applications

- Standardize organization on latest version of Microsoft Office.
- Implement Microsoft Exchange Server for email and groupware.
- Establish a client tracking database.
- Move MIP Accounting package to server instead of workstation.

2.2.4 Improve Internet Communications

- Migrate to using a single Internet domain.
- Review and improve website functionality.

2.3 Budget Summary

	Total Budget for Recommendations		Staff Hours	Consult. Hours	Est. Cost
	Total estimated hours		**259.5**	**109.75**	
	Total estimated cost to the organization				**$37,558**

Budgets for each recommendation are below:

	Create IT Management Team	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Identify technology team members.	*ORG*			
2	Establish a regularly schedule meeting time to review current technology needs and to assess future needs.	*ORG*			
3	Communicate to all users how technology will be supported including expectations of response times, support capabilities, and escalation paths.	*ORG*			
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Total estimated cost to the organization				

	Document Policies and Procedures	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	The technology team should review which procedures are the most common which, if documented, could reduce administrator time and increase employee satisfaction.	TechTem	4		
2	The technology team needs to review which computer usage polices should be drafted.	TechTeam	4		
3	Documentation for policies and procedures should be finalized based upon what Miriam has already created.	Miriam	40		
4	Documentation and any required training should be deployed.	TechTeam	10		
	Total estimated Staff hours		**58**		
	Total estimated Consulting hours				

	*Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Total estimated cost to the organization				

	Improve Network Server and File Security	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Determine file organization and access rights for each office	*ORG*, Consultant	4	2	
2	Setup shares on each server (approx 1 hour on each server)	Consultant		3	
3	Establish proper accounts and groups on each server. (approx 1 hour on each server)	Consultant		3	
4	Migrate files to secure shares*	*ORG*	6		
5	Write and communicate security and storage policy to organization	*ORG*, Consultant	1	1	
	Total estimated Staff hours		**11**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**9**	**$900**
	Total estimated cost to the organization				**$ 900**

	Evaluate Need for Regular Systems Administration	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Track cost to organization to administer network and computing services.	*ORG*	10		
	Total estimated cost to the organization				

	Establish a Formal Technology Budget	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Create initial technology budget.	*ORG*	10		
	Total estimated cost to the organization				

	Create Training Plan	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Perform assessments of staff skills and create training plan	*ORG*	20		
2	Complete training materials	Miriam	20		
	Total estimated Staff hours		**40**		
	Total estimated cost to the organization				

	Resolve Internet Connectivity Problems at *WHITEHALL*	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Investigation and re-configuration time.	Consultant		3	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**3**	**$300**
	Less donated or discounted services				
	Total estimated cost to the organization*				**$300**

	Implement an Organization-wide Backup System	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Centralize data file storage at *PEABODY* location.	*ORG*, Consultant	3	1	
2	Centralize data file storage and accounting backup at *WHITEHALL* location	*ORG*, Consultant	3	2	
3	Purchase 9 DAT Tapes ($30 ea) for *PEABODY* location.	*ORG*			$300
4	Purchase 9 Travan 10/20GB Tapes ($30 ea) for *WHITEHALL* location.	*ORG*			$300
5	Purchase 9 Travan 10/20GB Tapes ($30 ea) for San Francisco location.	*ORG*			$300
6	Designate a backup manager.	*ORG*	1		
7	Setup, schedule, and test backup at *PEABODY*		2	2	
8	Setup, schedule, and test backup at *WHITEHALL*		2	2	
8	Setup, schedule, and test backup in San Francisco.		2	2	
9	Train administrators and backup manager.		1	1	
#	Document backup procedures.			1	
	Total estimated Staff hours		**12**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**11**	**$1,100**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$2,000**

	Implement comprehensive server-based virus protection	Assignee	Staff Hours	Consult. Hours	Est. Cost

1	Purchase Norton Anti-virus Corporate Edition for 50 licenses.*				$120
2	Install Norton Anti-virus on file server at *WHITEHALL*.			1	
3	Install Norton Anti-virus on file server at *PEABODY*.			1	
4	Install Norton Anti-virus on file server at San Francisco.			1	
5	Install Norton Anti-virus on 3 *T.F.E.* workstations.			1	
6	Deploy anti-virus to 14 workstations at *WHITEHALL* location.			3.5	
7	Deploy anti-virus to 8 workstations at *PEABODY* location.			2	
8	Deploy anti-virus to 13 workstations at the San Francisco location.			3.25	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**12.75**	**$1,275**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$1,395**

	Replace old workstations at all locations	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Purchase **22** Computer Workstations - Intel P4 1.8 GHz CPU, 256MB, 30-40GB Hardrive, 17" Monitor, Windows XP Professional - Estimated price is for a Dell Dimension w/3 year warranty.				$22,000
2	Configure and install new computers.		15	7	
3	Migrate user files from older computers to new computers.* *This process may take less time depending on data volume and requirements.		15	7	
	Total estimated Staff hours		**30**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**14**	**$1,400**
	Less donated or discounted services				

	Total estimated cost to the organization				**$23,400**

	Replace the network server for the future *PEABODY*/*WHITEHALL* office	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Purchase recommended server hardware (Assumes mid-priced Dell PowerEdge server with 40GB storage, hardware mirroring, and tape drive)				$1,700
2	Purchase Windows 2003 Server Standard software w/Software Assurance (Cost estimate from DiscounTech)				$30
3	Purchase Windows 2003 Server Client Access Licenses (CALs) w/Software Assurance for **30** workstations from DiscountTech.**				$30
4	Configure server hardware, software, and 20-25 user accounts. Set as domain controller.	Consultant		4	
5	Configure client 25 client workstations. [estimate approx 20 min. per workstation]			8	
6	Establish a plan for server-based staff folders for private data and for public data sharing. Establish access control policies and rights.	*ORG* & Consultant	2	2	
7	Migrate files from current staff workstations to folders on the file server.	All Users	4	4	
8	Establish a data management and backup policy to ensure centralized backups occur.	*ORG*	1	1	
	Total estimated Staff hours		**7**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**19**	**$1,900**
	Less donated and/or discounted services				
	Total estimated cost to the organization				**$3,660**

	Migrate all workstations at *PEABODY* to log into domain	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Identify workstations that are configured to connect to the network in workgroup mode.		1		
2	Migrate and files associated with a local user account to a private staff folder on the network server.		2		

3	Create appropriate new user accounts on server.		1	2	
4	Eliminate local user accounts and reconfigure workstation to connect to the domain.		1	2	
	Total estimated Staff hours		**5**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**4**	**$400**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$400**

	Standardize Network Resource Names	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Rename workstations at San Francisco office.		2		
2	Rename workstations at *WHITEHALL* office.		2		
3	Rename workstations at *PEABODY* office.		2		
	Total estimated Staff hours		**6**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Less donations and/or discounted services				
	Total estimated cost to the organization				

	Setup Macintosh file sharing	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Enable Appletalk on the fileserver.		0.25		
2	Identify folders/shares that should allow for Macintosh file sharing.		0.25		
3	Enable Macintosh shares.		0.25		
4	Train network administrator on Macintosh file sharing configuration tasks.		0.25		
5	Write procedure and communicate to users how to share files between Macs PCs.		1		
	Total estimated Staff hours		**2**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**1**	**$100**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$100**

Connect offices to create a unified network	**Assignee**	**Staff**	**Consult.**	**Est. Cost**

	among the three sites		Hours	Hours	
1	Purchase 3 VPN capable routers (Netgear Prosafe VPN/Firewall FVS318).				$450
2	Install and configure a VPN capable router at SF, *PEABODY*, and *T.F.E.* office			5	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**5**	**$500**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$950**

	Standardize organization on latest version of Microsoft Office	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase 50 Microsoft Office XP Professional (with Software Assurance) licenses from DiscounTech.				$875
2	Install software at *PEABODY* office (20 users (6 original + 14 *WHITEHALL* users)		10	1	
3	Install software at San Francisco office (approximately 15 users)		8	1	
4	Install software at *T.F.E.* office (3 users)		2	1	
	Total estimated Staff hours		**20**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**3**	**$300**
	Less donations and/or discounted services				
	Total estimated cost to the organization*				**$1,175**

	Implement Microsoft Exchange Server for email and groupware	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase Microsoft Exchange Server Standard Edition w/Software Assurance from DiscounTech for *PEABODY* office.				$39
2	Purchase Microsoft Exchange Server Standard Edition w/Software Assurance from DiscounTech for San Francisco office.				$39
3	Purchase 50 Exchange Client Access licenses ($2.50 each) from DiscounTech.				$125

4	Install Exchange Server at *PEABODY* office.			4	
5	Install Exchange Server at San Francisco office.			4	
6	Install Exchange Web access.			2	
7	Configure clients		5	10	
8	Train Administrators on basic administration		2	2	
	Total estimated Staff hours		**7**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**22**	**$2,200**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$2,403**

	Migrate to using a single Internet domain	**Assignee**	**Staff Hours**	**Consult. Hours**	**Est. Cost**
1	Choose Registrar to consolidate domains and to purchase new domain from.	*ORG*	1		
2	Transfer domains to single registrar.				$20
3	Purchase *ORG*.org.	*ORG*	0.5		$25
4	Establish web services for *ORG*.org (average web hosting cost for 1 year)	*ORG*, Consultant	1		$250
5	Update website at *ORG*-OAK.org to alert the public of the new domain name. Update website content to point to new domain name for email addresses.	*ORG*	1	2	
6	Migrate web content to *ORG*.org	*ORG*	1	1	
7	Setup email accounts for new domain name for staff members.	*ORG*			
8	Setup mail forwards from old domains to new domain.	*ORG*, Consultant	3	1	
9	Communicate to staff to alert clients and collogues of the change.				
	Total estimated Staff hours		**6.5**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**4**	**$400**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$675**

	Review and improve website functionality	**Assignee**	**Staff**	**Consult.**	**Est. Cost**

			Hours	Hours	
1	Evaluate online donations providers.*		5		
2	Review website goals, requirements, and content with appropriate staff representative of the organization.		20		
3	Website design and implementation: outside services. Implementation is for adding website connection to donation provider.**			2	
4	Website design and implementation: Implementation is for updating web content.**		10		
	Total estimated Staff hours		**35**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**2**	
	Less donated or discounted services				
	Total estimated cost to the organization				**$200**

*See Excel worksheet for original version of this budget: *ORG* Tech Plan Budget.

3 Recommendations

CompuMentor recommends that *ORG* implement the following projects to improve its technology infrastructure and prepare for future growth. Recommendations are listed in order of importance as deemed by *ORG*.

3.1 Dependencies and Project Sequencing

The recommendations in this plan are written for a 2-12 month time horizon and rely on the *WHITEHALL* and *T.F.E.* offices moving to new locations. The following projects have dependencies or should be undertaken in tandem.

1) The "Implement Microsoft Exchange Server" and "Migrate to using a single Internet domain" projects should be undertaken together and after the establishment of a more robust network server as described in the "Replace network server for the future *PEABODY*/*WHITEHALL* office" recommendation.

2) The "Eliminate TEAM/Apex Internet Gateway devices" should be started after the *WHITEHALL* office move and after implementing Microsoft Exchange Server and the migration to using a single Internet domain.

3) The "Standardize network resource names" project should be done at the *PEABODY* office when the *WHITEHALL* office moves and at the San Francisco and *T.F.E.* office at any time.

4) The "Setup Macintosh file sharing" and "Standardize network resource names" projects should happen when the "Replace network server for the future *PEABODY*/*WHITEHALL* office" project happens as it will be the least disruptive time to do this and *ORG* might be able to save some consulting time.

5) "Implement an organization-wide backup system" should begin immediately with a goal of having a single tape device in the new *PEABODY*/*WHITEHALL* merged office.

6) All projects described in the "Establish Technology Management Practices" section can begin immediately.

7) The "Replace old workstations at all locations" project should ideally happen before the "Standardize organization on latest version of Microsoft Office" due to the system requirements of MS Office XP. However, since there are so many systems being recommended for replacement, budget constraints might dictate a need to phase these projects concurrently over a suitable timeframe.

3.2 Establish Technology Management Practices

3.2.1 Create IT Management Team

ORG does not have a formal technology management team. Given the size of *ORG*'s computing environment, CompuMentor recommends *ORG* develop an Information Technology Management Team. This team will drive the overall direction of technology and information systems. We have found this to be the most sustainable and cost effective way to manage the technology projects and systems that *ORG* will be developing. This team can be comprised of existing staff through a reallocation of their time depending the existing staff skill set, interest and budget considerations. It is essential that a member of the staff with input into the budgetary and strategic planning processes is included, as well as staff that represent programmatic and administrative aspects of the organization

Benefits

1) Allows all staff to begin discussing needs, ideas and directions for technology.
2) Provides a realistic technology budget that takes into account the organization's technology plans.
3) Becomes a focal point for future technology planning, and specific technology projects such as web site construction or database planning.
4) The diverse membership of the tech team can help ensure that such policy is useful for all members of an organization.

Recommendation

- *ORG* should develop an Information Technology Management Team pooled from its existing staff.
- The team works to set technical priorities, assist in decisions in technology plan implementation and advocates for technology in the budgeting process.
- The team is made up of a representative cross-section of the organization. This will be increasingly important as *ORG*'s technological capacity grows and the needs of its users become more diverse.
- The tech team ensures continuity for planning that outlasts the tenure of any one individual. The tech team should ensure that members also share training opportunities.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Identify technology team members.	*ORG*			
2	Establish a regularly schedule meeting time to review current technology needs and to assess future needs.	*ORG*			
3	Communicate to all users how technology will	*ORG*			

	be supported including expectations of response times, support capabilities, and escalation paths.				
	Total estimated Staff hours		**TBD**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**TBD**	
	Total estimated cost to the organization				

Resources

- Appendix B: see "IT Management Team Organization" item.

3.2.2 Document Policies & Procedures

In order to most productively manage the technology usage at *ORG* it is important for the organization to document common computer procedures and computer usage policies and to train staff members on these policies and procedures.

Recommendation

- The series of training materials that Miriam has produced should be finalized and deployed to all *ORG* staff members.
- Computer usage policies should be drafted and posted at each location.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	The technology team should review which procedures are the most common which, if documented, could reduce administrator time and increase employee satisfaction.	TechTem	4		
2	The technology team needs to review which computer usage polices should be drafted.	TechTeam	4		
3	Documentation for policies and procedures should be finalized based upon what Miriam has already created.	Miriam	40		
4	Documentation and any required training should be deployed.	TechTeam	10		
	Total estimated Staff hours		**58**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Total estimated cost to the organization				

Resources

- Appendix B: See related best practices in Appendix B of this plan.

3.2.3 Improve Network Server and File Security.

ORG should standardize and improve its network security. The mix of local vs. server accounts and the lack of standards for file organization and file sharing not only requires more overall administration; but also puts *ORG*'s data at risk from loss, theft, or access to private files by individuals who should normally be denied access.

Recommendation

- In order to provide a consistent model among all of its offices *ORG* should follow a standard set of guidelines for storing and sharing files. Additionally, all user accounts should be centralized on the servers at each location.
- A consistent file storage and sharing model will help users across the organization to know where to put files so that they are secure and confidential.

Considerations

This recommendation should be considered when planning to replace the network server at the unified *PEABODY*/*WHITEHALL* office as many of the tasks below could be most quickly performed on a new server.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Determine file organization and access rights for each office	*ORG*, Consultant	4	2	
2	Setup shares on each server (approx 1 hour on each server)	Consultant		3	
3	Establish proper accounts and groups on each server. (approx 1 hour on each server)	Consultant		3	
4	Migrate files to secure shares*	*ORG*	6		
5	Write and communicate security and storage policy to organization	*ORG*, Consultant	1	1	
	Total estimated Staff hours		**11**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**9**	**$900**
	Total estimated cost to the organization				**$900**

*The cost for this project depends largely on a high level of participation by the *ORG* administrators.

3.2.4 Evaluate need for regular systems administration.

Due to the size of *ORG*'s organization, it should consider how much time is spent administering various systems and resolving day-to-day user problems. *ORG* presently has a person at each location designated as the "defacto" administrator. This role is in addition to their regular mission oriented duties.

Recommendation

- *ORG* should track its daily user related issues and the amount of time it takes to resolve them over a period of time (30-60 days).
- Evaluate the time requirement to resolve such issues in order to identify if further scheduled support service or a full-time administrator is required to free up the time of the present administrators and to provide better service to staff members.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Track cost to organization to administer network and computing services.	*ORG*	10		
	Total estimated cost to the organization				

Resources

- CompuMentor: CompuMentor offers scheduled support services to assist an organization in maintaining systems.
- TechSoup: Technology Assistance Providers list. http://www.techsoup.org/resources/index.cfm?action=resource.view_summary&resourcelist_id=11&order=title

3.2.5 Establish a formal technology budget.

ORG presently does not do any detailed technology budgeting. Not forecasting technology needs can easily create a situation where workers are not providing service as productively as possible and can lead to unexpected spikes in spending as large numbers of systems need replacing or repairing.

Recommendation

Due to the amount of hardware, software licenses, and required supplies and services that *ORG* has, CompuMentor recommends that *ORG* establish a comprehensive technology budget that will allow *ORG* to maintain a viable set of technologies over an extended period of time. Planning for regular computer replacements and upgrades will give the organization a better way to forecast technology-related expenditures. By establishing a comprehensive budget it can spread the cost of maintaining up-to-date computer systems over time.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Create initial technology budget.	*ORG*	10		
	Total estimated cost to the organization				

Resources

- Appendix B: Annual Technology Budgeting.
- TechSoup: "Technology Budgeting Basics" article discusses how to budget for technology. http://www.techsoup.org/articlepage.cfm?ArticleId=197&cg=searchterms&sg=budget

3.2.6 Create training plan.

ORG has over 30 full-time employees. These employees can work most efficiently if they are properly trained on basic computer skills as well as in the applications that they commonly use such as Microsoft Excel, Word, and Outlook.

Recommendation

- *ORG* should undertake a staff skills inventory to assess the level of computer-related skills its employees have.
- *ORG* should also identify ways in which existing software products such as Microsoft Office could be applied to increase productivity if additional, more specialized training were given to some individuals.
- *ORG* should budget an average amount per employee for training. This will ensure that both new hires and existing employees have access to training when needed. Some employees will need more training than others.
- CompuMentor recommends that *ORG* encourage peer training. Some employees know applications better than others. These staff members should be identified and time should be made available for these staff members to share this knowledge with colleagues. This can be an inexpensive way to deliver training.
- Training on your organization's procedures should also be considered in addition to standard training on software applications.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Perform assessments of staff skills and create training plan	*ORG*	20		
2	Complete training materials	Miriam	20		
	Total estimated Staff hours		**40**		
	Total estimated cost to the organization				

Resources

- TechAtlas: TechAtlas has tools to assist an organization with evaluating the level of training that is required for each staff member through its survey tools. http://www.techatlas.org
- TechSoup: "Technology Training: The Nonprofit Viewpoint" article discusses the need and value of training and common challenges at a non-profit. http://www.techsoup.org/articlepage.cfm?ArticleId=414&cg=searchterms&sg=training
- Appendix B: Training & Documentation

3.2.7 Secure Lab Computers

ORG has a lab of Macintosh and Windows computers at its *WHITEHALL* location for client use. These computers should be secured on the network so that they do not have access to *ORG* administrative data and computers.

Recommendation

- CompuMentor recommends that the network routing be setup to prevent these computers from being able to reach the administrative computers on the network. This item can potentially be performed during the installation of the routers used for the recommendation "Connect offices to create a unified network among the three sites."
- CompuMentor recommends that *ORG* implement the "Improve Network Server and File Security" recommendation to prevent unauthorized access to administrative data by clients.

3.3 Strengthen Existing Network Infrastructure

Implementing the recommendations below will increase *ORG*'s reliance on its network services. Because the organization will have more dependence on services such as centralized and secure file storage, groupware, email hosting, backups, and having connections to its other offices, it requires a strong commitment to internal support of its computing services to maintain a high degree of productivity.

3.3.1 Resolve Internet connectivity problems at the *WHITEHALL* office.

Several times per week *ORG* staff at the *WHITEHALL* office cannot connect to the Internet. Barbara fixes this problem by restarting the Team Internet Gateway device which provides dial-up Internet access to the entire office. Therefore, it appears that this device is either inherently problematic or requires some reconfiguration to eliminate this problem.

Recommendation

Since the problem with connecting to the Internet at *WHITEHALL* Avenue primarily has to do with *ORG*'s TEAM Internet gateway device, some remediation is recommended. A close examination of the settings and/or logs of this device may reveal the problem. However, if the device is inherently faulty, it is not recommended to replace; but, instead to use it until the move to the *PEABODY* location where will no longer be needed.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Investigation and re-configuration time.	Consultant		3	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**3**	**$300**
	Less donated or discounted services				
	Total estimated cost to the organization*				**$300**

* The time budgeted for this should not be extensive since it is not worth an exorbitant investment in time and money in a device that will be retired once the move to *PEABODY* takes place.

3.3.2 Improve network performance at the *WHITEHALL* office.

ORG staff report that the network performance is slow. A close look at the network resources indicate the following contributing factors:

- A dial-up Internet account is shared among 15 or more computer workstations. Therefore, Internet access is going to be very slow if more than a single user is accessing the Internet.
- Most workstations are slow Pentium computers with very little memory running Windows 2000. These workstations spend most of their time managing operating system and network overhead and leave little time for application tasks which results in a perceived lack of responsiveness by users. To compound this problem, many of these workstations have not been maintained well; therefore, they may not be operating at peak performance.
- The network server is also a Pentium computer with very little memory. This server is most likely operating beyond its actual capacity and therefore does not provide good performance.

Recommendation

- *ORG* should invest in replacing its old workstations.
- Replace the use of dial-up Internet access with a broadband connection such as DSL.
- Replace its existing server with a server that can more adequately support an office of this size.

See related recommendations for detailed projects to resolve this situation.

3.3.3 Implement an organization-wide backup system.

Backup systems are a staple of most disaster preparedness plans. Without an organization-wide back up plan, *ORG* is at risk of losing important documents and programs which can prevent or

slow its service delivery. In addition to ensuring that all users' data files are properly backed-up, *ORG* should also plan to store a copy of its backups at an offsite location.

Recommendation
CompuMentor recommends that *ORG* better utilize its back up hardware and software to ensure quality backups are occurring. It has adequate hardware and software to properly back up its data.

PEABODY LOCATION
At the *PEABODY* location a DAT tape drive is attached to the server and data is backed-up using Veritas Backup Exec 8.5. Workstation data is not backed-up, data files are not all stored centrally on the server, and it does not appear that a tape rotation system is employed. CompuMentor recommends that data files be centralized onto the file server, a daily tape rotation system be implemented, and the backup process is automated.

WHITEHALL LOCATION
WHITEHALL needs to consolidate and automate its backup procedures. Presently, this office only backs up only some of its data using a manually run Travan tape drive located on Barbara computer. Only files on the server are backed up which means that if users store files on their workstations, this data is not being backed up.

The tape backup also does not include the accounting data which is backed up separately using a manual process onto a Zip disk. CompuMentor recommends establishing a secure, private area where its accounting backups can be stored. The accounting program's backup procedures should be followed in such a way as to backup the data to the server so that daily multi-generational backups can be made to tape. Therefore, CompuMentor recommends that data files be centralized onto the file server, a daily tape rotation system be implemented, and the backup process automated. *ORG* should also consider moving its tape hardware and software to the server upon establishing a new server for the future unified Oakland office.

T.F.E. LOCATION
The *T.F.E.* location has only three computers, no server, and no tape backup capability. Unless there is a need for handling a significant amount of data, its backup needs can be accommodated by backing up its files to the *PEABODY* fileserver once a virtual private network has been established. Once files are backed up on the fileserver, they will be backed up onto tape.

SAN FRANCISCO LOCATION
The San Francisco location currently uses a tape backup device to back up data on its server and on some workstation and has a policy of centrally storing files. It is CompuMentor's assessment that it is the most secure of any of the *ORG* locations. Since it is following a recently established tape rotation program, it should continue with this and continue with its policy of centralized, secure storage of data files.

BACKUP MANAGEMENT RESPONSIBILITY
CompuMentor recommends that the organization designate a staff member as the backup manager to periodically test the restorability of backups, review tape backup logs for errors, track

tape age, and ensure that tape rotation and offsite storage practices are followed by the administrators at each location. The backup manager should also ensure proper documentation and cross-training is provided. Ideally, the backup manager is someone who is already administering backups at a location and is familiar with the technologies involved.

MEDIA ROTATION

Media rotation is critical, since tapes wear out through constant use, and it is a good practice to have a backup that you can restore from that might be a couple of weeks old, prior to a virus or version of a document that was saved without the data. If it is essential to backup files that are more than a week or two old, adding additional tapes can give an organization a longer history from which to recover files from, but at a greater expense.

CompuMentor recommends that *ORG* create two or three media sets that are rotated each week. One set which is currently in use, one recent set on site, and one set in an offsite location (usually at someone's house, or in a safety deposit box) Each set would should be between two-four tapes, though this will depend on exactly how much data there is to backup. If tapes are to be stored offsite, data confidentiality should be considered. If data is confidential, systems such as encryption should be used to ensure that confidential data stays confidential.

TESTING

Monitoring your backups to make sure they're working properly is an essential part of any backup routine. Each day, an administrator should take a few minutes to launch Backup Exec and check the reports to see if it encountered any significant errors in its last backup. Once a month it's a good idea to perform test restores to make sure that you can restore data properly.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Centralize data file storage at *PEABODY* location.	*ORG*, Consultant	3	1	
2	Centralize data file storage and accounting backup at *WHITEHALL* location	*ORG*, Consultant	3	2	
3	Purchase 9 DAT Tapes ($30 ea) for *PEABODY* location.	*ORG*			$300
4	Purchase 9 Travan 10/20GB Tapes ($30 ea) for *WHITEHALL* location.	*ORG*			$300
5	Purchase 9 Travan 10/20GB Tapes ($30 ea) for San Francisco location.	*ORG*			$300
6	Designate a backup manager.	*ORG*	1		
7	Setup, schedule, and test backup at *PEABODY*		2	2	
8	Setup, schedule, and test backup at *WHITEHALL*		2	2	
8	Setup, schedule, and test backup in San Francisco.		2	2	
9	Train administrators and backup manager.		1	1	

10	Document backup procedures.			1	
	Total estimated Staff hours		**12**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**11**	**$1100**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$2000**

3.3.4 Implement comprehensive server-based virus protection.

ORG presently has no consistent virus protection strategy. A survey of its computer networks show that many systems have expired and unlicensed anti-virus programs leaving them vulnerable to attack. A computer or network infected with a virus could cause *ORG* to lose data and valuable time which would be detrimental to *ORG*'s ability to provide its services. Therefore, *ORG* should implement a strategy to protect the entire organization from viruses.

Benefits

The primary benefit to implementing a centralized virus protection package is to ensure that all Windows-based LAN workstations stay up to date with virus definition files. Centralized management combined with automatic updates and deployment of virus definition files provide the best security and reduces staff time needed to administer a properly protected network.

Recommendation

- CompuMentor recommends that a server-based virus protection package be deployed to ensure operational continuity and data protection for the entire organization.
- *ORG* should acquire through CompuMentor's DiscounTech program, one of Symantec's enterprise-oriented virus protection packages which are available at a very low cost.

Considerations

While there are alternative virus protection packages, CompuMentor recommends that any virus protection package designed to protect an entire organization be able to distribute virus updates to LAN workstations and is not reliant on individual desktop updates. This is the most practical solution for a large network.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase Norton Anti-virus Corporate Edition for 50 licenses.*				$120
2	Install Norton Anti-virus on file server at *WHITEHALL*.			1	
3	Install Norton Anti-virus on file server at *PEABODY*.			1	
4	Install Norton Anti-virus on file server at San			1	

	Francisco.				
5	Install Norton Anti-virus on 3 *T.F.E.* workstations.			1	
6	Deploy anti-virus to 14 workstations at *WHITEHALL* location.			3.5	
7	Deploy anti-virus to 8 workstations at *PEABODY* location.			2	
8	Deploy anti-virus to 13 workstations at the San Francisco location.			3.25	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**12.75**	**$1275**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$1395**

Resources

- For more information about Norton Anti-virus see www.symantec.com.
- For more information about viruses, see the TechSoup article at http://www.techsoup.org/articlepage.cfm?ArticleId=280&cg=searchterms&sg=virus

3.3.5 Replace old workstations at all locations.

ORG's offices have very old computer workstations. While replacement of all of the workstations at once may not be feasible, CompuMentor recommends that *ORG* replace its very old Pentium computers. Older computer workstations should be periodically evaluated for their positive and/or negative effect on user and office productivity. Older workstations can often hamper productivity through a lack of performance, reliability; or, may just be too out of date to work effectively with the stated technological direction of an organization.

A modern well-configured Windows 2000 or XP-based computer workstation can provide the average office user with an easy-to-use, fast, reliable, and secure productivity tool for many years. New computer acquisitions should be made keeping in mind a migration path toward standardizing on a common operating system through eventual retiring of older systems.

Benefits

- Replacing slower computers with faster ones has potential to lower user frustration and increase productivity.
- Modern operating systems such as Windows XP Professional should require less time from administrators due to greatly increased stability.
- Newer hardware is less likely to fail causing service interruptions.
- A Windows XP workstation is significantly more reliable and provides for an extremely stable user experience over Windows 95, 98, and ME thus increasing user productivity.
- Windows XP provides enhanced user and data security.

Recommendation

- *ORG* should acquire up to 11 new computers for the *WHITEHALL* location, 3 for the *PEABODY* location, and 8 for the San Francisco office with the following minimum requirements:
  - *Hardware Minimum:* 1.5GHz Celeron or Pentium IV(preferred), 128MB RAM (256MB preferred), 20GB Harddisk storage
  - *Operating System:* Windows 2000 or XP Professional
  - *Software:* Microsoft Office 2000 or Microsoft Office XP, Antivirus software
- If the workstations being replaced are better or are less problematic than other workstations in the organization, then *ORG* should consider re-deploying the replaced workstations to eliminate any problematic or very old computers.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase **22** Computer Workstations - Intel P4 1.8 GHz CPU, 256MB, 30-40GB Hardrive, 17" Monitor, Windows XP Professional - Estimated price is for a Dell Dimension w/3 year warranty.				$22000
2	Configure and install new computers.		15	7	
3	Migrate user files from older computers to new computers.* *This process may take less time depending on data volume and requirements.		15	7	
	Total estimated Staff hours		**30**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**14**	**$1400**
	Less donated or discounted services				
	Total estimated cost to the organization				**$23400**

* File migration may be easier and quicker if local workstation data files are migrated to secure server shares as described by other projects in this plan.

Resources

- For brand-name computers, CompuMentor finds Dell a good balance between reliability, performance, and price. See www.dell.com
- Recycled computer information can be found at: **www.crc.org**

3.3.6 Replace the network server for the future *PEABODY*/*WHITEHALL* office.

When the *WHITEHALL* office moves to the *PEABODY* office location, there will be no need to maintain the servers as configured at each location. Instead *ORG* needs only a single robust network server configured with Windows 2000 Server software. Presently, *WHITEHALL*'s network server is run on an old Pentium computer and uses Microsoft's NT4 server software. This server should be retired after the move. The server at *PEABODY* is a Pentium 4 with 256 MB

RAM also running NT4. While this server hardware might be able to keep up with the demands of what will become a 20 to 25 workstation network, it offers no redundancy.

Recommendation
In preparation for the eventual merging of *PEABODY* and *WHITEHALL* office networks, *ORG* should acquire a server-class computer running Windows 2000 Server and designate this server as the only remaining server in the *PEABODY* office. If deployed before the merging of the locations, then it is recommended that it be setup at the *WHITEHALL* location and moved.

Moving to a newly setup network server using Microsoft Windows 2000 Server will help *ORG* organize data and reduces the overall time requirement of managing *ORG*'s future network of approximately 24 computers at its *PEABODY* office. By centralizing security, account management, and data, *ORG* should be able to save valuable time managing its data resources and also gain the benefit of having a centralized place to backup files from.

CompuMentor recommends implementing Windows 2000 Server software to facilitate centralized file sharing among Macintosh's and Windows-based workstations, centralized user management, centralized backup, and centrally managed virus protection. CompuMentor recommends that *ORG* should eliminate the practice of locally storing data files and peer-to-peer file sharing once the file server is implemented in order to better secure data. Lastly, the network administrator will need some additional training in how to properly manage a Windows 2000 Domain which a consultant can provide during system setup.

- *Hardware Minimum:* Pentium IV 2.0GHz+, 256MB RAM, Mirrored 40GB Harddisk storage for storage redundancy, 40GB Capable Tape Drive.
- *Operating System:* Windows 2000 Server
- *Additional Software:* Norton Antivirus Corporate Edition

Considerations
While DiscounTech provides licenses for Microsoft Windows 2003Server, CompuMentor recommends actually installing Windows 2000 Server.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase recommended server hardware (Assumes mid-priced Dell PowerEdge server with 40GB storage, hardware mirroring, and tape drive)				$1700
2	Purchase Windows 2003 Server Standard software w/Software Assurance (Cost estimate from DiscounTech)				$30
3	Purchase Windows 2003 Server Client Access Licenses (CALs) w/Software Assurance for **30** workstations from DiscountTech.**				$30

4	Configure server hardware, software, and 20-25 user accounts. Set as domain controller.	Consultant		4	
5	Configure client 25 client workstations. [estimate approx 20 min. per workstation]			8	
6	Establish a plan for server-based staff folders for private data and for public data sharing. Establish access control policies and rights.	*ORG* & Consultant	2	2	
7	Migrate files from current staff workstations to folders on the file server.	All Users	4	4	
8	Establish a data management and backup policy to ensure centralized backups occur.	*ORG*	1	1	
	Total estimated Staff hours		**7**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**19**	**$1900**
	Less donated and/or discounted services				
	Total estimated cost to the organization				**$3660**

* Consulting time estimates for workstation setup and file migration assumes that *ORG*'s present system administrator can perform a majority of the work.
** If *ORG* plans to have more than 30 workstations at the unified *PEABODY* office in the next 2 years it should consider buying more Client Access Licenses than 30.

3.3.7 Migrate all workstations at *PEABODY* to log into domain.

The workstations at the *PEABODY* office are setup in a mixed mode of operation. Some workstations are properly setup to allow users to log into the domain which allow them access to server file shares and other shared network resources while some workstations are setup in workgroup mode which not only makes using network resources more difficult for the user, it is an insecure mode of operation as Microsoft's security model depends on using domain accounts.

Recommendation
CompuMentor recommends that all workstations that are setup in workgroup mode be reconfigured to participate in the domain and that local user accounts be eliminated to improve security and network access.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Identify workstations that are configured to connect to the network in workgroup mode.		1		
2	Migrate and files associated with a local user account to a private staff folder on the network server.		2		
3	Create appropriate new user accounts on server.		1	2	
4	Eliminate local user accounts and reconfigure		1	2	

	workstation to connect to the domain.				
	Total estimated Staff hours		**5**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**4**	**$400**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$400**

*This recommendation could potentially be done entirely by *ORG* staff with some training.

3.3.8 Standardize network resource names.

Presently there is no system for naming the *ORG* computers. As a result, the computer names are confusing at best. CompuMentor recommends that computers are named in some regular fashion, according to user, job title, or location, so that it is easier to match a physical computer to a network name. This will simplify maintenance tasks greatly. Renaming computers would take a few hours and would probably require reconfiguration of the backup system.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Rename workstations at San Francisco office.		2		
2	Rename workstations at *WHITEHALL* office.		2		
3	Rename workstations at *PEABODY* office.		2		
	Total estimated Staff hours		**6**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Less donations and/or discounted services				
	Total estimated cost to the organization				

Resources

- Appendix B: "Naming Network Resources"

3.3.9 Setup Macintosh file sharing

ORG administrators expressed a desire to share files between its small number of Macintoshes and Windows-based workstations. While pre-OS X based Macintoshes cannot directly share files with Windows-based workstations, files can be shared by setting up Macintosh shares on Windows NT/2000 Severs.

Recommendation

ORG should enable Macintosh file sharing on its network server at the *PEABODY* office.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost

1	Enable Appletalk on the fileserver.		.25		
2	Identify folders/shares that should allow for Macintosh file sharing.		.25		
3	Enable Macintosh shares.		.25		
4	Train network administrator on Macintosh file sharing configuration tasks.		.25		
5	Write procedure and communicate to users how to share files between Macs PCs.		1		
	Total estimated Staff hours		**2**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**1**	**$100**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$100**

3.3.10 Connect offices to create a unified network among the three sites.

Staff members of *ORG* and volunteers that work with the agency occasionally need access to data and network resources from outside the office. Therefore, CompuMentor recommends a Virtual Private Network (VPN). A VPN provides a secure means of giving multiple users access to an organization's network from any point on the Internet. It gives administrative staff the ability to troubleshoot network and workstation problems remotely. It gives agency staff access to file shares, databases, and other network resources from remote locations such as their home or on the road. Staff members or volunteers can work remotely as if they were working in the office.

ORG could benefit from improving its Internet security and at the same time provide remote access to its network resources for authorized users such as staff and volunteers. A well-secured firewall protects an organization's network by preventing unauthorized access to an organization's computers from the Internet. A Virtual Private Network (VPN) provides a secure method of giving multiple users access to an organization's network from any point on the Internet. As long as the remote user has a method of connecting to the Internet and the appropriate software, they can work as if they were located onsite.

Benefits

- *ORG*'s offices will be securely connected as if it were a single network using the Internet.
- *ORG*'s network will be better protected from intrusion.
- VPN allows administrative staff the ability to troubleshoot network and workstation problems remotely.
- *ORG*'s users will have access to file shares, databases, and other network resources from remote locations such as their home or while traveling.
- *ORG*'s staff members and/or volunteers can work remotely as if they were working in the office.

VPN SOLUTIONS

A VPN solution works best when an agency has a high-speed Internet connection such as DSL. However, it is important to note that the speed of the agency's Internet connection is only half of the story. The VPN will only be as fast as the slowest connection between the client workstation and the VPN access point. If the client workstation is using dial-up Internet access, then the performance will be poor (56Kbps at most) even if the agency network is connected to the Internet through DSL. It is recommended that any remote users who plan to access the VPN regularly do so through a high speed Internet connection such as DSL or cable modem.

In order for remote users to connect to the VPN network, the agency must also have a fixed IP address to serve as the VPN access point. The most common DSL services use a dynamically assigned IP address, meaning that the agency's network is given a new IP address every time that the DSL connects to the Internet.

Windows 2000 Server VPN. A Windows 2000 Server can be configured to provide a VPN access point to the network. Implementing VPN by using a Windows 2000 Server allows any Windows workstation (Windows 98, ME, 2000, XP) and OS X Jaguar-based Macintosh to connect to the network without the use of additional software. This is not a good solution for networks that are mostly Macintosh-based. Although Windows 2000 Server can provide VPN functionality, sometimes this is not the most desirable solution due to performance, client compatibility, or security concerns. In addition to performance concerns, a Windows 2000 Server acting as a VPN access point needs to have its own public IP address which may make it more vulnerable to intrusion.

Hardware-based VPN. A hardware-based VPN solution has become very affordable and easier to setup than before. The most common solutions cost between $125-$300 and are available from network hardware vendors such as Netgear. Most hardware solutions are based upon the IPSEC protocol which is more secure than the PPTP protocol usually implemented using Windows 2000 Server solutions. Depending on the hardware purchased, there may be a need to purchase licenses for each workstation accessing the VPN access point. Some vendors such as Netgear do not require the purchase of client software and work directly with Windows 2000/XP workstations without the use of additional software.

WINDOWS CLIENT ACCESS

Microsoft Windows 98, ME, 2000, XP support VPN connectivity that are based upon PPTP standards used by Windows 2000 Server VPN solutions. Windows 2000 and XP additionally support more secure IPSEC VPN solutions.

MACINTOSH CLIENT ACCESS

Mac OS X Jaguar edition support PPTP VPN connections and additionally has some support for IPSEC; however, IPSEC support is not well documented or easily configurable yet. Third-party solutions are available for all versions of the Macintosh OS.

Recommendation

- CompuMentor recommends that *ORG* protect its network by installing a VPN capable firewall/router. At the same time as protecting it network, *ORG* can provide secure

remote access to its network by implementing a Virtual Private Network (VPN) solution in order to give staff members access to its network resources and data via a secure connection over the Internet.
- *ORG* will need a router at each location capable of VPN to connect each site.
- *ORG* will need to switch to a DSL service which provides for at least one fixed IP address.
- Develop polices regarding remote access.

Considerations
ORG may need to upgrade its DSL connections at each location depending on the performance of the connections and the estimated data traffic that is desired between locations. Higher speed ADSL service may be ordered without requiring additional hardware or SDSL service may be more desirable. Additionally, if the present services uses a dynamic-IP addresses, a static-IP address service is preferred and should be ordered.

For remote users of any of the VPN connections, the VPN solution will only be as fast as the slowest connection between the client workstation and the VPN access point. This means that if the client workstation is using dial-up for Internet access, then the performance will be poor (56Kbps at most). It is recommended that any users who plan to use VPN regularly do so through at least a DSL or cable modem connection.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase 3 VPN capable routers (Netgear Prosafe VPN/Firewall FVS318).				$450
2	Install and configure a VPN capable router at SF, *PEABODY*, and *T.F.E.* office			5	
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**5**	**$500**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$950**

Resources
- TechSoup: "Remote Access Guide for Nonprofits, Parts One and Two"
  These two articles provide an overview of remote access solutions for nonprofit agencies. The second part discusses VPN solutions in detail.
  http://www.techsoup.org/articlepage.cfm?ArticleId=340&topicid=3
  http://www.techsoup.org/articlepage.cfm?ArticleId=341&topicid=3

- Vendors: MacZone, MacWarehouse and CompUSA

The following commercial vendors are a good source of computer hardware and software for the Macintosh. CompuMentor does not endorse a particular vendor, and in all cases we recommend shopping around for the best prices, warranties and support plans.
http://www.maczone.com/
http://www2.warehouse.com/default.asp?home=mac&origin=homemac&cat=mac
http://www.compusa.com/

- Netgear Prosafe VPN Firewall with 8-port router
http://www.netgear.com/products/prod_details.asp?prodID=129

3.3.11 Eliminate TEAM/Apex Internet gateway devices.

ORG uses TEAM/Apex all-in-one Internet access gateways at each office These devices provide the functionality of a router, email server, DHCP server, and act as an Internet gateway via dialup service.

WHITEHALL
Once *WHITEHALL* moves into the *PEABODY* location which also has one of these devices, it will no longer need to maintain the device it had at *WHITEHALL*.

PEABODY & SAN FRANCISCO
Once VPN routers are installed and email is consolidated to a single domain hosted using Microsoft Exchange, the TEAM/Apex devices will become redundant and obsolete. CompuMentor recommends that *ORG* remove these devices from the network to simplify administration and lower overall maintenance costs.

3.4 Improve Data Management Applications

Data management is a broad term that refers to the procedures and tools that an agency uses to keep track of mission-critical information, such as data about members and donations. A good data management plan identifies the ways that information flows into the agency (e.g., via the website or membership applications that are received in the mail), the way that information is entered, maintained and retrieved on a daily basis (e.g., via database software), and the ways that the data is used to further the agency's mission (e.g., via mass mailings or aggregate reports to funders).

ORG data management applications includes a planned Filemaker database for client tracking and videotape media tracking, accounting data in MIP This section addresses issues and concerns with the office applications used to manage data.

3.4.1 Standardize organization on latest version of Microsoft Office.

ORG currently runs multiple versions of Microsoft Office. Newer versions of Office produce files that are not backwards compatible with some older versions of Office. Additionally, *ORG* staff is not sure if it is fully licensed for Microsoft Office at all locations. *ORG* should upgrade all its workstation users to Microsoft Office XP. Not only does Windows XP offer additional

features; but also standardizing the entire office on the same version of Office allows seamless interoperability among users and provides a common user experience for all workstation users increasing peer-training opportunities. Additionally, *ORG* will benefit from ensuring that it is fully licensed for Microsoft Office if it is not compliant already.

Recommendation

- Microsoft Office XP for Windows licenses should be purchased through DiscounTech.

Considerations

Microsoft Office XP works best on Pentium III computers with at least 128MB of RAM or newer. Therefore slower Pentium or Pentium II computers may be too slow to perform at an adequate level with Office XP. If the older computers remain online then it may be wise to leave them at the present level of Microsoft Office they are already at.

Additionally, the Macintoshes that are in the lab do not run OS X and have no ability to be upgraded to OS X. Therefore, *ORG* cannot move to Microsoft Office v.X which is the Macintosh equivalent to Microsoft Office XP for Windows.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase 50 Microsoft Office XP Professional (with Software Assurance) licenses from DiscounTech.				$875
2	Install software at *PEABODY* office (20 users (6 original + 14 *WHITEHALL* users)		10	1	
3	Install software at San Francisco office (approximately 15 users)		8	1	
4	Install software at *T.F.E.* office (3 users)		2	1	
	Total estimated Staff hours		**20**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**3**	**$300**
	Less donations and/or discounted services				
	Total estimated cost to the organization*				**$1175**

* Installation time assumes that *ORG*'s present system administrators can perform most of the installation process. Additional time may be saved by creating an administrative install (a feature of Office XP) which provides a more automated means of installing the software.

** When purchasing Microsoft products from CompuMentor's DiscounTech program, it is important to remember that purchasing should be done for a 2 year window of time since the program rules stipulate that an order can be placed once every 2 years. Therefore, *ORG* should

evaluate whether or not 50 licenses will be enough to accommodate future growth for the next 2 years and should order more than 40 licenses if this is not the case.

Resources

- See CompuMentor's DiscounTech program for further details on the Microsoft Donations program at: www.techsoup.org/DiscounTech/microsoftprogram.asp

3.4.2 Establish client tracking database.

In order to best manage its client and provide information access to all staff members, *ORG* should implement a client tracking database. *ORG*'s administrators have indicated that this project is already underway as a separate project. Therefore, CompuMentor will not address those needs in this plan. However, CompuMentor recommends that *ORG* undergo a thorough database planning process to ensure its diverse needs are properly accommodated for in whatever database is created.

If *ORG* is planning on creating a custom database using products such as Filemaker or Microsoft Access, it should consider the fact that if it purchases Microsoft Office XP for the entire organization, then it will already be licensed for Microsoft Access and no further license purchases would be required if this product was used to build a database on top of.

Resources

- TechSoup Article: "Avoiding Disaster: The Database Planning Process" http://www.techsoup.org/articlepage.cfm?ArticleId=208&cg=searchterms&sg=database%20planning

- TechSoup Article: "Database Planning Guide" – Provides a workbook to assist with the database planning process. http://www.techsoup.org/worksheetpage.cfm?worksheetid=110&cg=searchterms&sg=database%20planning

- CompuMentor: Database Planning Services. CompuMentor offers database planning consulting to assist organizations in examining process, requirements, data elements, and examines other the relevant issues.

3.4.3 Move MIP Accounting package to server instead of workstation.

MIP Fund Accounting Advantage uses SQL Server as its database system. *ORG* presently has MIP installed on a workstation and it is shared across the network. Ideally, *ORG* should be running MIP on a more robust server dedicated to running SQL Server. This provides the best performance and stability for SQL Server based applications. Depending on its file server utilization, MIP may be able to utilize the more robust server hardware recommended for the replacement server.

Additionally, CompuMentor recommends backing-up the MIP SQL Server database to the file server where it can be properly backed up to multi-generational tapes.

Considerations
CompuMentor has no direct experience with the MIP Accounting system and therefore can only recommend broad best practices. We recommend that *ORG* use a MIP specialist or is assisted with MIP's support services to implement the practices recommended in this plan.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	**TBD***				
	Total estimated Staff hours				
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.				
	Less donated or discounted services				
	Total estimated cost to the organization				

*See considerations.

3.4.4 Implement Microsoft Exchange Server for email and groupware.

ORG presently hosts its email on two different POP servers that are hosted by the proprietary TEAM/Apex Internet devices in the San Francisco and Oakland office. As part of the effort to consolidate its email addresses into a single domain (*ORG*.org), *ORG* should migrate to having email be received at one location to the single address and allow the entire organization to access this email. *ORG* requires a group calendaring and scheduling package which would enable *ORG* to more easily schedule meetings, check staff availability, and reserve office resources as well a retrieve email.

Recommendation
CompuMentor recommends that *ORG* acquire Microsoft Exchange Server to facilitate email and other groupware needs. Microsoft Exchange is a groupware solution that will help *ORG* share schedules, schedule organization-wide meetings, share contacts and tasks as well as manage email.

Benefits
Exchange Server contains ways to incorporate Public and Private folders, the ability to customize and program forms, and ways to create and manage agency-wide tasks. Exchange Server also includes a web based access to data, allowing *ORG* staff to access their information from anywhere in the world.

Through Exchange Server, and its preferred client MS Outlook, *ORG* could check to see what times individuals were free or busy for meetings. Advanced uses of Microsoft Exchange include creating task lists for projects including deadlines, staff responsibilities, and status updates and even allows for the creation of special forms such as HR or timesheet forms that could be

automatically sent to the appropriate people. For more about MS Exchange Server information, see http://www.microsoft.com/exchange.

Alternatives
There are alternative approaches to implementing email and groupware. Shared Exchange hosting can be purchased for a monthly fee of about $10-20 per user. In this model a service provider is used and administration is outsourced. Other groupware/shared calendaring services are also available at a similar price. Due to cost, convenience, and privacy concerns, CompuMentor recommends that *ORG* host Exchange. If email were the only application that was required, *ORG* should consider moving to a hosted service based upon POP/IMAP Internet mail standards provided at a cost of approximately $40 to $80 per month for the size of organization that *ORG* is.

Considerations
Since *ORG* has more than one location, it should plan to setup an Exchange server at the San Francisco and *PEABODY* locations running on its new Dell PowerEdge servers as specified in this plan. Access to Exchange data would be provided to the limited number of users at the *T.F.E.* office through either the VPN connection once that project is completed or through the Web access component of Microsoft Exchange.

Hosting email using Microsoft Exchange requires that *ORG*'s Internet connect be reliable and requires that some basic administrative tasks be adopted. Hosting a mission-critical service such as email requires more administration attention than if such an application was outsourced to a professional service.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Purchase Microsoft Exchange Server Standard Edition w/Software Assurance from DiscounTech for *PEABODY* office.				$39
2	Purchase Microsoft Exchange Server Standard Edition w/Software Assurance from DiscounTech for San Francisco office.				$39
3	Purchase 50 Exchange Client Access licenses ($2.50 each) from DiscounTech.				$125
4	Install Exchange Server at *PEABODY* office.			4	
5	Install Exchange Server at San Francisco office.			4	
6	Install Exchange Web access.			2	
7	Configure clients		5	10	
8	Train Administrators on basic administration		2	2	
	Total estimated Staff hours		**7**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**22**	**$2200**

	Less donations and/or discounted services				
	Total estimated cost to the organization				**$2403**

*Configuration of web clients could take less consulting time with additional participation of *ORG* administrators.

3.5 Improve Internet Communication

3.5.1 Migrate to using a single Internet domain.

ORG presently has three domains: *ORG*2.ORG, *ORG*-SF.ORG, and *ORG*-OAK.org. having multiple domains to identify a single organization may be confusing to the public. CompuMentor recommends that *ORG* simplify and consolidate its email and web presence around a single domain.

Additionally, *ORG*'s domains are registered with two different registrars. While this does not cause any problems, it would simplify management of domains by centralizing all domain registration with a single registrar.

Recommendation
CompuMentor recommends that *ORG*:

- Register *ORG*.org.
- Establish web and email servers at the new domain name *ORG*.org
- Migrate email and web services to this new domain.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Choose Registrar to consolidate domains and to purchase new domain from.	*ORG*	1		
2	Transfer domains to single registrar.				$20
3	Purchase *ORG*.org.	*ORG*	.5		$25
4	Establish web services for *ORG*.org (average web hosting cost for 1 year)	*ORG*, Consultant	1		$250
5	Update website at *ORG*-OAK.org to alert the public of the new domain name. Update website content to point to new domain name for email addresses.	*ORG*	1	2	
6	Migrate web content to *ORG*.org	*ORG*	1	1	
7	Setup email accounts for new domain name for staff members.	*ORG*			
8	Setup mail forwards from old domains to new domain.	*ORG*, Consultant	3	1	
9	Communicate to staff to alert clients and collogues of the change.				

	Total estimated Staff hours		**6.5**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**4**	**$400**
	Less donations and/or discounted services				
	Total estimated cost to the organization				**$675**

3.5.2 Review and improve website functionality.

ORG has expressed a need to be able to expand information offered on its website (Org-oak.org) and to be able to accept online donations. A properly implemented website with current content can be helpful in communicating to clients, funders, volunteers, and staff. Some website functionality may also serve to benefit the efficiency of the organization if there are opportunities to electronically serve constituents utilizing less time and overhead of the organization.

Recommendation

- CompuMentor recommends *ORG* investigate the offerings of several online donations service providers (see below for list).
- *ORG* should undertake a formal review of goals and objectives of its website as well as the content that is offered to ensure that it is maximizing its use of its website.

Implementation Tasks – The following steps are required for implementing this recommendation.

	Step	Assignee	Staff Hours	Consult. Hours	Est. Cost
1	Evaluate online donations providers.*		5		
2	Review website goals, requirements, and content with appropriate staff representative of the organization.		20		
3	Website design and implementation: outside services. Implementation is for adding website connection to donation provider.**			2	
4	Website design and implementation: Implementation is for updating web content.**		10		
	Total estimated Staff hours		**35**		
	Total estimated Consulting hours *Cost estimate is for consulting hours estimated at an average of $100/hour.			**2**	
	Less donated or discounted services				
	Total estimated cost to the organization				**$200**

* This budget does not include any fees any of the providers may charge for handling donations.
** This budget assumes that website content is presently updated by Miriam. If outside services are required then the appropriate changes should be made. Staff time to evaluate and manage and outside services should be factored into the entire cost of this project and updated in the plan. Consulting hours are estimated without enough information. This item should be updated when more determinations are made.

Resources

- Network for Good – Volunteering/giving portal that provides (currently) free online donation processing to non-profits. (www.networkforgood.org)
- Groundspring - A project of the Tides foundation, this organization offers a fee-based service to provide sophisticated donation processing. (www.groundspring.org)
- Justgive – Provides online donation services (www.justgive.org)
- TechSoup Article: "A Primer on Online Fundraising for Nonprofit Organizations" (http://www.techsoup.org/articlepage.cfm?ArticleId=204&cg=searchterms&sg=donation)

4 Appendix A: Assessment

The following is CompuMentor's assessment of *ORG*'s technology systems, capabilities, and management processes in place at the start of the project. It is recommended that *ORG* keep this section up-to-date as systems change and use this as a reference for managing their technology.

4.1 Summary

Item	Assessment
Total Sites	4 which will become 3
Total Computer Users	49 + 1 Intern = 50
Total Computers	46
Total Servers	3
Primary Applications Used	Microsoft Office

4.2 IT Management

The following sections describe the state of *ORG*'s technology management strategy at the time of the assessment. It is important to keep these sections up-to-date as projects are implemented, new policies and procedures are established, and people assume new roles.

4.2.1 Roles and Responsibilities

The following list of roles and responsibilities are inherently present in an organization that possesses any level of computing technology. While the official titles and job duties of the particular individuals listed below may be dramatically different, this table attempts to capture the functional role these individuals are playing in the computing environment.

Role	Person(s)
Technology Steering Committee – Responsible for setting priorities, recommending budget items, and establishing policies and procedures.	None
Technology Strategist (CIO) – Responsible for establishing the future direction of technology usage the organization.	None
Network Administrator – Manages the network, server, user accounts, and backups.	Office Managers
Systems Administrator – Ensures individual workstations are	Office Managers

properly configured and are running properly.	
Database Administrator – Ensures that the database is accessible to users, secure, and is running.	None
Backup Administrator – Responsible for ensuring that backups are running and are verified.	None
Technical Troubleshooter – Responsible for resolving day to day technology issues.	
Website Administrator – Responsible for establishing the direction and functionality of the website and administering basic content updtates.	Miriam
Email Administrator – Responsible for setting up and terminating email accounts, resetting passwords, implementing email forwards, etc.	
External technical support – Vendor(s) relied upon for supporting hardware and software.	

4.2.2 Job Descriptions

ORG does not currently have formal job descriptions for technology support. The organization should consider adding formal technology support tasks to the staff job descriptions.

4.2.3 Policies

The following policies are implemented at *ORG*:

Item	Assessment
Information access, usage, and distribution (data privacy).	None.
File sharing and organization.	None.
Email & Internet usage policy.	None.
Password Security Policies.	None.
Licensing and copying software.	None.
Lab usage guidelines.	None.

Resources

You may find the following information helpful in establishing computer usage related policies.

- Appendix: See the Appendix section of this plan for suggested guidelines on polices.
- TechSoup: "Managing Technology Use Risks on TechSoup"
  This article contains more information on establishing computer usage polices.
  http://www.discounttech.org/articlepage.cfm?ArticleId=392&cg=searchterms&sg=policies

4.2.4 Procedures

CompuMentor recommends *ORG* document its technology resources and procedures for common technology tasks. This will provide guidance and increase consistency and also allow

tasks to be more easily shared among staff when the person with primary responsibility is away or leaves.

Written documentation on contacting support personnel and outside consultants including telephone numbers and any information required to receive support (such as account numbers and passwords) can make seeking support easier. Also, keeping a log on problems encountered, and how they were solved is recommended. The log becomes a knowledge base to help staff troubleshoot problems in the future, and it provides information to the technology committee on the common problems encountered.

The following procedures are documented at *ORG*:

Item	Assessment
Running and restoring backups.	None.
Copying files to/from the server.	None.
Dealing with viruses.	None.

* It is important to keep a hardcopy of this information to allow for access when the computers are not working.

Resources

- TechSoup: Sample procedures and related worksheets can be found at http://www.techsoup.org/articles.cfm?topicid=11&topic=Technology%20Planning&cg=nav&sg=content_topic11
- TechSurveyor: *ORG* can keep updated information on their technology systems with an online tool such as TechSurveyor: http://techsurveyor.npower.org/techsurveyor/

4.2.5 User Account Management

There is no consistent centralized account management among *ORG* sites or even within each site. Each site manages its accounts separately. At each site there is a mix of workstations that login to local accounts and network accounts.

4.2.6 Annual Technology Budgeting

ORG does not presently specifically budget technology beyond a general equipment fund. This provides a good cushion in case of emergencies. The agency has not necessarily budgeted for specific foreseeable needs such as staff training or the need to replace computers every 3-5 years and to stay current with software.

In order to properly plan for technology needs a technology budget that estimates annual costs to keep equipment, supplies, and staff current should be a part of an organization's overall operating budget.

Resources

- Appendix: See the Appendix section of this plan for suggested guidelines for annual technology budgeting.

- TechSoup: "Technology Budgeting Basics"
  This article discusses the basics of technology budgeting.
  http://www.techsoup.org/articlepage.cfm?ArticleId=197&topicid=11

4.2.7 Training & Documentation

Users of *ORG*'s computer workstations have access to the following training and documentation materials to assist them in more easily using their computers.

Item	Assessment
How to log into the network.	(not documented)
How to access/use databases.	(not documented)
How to access email.	(not documented)
How to access the lab.	(not documented)
Where to find written policies and procedures.	(not documented)
Third-party books for common applications such as Microsoft Office	(none) * Third-party "How-to" books are an inexpensive investment that may save valuable staff time and ultimately can improve the user skills.

Resources

- Appendix B: Training & Documentation. See this appendix item of the plan for suggested ways to implement training.
- CompassPoint: CompassPoint currently offers a range of introductory courses in most office-related software, as well as Web and database classes. They have also begun offering e-classes for online learning if time is a constraint. (www.compasspoint.org)
- TrainingPoint: A website which provides basic training documentation for non-profits on computer and application usage. (www.trainingpoint.org)
- Media Alliance: Media Alliance offers a variety of Intro workshops including Intro to Word and Excel. Their focus is on the Macintosh platform as well as the multimedia arts such as desktop, web, and video publishing. (www.media-alliance.org)
- CompuMentor Mentor Match: *ORG* could be matched with a volunteer who could train staff individually on systems, software, and help with setup. The mentor matching program has a flat fee of $175/match, and focuses on short-term projects. (www.compumentor.org/mentor/default.html)
- TechSoup: See the training resources section on TechSoup at www.techsoup.org/articles.cfm?topicid=9&topic=Training&cg=nav&sg=content_topic9

4.2.8 Staff Skills Inventory

It is important to periodically review the skills of your staff and most active volunteers to ensure that all computer users are well trained to ensure they can perform their job most effectively. By reviewing staff skills, appropriate training can be budgeted and implemented.

ORG has not undergone a formal review of its staff's technical skills, although familiarity with office automation software (such as Word and Excel) is a consideration during hiring.

Resources

- TechSurveyor: Please refer to the Staff Skills section of the TechSurveyor application at www.techatlas.org.

4.3 Site Logistics (WHITEHALL)

This section describes the present state of computing technology at *ORG*'s *WHITEHALL* office. This includes descriptions of computer usage, workstations, networks, backups, and security. It is important to keep this up-to-date as new technology is implemented.

4.3.1 Summary

Item	Assessment
Site Location	*WHITEHALL*
Full-time Staff	14
Part-time Staff	1 Intern
Total Volunteers	
Total Workstations	17
Site Administrator Contact Information*	Barbara

*It is recommended that workstations users know whom to contact if they have any computer-related questions.

4.3.2 Workstation Inventory

Name	OS	CPU	CPU Speed	RAM
OFFICEMANAGER	Windows 2000	Intel Celeron	565 MHz	128
RESPITESUPERVIS	Windows 2000	Intel Celeron	565 MHz	128
ASSOCDIRECTOR	Windows 2000	Intel Pentium	166-299 MHz	64
ORG-USER2	Windows 2000	Intel Pentium	166-299 MHz	64
LOUFOX	Windows 2000	Intel Pentium	166-299 MHz	64
NT_SERVER	Windows 2000	Intel Pentium	166-299 MHz	128
USER2	Windows 2000	Intel Pentium	166-299 MHz	64
FRONTDESK	Windows 2000	Intel Pentium	166-299 MHz	96
ORG-USER	Windows 2000	Intel Pentium	166-299 MHz	96
PERSONNEL	Windows 2000	Intel Pentium	166-299 MHz	96
JENNIE	Windows 2000	Intel Pentium	166-299 MHz	160
LINDAL	Windows 2000	Intel Pentium	166-299 MHz	160
USER3	Windows 2000	Intel Pentium	166-299 MHz	192
ASSOC_DIR	Windows 2000	Intel Pentium		256
ORG-WS	Windows 2000	Intel Pentium III	900-1400 MHz	128
GATEWAY1	Windows 2000	Intel Pentium III	900-1400 MHz	128
Gateway Solo 1100	Windows 98SE			

- See the Excel worksheet "*ORG* Inventory" for further details.
-

4.3.3 Network Configuration

WIRING

Item	Assessment
Cable Type	Category 5 twisted pair copper wiring.
Central Wiring Location	Cabling routes to under a staff workspace.

HUBS / SWITCHES

Make/Model	Speed	Location	Ports		IP Address	Connected To
			Total	Free		

ROUTER

Make/Model	Internal IP		External IP		Purpose	Remote Access
TEAM Internet Gateway	**IP**		**IP**			
	SM		**SM**			
	GW		**GW**			

INTERNET HARDWARE

Make/Model	Service Type	IP Type	Speed	Notes
Modem	Dialup	Dynamic	56K	

4.3.4 Server Configuration

HARDWARE

Item	Assessment
Computer Model	HyperLAN clone
Serial Number	
Back Plane	
CPU	Pentium
Hard Disk(s)	C Drive (4GB/833MB free), D Drive (10.3GB/4.02 GB free)
Floppy Disk	1.44 MB
RAM	128 MB
NIC	
SCSI Card	None (IDE drive)
CD-ROM	

Tape Backup	None. Backup device is on Barbara's workstation.

SOFTWARE

Item	Assessment	
Windows Server Version	Windows NT Server 4	
Windows Server Role	File Server	
Domain Name		
Computer Name	NT_SERVER	
Install Directory		
Source File Location		
Swap File		
Protocols		
Disk Configuration		
Licensing		
Printer	None attached.	
Special Groups		
Virus Protection	None.	
Item	**Address**	
	Internal	**External**
This Machine IP		N/A
Subnet Mask		N/A
Default Gateway		N/A

4.3.5 Network Services

DHCP

Item	Description
Scope	
Exclusions	
Options	

NETWORK SHARES

Share Name	Disk Location	Description	Security
C	C:\		Unsecured network share.
D	D:\		Unsecured network share.

PEER-TO-PEER CONFIGURATION

Computer	Share	Disk Location	Description	Security

4.3.6 Printers

Printer Type	Share	Location	IP Address	Security
Brother HL-1440		Accounting		
Epson Color Stylus 740		Front Desk		
HP Inkjet 2200		MIP Server		
Laserjet 2100TN via "HP JetDirect EX plus 3" print server	Primary network printer.			

4.3.7 Backups

HARDWARE

Item	Assessment
Tape Drive	Unknown brand Travan 8GB Tape Drive
Auto Loader	None
Driver Version	
Updated/From	

SOFTWARE

Item	Assessment
Backup Software	
Version	
Responsibilities	
Backed-up Paths	
Database Backup Method	
Day	**Backup Details**
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE ROTATION

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

4.3.8 Security Risk Assessment

Item	Assessment

Password-protected workstations	
Private computer access	Anyone can sit and operate any computer.
Screen-saver password usage	None.
Access to server equipment	
Network share security	
Password expiration policy	There is no set password expiration policy.

Evaluation

- While computer workstations are not secured from unauthorized use, *ORG*'s offices are generally only accessible to authorized personnel so adding additional password protection is not necessary, although it is usually a recommended step in securing any computing environment.

4.4 Site Logistics (PEABODY)

This section describes the present state of computing technology at *ORG*'s *PEABODY* office. This includes descriptions of computer usage, workstations, networks, backups, and security. It is important to keep this up-to-date as new technology is implemented.

4.4.1 Summary

Item	Assessment
Site Location	*PEABODY* Avenue, Oakland, CA
Full-time Staff	8
Part-time Staff	1
Total Volunteers	Not applicable. Volunteers do not use the computers.
Total Workstations	7 Workstations 1 Server 1 Internet Access Host 3 Macintoshes (2 in Lab)
Site Administrator Contact Information*	Ray

*It is recommended that workstations users know whom to contact if they have any computer-related questions.

4.4.2 Workstation Inventory

Name	OS	CPU	CPU Speed	RAM	ROLE
NT40	NT4	Intel Pentium 4	1601-1800 MHz	256	Server (NT4)
RAY	Windows 2000	P4	1.86GHz	254	Workstation (Networked)
SHARE	Windows 2000	AMD K7 700	700 MHz	64	Workstation (Networked)
THIRDEYE	Windows 2000	Intel Pentium 4	1.86GHz	254	Workstation (Networked)
GREEN	Windows 2000	Intel Pentium III	500-899 MHz	127	Workstation (Standalone)
FAMILYRECLAIM	Windows 2000	Intel Pentium III	500-899 MHz	127	Workstation (Standalone)
FRONT	Windows 2000	Intel Pentium III	800MHz	127	Workstation (Standalone)
GIBLET	Windows 2000	Intel Celeron	1.36GHz	255	Workstation (Standalone)

INSTAGATE	Windows 2000	Intel Pentium	900-1400 MHz	255	Internet Access Server
CLIENT4	Windows 95	Intel Pentium		32	Lab
CHILE	OS 8.1	PowerMac G3	266 MHz	288	Not Used
TINT	OS 8.x	PowerMac G3	233 MHz	32	Lab
IKEA	OS 8.0	PPC 750	266 MHz	320	Lab

- See the Excel worksheet "*ORG* Inventory" for further details.
-

Resources

- TechAtlas: For keeping web accessible records of your computer inventory, you may wish to use the Equipment Inventory Assessment portion of the TechSurveyor tool which is part of TechAtlas (www.techatlas.org). If TechSurveyor is used, it is a good idea to occasionally print your records from the website in case of a computer or Internet outage.

4.4.3 Computing Lab

ORG hosts a computing lab at its main office for use by its clients for educational and job training purposes.

Item	Assessment
Types of Users	Unspecified
Number of Users	Unspecified
Number of Workstations	3 (2 Macintoshes, 1 Windows 95 PC)
Lab Administrator	Ray
Lab Management	None.
Purpose of Lab	Unspecified

4.4.4 Network Configuration

WIRING

Item	Assessment
Cable Type	Category 5 twisted pair copper wiring. Professionally wired with in wall-jacks
Central Wiring Location	Wired to punch down blocks near the PBX in rear of office.

HUBS / SWITCHES

Make/Model	Speed	Location	Ports		IP Address	Connected To
			Total	Free		
Netgear Fast Ethernet Switch (FS116)	100	Near wiring panel	16	0		Central switch. 0 free because all ports punched down.*

Belkin F5D5230-4 4-port DSL Router	100	(none)	4			Not connected*

*This is the best information we had at the time of the assessment and may have changed due to the installation of DSL.

ROUTER

Make/Model	Internal IP		External IP		Purpose	Remote Access
Instagate EX	**IP**	192.168.1.1	**IP**	Unknown, new DSL	DSL router, NAT, and DHCP server, email.	
	SM	255.255.255.0	**SM**			
	GW	192.168.1.1	**GW**			

*A new router also present from SBC Install.

INTERNET HARDWARE

Make/Model	Service Type	IP Type	Speed	Notes
Unknown for new DSL connection.	ADSL*	PPOE*		

*PPOE and ADSL is assumed until verified by new DSL documentation.
** USRobotics 56Kx2 for connected to Instagate EX device used to be used for dialup.

4.4.5 Server Configuration

HARDWARE

Item	Assessment
Computer Model	Unbranded Pentium IV PC
Serial Number	
Back Plane	
CPU	Pentium IV (likely Pentium III due to sticker)
Hard Disk(s)	20 GB
Floppy Disk	
RAM	256 MB
NIC	
SCSI Card	None.
CD-ROM	
Tape Backup	Archive Python 04106-XXX (Seagate DAT utilizing Sony DGD125P tapes)
Battery Backup	APC 700

SOFTWARE

Item	Assessment

Windows Server Version	Windows NT Server 4	
Windows Server Role	File Server	
Domain Name		
Computer Name	NT40	
Install Directory		
Source File Location		
Swap File		
Protocols	TCP/IP, NetBEUI	
Disk Configuration	C: (3.9/3.21 GB free) D: (15.1/14.2 GB free)	
Licensing		
Printer	None attached.	
Special Groups		
Virus Protection	None.	
Item	**Address**	
	Internal	**External**
This Machine IP		N/A
Subnet Mask		N/A
Default Gateway		N/A

4.4.6 Network Services

DHCP

Item	Description
Scope	
Exclusions	
Options	

NETWORK SHARES

Share Name	Disk Location	Description	Security

PEER-TO-PEER CONFIGURATION

Computer	Share	Disk Location	Description	Security

4.4.7 Printers

Printer Type	Share	Location	IP Address	Security
Epson Stylus C40UX	Not Shared	SHARE		
Deskjet 932C	Unknown	FAMILY RECLAIM		

HP Laserjet 1200	Unknown	CGREEN		
HP Laserjet 1200	Unknown	RAY		
HP Deskjet 952C	Not Shared	FRONT		

4.4.8 Backups

HARDWARE

Item	Assessment
Tape Drive	Archive Python 04106-XXX (Seagate DAT utilizing Sony DGD125P tapes)
Auto Loader	None
Driver Version	
Updated/From	

SOFTWARE

Item	Assessment
Backup Software	
Version	
Responsibilities	
Backed-up Paths	
Database Backup Method	
Day	**Backup Details**
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE ROTATION

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

4.4.9 Security Risk Assessment

Item	Assessment
Password-protected workstations	
Private computer access	Anyone can sit and operate any computer.

Screen-saver password usage	None.
Access to server equipment	
Network share security	
Password expiration policy	There is no set password expiration policy.

Evaluation

- While computer workstations are not secured from unauthorized use, *ORG*'s offices are generally only accessible to authorized personnel so adding additional password protection is not necessary, although it is usually a recommended step in securing any computing environment.

4.5 Site Logistics (San Francisco)

This section describes the present state of computing technology at *ORG*'s San Francisco office. This includes descriptions of computer usage, workstations, networks, backups, and security. It is important to keep this up-to-date as new technology is implemented.

4.5.1 Summary

Item	Assessment
Site Location	### XXXXXXX San Francisco, CA 94103
Full-time Staff	22
Part-time Staff	
Total Volunteers	
Total Workstations	15 (plus 1 server and 1 Internet Gateway)
Site Administrator Contact Information*	Miriam

*It is recommended that workstations users know whom to contact if they have any computer-related questions.

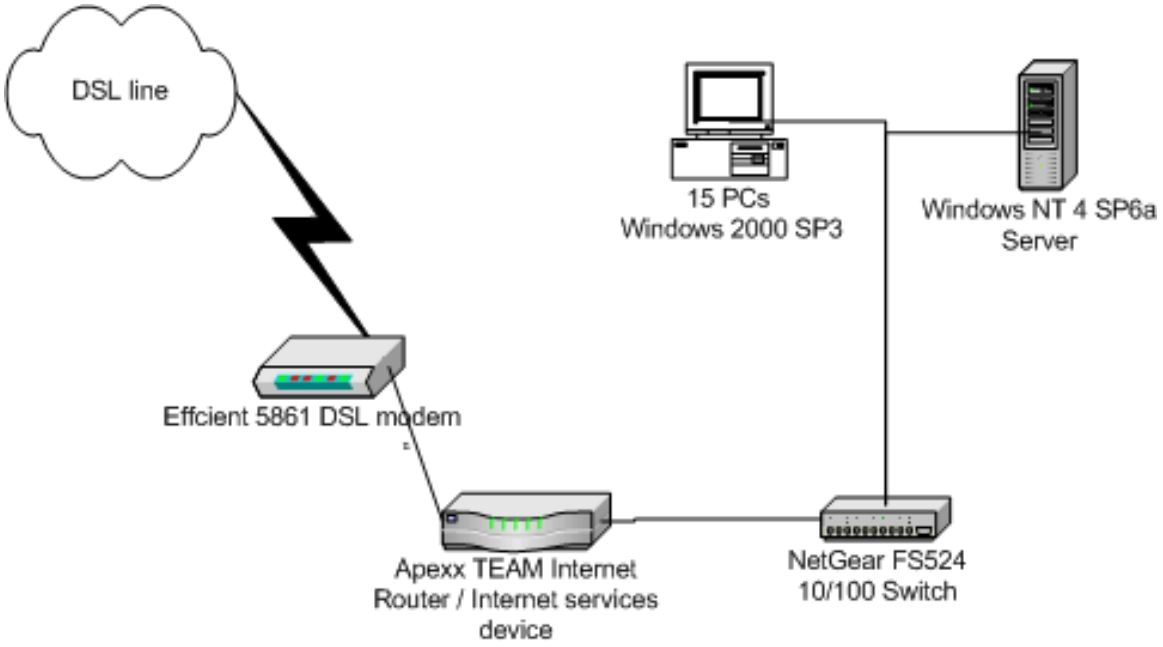
4.5.2 Workstation Inventory

User	Make and Model	OS	RAM	Processor	Processor Speed	Hard	Drive	Office	Antivirus	Notes
						Total	Free			
Family – 90fx1rwk (Miriam)	No-name clone	Windows 2000 Pro, SP3	256 mb	Pentium IV	1.8 ghz	37 gb	35 gb	MS Office 2000	None	Has tape drive and Backup Exec software
Laptop 2a	Gateway	Windows XP Pro, SP 1	248 mb	Pentium III	1 ghz	18 gb	14 gb	MS Office 2000	Norton AV 2001	
Respite PA	IBM NetVista 6269-P3U	NT Workstation 4, SP 6	325 mb	Pentium III	800 mhz	10 gb	8.7 gb	MS Office 2000	None	Has REGGIE software installed

IBM	IBM PC 300 GL	Windows 2000 Pro, SP3	196 mb	Pentium III	730 mhz	38 gb	35 gb	MS Office 2000	None	Has REGGIE software installed
Franco	HyperLAN clone	Windows 2000 Pro, SP3	64 mb	Celeron	566 mhz	4 gb	1.3 gb	MS Office 2000 SR-1	None	
Lorenz	Gateway GP7-450	Windows 2000 Pro, SP3	64 mb	Pentium II	450 mhz	9.5 gb	7.5 gb	MS Office 2000	None	Monitor blurry, failing
Orgelin	Gateway GP6400-c	Windows 2000 Pro, SP 3	64 mb	Pentium III	400 mhz	4 gb	2 gb	MS Office 2000	none	
ORG-g4agojdhw	HyperLAN clone	Windows 2000 Pro, SP 3	64 mb	Pentium	166 mhz	2.6 gb	1.6 gb	MS Office 2000	Norton AV corporate edition	
User 18 front desk	HyperLAN clone	Windows 2000 Pro, SP 3	64 mb	Pentium	166 mhz	2.6 gb	510 mb	MS Office 2000		
User 17	HyperLAN clone	Windows 2000 Pro, SP 3	64 mb	Pentium	166 mhz	2.6 gb	1.2 gb	MS Office 2000	Norton AV 2001, expired	Loud fan or drive noise
User 15	HyperLAN clone	Windows 2000 Pro, SP 3	64 mb	Pentium	166 mhz	2.6 gb	800 mb	MS Office 2000	Norton AV 2001, expired	Monitor failing
ORG – Chinese	HyperLAN clone	Windows 2000 Pro, SP 3	327 mb	Pentium	166 mhz	2.6 gb	1.35 gb	MS Office 2000	none	Has go go pen Chinese character recognition software installed
User 19	HyperLAN clone	Windows 2000 Pro, SP3	64 mb	Pentium	166 mhz	2.6 gb	270 mb	MS Office 2000	Norton AV 2001, expired	Power supply may be failing
Anne	HyperLAN clone	Windows 2000 Pro, SP3	64 mb	Pentium	166 mhz	2 gb	675 mb	MS Office 2000	Norton AV 2002	
Farside Conf	FSI clone	Windows 2000 Pro, SP2	32 mb	Pentium	100 mhz	4 gb	2.6 gb	None	None	Video card failing

4.5.3 Network Configuration

DIAGRAM



WIRING

Item	Assessment
Cable Type	Category 5 twisted pair copper wiring.
Central Wiring Location	Wired to punch down panel next to server.

HUBS / SWITCHES

Make/Model	Speed	Location	Ports		IP Address	Connected To
			Total	Free		
Netgear FS524	10/100	Next to server	24	0	N/a	Team Internet Router

ROUTER

Make/Model	Internal IP		External IP		Purpose	Remote Access
Apexx TEAM Internet	**IP**	192.168..1.1	**IP**	67.120.115.178	DSL router, NAT, & DHCP server (?)	No
	SM	255.255.255.0	**SM**	255.255.255.252		
	GW	192.168.1.1	**GW**	67.120.115.177		

INTERNET HARDWARE

Make/Model	Service Type	IP Type	Speed	Notes
	ADSL*	PPOE*		

*ADSL and PPOE is assumed pending further examination of service type.

4.5.4 Server Configuration

HARDWARE

Item	Assessment
Computer Model	HyperLAN PC Clone
Serial Number	?
Back Plane	Asus TxP4-x
CPU	Pentium 166 MHz
Hard Disk(s)	6 GB, 2.2 GB Free
Floppy Disk	1.44 MB
RAM	32 MB
NIC	?
SCSI Card	None (IDE drive)
CD-ROM	?
Tape Backup	

SOFTWARE

Item	Assessment	
Windows Server Version	NT Server 4, service pack 6a	
Windows Server Role	File Server	
Domain Name	*ORG*-SF	
Computer Name	SF-Server	
Install Directory	C:\winnt	
Source File Location		
Swap File		
Protocols	TCP/IP	
Disk Configuration	2 partitions, c: (4gb) and d: (2gb)	
Licensing		
Printer		
Special Groups		
Virus Protection		
Item	**Address**	
	Internal	**External**
This Machine IP	192.168.1.253	N/A
Subnet Mask	255.255.255.0	N/A
Default Gateway	192.168.1.1	N/A

4.5.5 Network Services

DHCP

Item	Description
Scope	Provided by TEAM Internet device. No details available.
Exclusions	
Options	

NETWORK SHARES

Share Name	Disk Location	Description	Security
Apps	D:\	Application installers	Full access
ORG-SF	C:\	Root share	Full access
Win2000pro	C:\Win200Pro	Windows 2000 installer	Full access
(users)	C:\(user name)	Directories for individual users	Inconsistent. Some full access, some limited user only

4.5.6 Printers

Printer Type	Share	Location	IP Address	Security

4.5.7 Backups

HARDWARE

Item	Assessment
Tape Drive	Seagate STT 20000A
Auto Loader	none
Driver Version	
Updated/From	

SOFTWARE

Item	Assessment
Backup Software	Seagate Backup Exec
Version	
Responsibilities	
Backed-up Paths	
Database Backup Method	
Day	**Backup Details**
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE ROTATION

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

4.5.8 Security Risk Assessment

Item	Assessment
Password-protected workstations	
Private computer access	Anyone can sit and operate any computer.
Screen-saver password usage	None.
Access to server equipment	
Network share security	Unsecured.
Password expiration policy	There is no set password expiration policy.

Evaluation

- While computer workstations are not secured from unauthorized use, *ORG*'s offices are generally only accessible to authorized personnel so adding additional password protection is not necessary, although it is usually a recommended step in securing any computing environment.

4.6 Site Logistics (T.F.E. Office)

This section describes the present state of computing technology at *ORG*'s *T.F.E.* office. This includes descriptions of computer usage, workstations, networks, backups, and security. It is important to keep this up-to-date as new technology is implemented.

4.6.1 Summary

Item	Assessment
Site Location	Oakland, CA – Moving to XXXXX
Full-time Staff	5, 2 onsite, 3 outside.
Part-time Staff	0
Total Volunteers	0
Total Workstations	3
Site Administrator Contact Information*	Barbara

*It is recommended that workstations users know whom to contact if they have any computer-related questions.

4.6.2 Workstation Inventory

Name	OS	CPU	CPU Speed	RAM
*T.F.E.*1	Windows 2000	Intel Pentium III	500-899 MHz	128
*T.F.E.*2	Windows 2000	Intel Pentium III	500-899 MHz	128
*T.F.E.*3	Windows 2000	Intel Pentium III	500-899 MHz	128

- See the Excel worksheet "*ORG* Inventory" for further details.

-

4.6.3 Network Configuration

WIRING

Item	Assessment
Cable Type	Entirely wireless network
Central Wiring Location	Telco. Closet.

HUBS / SWITCHES

Make/Model	Speed	Location	Ports		IP Address	Connected To
			Total	Free		

ROUTER

Make/Model	Internal IP		External IP		Purpose	Remote Access
	IP		IP			
	SM		SM			
	GW		GW			

INTERNET HARDWARE

Make/Model	Service Type	IP Type	Speed	Notes
	SDSL	Fixed-IP		

4.6.4 Server Configuration

HARDWARE

Item	Assessment
Computer Model	No Server
Serial Number	
Back Plane	
CPU	
Hard Disk(s)	
Floppy Disk	
RAM	
NIC	
SCSI Card	
CD-ROM	
Tape Backup	

Battery Backup	

SOFTWARE

Item	Assessment	
Windows Server Version		
Windows Server Role		
Domain Name		
Computer Name		
Install Directory		
Source File Location		
Swap File		
Protocols		
Disk Configuration		
Licensing		
Printer		
Special Groups		
Virus Protection		
Item	**Address**	
	Internal	**External**
This Machine IP		N/A
Subnet Mask		N/A
Default Gateway		N/A

4.6.5 Network Services

DHCP

Item	Description
Scope	
Exclusions	
Options	

NETWORK SHARES

Share Name	Disk Location	Description	Security

PEER-TO-PEER CONFIGURATION

Computer	Share	Disk Location	Description	Security

4.6.6 Printers

Printer Type	Share	Location	IP Address	Security
HP Laserjet 3200 via an HP Wireless Print Server				

4.6.7 Backups

HARDWARE

Item	Assessment
Tape Drive	None
Auto Loader	None
Driver Version	
Updated/From	

SOFTWARE

Item	Assessment
Backup Software	None
Version	
Responsibilities	
Backed-up Paths	
Database Backup Method	
Day	**Backup Details**
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE ROTATION

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

4.6.8 Security Risk Assessment

Item	Assessment
Password-protected workstations	
Private computer access	Anyone can sit and operate any computer.
Screen-saver password usage	None.
Access to server equipment	
Network share security	
Password expiration policy	There is no set password expiration policy.

Evaluation

- While computer workstations are not secured from unauthorized use, *ORG*'s offices are generally only accessible to authorized personnel so adding additional password protection is not necessary, although it is usually a recommended step in securing any computing environment.

4.7 Internet Services

Internet Services are the set of services that provide an organization with the ability to communicate via email, get access to Internet resources such as websites, and have a presence on the Internet.

4.7.1 Domain Registration

A domain name gives an organization an address on the Internet (i.e. yourdomain.org). It is important to keep track of registration information regarding your domain.

CompuMentor recommends that every agency keep the information needed to renew their domain on hand, and test this information well before renewal required. Agencies should review the email address of the administrative contact associated with their registration to ensure that the information is current and should make that this email address is checked on a regular basis. *ORG* does not want to risk losing their domain name to speculators due to the inability to renew registration or due to lack of notification. Speculators watch for domains that expire and buy them immediately if they are not renewed in order to sell them back to their original owners at a markup.

Item	Assessment
Domain Name(s)	*ORG*-OAK.org *ORG*-SF.org *ORG*2.org
Registrar Name	Register.com (for Org2.org) NetworkSolutions.com (for Org-oak.org & Org-sf.org)
Registered Administrative	

Contact	
Registered Technical Contact	
Registration Login Information	Username / Account ID: Password: (keep separately)
Contact Email (as listed by registrar)	
Domain Name Expiration	***ORG*2.org (June 29, 2003)** ***ORG*-OAK.org (September 1, 2003)** ***ORG*-SF.org (September 1, 2003)**

Evaluation

- *ORG* should consider registering *ORG*.org soon to ensure that it can consolidate its Internet presence around this domain.
- *ORG* should keep track of all of its registrar login information, especially for Register.com which will be expiring *ORG*2.org within two to three months.

4.7.2 Email Hosting

Item	Assessment
Provider Name	RCN/DNAI
Provider Contact Info	
Primary Account ID	
Administrator	
Contact Email (as listed by provider)	
Number of accounts	
Email domain	Org-oak.org Org-sf.org Org2.org
Spam protection / filtering	None
Cost	
Notes	

Resources

- *Spam Protection* – One of the most annoying and time consuming aspects of email is spam. Almost everyone gets it to some degree. CompuMentor has provided a list of resources which may be used to limit the amount of spam you may be receiving.
    - *Matador by MailFrontier.com* – Works to block spam for users of Microsoft Outlook. See http://www.mailfrontier.com for details.

4.7.3 Website / Domain Hosting

Item	Assessment
Webhosting Provider Name	RCN/DNAI
Provider Contact Info	

Primary Account ID	
Administrator & Admin Capability	Website maintained using Dreamweaver by Miriam (SF Office Manager) and Sarah
Website URL	Org-oak.org
Bandwidth / Storage	
Cost	

4.8 Software Applications

4.8.1 IS Applications

Item	Assessment
Accounting	MIP Accounting
Client Tracking	None
Program Management	MS Office
Donor / Funding	None.
Staff Timesheets	None
Intranet	None
Calendaring / Scheduling	None

4.8.2 Communications / Graphics

Item	Assessment
Workstation Capability	None
Software Used	Dreamweaver for web.
Staff Skills	Miriam has Dreamweaver skills.
Digital Collateral	
Emailing list tools	None

5 Appendix B: Best Practices

The following sections describe "best practices" for technology management and general resources that CompuMentor recommends to all planning clients. Depending on the size of your organization and other concerns, you may wish to implement some or all of these practices. These practices should be tailored to your particular need and organization.

5.1 Technology Use Policies

CompuMentor recommends that organizations develop policies around information use, file sharing, Internet access, and non-work use of resources. Technology policies should be integrated with other staff policies in terms of style, language and the tone they set in the organization. Communicating the reasons for policies is important to gain staff participation, and to ensure policies are enforced and updated appropriately.

EMAIL & INTERNET USAGE

Although CompuMentor does not recommend hard and fast lines ("No personal email!"), it is helpful to draft an Internet usage policy to establish expectations and offer examples that clearly cross the line ("Staff shall not use *ORG*'s property or Internet access to run a separate business").

PASSWORD SECURITY

Your organization should develop guidelines for what staff use as their passwords. CompuMentor recommends the following:

- Password should not be left blank.
- Password should be a minimum of 6 characters long
- Password must use at least one number and/or a special character (i.e. %^!#)
- Never use birthday, family names, organization name or other things that are easy to guess
- Users should change their passwords on a regular basis.

CompuMentor recommends reviewing the passwords for the following services and devices to ensure they are not blank or set as the default:

- Default DSL provider account
- Firewall or router
- Administrator account for network server
- Administrator account for web hosting
- Administrator account for email hosting

LICENSING & COPYING OF SOFTWARE

Your organization will ideally have a license for any software application that is installed on a computer. Use or possession of unlicensed software is a felony and can result in fines. CompuMentor recommends a policy incorporating the following points:

- Employees should not copy the organization's software for personal use.

- Employees should not bring in personal software for business use unless approved by an appropriate member of the organization.
- If an employee needs a piece of software that your organization does not have, there should be a clear procurement procedure available.
- If an employee needs to use software at home for work purposes, they should check with their system administrator for licensing restrictions or permissions before copying software.
- If there is a computer lab, the workstations should be checked periodically for unauthorized software. Ideally, lab workstations will be locked down to prevent the installation of unauthorized software.

INFORMATION ACCESS, USAGE, & DISTRIBUTION
Your organization should clearly state distribution rules for client, program, or other data. People who communicate with your organization generally give up personal information with the assumption that their information will be kept confidential and not distributed without their permission. Therefore, your organization's policy about making copies of data to use at home or in other locations should be clearly stated. Truly sensitive data should be protected with appropriate procedures and systems.

5.2 Organizing Your Software

In order to ensure that your organization can find its software when needed and show proof of licensing, it is important to have a systematic and regular means of storing your original software media, licenses keys, proofs of purchase, and documentation. Below are some general tips for keeping these assets organized:

- Identify a secure place such as a lockable filing cabinet, office, closet, etc, to store all of your original media (CD-ROMs) and related items.
- It can be helpful to organize CD-ROM media using a CD book/binder system that is most often sold for music CDs. These binders also often have pockets for papers or other key information.
- Keep track of license keys/serial numbers. It is important that license keys and serial numbers be kept with the original media. Most software requires these keys upon install. As a backup to the original documentation of these keys, you may wish to record them separately and keep a copy elsewhere.
- If you've purchased extra licenses of a product it is important to be able to show this proof-of-purchase in case of a software audit. While this is a rare event and most organizations never encounter this, it will save a lot of time to have copies of original invoices or other related proof of license purchases easily available.
- To reduce the chance of losing your original media and to provide a better experience for your users, you might wish to create a folder on your server that contains an entire copy of the original media CDs for operating systems, essential software, and printer drivers. This is a common practice with operating systems and Microsoft Office since sometimes users are requested to insert these CDs that they usually don't have. Making available a copy of these CDs on your network allows the user to specify the location other than the CD for the requested programs. In order to prevent workstation users from making

usable copies of your software for themselves, do not place license keys or serial numbers on the network that are required for installing the software.

5.3 Annual Technology Budgeting

In order to properly manage its technology, an organization should draft a technology budget that estimates the annual cost for maintenance of technology equipment and supplies, and includes line items for staff training and support.

HARDWARE UPGRADES

Historically, the useful lifetime of a computer workstation is between 2 and 3 years. In the past, the processing power and capacity requirements of newer and faster operating systems and software applications quickly made computer hardware obsolete. However, in recent years the performance and reliability of computers has dramatically increased, extending the useful lifetime of most computers to about five years. Nowadays, the average PC or Macintosh has so much processing power that hardware upgrades offer little marginal value to the average computer user.

SOFTWARE UPGRADES

The most common software applications are operating systems, office productivity applications such as Microsoft Office (Excel, Word, Outlook, and so forth), web browsers and email clients. These applications often require upgrades to keep up with new features or remain compatible with other new software. Other applications, such as anti-virus software, may not require upgrades but may be attached to a subscription service that requires an annual renewal fee.

With the arrival of Windows 2000, Microsoft completed their transition to a product line that provides a reliable, fast, and relatively secure operating system. Therefore, computers running Windows 2000 or the more recent Windows XP will not require an operating system upgrade any time soon. Users of Windows 95, 98, or ME operating systems would probably benefit from an upgrade to XP due to its much improved reliability and feature set.

Apple's OS X is the culmination of Apple's strategy to provide a reliable, fast and relatively secure system. For Macintoshes running a G3 or newer processor, you may wish to consider budgeting an upgrade to OS X sometime in the future along with an associated memory upgrade, or simply plan to eventually replace the machine with a Macintosh that comes preloaded with OS X. Eventually, all newer Macintosh software will only be available for OS X.

ESTIMATED YEARLY BUDGET ITEMS

Below is a sample of items to budget for. Remember to enumerate costs on a per workstation basis so that the budget includes appropriate costs for things such as virus protection updates for all computers. All costs below are average estimated costs that may be used as a guideline in your own budgeting. Costs for services may vary dramatically depending on what kind of services your organization is using.

Item	Interval	Est. Cost
Windows-compatible PC Workstations for new users	4-5 years	$800

or for replacing old systems		
Macintosh Workstations for new users or for replacing old systems	4-5 years	$1200
Microsoft Windows Upgrade to XP Professional (with Software Assurance)	As needed	$20 via DiscountTech $113 via Charity Reseller
Microsoft Office XP Professional for Windows Upgrade (with Software Assurance)	As needed	$25 via DiscountTech $70 via Charity Reseller
Apple Macintosh OS X Upgrade	As needed	$150
Virus protection subscriptions (per workstation) **May be available for less via DiscounTech or through multiple license purchases*	Yearly	$30
Web and Email Hosting	Monthly	$20-$30
Internet Connection (Average DSL Connection)	Monthly	$65
Domain name registration/renewal	Yearly	$25
Printer Supplies (toner, inkjet inks)	Varied	Consider all printers.
Backup media (tapes, CDs, etc).	6 months	$20-$100 depending on data volume and media type.
Staff Training **Cost estimated based upon industry recommendations*	Yearly	$1000/staff member
Accounting software upgrade (QuickBooks, etc.)	1-2 Years	$200
Specialized application upgrades **In some cases it may be more economical to purchase new licenses through DiscounTech or other non-profit resources.*	2-3 Years	See manufacturer
Support services such as network or database consultants.	As needed	

5.4 Training & Documentation

SOFTWARE DOCUMENTATION

Most software comes only with electronic documentation. While software help systems are useful to those who know what they want, they can be daunting to new or inexperienced users. Therefore, purchasing third-party reference books on software applications and making them easily accessible to all staff can help assure that your organization maximizes the use of its technology. When new materials are acquired by your organization, communicate to everyone where to find them. New-hires should be made aware of any documentation during any new-hire orientation.

PEER TRAINING

It is crucial that an organization not become overly dependent on one person's skills, so CompuMentor recommends that more than one staff person be given training in basic computer maintenance. Additionally, some staff members may benefit from basic computer usage training. Sharing this knowledge will not necessarily require that all staff attend classes. Staff members that have received formal training may be able to pass their new knowledge along to others.

There are many ways to facilitate training. In general, it is CompuMentor's experience that peer-conducted training works best in a one-on-one or small group setting. This is a good approach for training staff in Microsoft Word or Windows basics.

Another way to increase the technological capacity of your staff is through non-tech position hiring. When you hire staff for non-technical positions, ask for particular application knowledge or technology skills that your current staff do not possess.

BUDGETING FOR TRAINING

Training and documentation is the one of an agency's most worthwhile long-term technology investments. CompuMentor recommends that a typical organization set aside a minimum of 3% of their total yearly budget for technology training. CompuMentor recommends that an organization budget $1000 per computer user as a starting point, although not everyone will need training and not all trainings will cost $1000.

MAINTAIN A STAFF TRAINING PLAN

As part of a comprehensive technology management plan, it is recommended that you develop a training plan focused on the areas of most need by individual staff members. Staff skills should be reviewed regularly to ensure adequate training is provide for work they are doing.

Special Considerations

A training plan should also include evaluation of training undertaken by staff. By keeping a record of the training your staff have tried and its effectiveness you'll be able to better target future training. Evaluations are often best completed several weeks after a training to measure what the trainee has retained. When asking about effectiveness remember to focus on the way training helps the person to do their job; not just whether they now know more about a subject.

Resources

- TechSoup -- Techsoup.org has a training section that has articles devoted to making technology training work for nonprofits. There are pieces on different training mechanisms and links to other training resources.
  See
  http://www.techsoup.org/articles.cfm?topicid=9&topic=Training&cg=nav&sg=content_topic9

- Skillsoft online training for Excel – Online training can be obtained from Skillsoft through DiscountTech for Microsoft Excel.
  See
  http://www.techsoup.org/DiscounTech/Category.asp?catalog_name=TechSoupMain&category_name=Training&Page=1

- Compasspoint – Compasspoint offers training on a variety of computer usage related topics. The specific course below may be helpful to some staff members.

- The Accidental Techie course
  Because most small non-profits are very heavily focused on meeting their organizational mission, they don't generally have the resources to hire technical staff. In recognition of the common and unofficial technical role found in many non-profits, CompassPoint offers an "accidental techie" course designed to train those people without a technical background in computer support skills. They are also an excellent resource for training in most office applications. You can find out more about their classes and workshops at: http://www.compasspoint.org.

5.5 IT Management Team Organization

By establishing a formalized technology management team your organization can proactively match technology needs to its mission, identify and resolve ongoing problems, prioritize projects, and ensure that your organization is gaining the maximum benefit from its technology and staff. We have found that a formalized technology team process, even for small organizations, allows all staff to begin discussing needs, ideas and directions for technology.

MEMBERSHIP
The team should have representation from senior management, technology administrators, program areas, and users. A good mix of these backgrounds will provide the most holistic perspective. A technology team that only has technology staff will not adequately represent the priorities of the organization as a whole; while a team that is absent of any technology background may not adequately find solutions to issues. The team only needs to be large enough to accomplish the tasks and to provide people who can follow up on issues or lead new initiatives.

RESPONSIBILITIES
In order to properly manage the technology at your organization, CompuMentor recommends that the following responsibilities be taken up by a technology management team:

- Provides oversight of technology problems and user-related issues.
- Recommends budgets.
- Establishes standards for hardware, software, and training needs.
- Develop technology policies and procedures.
- Periodically reviews the organization's technology plan to ensure that it coincides with the organization's mission.
- Periodically reviews the technology-related roles of staff members to ensure primary responsibilities are not being overtaken by technology-related ones.
- Determines if the scale of technology administration requires hiring for a specific role.
- Leads technology related initiatives.
- Communicates to the organization technology support expectations, capabilities, and escalation paths.

- Leads ongoing technology planning.

PROCESS
Meetings. Ideally the technology team meets at a regular interval to discuss both tactical and strategic issues. This meeting interval may vary depending on the number of projects or issues that your organization may be facing. A once a week meeting might be necessary if your organization has a great number of daily operational issues. A meeting once a month may only be required if your organization has a stable infrastructure and is not engaged in many technology-related projects. Meeting less frequently than once a month probably is not enough to ensure that recurring operational issues are resolved in a timely manner.

Resolving Tactical Issues. A portion of the meeting should be set aside to review problems that users are encountering with computers, networks, or software. CompuMentor suggests that a record be kept of user problems to be reviewed at these meetings. This provides a feedback mechanism to know how well your organization is able to use its technology investment. If issues are reoccurring action should be taken to identify the root of the problem and get resolution to eliminate further productivity loss and user frustration.

Strategic Planning. A portion of the meeting should be set aside to discuss how the organization is using its technology and how technology could be better utilized in service delivery. Care must be taken that technology is not seen as a cure-all; but only as an additional tool to enhance your mission.

5.6 Establishment of IT Roles

As the technology resources grow at an organization, so does the need for administration and upkeep. If you have very many computers, software applications, databases, etc, it is likely that your organization is already spending significant staff time working on these various administration roles, and more of this time can be reclaimed for regular program work through the formal establishment of these IT roles and hiring appropriately.

Technology Strategist (Chief Information Officer)
Estimated Hours per week: 5 – 10 hours

Rationale: If the two weights used for judging IS projects are *sustainability* and *need*, it is the CIO who provides the balance and makes the ultimate decision. *ORG* needs one person with strategic knowledge of the organization's mission and culture to think about the role of IS in achieving that specific mission within that specific culture. This is the critical role. Whatever other IS/IT roles or positions *ORG* decides to take on within the organization, the CIO role must be accounted for.

The CIO is responsible, at the highest level, for budgeting, approving, funding, and working with the IT staff to create technology plans, policies, and strategies. He or she is not responsible for the down and dirty work of hardware upgrades, software installation, documenting networks, or troubleshooting users' computers, but instead needs to be able to make final decisions about software and hardware choices and purchasing, and about all IS projects such as database design

and development. The CIO is also responsible for designing IS policy, again, with the assistance with IT manager(s).

Critically important to this role is the CIO's ability and willingness to act as an appropriate technology advocate. In order to do this successfully; the CIO must be at the same organizational level as any member of the Management Group. The CIO must have impact on the budget and be able to make management-level decisions about expenditures, fundraising, and staffing. In addition, the CIO oversees IS staff and consultants, and is responsible for managing technology resources.

The CIO does not need to be a programmer or network administrator. However, she should have a general interest in and understanding of technology issues, and be able to do the necessary research and ask the necessary questions regarding IS projects. The research and questions must concern available options, product support, cost in direct dollars, cost in maintenance, cost in staff resources, and training requirements.

The CIO should have a broad understanding of technology, be able to develop strategies, oversee implementation and manage staff. She should also have a thorough understanding of the organization's culture and the ways in which technology is used to further the mission of the organization.

Without the structured support of this role, it is impossible to implement any long-term IS planning or projects successfully. Even short-term projects may be less successful because of conflicting, contradictory or unclear goals. Operating without a management-level staff person responsible for the CIO's tasks is not management by design - it is management by luck.

Responsibilities:

- Budgeting, approving, funding and creating technology plans, policies, and strategies
- Designs, maintains, and reviews IS policy
- Member of technology team
- Makes final decisions for hardware and software standards
- Approves all IS projects
- IS advocate to other executives and board
- Ensures IS operates instep with strategic plan
- Ensures IS operates instep with organization's mission

Requirements:

- Strong interest in technology
- Able to make decisions regarding technology
- Understanding of strategic plan of organization
- Understanding of organization's mission
- Understanding of budget process
- Meeting facilitation skills
- Excellent communication skills, written and oral

Database Manager
Estimated Hours per week: 20 hours

Rationale: The Database Manager should be proficient in using the database and someone who will provide training/troubleshooting database usability issues with staff. This position requires that the staff person be involved in the database planning effort, and will continue in a part-time capacity through the database implementation/staff training phase.

Responsibilities:
Documenting existing databases and other data lists
Working with staff on data clean-up and data importing into the new system
- Database development, maintenance and administration
- Database software support, help desk duties
- Staff training on database software issues
- Maintaining vendor contracts and relations

Requirements:
- Knowledgeable in required database software
- Familiar with web programming and development
- Able to manage multiple projects
- Able to prioritize diverse tasks
- Able to troubleshoot database user systems as required
- Excellent communication skills, written and oral

Network and User Support Staff
Estimated Hours per week: 20 hours

Rationale: This person is accountable to the CIO and is responsible for maintaining system and network documentation, identifying IT problems, managing upgrades, and managing IS projects such as database design and development.

While the CIO is responsible for making decisions about the above tasks, the Network Administrator is responsible for implementing the organization's technology plans and policies, and keeping systems operational. This may done with the assistance of other IS team members or non-IS staff.

The Network and User Support Staff must have specific knowledge of computer systems and networks and is expected to consult with the CIO regarding IS plans and policies. S/he is expected to be able to solve user problems, system problems and network errors independently. He will also need to be knowledgeable in both PC and the Apple operating system.

The Network Administrator may supervise other IS staff, works closely with the CIO and responds to user problems as required. Additionally, in a networked environment, s/he will serve

as the system administrator, though many of the specific tasks of system maintenance may fall to others within the organization.

Responsibilities:

- System maintenance
- System documentation
- Identify potential IT problems and needs
- Manage system upgrades, Including software and hardware
- Manage IS projects such as database design and development
- Work with CIO to prepare budget or other reports as required
- Manage relationship with vendors, contractors, and service providers
- Conduct and lead trainings as required

Requirements:

- Knowledgeable in required network systems
- Familiar with operating system and server applications
- Able to manage multiple projects
- Able to perform system tasks such as back-up, upgrades, network troubleshooting as required
- Able to prioritize diverse tasks
- Able to troubleshoot user systems or network devices as required
- Excellent communication skills, written and oral

5.7 Maintaining Your Technology Inventory

The best way to establish self-sufficiency and aid in the maintenance and troubleshooting of any network is to have accurate and up to date documentation for all your hardware and software. Any and all information related to hardware set-up, software configuration and use (like shared databases or the registration number for QuickBooks), Internet connectivity, email accounts, back-up routines and support information should be written down and stored in a network notebook. This documentation is especially valuable for an organization without a technical person on staff as it can aid their work when engaging with a consultant or volunteer support person. If all warranty, service accounts, account numbers, serial numbers and the like are written down in one location it can be the most valuable tool in maintaining the technology in your organization. Documenting your network configuration also prevents knowledge of your organization's technology logistics from being lost if a technical staff person leaves.

Suggested Steps:

1. Make a list of all mission critical software. Ensure you have version numbers, support information, web site information for the providers and purchase dates written down.
2. Create a notebook or other system for storing all computer related information
3. Write down the details of your network setup, file-sharing system, Internet settings, and access rights. Add this information to your network notebook.

4. Take screenshots of the network control panels on each computer or write all this information down in the event you need to re-enter the data later on. Add this information to the notebook.
5. Train your staff on how to use the network. Provide them with copies of the file-sharing protocols, back-up procedures, security policies, and anything else they may need to refer to frequently.

Resources

- Planning Process -- The following article makes a good case for why you should document your network.
  See http://www.techsoup.org/articlepage.cfm?articleID=91&topicid=11

- Network documentation -- An overview of how to organize information critical to maintaining the health of your network
  See http://www.npowerseattle.org/tools/network_documentation.pdf

- Networking Basics -- This article from Tech Soup provides an overview of networking including administration issues.
  See http://www.techsoup.org/articlepage.cfm?ArticleId=410&topicid=3

5.8 Domain Name Registration

WHY SHOULD I REGISTER A DOMAIN NAME?

Although your organization may not currently need a web presence with a website or with organization-specific email addresses, it is important to register your organization's name as soon as possible. The longer you wait the greater the chance that the name you want will not be available. You may have to try registering several variations of your organization's name before you find one that is available.

.ORG, .COM, OR .NET?

Nonprofit organizations usually purchase .org domain names. However, since purchasing a domain name is relatively inexpensive you might wish to consider purchasing the .com and .net versions of the same name. Many web users type ".com" out of habit or leave the three-letter suffix off altogether. Purchasing the other forms of your domain name ensures that people will be able to find your site regardless of which suffix they type. Additionally, speculators and other website operators may attempt to capitalize on users mistyping your domain, so registering alternate forms of your domain name means that users who type "yourdomain.com" instead of "yourdomain.org" will never be taken to a site that sells commercial products (or worse).

CHOOSING A REGISTRAR

A domain name can be registered with any number of companies. It is important to choose a registrar who has a long track record and provides an easy-to-use user interface. Often a domain can be registered with the same company that provides email and web hosting services. However, many times web and email hosting companies do not provide easy access to allow users to control their registration. This makes it difficult to freely choose email and hosting

services. Some hosting companies actually register the domain to themselves, which may make it difficult or expensive to switch hosting companies if you need to. Although it is a little more of a hassle to register at a standard registrar, the added control over a key organizational resource is worth it.

Places to register include:

- *Dotster.com* – An affordable domain registrar that provides an easy to use interface and additional features such as spam-blocking, domain forwarding, etc.
- *Register.com* –Another popular registrar with an easy-to-use interface.

ADMINISTRATIVE CONTACT INFORMATION

When registering your domain, it is important to consider who will be the administrative contact person for the domain. According to the registrars, this person has the ultimate authority over the domain name. Therefore, the name of the person registering should be someone who will be at the organization for a while and the email address given should be an address that is accessible by more than one person in the event that the named person leaves the organization or becomes unavailable. Additionally, make sure that the domain is registered to your organization directly and not to an individual.

DOMAIN NAME RENEWAL

Domain names can be registered for 1 or more years at a time. An organization can sometimes get a discount on registration fees by registering for multiple years at a time. Registering for several years at a time is convenient, but you must make sure that when it does come time to renew your domain that someone actually receives the notification and acts on it. When your domain is near renewal, it is at risk from speculators who may purchase the domain the day that it expires. Speculators will typically set up a bogus web site that sells additional services, or links to sites with which your organization should not be associated. Their aim is to make you want to purchase back your domain from them at a high price, and if you have developed a well-established presence on the web, or if the content of the new site would damage your reputation, you may have no choice. Don't let this happen to you!

You can always check on the renewal date of you web site, and even renew your registration early. A simple way to check on your registration is to use websites such as internic.org (www.internic.org/whois.html) or samspade.org.

AUTO-RENEWAL

Some registrars offer an auto-renewal option for your domain that ensures that your domain will remain in your control. It is recommended that you choose this option if it is available.

SPAM-BLOCKING

Some registrars offer services to hide the real email address associated with your domain. This can be helpful in reducing unwanted solicitations. However, since all domain registration is public, such services have limited potential and therefore should be chosen only if offered as a free service.

5.9 Ergonomics

An often-overlooked area of computer management is ergonomics. Ergonomics is the science of adjusting your work environment to fit your body and make it as comfortable and healthy as possible. Poor ergonomics can increase the risk of injury and fatigue, reducing your organization's productivity and taking a painful toll on individuals. The following resources provide a guide to good ergonomics.

ERGONOMIC TRAINING

CompuMentor recommends that someone on staff be informed about ergonomic issues – both workstation set-up and computer use. This expertise can be gained through research as there are many online resources and your health insurance provider may also have information; or, by attending a class such as those sometimes offered by Media Alliance in San Francisco.

Resources

- TechSoup: "An Introduction to Ergonomics"
  http://www.techsoup.com/articlepage.cfm?ArticleId=187

- Ergonomics.org
  This website is a good resource for ergonomic computing information.
  http://www.ergonomics.org/

- Safe Computing
  This website sells devices to aid in ergonomically correct computing.
  http://www.safecomputing.com/

5.10 Naming Network Resources

Naming conventions really depends on your organization. Some organizations are focused around staff, others around position in the org, others by location.

WORKSTATIONS

By staff name. For workstations, the key to a naming convention is to make it as easy as possible to tell where a computer is and who is using it by its network name. Trying to track down a computer called "User12" can be challenging. Generally, it's usually easiest to use staff names. People usually remain associated with their computer for extended periods of time, and the computers often follow their people around the office as they move, so this convention usually works best.

By staff position. If there is significant turnover in the organization, a naming convention based on job title or position works well, as computers tend to get passed from person to person in the same position.

By physical location. If neither of these scenarios work, if for example people move from machine to machine on a regular basis, then a geographic convention, such as "Front Desk" and "Cubicle 3" can work well.

No matter which naming convention is followed it is important to stay consistent and to remember to change network names when people, positions, or computers move.

SERVERS AND NETWORK SERVICES

For servers and network services such as printers, the key to a good naming convention is for network users to be able to clearly identify them. There are three common conventions. Functional, such as “mail_server” or “FileServer” are fairly effective, as long as there are only a few servers. If there is more than one server or particular service type, geographic names work well, such as “SF-file server” or "3rd-floor-printer". The last option for this is to use more idiosyncratic names, such as “minerva” or “bubba” which may have meaning to the organization for other than functional or geographic reasons but could be confusing to people who are new to the organization.

NAMING STYLE

When naming resources, avoid using spaces when possible as it can be more difficult to directly address such services in file and web browsers and command line interfaces. Instead, consider using an underscore (“_”) or an initial caps style (“FileServer”).