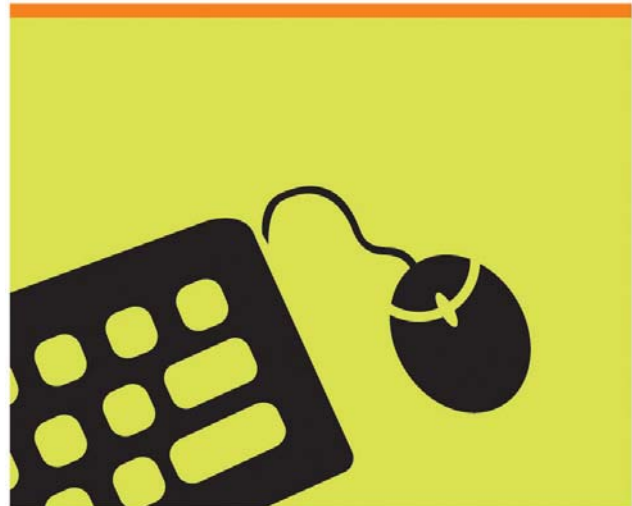


**healthy&secure**  
computing



# HSC Workbook



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# Note From YMCA of the USA

The YMCA of the USA Technology Resource group worked in collaboration with CompuMentor (TechSoup) to make this resource available and applicable to YMCAs. The YTech Committee reviewed the content, and at various points in the text you will find comments from that committee. For information about the YTech Committee, please visit [www.ymcaexchange.org](http://www.ymcaexchange.org) and search for YTech.

This workbook is intended to help YMCAs that are looking to assess and address their technology needs. However, many of the standards set in this document are only minimums; much more can and should be considered to provide exceptional service to your members and improve operations. Once you have created a solid infrastructure, it will be time to look for ways to use technology more strategically.

This resource complements a more comprehensive resource for YMCAs called *Strengthening the YMCA Mission through Technology*, which was published in 2006. To view that paper, visit [www.ymcaexchange.org](http://www.ymcaexchange.org) and click Operations, then Technology Management.

This workbook addresses a topic raised in that paper: "What technology do I need?" Given the rapid changes in technology, it will be reviewed and updated on a regular basis.

Visit [YMCAexchange.org](http://YMCAexchange.org) frequently to check for upcoming resources on other aspects of technology discussed in the paper, including staff, training, business continuity, and more.

The only major topic not covered in the original paper is the operations software that YMCAs use to run their membership, program, campaign, financial, and other business activities. We recommend that YMCAs utilize the resources on [www.ymcaexchange.org](http://www.ymcaexchange.org) to meet their operations software needs.

## YMCA Recommends

Throughout this workbook, the reader will see sections titled "YMCA Recommends," followed by a suggestion. Notwithstanding any suggestions contained herein, YMCA of the USA does not endorse products sold on CompuMentor's Web site, its brands, or any of its products. Neither the YMCA name nor any YMCA logo or marks may be used as a "seal of approval" or to imply an endorsement of any products.

## Terminology

This workbook may use some terminology and refer to some tools that are new to you. We recommend that you understand all of the concepts discussed in the text before working with an outside consultant or vendor to get the work done. To learn more about Internet technologies, we suggest reading the articles on TechSoup.org at [www.techsoup.org/learningcenter/index.cfm](http://www.techsoup.org/learningcenter/index.cfm).

We also recommend the many resources available for YMCAs on [www.ymcaexchange.org](http://www.ymcaexchange.org) under Operations, Technology Management.

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## About CompuMentor

CompuMentor ([www.compumentor.org](http://www.compumentor.org)) is one of the most comprehensive not-for-profit technology assistance providers in the United States. The organization conducts a range of major programs on both the national and the local level. It powers the not-for-profit technology Web site TechSoup ([www.techsoup.org](http://www.techsoup.org)), as well as its distribution service for donated and discounted technology products, TechSoup Stock ([www.techsoup.org/stock](http://www.techsoup.org/stock)). It also collaborates with local and regional partners to bring technology implementation and support to San Francisco Bay Area not-for-profit organizations through the TechCommons and Consultant Commons ([www.consultantcommons.org](http://www.consultantcommons.org)) programs.

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# About This Guide

## Introduction

The *Healthy & Secure Computing (HSC) Workbook* has been specifically designed to help not-for-profit organizations make the kind of decisions that will ultimately increase the reliability and security of their information technology at a minimal cost.

Initially developed as a companion document for HSC seminars, this workbook is now offered as a stand-alone resource for not-for-profit organizations and the technology assistance providers that support them. It includes detailed descriptions, justifications, and upgrade options for the technologies that most not-for-profits use daily. The technologies discussed in this workbook are based on several factors:

- Ease of use
- Reliability
- Low cost
- Availability
- Sustainability

## Who should read/use this workbook?

This workbook is intended for use by the person responsible for technology at your YMCA. It applies to YMCAs of any size; even small YMCAs need to meet these standards to ensure the safety of their members' data and the stability of their networks. YMCAs with more complex technology needs will require much more than what is included here, but at minimum will need to meet these requirements.

## What should you already know to make best use of this workbook?

To get the most benefit from this book, you should have some understanding of technology terminology. To learn more about this terminology and its concepts, please visit the learning section on [www.techsoup.org](http://www.techsoup.org) or read the book *The Accidental Techie*, (see more information at [www.ymcaexchange.org/back/technology\\_management/using\\_technology/Accid\\_Techie\\_2006-10-31.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Accid_Techie_2006-10-31.aspx)).

This workbook will help you with every area of your YMCA's infrastructure. It is intended to be a comprehensive tool that you can use to evaluate your technology on many levels. It's not necessary to address all of your technical issues at once; you can tackle them in stages. Read this manual completely, list possible projects, then set some priorities.

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## HSC Workbook Organization

Designed for ease of use, this workbook is organized into four basic sections, each with a different main focus:

**Section 1: Introduction to Healthy & Secure Computing** provides a general overview of the HSC program, process, and methodology.

**Section 2: Getting Started—Assessing and Prioritizing Your Technology Needs** outlines the steps you must take to properly gather the information needed to improve your YMCA's technology infrastructure.


**Section 3: Gearing Up—Upgrading and Implementing Your System** contains a complete set of HSC guidelines and recommendations that have been organized into seven broad categories:

- Desktop hardware
- Desktop software
- (LAN) technologies
- Internet technologies
- Server technologies
- Security and privacy
- Computer equipment ergonomics

**Section 4: Staying on Track—Maintaining and Supporting Your System** offers helpful guidance for maintaining a solid technology infrastructure over the long term with the most efficient use of ongoing investment.

## HSC Tools

The workbook also includes an Appendix section that contains tools such as worksheets, checklists, samples, and documentation templates that support specific HSC guidelines.

At various points in this workbook, you will see a **TOOLS** icon [  ] that cues you to a specific resource in the Appendix section.



To see other HSC resources, go to [www.techsoup.org/toolkits/hsc](http://www.techsoup.org/toolkits/hsc). For future versions of the HSC YMCA version, search for HSC on [www.ymcaexchange.org](http://www.ymcaexchange.org).

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## The HSC Program Approach

As you go through this workbook, you'll find that the HSC methodology takes a "one-size-fits-most" approach to basic information technology (IT). Because most not-for-profits use IT in similar ways, the workbook has been developed to minimize support and maximize

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reliability of the most common technology configurations and situations. It does not cover specialized applications and databases, as these technologies typically differ depending upon the organization.

The HSC guidelines presented in this workbook serve as a community resource, reflecting the practical needs and technical knowledge of organizations like yours. Organizations that adopt the HSC guidelines are encouraged to participate in the HSC community, which will guide the evolution of the HSC Program.

We hope you will find this workbook and the HSC Program useful. Your feedback is encouraged. Please submit your thoughts and comments via e-mail to [hsc@techsoup.org](mailto:hsc@techsoup.org).

If you have comments on the YMCA content, please contact the YTech Committee at [yusatech@ymca.net](mailto:yusatech@ymca.net).

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## SECTION 1:

# Introduction to Healthy & Secure Computing

## HSC Program Overview and Goals

The Healthy & Secure Computing (HSC) program consists of a set of targeted guidelines and recommended technologies that, when taken together, can assist YMCAs in building and maintaining a stable and secure information technology (IT) infrastructure. An HSC environment allows you to

- plan for and implement transformative technologies,
- integrate IT with programmatic functions,
- lower basic IT support costs, and
- improve reliability of IT systems.

**The HSC Program has four major goals.** When the HSC guidelines and recommendations are appropriately implemented, they can help your YMCA

- reduce instances of catastrophic computing failures,
- decrease the time and expense needed to support basic computing infrastructure,
- increase its ability to engage in smart IT planning and management,
- enable technology assistance providers to implement solutions according to HSC principles at a lower cost than would otherwise be possible.

## HSC Program Approach

The HSC Program takes a holistic approach to technology by focusing on hardware, software, networking, management, planning, maintenance, operations, and the staff training that is most appropriate for small- to medium-sized not-for-profit organizations. Included are HSC guidelines for basic technologies commonly used by not-for-profits. These guidelines are geared toward helping not-for-profits achieve a robust, consistent, easy-to-use, and easy-to-maintain computing environment.

HSC guidelines may not, in part or as a whole, be right for organizations without paid staff or with multiple, widely separated sites. They may also be inappropriate for virtual organizations. It is up to your YMCA to determine which guidelines to implement, based on its own priorities, needs, and resources.

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## HSC Guidelines Commitment

Successful HSC Program implementation cannot be accomplished without the buy-in and cooperation of your whole organization. To effectively implement the HSC guidelines, you need to commit financial and human resources to the process; the exact amount depends upon the status of existing IT systems. Keep in mind that you will also have recurring IT systems maintenance costs. Suggestions have been included at the end of this section to help you promote the HSC Program to non-technical decision makers in an effort to raise funds for IT implementation and support.

## How the HSC Program Works

### *Getting Started*

This initial phase of the HSC Program follows a simple step-by-step process to help you successfully implement the HSC guidelines on your own. You begin by conducting an IT inventory that covers the basics of computer hardware and software systems, Internet connections, technology management, and maintenance capability. You are also given a set of tools to perform an IT systems gap analysis and develop an HSC Program implementation plan.

### *Gearing Up*

Once you've gathered information and set priorities, you can start actually implementing and configuring your YMCA's technology. You begin by repairing or replacing existing IT systems that the inventory found to be in critical condition. After the existing IT infrastructure is stable, you can then continue to work through the HSC guidelines. The goal of the implementation and configuration guidelines is to minimize the resources and effort needed to maintain your IT systems.

### *Staying on Track*

The HSC Program also recommends maintenance and resource support procedures to ensure a safe and successful computing environment.

## Getting the IT Resources

It can be easy or challenging to follow and implement HSC guidelines, depending on the state of your YMCA's IT resources. If you have mature IT systems or available support resources, you will find that adopting the HSC methodology is relatively simple. If you do not have a well-developed infrastructure or have a dearth of support resources, the HSC guidelines may prove to be a little more difficult to adopt. In any case, the decision to use the HSC guidelines in this workbook will require your YMCA to commit resources toward its IT infrastructure in staff time, financial outlays, or both.

It is highly recommended that you first choose a staff member to attend an HSC workshop and/or to review this workbook in its entirety. Once you are fully informed about the HSC Program, you should examine the organizational benefits of applying the HSC methodology, review the actions required to reach the HSC Program goals, assess the costs associated with program implementation guidelines, and evaluate whether the technology guidelines are appropriate, based on the planning considerations discussed in the workbook. At this point you should have enough information to make the proper

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decision as to whether to commit the necessary resources to HSC.

If your YMCA has complicated IT infrastructures or limited IT know-how on staff, you may want to use the HSC Workbook in the context of a workshop or a one-to-one engagement with an IT consultant.

## Promoting the HSC Program to Non-Technical Decision Makers

Not-for-profit organizations today often work with limited resources and personnel, making IT an indispensable component for any operation. Even with this reality, it still may be difficult to justify costs or resources used to apply the HSC guidelines, especially to someone who is non-technical. Listed below are the three key benefits that your YMCA can use to promote HSC to an executive director or funder:

- **HSC Maintains Productivity**  
As hardware and software become less expensive, your employees' and volunteers' time become ultimately more precious. HSC enables your YMCA to be at its most productive with the least amount of downtime, so that it can carry on its mission without interruption.
- **HSC Facilitates Accountability**  
In a healthy IT environment, data is secure, accessible, and available. The HSC Program establishes a framework that will enable you to be accountable to both internal and external stakeholders. By following the HSC guidelines, you can be proactive about your data, rather than having to scramble for it.
- **HSC Reduces Liability**  
An unhealthy computing environment is a risky one. Be it the loss of data or confidence, a sound IT infrastructure mitigates those risks. The HSC Program educates your YMCA in industry best practices, so that even when it encounters IT problems, you are prepared.

The HSC Workbook can be thought of as a tried-and-true standard that all not-for-profit organizations should follow. The successful implementation of HSC by different organizations is testament to its applicability. You are encouraged to use this workbook as a means to inform and educate non-technical decision makers.

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## SECTION 2:

# Getting Started—Assessing and Prioritizing Your Technology Needs

This section includes a series of step-by-step activities to help you determine how well the HSC Program fits your YMCA's actual technology needs and uses. Most of the steps described here are accompanied by worksheets contained in Appendix A of this workbook.

## Step 1: Planning

Before you implement the HSC Program, your YMCA must first decide whether or not the program is an appropriate fit. This first step discusses the **ten key factors** you must consider while planning to implement the HSC methodology, including legal mandates and programmatic concerns. You will also refer to these factors at different points when deciding among the various technology options. You can use only those HSC Program guidelines that you feel are most appropriate, or you can adopt all of them.

The HSC Program is not intended to fit every YMCA, but should apply to the IT resources of most. If the HSC approach does not appear to fit well, it is highly recommended that your YMCA undertake a formal technology planning process to find solutions that meet your specific needs, requirements, and constraints.



*Additional technical planning articles and resources are available at [www.techsoup.org/learningcenter/techplan/index.cfm?cg=HSC](http://www.techsoup.org/learningcenter/techplan/index.cfm?cg=HSC).*

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### *1. Security and Confidentiality Concerns*

Your YMCA can go a long way toward reducing, but not completely preventing, security risk with a minimum investment of resources. This is the recommendation that CompuMentor typically provides. A delicate balance exists between ease-of-use and security. Many secure systems require additional access steps, making them more complex to use. HSC guidelines and recommendations follow a moderate path on this issue.

If your YMCA handles highly confidential information (such as medical information, Social Security card numbers, or bank card information) or has specific legal security mandates, you may have security needs that are beyond the scope of these guidelines and technology recommendations. For example, YMCAs that process credit cards must follow Payment Card Industry (PCI) standards. For more information, visit [www.ymcaexchange.org/back/technology\\_management/using\\_technology/Credit\\_card\\_security\\_PCI\\_2005-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Credit_card_security_PCI_2005-11-17.aspx).

Security issues are discussed in greater detail later in Section 3 of this workbook.

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## *2. Plans for Growth*

If you expect that your YMCA will grow significantly, you should adopt the HSC technologies that will be appropriate for your expected size. It's easier to grow into a network than to smoothly expand a network. For example, it's more cost effective to purchase networking equipment with more connections than you need now than to replace the device later because you didn't plan for growth.

## *3. Size*

If your YMCA has a large number of computers or users, you may need to adopt parts of the HSC Program and rethink and reconfigure your resources. Whether your IT systems are too big depends upon how tightly they are integrated into your daily operations. For example, if you actively use a shared database (even though your organization might be small), you will find that the HSC guidelines scale better to organizations that do not integrate a database with their daily work.

## *4. IT Complexity*

If your YMCA uses complex technologies, some HSC guidelines may not be applicable to your situation. For example, if you have a custom-built, Internet-enabled database that handles all your programmatic data, the HSC guidelines may be less appropriate for your organization than for one that uses an off-the-shelf, stand-alone database application for its work.

## *5. Pre-existing Conditions*

If your YMCA currently experiences serious technical problems, such as virus outbreaks or key hardware failures, you will need to solve these problems before implementing the HSC guidelines. You may find solutions at the TechSoup Learning Center ([www.techsoup.org/learningcenter/](http://www.techsoup.org/learningcenter/)) that can address these pre-existing conditions before you start the HSC process. It is important to be aware of the HSC guidelines while repairing existing systems so that the repaired systems will fit easily into the larger HSC framework.

## *6. Specialized Applications*

If your YMCA uses specialized software applications, such as geographic information systems or customized client tracking software, some of the HSC guidelines may be inappropriate for its hardware and environment. It is strongly recommended that you follow vendor-specific hardware and software specifications for specialized applications. Trying to shoehorn an application into an unsuitable hardware and software environment is a recipe for IT headaches.

## *7. Computer Labs*

If your YMCA is a community technology center or has a computer laboratory or is planning to set one up, you should follow guidelines that are pertinent to laboratory situations.

## *8. Bandwidth Use*

If your YMCA has large quantities of data, such as digital video archives or multimedia databases that you need to send, serve, or store, you may find that the HSC guidelines do not adequately address those network or storage requirements.

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### 9. Staff Skills and IT Management

If your YMCA staff members have limited IT knowledge, you may need to budget additional resources to IT consulting and staff training to effectively use the HSC guidelines.

### 10. Resources

To successfully adopt the HSC guidelines, your YMCA may need significant expenditures in terms of time and money, so make sure you have the necessary resources on hand to engage in this process. Small YMCAs, or those with limited resources, will need to approach this in a phased method. Don't wait for all the resources necessary; just get started and work toward your goals. The resources required include the following:

- Management time for planning and decision making
- Staff and consultant time for implementation
- Staff time for training
- Financing for hardware and software purchases
- Time and money for regular maintenance and support.

#### TOOLS



To see if the HSC Program is suitable for your YMCA, complete *Worksheet 1: Planning Considerations* in Appendix A of this workbook.

## Step 2: Inventory

HSC guidelines require that you first collect information about your existing IT systems, including desktop hardware and software, server hardware and software, network equipment, and specialized software. This inventory does not need to be exhaustive, but should include the basics, such as hardware makes and models, serial numbers, and software titles and versions. It is also important to track licensing information, proof of purchase information, warranties, and support contracts. Often much of this information is available from receipts kept by your accounting department.

#### TOOLS



Use the HSC *Worksheets 2A and 2B Hardware and Software Inventory* in Appendix A of this workbook to collect your YMCA's basic IT systems inventory information. The worksheets have been partially filled out for sample purposes. Please modify as needed.



For additional information about inventory assessment, you can also use the *TechSurveyor* tools at

[www.ymcaexchange.org/back/technology\\_management/using\\_technology/Techatlas\\_2004-10-27.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Techatlas_2004-10-27.aspx).

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## Step 3: Gap Analysis

In Step 3, your YMCA must determine how its existing IT system deviates from the HSC guidelines. To complete this step, you need to perform a gap analysis. This type of

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evaluation allows you to set priorities and plan for the implementation of a more robust system.

As you complete the gap analysis, remember that you are looking for the baseline standards only for each area of technology. At this point, you are not concerned with what may be required to meet current IT standards. These standards and any associated questions will be answered as you move through the HSC guidelines in this workbook.

#### TOOLS



Complete HSC *Worksheet 3: Gap Analysis* in Appendix A of this workbook. As you fill out this worksheet, you will need to refer to Section 3 for the guidelines on hardware and software minimum specifications.

### Step 4: Security Assessment

Information security revolves around three concepts: confidentiality, integrity, and availability. In a secure environment, your YMCA's information should meet the following criteria:

- **Confidential:** User access and modification privileges of information are suitable to assigned level of responsibility.
- **Whole and Complete:** Information is accessible to users in its entirety, and any additions or deletions must be authorized.
- **Available:** Information is accessible to those who need it, when and where it is appropriate.

You need to assess your YMCA's security risks and determine what issues need to be addressed and how. Every YMCA perceives risks differently and may rank the importance of their resolution differently.

#### *Risks and Consequences*

The HSC Program advocates looking at security from a “risks, consequences, and resources” viewpoint:

- What are the risks you face from a security breach, and what are the possible consequences of that breach?
- What would it take to address those risks?
- What resources do you have to address these important risks?

For example, the confidentiality of an information and referral database of social services available to low-income families may be less important than that of the data maintained by a domestic violence shelter. A social services organization may invest very little to protect its data, while a domestic violence shelter may be required by law to make confidentiality a top security priority.

COMMON SECURITY RISKS AND CONSEQUENCES	
RISKS	CONSEQUENCES
Loss of confidential or sensitive data (e.g., server drive failure)	Cost of collecting and re-entering hard-to-find data
Theft or loss of a laptop computer (e.g., office burglary)	Financial burden of replacing lost or stolen hardware and/or data
Unauthorized access to data (e.g., theft of sensitive client data by a hacker)	Legal fines and penalties, and/or loss of confidence from clients as a result of sensitive data losses
Loss of important hardware (e.g., Internet router failure)	Loss of organizational capacity due to lost Internet connection

The HSC program uses a defense-in-depth approach to security so that any individual security flaw has a limited impact on IT systems. Every technology in use in your YMCA should be **hardened**; that is, configured in as secure a fashion as possible so it has no weak points for an intruder to exploit.

#### *What Should You Secure?*

Some important IT areas to secure are as follows:

#### **Internet Access/Internet Gateways**

Any connection to the Internet (e.g., dial-up, DSL, or leased line) is by definition public and is accessible from anywhere else on the Internet. The numerical nature of the Internet makes it impossible to hide your YMCA's connection from hackers. As a result, securing its Internet connection with a firewall is a necessity. Follow these guidelines:

- If you use a dial-up connection, be sure to install a firewall program, such as ZoneAlarm, or turn on the integrated firewall in Windows XP.
- If you have DSL or another type of broadband service, put a dedicated router device on the connection. Besides allowing multiple users to access the line, a router functions as a simple and effective hardware firewall, limiting access from the Internet to computers on your local network.

#### *Internet Applications*

Applications that make use of the Internet, such as Web browsers, e-mail clients, and operating systems, must be secured. This usually means installing the latest versions and patches, though some applications may require additional configuration to ensure their security. If your YMCA operates its own Internet servers, such as e-mail servers or Web servers, you will need to make sure that these services are configured securely. See the "Security and Privacy" section for more information.

#### *User Accounts, Authentication, and Access Control*

All computers and information systems (e.g., databases, e-mail, and file servers) need to use some sort of authentication system so that only authorized users can access these

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systems. In practice, this usually means setting up user accounts and requiring the use of strong passwords. In addition, many YMCAs need to set up a permissions-based access system for most of their data. With this kind of system, authenticated users have access to the data appropriate to their YMCA position, but not to other data.

### *Encryption of Exposed Transport*

Increasingly, YMCAs use technologies, such as wireless networking and virtual private networking, that extend the local network beyond the confines of the office. These technologies need to be configured to use robust encryption so that the information that passes through them cannot be easily compromised.

Security and convenience are often difficult to balance: the more secure a system is, the more difficult it can be to access and use. An important aspect of the HSC Program is end-user training that helps users understand security systems and how to apply these systems without unnecessary inconvenience when they do their work. It is worth remembering that secure systems are often compromised by system users in the name of convenience and ease-of-use.

## YMCA Recommends

If your YMCA transmits, stores, or processes credit card numbers, you are required to follow the Payment Card Industry (PCI) Data Security Standards. These standards are available at [www.ymcaexchange.org/back/technology\\_management/using\\_technology/Credit\\_card\\_security\\_PCI\\_2005-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Credit_card_security_PCI_2005-11-17.aspx).

### TOOLS



Complete HSC *Worksheet 4: Security Assessment* in Appendix A of this workbook. The worksheet includes a sample item.

## Step 5: Set Priorities

Where and when should you begin implementing the HSC guidelines? Your gap analysis has helped you generate a list of technology projects that your YMCA should undertake; however, it is likely that there are too many for your current time and budget.

In this step, you set the project priorities necessary to come up with clearer answers. You may have to go through this process more than once because, as you learn more details about your technology infrastructure, your priorities may change.

### TOOLS



Refer to HSC *Worksheet 5: Prioritization* in Appendix A of this workbook. To assist you in prioritizing your projects, CompuMentor has already filled out the worksheet, using the general recommendations specified below. Please modify the worksheet as needed for your YMCA.

**Note:** *This prioritization process is by no means exact. Using numbers in the worksheet, and tallying up the totals will not give you an accurate answer—use a letter-ranking system (e.g., A, B, C) to give you a general idea of what projects carry greater weight—and by all means trust your judgment. Technology consultants generally follow this*

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*approach, weighing pros and cons in their heads as they assess priorities and options. The process usually involves compromise and inexact answers.*

## General Recommendations for Setting Priorities

### **Backup, backup, backup**

If you need to add or reconfigure a data backup solution, do so as early in the process as possible. A good reliable backup is critical, since there is always a small chance that an implementation task will go astray and result in data loss.

### **Put out the fires first**

If your IT environment has an obvious security or stability issue, such as an unsecured router, a virus outbreak, or malfunctioning PC, address this issue first.

### **Work on the server before the clients**

The process of installing, rebuilding, or reorganizing a server almost always requires some changes to the client PCs, so HSC recommends working on the server first and working on the PCs second.

### **Grab the low-hanging fruit**

If easy-to-accomplish tasks, such as minor changes to network hardware, are on your list, go ahead and get these out of the way, as small successes will help keep you motivated enough to tackle the bigger projects.

### **Do software upgrades all at once on one machine**

If you need to upgrade software applications, do the upgrade for all necessary applications on one machine. This way, any software incompatibilities will be apparent immediately. Afterwards, you can roll out to the other workstations.

## Step 6: IT Project Implementation

You can assign appropriate technical staff (internal or consultants) to implement your high-priority projects. But remember, most of these are not complex, proprietary, or organization-specific projects. They are standard tasks, such as upgrading desktop computers or implementing a backup system. Most technology consultants you hire can do these projects. The challenge is for you to determine which projects are most important.

### **TOOLS**



To plan accordingly for your IT project implementation and support, complete *Worksheet 6: IT Staffing and Training* in Appendix A of this workbook. For additional details and recommendations related to IT Staffing and Training, refer to Section 4.

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## SECTION 3:

# Gearing-Up–Upgrading and Implementing Your System

Now it's time to roll up your sleeves and start upgrading and implementing your system. This section details the HSC Program guidelines for baseline technologies. This includes coverage of the following categories:

- **Desktop hardware:** minimum specifications for Windows systems, buying advice, and more
- **Desktop software:** guidelines for PC software, including operating systems, and basic application software
- **Local area network (LAN) technologies:** cabling, switches and hubs, wireless networking, printers, and other network-attached devices
- **Internet technologies:** Internet access, routers, e-mail, and Web services
- **Server technologies:** server hardware and operating systems, server appliances, and file servers (as opposed to e-mail, Web, and database servers)
- **Security and privacy:** guidelines on firewalls, data backups, anti-virus programs, anti-spam software, anti-malware programs, and associated best practices
- **Computer equipment ergonomics:** recommended keyboards, mice, and displays

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# Desktop Hardware

## Desktop Computers

All not-for-profit staff members should have access to functioning personal computers capable of running HSC-recommended software. The following HSC guidelines for desktop hardware include specifications for replacement of existing machines, as well as for new computer acquisitions.

Consider the different roles that workstations play at your YMCA. For instance, an intern's workstation, which is used primarily for research, need not be as fast or have as much storage as the financial manager's. Likewise, a notebook computer that is used solely for presentations and workshops need not be as powerful as one used by an off-site employee.

## YMCA Recommends

Every YMCA should create a plan to regularly replace desktop hardware. Most YMCAs adopt a three- to five-year replacement cycle. When you create an inventory of your hardware, you should include a planned replacement date and install date. When you discard of your old equipment, be sure to think "green" and be environmentally responsible. For ideas on how to do this, visit: [www.techsoup.org/learningcenter/training/page5078.cfm](http://www.techsoup.org/learningcenter/training/page5078.cfm).

Replace your existing desktop computers if they are operating below the HSC minimum specifications shown in the following table.

EXISTING DESKTOP COMPUTERS	
COMPONENT	SPECIFICATION
Processor	Intel Pentium III 500 MHz or AMD K6 III 450
RAM (memory)	256 MB
Hard drive (storage)	10 GB
Network	10 Mbps Ethernet network card
Removable media	Functioning CD-ROM and floppy drives

New or donated computers should meet the HSC minimum specifications shown in the next table.

NEW OR DONATED DESKTOP COMPUTERS	
COMPONENT	SPECIFICATION
Processor	Intel Celeron 1 GHz or AMD Athlon 900
RAM (memory)	512 MB
Hard drive (storage)	40 GB
Network	100 Mbps Ethernet network card
Connectivity	Universal serial bus
Removable media	Functioning DVD-ROM/CD-RW drive

## YMCA Recommends

These specifications are a minimum. To be effective, a PC that is running mission-critical areas of your YMCA should have specifications well above this level. Because the cost of memory and hard drive space has dropped over the years, we recommend 512 MB of RAM and a 60 gigabyte or larger hard drive. YMCAs should also check the minimum desktop hardware requirements for their operations software.

### *Peripherals*

Computers should have at minimum a 15" diagonal monitor capable of running at a screen resolution of 1024x768. All computers should have fully functioning keyboards and pointing devices (such as mice, trackballs, and joysticks). Please see the "Computer Equipment Ergonomics" guidelines in this workbook for more information on this topic.

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## Notebook Computers

Replace your existing laptop computers if they do not meet HSC minimum specifications as shown in the following table.

EXISTING PC NOTEBOOK COMPUTERS	
COMPONENT	SPECIFICATION
Processor	Intel Pentium III 500 MHz / AMD K6 III 900
RAM (memory)	256 MB
Hard drive (storage)	10 GB
Network	10 Mbps Ethernet network card
Screen resolution	800 x 600

New or donated laptop computers should meet the HSC minimum specifications shown in the next table.

NEW OR DONATED NOTEBOOK COMPUTERS	
COMPONENT	SPECIFICATION
Processor	Intel Celeron 1 GHz/AMD Duron 1200
RAM (memory)	512 MB
Hard drive (storage)	40 GB
Network	Built-in 100 Mbps Ethernet network card, WiFi capable
Screen resolution	1024 x 768

## YMCA Recommends

It is best to select a single brand and model laptop computer and to standardize all laptops that are compatible with the desktop standard. Adopting a standard will allow you to create an image or model deployment that will ease data recovery and configuration of new laptops.

## Handheld Devices

HSC does not have any recommendations for handheld devices. Palm, Windows Mobile, and Blackberry all have their strengths and weaknesses, depending upon your YMCA's needs. Track these assets as you would track notebook computers.

Due to their portable nature, devices such as laptops and personal digital assistants (PDAs) are difficult to secure. You can restrict access to the data on a handheld device by using its security system to set up a password. You should also limit the amount of sensitive data on the device, if possible.

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## HSC Recommendations and Buying Guide

- **Dell computers.** These computers are available at a discount to not-for-profit organizations through a program sponsored by TechFoundation at [www.dell.com/epp/techfoundation](http://www.dell.com/epp/techfoundation). (YMCA note: Dell computers are mentioned here because of the program through TechFoundation. Many other comparable options should be explored. Often you can negotiate directly with providers for better pricing.)
- **Refurbished computers.** To learn more, visit TechSoup Stock's Recycled Computer Initiative at [www.techsoup.org/stock/rci?cg=HSC](http://www.techsoup.org/stock/rci?cg=HSC).



*Refurbished machines meeting the minimum specifications are available for as low as \$150 and are an affordable option for tasks and functions that are not mission-critical.*

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# Desktop Software

An operating system is the core software that controls a computer. All YMCA staff should use computers that run a secure and reliable operating system and include fully functioning application software appropriate to the organization's needs.

## Operating Systems

The following operating systems will run on the HSC hardware minimum standard and are secure and reliable:

- Windows XP Professional, SP2
- Linux distribution with kernel 2.4.x and above

Since your operating system is the most essential piece of software that runs on your computer, make sure that all of its security updates are applied. Detailed Windows security settings can be found in our *Windows 2000 Effective Practices* and *Windows XP Pro Effective Practices* guidelines at [www.techsoup.org/hsc/page6157.cfm](http://www.techsoup.org/hsc/page6157.cfm).

## YMCA Recommends

Establishing a regular process for updating desktop software is important. Because Microsoft frequently releases new patches and updates, you need to have a procedure that ensures you stay current. When installing new service packs, be sure to check for new requirements and possible software conflicts. To stay up to date, you also need to be properly licensed. Software license violations are being reported and investigated more frequently and can lead to large fines.

Before considering moving to Microsoft Windows Vista operating system on any of your PCs, be sure you are ready! Vista has higher hardware requirements and possible training issues. Note: if you buy a new PC that comes with Vista, you can still install Windows XP and use the same license. Here is some information to help with that decision: [www.techsoup.org/learningcenter/software/page6113.cfm](http://www.techsoup.org/learningcenter/software/page6113.cfm).

## Office Productivity Software

The HSC Program highly recommends the Microsoft Office suite for Windows to support your YMCA's administration and operational needs. Acceptable installed versions include:

- Microsoft Office 2000 for Windows, and up

For new software purchases, use the latest version of the Microsoft Office suite. Be aware that document format incompatibilities may exist between different versions of Office. In any event, it is strongly recommended that all computers in your YMCA use the same version of Office, if at all possible.

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**!** **QUICK TIP:** Install Windows operating systems and Microsoft Office products with all updates, and configure them appropriately.

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## Other Recommended Software Tools

OTHER SOFTWARE TOOLS	
TYPE OF SOFTWARE	HSC-RECOMMENDED PROGRAMS
Web browser	Internet Explorer 6.x or 7.x, Firefox 1.5x
Calendar and e-mail	Microsoft Outlook 2000 and up
PDF viewer	Adobe Acrobat Reader
File compression tool	7-Zip
Multimedia	Windows Media Player, Real Player, or Quicktime Player
Instant messaging and VOIP	Skype

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**!** **QUICK TIP:** Neither Outlook nor Entourage are effective tools for managing and sending e-mail to large lists of addresses. YMCAs looking for the capability to send out mass e-mails should look for dedicated software or services for this functionality.

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## HSC Recommendations and Buying Guide

HSC recommends the following free, downloadable software tools to help improve your office productivity and maintain a strong technology infrastructure.

- **Adobe Acrobat Reader** allows viewing of PDF files, which eases version or software conflicts when sharing documents with others ([www.adobe.com/reader](http://www.adobe.com/reader)).
- **7-Zip** allows compression or extraction of files to reduce the size of shared files ([www.7-zip.org](http://www.7-zip.org)).
- **Windows Media Player:** allows viewing or listening to multi-media ([www.microsoft.com/windows/windowsmedia/](http://www.microsoft.com/windows/windowsmedia/)).
- **Real Player** allows viewing or listening to multi-media ([www.real.com](http://www.real.com)).
- **Quicktime Player** allows viewing or listening to multi-media ([www.apple.com/quicktime](http://www.apple.com/quicktime)).
- **Skype:** allows free Internet phone calls, chat, and more (quality is best when using a headset plugged into the computer) ([www.skype.com](http://www.skype.com))

All YMCAs are 501(c)(3) organizations, so it is highly recommended that you look into purchasing Microsoft and other software titles from TechSoup Stock (see the Microsoft donation guidelines at [www.techsoup.org](http://www.techsoup.org) for limitations and eligibility requirements), **or** from a Microsoft Charity Licensing reseller (see details at [www.microsoft.com/licensing/programs/open/opencharity.aspx](http://www.microsoft.com/licensing/programs/open/opencharity.aspx)).

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# Local Area Network (LAN) Technologies

This part of Section 3 covers the hardware and software components that keep your network running within your office.

## Cabling

Replace existing network components if they are below the HSC standards shown in the following table.

EXISTING NETWORK COMPONENTS	
COMPONENT	MINIMUM STANDARD
Cable	Cat 3
Ethernet speed	10 Mbps
Switches/hubs	Hubs

If installing new network components, ensure that the specifications in the next table are met.

NEW NETWORK COMPONENTS	
COMPONENT	MINIMUM STANDARD
Cable	Cat 5e
Ethernet speed	100 Mbps
Switches/hubs	Switches



**QUICK TIP:** Get professionals to install your cabling. It takes a skilled person to make sure data can continue to run at high speeds across the whole network. Also make sure that cables are clearly labeled in case they need troubleshooting or replacement.

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## Wireless Networking

Where installation of network cable is impractical (e.g., when significant structural modifications are needed), wireless network technology based on the Wi-Fi standard can be used.

Replace the existing wireless network components if they fall below the HSC standard shown in the following table.

EXISTING WIRELESS NETWORK COMPONENTS	
COMPONENT	MINIMUM STANDARD
Wireless standard	802.11b
Encryption protocol	Wired equivalent privacy (WEP)

If installing new wireless network components, ensure that the standards shown in the next table are met.

NEW WIRELESS NETWORK COMPONENTS	
COMPONENT	MINIMUM STANDARD
Wireless standard	802.11g
Encryption protocol	Wi-Fi protected access (WPA) turned on

## YMCA Recommends

Wireless networks may require special attention to security. YMCAs using wireless components in their network while accepting or storing credit cards need to be PCI compliant. For more information on PCI visit [www.ymcaexchange.org/back/technology\\_management/using\\_technology/Credit\\_card\\_security\\_PCI\\_2005-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Credit_card_security_PCI_2005-11-17.aspx).

## HSC Recommendations and Buying Guide

HSC recommends using a wireless access point that supports closed network (non-broadcasted SSID), WPA-pre-shared key (PSK) security, and MAC filtering. Most access points offered by Linksys, Netgear, and D-Link have these features.

As for wireless interface cards, consider built-in/on-board wireless for laptops. For desktop computers, PCI cards are more affordable than USB adapters. They are also more secure in terms of theft deterrence. However, it may be more daunting to install a card as compared to plugging into a USB port. It is not necessary to purchase components from the same manufacturer.

Some Linksys and Cisco devices are offered through Cisco's donation program at TechSoup Stock ([www.techsoup.org/stock](http://www.techsoup.org/stock)).

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HSC recommendations on network services appear in the following table.

NETWORK SERVICES	
PROTOCOL	MINIMUM STANDARD
Network connection	TCP/IP
Dynamic host configuration protocol (DHCP)	DHCP (set up on a separate server if possible, otherwise on router)
Dynamic/static internal IP addresses	<ul style="list-style-type: none"><li>• Static IP addresses for printers and servers</li><li>• Dynamic IP addresses for user devices (such as desktop machines)</li></ul>
DNS (Domain Name System)	Necessary if your YMCA has a server

YMCAs that use a server to run a network operating system will most likely need to set up a DNS server for their internal network. DNS servers are integrated with the recommended network operating systems and are required to enable most high-end security features. In most cases, a simple, bare-bones DNS installation is all that is needed for the server to operate properly.

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# Internet Technologies


This category covers Internet technologies, including Internet access, routers, e-mail, Web services, and domain names.

## Internet Access

If possible, you should have a dedicated broadband Internet connection that is always on. Apply the Internet connection guidelines shown in the next table.

INTERNET GUIDELINES	
IF YOUR YMCA:	THEN CONSIDER USING:
Is limited (for the most part) to basic Web browsing and e-mail	Basic 768 Kbps down/128 Kbps up connection (sufficient for offices with fewer than five workstations)
Has virtual private networking (VPN) or other wide-area network (WAN) requirements or large Web-based database needs	Business DSL or cable with fixed IP, at speeds of 3.0 Mbps / 384 Kbps
Provides hosting services that are needed by other Internet users, such as a Web site or database	Leased line, such as T1 or partial T1 (in some areas, companies offer synchronous connection speeds of up to 1.5 Mbps, which is usually cheaper than a T1 line)

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 **QUICK TIP:** If the services described in the table are not available, carefully examine the trade-off between cost and Internet access of other connections, such as dial-up (including multiple-line dial-up), ISDN, and satellite.

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## YMCA Recommends

Because Internet access is necessary for all aspects of YMCA work, it should be available. However, we suggest that you adopt some system of Internet content filtering. In addition, you should have a policy in place to explain the appropriate use of YMCA equipment and technology. All YMCAs should adopt policies and expectations about the appropriate use of YMCA technology and the Internet to avoid any abuse or misuse.

## IP Addressing


If your YMCA needs host services such as Web, mail, or VPN, use static IP address(es). If you do not need such services, use dynamic IP address(es).

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## Routers

Routers should be able to provide network address translation (NAT). YMCAs that intend to set up VPN should get a router with an integrated VPN server. Your broadband Internet package may or may not offer a router with the service and might only supply a modem. In that case, it is crucial to purchase a router for security. YMCAs with leased lines need to purchase higher capacity routers. This subject is outside of the HSC scope; please ask your provider for details.

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 **QUICK TIP:** To lower the risk of losing Internet access, avoid using your router as a network switch, robust firewall, wireless access point, or print server. Purchase separate devices for these tasks (see LAN guidelines).

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## HSC Recommendations and Buying Guide

Most broadband routers by Linksys, Netgear, and D-Link offer the features that HSC recommends. You can also find Cisco- and Linksys-branded products at TechSoup Stock through the Cisco donation program.


## Internet Domain

YMCAs should register their own Internet domains and use that address for their e-mail and Web site (e.g., use RBadder@XXymca.org and www.XXymca.org rather than XXymca@hotmail.com or www.rr.net/users/~XXymcaNPO).

YMCAs that use their Web presence as the major focus of their communication with constituents should register both the .org and .com versions of their name. For more information about YMCA Web sites, please see the *Maximizing the Impact of your YMCA Web Site* resources available at [www.ymcaexchange.org/back/technology\\_management/using\\_technology/website\\_kit\\_2006-02-09.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/website_kit_2006-02-09.aspx).

Make sure that your YMCA (not your consultant, Web designer, or volunteer) owns its domain name.

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 **QUICK TIP:** Ensure that the registrar's record for your domain name is accessible by more than one person at your YMCA. Keep a copy of your domain registration in your IT files with your other technical documentation.

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## YMCA Recommends

If your YMCA decides to change its Web site's domain name (for example, ymcaofanytown.org), please do not abandon the existing domain name. On some occasions when YMCAs either abandoned domain names or allowed them to expire, the names went back to the registration companies for resale. These names were thereafter purchased by unscrupulous persons who used them to link to commercial sites or pornography on the Web. When people tried to reach that YMCA, they got a commercial or pornography link instead. For further information visit [www.ymcaexchange.org/back/legal\\_risk\\_management/other\\_legal\\_issues/domain\\_names\\_2004-10-29.aspx](http://www.ymcaexchange.org/back/legal_risk_management/other_legal_issues/domain_names_2004-10-29.aspx).

## E-mail, Calendaring, and Scheduling Services

All not-for-profits should provide e-mail addresses to everyone who is required to communicate via e-mail on behalf of the organization.

Organizations that do not require groupware functionality should use a hosted e-mail service and download e-mail via the POP protocol. More advanced organizations that require groupware functionality should consider a hosted or in-house Microsoft Exchange solution.

All organizations should purchase some method of spam filtering. Spam filtering can be done by software installed on server and/or workstations, but it can also be a hosted solution from a third party through which your e-mail flows.

## Web Hosting

Organizations with external, public-facing Web sites should use an external Web host. Those that cannot use external hosting for their Web site because of unique, complex data or functionality requirements should co-locate their Web server at a professional co-location facility.

## HSC Recommendations and Buying Guide

- HSC does not recommend any hosting providers or registrars or e-mail providers, as needs vary greatly by organization. Many organizations find combining e-mail hosting with the Internet service from their ISP to be an inexpensive option.
- If your YMCA hosts a Microsoft Exchange e-mail server internally, consider acquiring Exchange Server 2003 Standard from TechSoup Stock (see the Microsoft donation guidelines for limitations and eligibility requirements) or from a Microsoft Charity Licensing reseller.
- Updated resources on these topics can also be found on YMCAexchange.org at [www.ymcaexchange.org/back/technology\\_management/using\\_technology/website\\_kit\\_2006-02-09.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/website_kit_2006-02-09.aspx) or on TechSoup's Web building learning center at [www.techsoup.org/learningcenter/webbuilding/index.cfm?cg=HSC](http://www.techsoup.org/learningcenter/webbuilding/index.cfm?cg=HSC).

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# Server Technologies

The following guidelines cover devices that provide network services, such as file sharing, printer sharing, directory, and management services. How these services are applied within your YMCA will vary, depending on the size and complexity of its computer network.

## Network Server Roles

The table below does not address network infrastructure services such as DHCP and DNS. These services are covered later in this section, under LAN Technologies.

NETWORK SERVER ROLES		
NETWORK SERVICE	TYPICAL NETWORK	ADVANCED NETWORK
File sharing	Dedicated file server without server-class operating system	Dedicated file server with server-class operating system
Printer sharing	Network printer with a dedicated print server (usually internal)	
Directory services	None	Active Directory or Open Directory
Management services	None	Group Policy or Workgroup Manager

## YMCA Recommends

Many YMCAs have more complex server needs than those listed above, depending upon the services and software they host internally and their overall storage needs. You may also consider having dedicated e-mail, database (SQL, Oracle, or other), application and Web servers. You may also need a stand-alone backup server.

## Printers

Replace personal inkjet printers with a shared, network-enabled laser printer. If you need a small printer for occasional color printing or for a staff person to print confidential documents, HSC recommends a basic inkjet printer (shared, if appropriate).



**QUICK TIP:** Whenever possible, purchase printers that use the same consumables (ink cartridges and print heads), as this can allow for reduced purchasing and support costs.

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## YMCA Recommends

Many YMCAs now use multi-functional printers (MFPs) instead of traditional printers. MFPs can serve as copiers, printers, fax machines, scanners, and more. The price difference is minimal when compared with that of buying and supporting multiple pieces of hardware.

## Dedicated Server Hardware

Whenever possible, organizations should use specialized server hardware, rather than enhanced desktop computers, for their dedicated servers. Server hardware is designed for better performance and more reliability.

## YMCA Recommends

Carefully consider the specifications and number of servers needed by your YMCA. Spend the time required to document all the applications that will be used on the servers. If you use only one server, be sure that all of the applications will be compatible on the same server. In some cases, applications may need to be on separate servers.

Also consider the risk of having only a single server. If it goes down, then all of your applications will be inaccessible. With multiple servers, you can distribute the applications and reduce risk. Extended on-site warranties and redundant systems (such as RAID 5) can greatly reduce the risks associated with single points of failure.

RAID stands for Redundant Array of Independent (or Inexpensive) Disks, a category of disk drives that employs two or more drives in combination for fault tolerance and performance.

Upgrade or replace existing server hardware if it does not meet the minimum HSC server specifications shown in the following table.

EXISTING WINDOWS OR LINUX SERVERS	
COMPONENT	SPECIFICATION
Processor	Intel Pentium III 1 GHz / AMD Athlon 900
RAM (memory)	512 MB
Storage (non-RAID)	40 GB
Removable storage	CD-ROM and floppy
Network interface	100 Mbps Ethernet

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When purchasing new servers, consider the recommendations shown in the following table.

NEW WINDOWS OR LINUX SERVERS	
COMPONENT	SPECIFICATION
Processor	Intel Pentium 4 2 GHz / AMD Athlon XP 2400
RAM (memory)	2 GB
Storage (software or hardware (RAID1 or RAID5))	80 GB
Removable storage	DVD-RW / CD-RW
Network interface	100 Mbps Ethernet

## YMCA Recommends

These specifications are minimum requirements. To be effective, any server that is running mission-critical parts of your YMCA should be well above this level. The cost of memory and hard drive space has dropped over the years, so we recommend 1 GB of RAM, a 100 GB or larger hard drive, and a DVD-ROM drive. YMCAs should also check with their operations software providers for their minimum server specifications.

## Dedicated Server Software

HSC recommends the following server operating systems:

- Windows Server 2003
- Windows Small Business Server 2003
- Linux Kernel 2.6.x

## Uninterruptible Power Supply (UPS)

Any office with centralized file sharing should use a UPS to protect the server from accidental surges and power loss.

The UPS should be of sufficient capacity to power attached equipment long enough for it to shut down normally (at least 20 minutes). The UPS should also include a cable and software to automatically shut down the server when battery power runs low.


## HSC Recommendations and Buying Guide

HSC recommends these server technologies tools:

- **HP Printers with Integrated Print Servers.** Many models have built-in Ethernet and have user-friendly print sharing features for a variety of clients.
- **Dell PowerEdge Servers from Dell.** Factory-refurbished hardware from Dell Outlet at <http://outlet.dell.com/> is less expensive than buying new.

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- **Microsoft Windows Server 2003** or **Microsoft SBS 2003**. Your YMCA can purchase this from TechSoup Stock or obtain it from a Microsoft Open License Charity Program Reseller .
  - **APC Products for UPS**. You can use the selector at the APC Web site ([www.apc.com/tools/ups\\_selector](http://www.apc.com/tools/ups_selector)) to calculate the type of UPS you need.

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 **QUICK TIP:** It is usually less expensive for not-for-profit organizations to order Windows servers without an operating system, and then acquire the operating system separately.

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# Security and Privacy

On the next few pages, you will find a set of security and privacy guidelines that cover firewalls, data backups, anti-virus programs, anti-spam software, anti-malware programs, physical security, and associated best practices. These guidelines cover the common technological precautions that YMCAs should take. They are appropriate for most YMCAs, but may not be adequate for those with special or heightened security concerns.

## YMCA Recommends

If you transmit, store, or process credit card numbers, you are required to follow the Payment Card Industry (PCI) Data Security Standards. For more information, visit [www.ymcaexchange.org/back/technology\\_management/using\\_technology/Credit\\_card\\_security\\_PCI\\_2005-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Credit_card_security_PCI_2005-11-17.aspx).

An important part of security is keeping the software on your desktop computers and servers updated. Establish a regular process for updating all software.

To get full benefit from your technology and enhance your system security, your staff needs to understand how to use the tools available, what procedures have been adopted, and why the procedures are important. One method of accomplishing these objectives is by discussing these subjects in your Acceptable Computer Use Policy and in technology training sessions offered by your YMCA.

## Data Backups

All computers need access to some form of backup system so that important data can be safely and reliably secured. HSC recommends that organizations use a centralized, network-based backup solution.

## YMCA Recommends

Simply having a backup is not enough; you need to have a method of verifying and testing the data and restore process. Many backup tools include a feature you can use to verify the reliability of your backup. However, you should also select random files on a weekly or monthly basis and restore them from the backup. Doing this will help test the integrity of the backup and the media.

Minimum Backup Recommendations	Size of Network		
	Very Small (1-3 Computers)	Small (2-10 Computers, No Server)	Larger (10+ Computers and/or Server)
Hardware	CD-R or other media	External hard drives or tape	Dedicated backup server
Software	Manual copy or Windows backup	Dedicated backup software	
Frequency/schedule	At least weekly	– At least weekly – Take hard drive off site	– Daily – Weekly version off site

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**!** **QUICK TIP:** Hard drive systems are not suitable for archiving data. For archival purposes, HSC recommends the use of CD-R or DVD-R technology to make copies of important data. Be sure to purchase the same media technology for the entire organization, if possible (e.g., CD+RW, CD-R, DVD-R, DVD-RAM).

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Although manual backups (such as copying to a flash memory device) can be effective for very small networks or home offices, use a dedicated backup application whenever possible. A dedicated application will make scheduling backups easier. Properly configured, an automated system is more reliable and easier to manage. It also allows for easier data recovery when needed.

When setting up a backup system, pay particular attention to media security. Your backup hard drive or tape will contain all your YMCA's vital information. Be sure that this media is properly protected, both on-site and off-site. You can password protect and encrypt your data archive as well.

For more details, check out TechSoup's in-depth article on backups at [www.techsoup.org/learningcenter/software/page6089.cfm?cg=HSC](http://www.techsoup.org/learningcenter/software/page6089.cfm?cg=HSC).

## Firewall

Any computer system with Internet access needs to shield itself from unauthorized external access using some form of firewall on its Internet connection. For network installations, HSC recommends a basic NAT firewall, at minimum. Computers with direct connections to the Internet should use software firewalls, which are integrated into OS X and Windows XP SP2. Stand-alone products are also available.

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**!** **QUICK TIP:** NAT technology is included in almost all routers, and provides strong protection against external threats. From outside the local network, a NAT firewall appears as a single, non-responsive computer, shielding computers on the network from external probing and manipulation.

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YMCAs with special security concerns may want to consider the use of a more robust hardware that can filter out outbound connections as well. These firewalls are beyond the scope of HSC's recommendations

## Anti-virus

All computers should have up-to-date anti-virus and anti-malware software installed and running.

ANTI-VIRUS AND ANTI-MALWARE SOFTWARE	
IF YOUR YMCA:	THEN YOU SHOULD:
Does <b>not</b> have a server	Install anti-virus desktop products.
Has a server	Get centrally managed versions of anti-virus software.

Be sure to enable the automatic update feature for virus definitions in your software program. If you have a slow connection, you may want to schedule updates when network traffic is at a minimum. You may also download the new virus definitions and roll out the update using removable media.

## Anti-spam

For most not-for-profit organizations, e-mail spam is a nuisance. Consequently, it is highly recommended that your YMCA put into place appropriate anti-spam filters. If possible, use e-mail server-based anti-spam tools. Look for an e-mail provider that offers spam filtering. If your YMCA operates an e-mail server of its own, set up a spam filter on the server. To effectively use server-side filtering, you may need to teach e-mail users how to set up simple filters that separate the e-mail tagged by the server as spam.

For YMCAs that are unable to use server-side filtering, HSC recommends using the built-in spam filtering in the latest versions of Microsoft Outlook and Entourage.

## Anti-phishing

Phishing is the act of sending e-mail falsely claiming to be an established, legitimate enterprise in an attempt to scam users into surrendering private information that will be used for identity theft. Even though phishing scams may be detected by anti-spamming software, the best defense against them is vigilance by the user. E-mails purportedly sent by a banking institution or an e-commerce site that ask for verification of information or ask users to click on a link should be an instant red flag. Ensure that users are aware of such e-mails, and be prudent when giving out private information online.

## Anti-malware

Malware or spyware can compromise the security of the network and the workstation. It can collect personal information, slow down your computer, and in general make for a poor computing experience. Limiting user account privileges on the workstation may prevent malicious programs from being installed.

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## HSC Recommendations and Buying Guide

HSC recommends use of the following programs for security purposes:

- The latest version of **Symantec's** security software from TechSoup Stock ([www.techsoup.org/stock/](http://www.techsoup.org/stock/)) addresses spam and spyware. Both desktop and server versions are available.
- If your YMCA has purchased a dedicated backup device, it probably came with backup software. **EMC's Retrospect** is a good choice for an organization-wide backup solution and supports a variety of clients at [www.emcinsignia.com](http://www.emcinsignia.com). **Symantec's Backup Exec** is also a good solution for small- and medium-sized not-for-profits. It can be found at [www.symantec.com/smb/products/overview.jsp?pcid=bu\\_rec&pvid=bewin\\_svr](http://www.symantec.com/smb/products/overview.jsp?pcid=bu_rec&pvid=bewin_svr)
- The **Internet 7** and **Firefox 2.0** browsers now have built-in phishing protection. They flag suspicious sites and periodically update this information from a central database of addresses. The **Netcraft Toolbar** is also effective in blocking phishing sites. Its database is also updated frequently to counter phishers. It can be downloaded from [www.toolbar.netcraft.com](http://www.toolbar.netcraft.com).
- **Lavasoft's Ad-aware** anti-spyware program is offered to not-for-profits at a discount. A free personal edition is also available. For more information, go to [www.lavasoftusa.com](http://www.lavasoftusa.com). **Spybot Search & Destroy** is another free anti-spyware product that is quite effective at [www.safer-networking.org](http://www.safer-networking.org). **Microsoft's Windows Defender**, included in the Vista operating systems, addresses spyware issues. It is offered as a separate download for Windows XP at [www.microsoft.com/athome/security/spyware/software/default.aspx](http://www.microsoft.com/athome/security/spyware/software/default.aspx).

## Confidentiality and Privacy


Organizations with significant confidentiality and privacy responsibilities must have well-defined data handling, privacy, and retention policies.

Data handling policies should address what data must be retained, how long the data should be retained, how it should be transmitted and stored, and how it should be deleted or destroyed at the end of the retention period.

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Privacy policies should specify the type of client, staff, and other data that can be kept, how this data should be handled, and who should have access to it.

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 **QUICK TIP:** A key aspect of privacy and confidentiality is keeping only the minimum necessary data in your YMCA's databases.

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## Physical Security

The most overlooked aspect of data security is physical security. YMCA's should make sure that servers and other key network components, such as backup tapes and drives, are secured in a locked cabinet or room.

Laptop computers are extremely vulnerable to theft. They should be locked down at all times with a cable lock. Since thieves are very adept at stealing laptops from cars, be wary of leaving laptops visibly displayed in the car.

Implement password-protected screen savers to ensure that computers, when left unattended, will automatically lock and prevent unauthorized access. All HSC recommended operating systems include this feature.

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# Computer Equipment Ergonomics

The following HSC guidelines cover some of the ergonomic issues related to computer equipment. General office equipment is not discussed, although it has a profound impact on most computer users' environments. For a more complete introduction to ergonomics, including information on ergonomic use of computers, see the TechSoup article at [www.techsoup.org/learningcenter/internet/page5258.cfm?cg=HSC](http://www.techsoup.org/learningcenter/internet/page5258.cfm?cg=HSC) and the OSHA ergonomics Web site at [www.osha.gov/SLTC/ergonomics/index.html](http://www.osha.gov/SLTC/ergonomics/index.html).

The ergonomic standards presented here are the minimum recommended by HSC. If a piece of equipment does not meet these standards, you should replace it.

## Monitors

A monitor should fit on the desk directly in front of the user and between 20 and 40 inches away. It should have space for keyboard and mouse directly in front, preferably on an adjustable keyboard tray. In addition, the monitor should

- be adjustable for height, vertical angle, and horizontal angle,
- have no visible flicker,
- have a sharp, bright, clear and square picture, with good contrast and color adjustment,
- provide resolution that allows for easy reading of text.



**QUICK TIP:** Many of the picture-quality related requirements above are adjustable. If your monitors do not meet these requirements, try adjusting the settings (usually accessible via a "Menu" button on the monitor or via the computer settings in the control panel) before you decide to replace them. Also, keep in mind that monitor flicker can be caused by power fluctuations when a monitor is plugged into the same circuit as a fluorescent light.

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## Keyboards

Keyboards should be placed on an adjustable height surface, such as a keyboard tray. All keys should have free, consistent action—no broken keys, no sticky keys.

To assist people who have difficulty using a keyboard, provide keyboard components that suit their specific physical needs. Such components include those described in the following table.

SPECIAL KEYBOARDS	
THIS COMPONENT:	IS FOR PEOPLE WHO:
Light action keyboard	Must strain to depress the Tab, Enter, or Ctrl keys
Split keyboard	Cannot adjust to the placement of a straight line keyboard
Small keyboard	Have a limited hand span and cannot easily reach all keys
Numeric keypad	Frequently enter numbers, such as accountants. (Separate USB numeric keypads are appropriate for both left and right-handed users.)

## Mice (and Other Pointing Devices)

Every computer user in your YMCA should have a clean, working mouse on a height- and angle-adjustable surface within easy reach. Users should be able to move the mouse without having to twist away from the screen and keyboard. Ideally, the mouse should be on a keyboard tray, next to the keyboard.

For those users who find a mouse puts a strain on their wrists, provide access to track pads, joysticks, and graphics tablets. Allow users to adjust the pointing device sensitivity and speed to their preference (especially on laptops).



**QUICK TIP:** Some users may need access to more than one type of pointing device so that they can swap back and forth between the devices during the day.

## Other

Make sure that adjustable document support holders (devices that hold documents level with the screen) are available for people who frequently enter data from pieces of paper.

Encourage managers to incorporate routine checks on user workstation comfort into their conversations with direct reports.

Ask your insurance company if it has someone who will talk to employees about ergonomic issues. Intermittent training helps inculcate good habits.

Recycle equipment that does not meet HSC guidelines. Do not keep it “just in case.”

## HSC Recommendations and Buying Guide

HSC does not have specific recommendations on ergonomic equipment. Local suppliers or searches on the Internet for the best available pricing are your best strategies for maximizing your time and dollars. HSC advises users to get a feel for the product at a store before purchasing.

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## SECTION 4:

# Staying on Track—Maintaining and Supporting Your Systems

Technology is not a one-time retail purchase experience. Ongoing maintenance, proper support procedures, resources, and management are essential, or the technology will degenerate. The HSC Program guidelines and recommendations in this section can assist you with end-user support, staff training, and documentation preparation geared toward HSC Program adoption, implementation, and maintenance.

## Tech Support

### Desktop User Support

Any organization that uses computers needs to have some form of end-user support. Lack of this first-level support is almost certain to result in significantly more costs in staff time and data loss.

Desktop user support should be able to

- help users implement desktop software,
- provide basic desktop troubleshooting skills and networking skills,
- document problems and solutions, using something as simple as a paper log or as complicated as an automated trouble-ticket system.

There are two main approaches to providing desktop user support: **internal support** resources, such as an IT manager or accidental techie, and **external support** resources, from a volunteer, mentor, or professional support organization.

#### *Internal Support*

Any organization that makes significant use of computers should consider having some level of internal IT knowledge. A staff member with basic computer support training can solve most of the problems encountered by desktop users. Someone also needs to be responsible for coordinating additional support resources as they are needed.

- **Small YMCAs** may find their needs are best met by selecting and training an accidental techie—a staff member who has basic IT skills, but whose primary responsibilities are not IT-related. A person who serves in this role can be very useful both as a first responder to IT issues and as an interface with external support resources.
- **Large YMCAs or those with significant IT investments** should have a qualified IT manager on staff who can handle both the basic help desk functions and manage higher-level system resources, such as servers and network equipment. More details on these roles follow in the next section.

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### *External Support*

Most YMCAs need access to high-level IT expertise for those occasions in which problems occur that cannot be handled by their own staff. Many would rather not spend resources on internal IT, but instead look to external IT support providers for all of their system needs. In either case, YMCAs must understand that even though they do not have technical expertise, they need to maintain ownership of their technology and monitor the activities of external support providers.

Depending on your YMCA's specific IT needs, volunteers or mentors with good technical skills can be an adequate resource, though they may be unable to provide immediate emergency support. Professional support organizations can usually offer fast and effective support, though at a higher cost.



**QUICK TIP:** To find additional articles and resources on how best to manage consultants, visit [www.techsoup.org/learningcenter/consultants/index.cfm?cg=HSC](http://www.techsoup.org/learningcenter/consultants/index.cfm?cg=HSC).

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# Staffing

Not-for-profit IT staff fall into two common roles:

- An **IT Manager** is a staff member with a technical support background whose primary job function includes IT support for the entire organization. This role is responsible for most IT decision making (hardware and software).
- An **Accidental Techie** is a staff member with basic technical skills, but whose primary responsibilities are not IT-related. Often the accidental techie participates with management to make IT decisions rather than taking sole responsibility for those decisions.

## TOOLS



For *IT Manager* and *Accidental Techie Sample Job Descriptions*, refer to Appendix B of this workbook.

Not everyone is cut out for a technical role. When deciding on how to staff IT roles, you should seek a candidate interested in technology; not necessarily a “gear head,” but someone who enjoys becoming involved with technical issues and who has proven skills in problem solving. Equally, if not more important, are a candidate’s basic communication skills and ability to follow written instructions. Two key functions of a technical person are explaining technical issues to non-technical people and understanding their computer hardware or software questions. Rather than look for someone who can address all the technical issues that might arise, try to find someone who can listen and clearly explain technical issues to persons with varying levels of technical skills.

Whether or not you provide in-house desktop support, it is important to have some sort of technical representative on staff. This person can help shepherd the HSC process, manage consultants, and arrange (and possibly provide) training. You may already have staff with specific technology responsibilities, perhaps a person who helps restore backups or a person who is responsible for calling in consultants. The key is to identify these roles, not let them be just ad-hoc positions.

Sample internal technology roles and responsibilities include

- IT management (budgeting, decision making)
- network troubleshooting,
- desktop troubleshooting,
- database administrator,
- backup administrator (running backups, performing restores),
- Web site updates,
- e-mail account changes, and
- software license tracking.

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# Training

State-of-the-art IT systems will not benefit your YMCA unless your staff members have the necessary skills and knowledge to use the systems. To this end, make sure that resources have been set aside to cover the costs of staff training. IT skills training can be accomplished in various ways, from formal classroom lessons to informal one-to-one knowledge transfer. HSC recommendations on training are presented in the remainder of this section.

## Basic IT Training for All Staff

Any staff member who uses a computer for daily work should have basic skills in

- using the operating system,
- navigating the Web,
- following safe computing (security measures, virus awareness, and more) guidelines,
- performing common productivity tasks (usually with Microsoft Word and Microsoft Excel).

Classroom training in these skills is available from organizations such as CompassPoint and CiBER. Self-directed training courses are available on CD or through online programs such as Microsoft's Electronic Learning Library (MELL), which is available from TechSoup Stock ([www.techsoup.org/stock](http://www.techsoup.org/stock)) as part of the Microsoft donation program.

## YMCA Recommends

Beyond training the staff on how to use the tools, it is important to make all employees aware of the proper use of the tools. All YMCAs should have an acceptable use policy, as well as an electronic communications plan. But just having the policies isn't enough; staff need to be aware of them and understand why they are important. For more information about these topics, visit the links below:

Acceptable use policy:

[www.ymcaexchange.org/back/technology\\_management/using\\_technology/Network\\_Acceptable\\_Use\\_Policy\\_2004-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Network_Acceptable_Use_Policy_2004-11-17.aspx)

Electronic communications policy:

[www.ymcaexchange.org/back/technology\\_management/using\\_technology/internet\\_and\\_the\\_Y\\_guidelines\\_paper\\_2007-03-22.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/internet_and_the_Y_guidelines_paper_2007-03-22.aspx)

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## Training for Specific Procedures

Your YMCA may have unique IT systems, such as the organization of data on its file server, its use of specialized applications, and its internal processes (e.g., backup system maintenance). Ideally, the documentation for these systems developed earlier in the HSC process can provide users with adequate training for most of the procedures required for these systems.

## Training in Specialized Applications

If your YMCA uses specialized applications, you need to develop a process to train new users on these systems. You can provide **external training**, such as vendor workshops, or **internal training**, such as one-on-one training with a super-user. In instances where the cost of external training exceeds the available resources, HSC recommends that you choose one user to become the trainer. This user should go through the train-the-trainer program for a particular application so that he or she can then train other staff members. It is important in these circumstances to choose someone who has the aptitude to be a good trainer, as well as a solid understanding of the system's use in your organization. This individual should also have adequate time to devote to regularly scheduled training, and his or her training responsibilities should be reflected in the job description.

## YMCA Recommends

It is always best to have more than one person trained so that you have a backup trainer and resource.

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## Role-Based Training

Often someone in your organization will have unique knowledge of the systems involved in his or her job role. In this case, that person should transfer this knowledge to other staff members, through accurate documentation, job shadowing, or one-to-one training.

### TOOLS



You should continually revisit and modify *Worksheet 6: IT Staffing and Training* in Appendix A of this workbook to ensure that the IT roles you need are covered by your staff members and/or external resources.

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# Documentation

Documentation is necessary for effective service and support of your technologies. It should be updated regularly, but does not need to be exhaustive, except at YMCAs with complex mission-critical systems that require the retention of careful records. In addition, what changes were made in a document and when—its version history—should be carefully recorded and retained.

Good documentation requires consistency in development methodology and terminology. It also mandates that there be a process in place to validate the documentation and its usability.

## YMCA Recommends

Be sure to note the automated tools highlighted in the following pages of sample inventory sheets. Also be sure that documentation is included in any project that you engage in with third parties (e.g., consultants, software providers, volunteers, and others).

## IT Infrastructure and Procedures

Documentation should focus on unique information about your IT infrastructure, including its Internet service accounts and the location of passwords, hardware configurations, software licenses, network configurations, server configurations, and application configurations. The objective is that a competent technical staff member or external resource, starting from scratch, should be able to recreate your computing environment from the information in the documentation.

Common procedures should also be documented. This information may include coverage of how the backup system is used and managed, how devices operate, how to accomplish specific tasks, and how to respond to specific events. You may also find you need to create custom end-user documentation, such as procedures for logins or directions for using common applications.

## Policies

In addition to procedures, you should institute basic policies that cover acceptable computer use for staff and computer data privacy for clients and customers. You may need to develop other policies to meet programmatic needs or legal requirements.

## Inventory

An inventory of your computers is one of the basic parts of your documentation. Various automated tools for inventory data collection exist, including TechSurvey (a part of NPower's TechAtlas planning tool) and Belarc. Automating the inventory process allows central data collection and analysis. For **large networks**, configuring and testing these tools may be worth the cost in both money and staff time. For **small networks**, these

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automated tools are probably inappropriate because a manual inventory is just as effective and less costly. Windows platforms have easy-to-use tools to assist in the inventory process:

- For **Windows**, the System Information program provides access to a wealth of information about a computer. The system information application is at **Programs>Accessories>System Tools>System Information**.

## Budget Items

All the technical know-how in the world won't help your YMCA if you are unable to fund the hardware and software you need. Your annual budget should contain technology costs, hardware, software, training, and support as line items. The budget should also include the costs of purchasing and maintaining the information systems you need to keep your programs up and running. For more information on technology budgets, visit [www.techsoup.org/learningcenter/funding/page4794.cfm?cg=HSC](http://www.techsoup.org/learningcenter/funding/page4794.cfm?cg=HSC).

## YMCA Recommends

The YTech Committee, along with YMCA of the USA, has created a resource to help YMCAs with their technology budget. This resource is called *Implementing IT Alignment* and is available at:

[www.ymcaexchange.org/back/technology\\_management/using\\_technology/implmt\\_it\\_align\\_2007-05-10.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/implmt_it_align_2007-05-10.aspx).

### TOOLS



We have included a sample online privacy policy document in Appendix B of this workbook. For a sample acceptable use policy go to [www.techsoup.org/learningcenter/techplan/page5399.cfm?cg=HSC](http://www.techsoup.org/learningcenter/techplan/page5399.cfm?cg=HSC).

For a YMCA sample acceptable use policy visit:

[www.ymcaexchange.org/back/technology\\_management/using\\_technology/Network\\_Acceptable\\_Use\\_Policy\\_2004-11-17.aspx](http://www.ymcaexchange.org/back/technology_management/using_technology/Network_Acceptable_Use_Policy_2004-11-17.aspx).

### TOOLS



Appendix C contains a full set of *Sample System Documentation Templates* to help you record your IT infrastructure information. Each template includes fields for the information that HSC considers most useful to record.

### TOOLS



Complete the *Documentation Checklist* in Appendix D of this workbook to ensure that your YMCA has the proper inventory, policy, and budget item documentation in place.

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## Next HSC Steps

Congratulations! By completing the HSC Program, you have taken the first steps toward ensuring a safe and stable technology foundation for your YMCA.

HSC began as a three-year campaign by TechCommons as a CompuMentor initiative dedicated to helping not-for-profits use basic technology effectively. Since then, it has been expanded to provide more materials and resources for the not-for-profit community. This workbook is just one of the many resources on TechSoup, and we encourage you to check back often for new materials and updates at: [www.techsoup.org/hsc/](http://www.techsoup.org/hsc/). But also watch for future YMCA versions of the HSC Workbook on [www.ymcaexchange.org](http://www.ymcaexchange.org).

### We Want to Hear From You!

Do you have feedback on the HSC Workbook you would like to share?

Do you have a great story about how your YMCA is using technology to achieve your mission?

E-mail TechSoup at [hsc@techsoup.org](mailto:hsc@techsoup.org), and please copy YMCA of the USA on that feedback at [yusatech@ymca.net](mailto:yusatech@ymca.net).

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## Appendix A: Worksheets

## HSC Worksheet 1: Planning Considerations

TOPIC	POTENTIAL ISSUE	GUIDELINES AFFECTED	RESOLUTION
<i>Security and confidentiality concerns</i>	<i>Youth records in database</i>	<i>LAN Server PC Software PC Hardware</i>	<i>-Implement restricted user accounts on database -Beef up server security -Patch all desktops to improve security</i>
Security and confidentiality concerns			
Plans for growth			
Size			
IT complexity			
Pre-existing conditions			
Specialized applications			
Bandwidth usage			
Staff skills and IT knowledge			
Resources			

## HSC Worksheet 2a: Desktop Hardware Inventory

### YMCA Recommends

All YMCAs should create an electronic inventory of their desktop and network hardware and software. Having an electronic version is important for insurance reasons. An electronic version can also be stored in multiple locations, including off site.

There are several options available for creating an electronic inventory. One free tool is TechAtlas, available at [www.ymcaexchange.org](http://www.ymcaexchange.org). In addition, TechAtlas offers a tool called TechSurveyor that will scan your network and automatically create an online inventory that can be downloaded to Microsoft Excel. Another free, downloadable tool is available at [www.belarc.com](http://www.belarc.com). Many YMCAs use a software program called Track-It from Numara Software ([www.numarasoftware.com/Track-It.asp](http://www.numarasoftware.com/Track-It.asp)), but completing an inventory can also be as simple as creating a chart in a spreadsheet, such as the one below.

#	NETWORK ID (MAIN USER)	MAKE AND MODEL	OPERATING SYSTEMS	RAM	CPU TYPE	CPU SPEED	HARD DRIVE TOTAL/FREE	APPLICATIONS	ANTI-VIRUS
	<i>Client (Joe)</i>	<i>Dell XP203</i>	<i>Win XP Pro SP2</i>	<i>256M</i>	<i>Celeron</i>	<i>2.5G</i>	<i>40G / 18.4G</i>	<i>Office 2K FileMaker Pro</i>	<i>NAV 2001 def (12/30/03) exp (12/30/04)</i>
<b>1</b>									
<b>2</b>									
<b>3</b>									
<b>4</b>									
<b>5</b>									

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## HSC Worksheet 2a: Desktop Hardware Inventory [continued]

#	NOTES	#	NOTES
1		6	
2		7	
3		8	
4		9	
5		10	

## HSC Worksheet 2b: Desktop Software Inventory

### YMCA Recommends

Ideally, your software inventory will also be electronic and linked to the desktop inventory. Having an electronic version will help to identify when updates are needed and ensure proper licensing by providing a complete picture of your infrastructure.

ITEM	ASSESSMENT	QUANTITY OF LICENSES
<b>Office productivity</b>	MS Office XP MS Office 2000 MS Office 98 Other:	
<b>E-mail</b>	MS Outlook XP Netscape Messenger AOL Mozilla/Thunderbird Other:	<i>Open source, no licenses required</i> <i>Open source, no licenses required</i>
<b>Database</b>	FileMaker Pro MS Access Other:	
<b>Accounting</b>	Quickbooks Pro or QuickBooks Not-for-Profit Other:	
<b>Anti-virus</b>	Symantec AntiVirus Norton AntiVirus Other:	

### HSC Worksheet 3: Gap Analysis

	<b>CURRENT STATUS (VERSION, MEMORY)</b>	<b>RECOMMENDED (IN GUIDELINES)</b>	<b>PRIORITY</b>
<b>PC hardware</b>	<i>Pentium II, 128MB RAM</i>	<i>Celeron, 256 MB RAM</i>	X
<b>PC software</b>	<i>Windows 98 Office 2000</i>	<i>Windows 2000 Office 2000</i>	X OK

## HSC Worksheet 4: Security Assessment

SECURITY AREA	APPLICABLE DETAIL	RECOMMENDED (IN GUIDELINES)	PRIORITY
<i>Internet access</i>	<i>Yes – DSL</i>	<i>Install router</i>	<i>X</i>
<b><i>Internet access</i></b>			
<b><i>Network applications</i></b>			
<b><i>User accounts</i></b>			
<b><i>Wireless</i></b>			

## HSC Worksheet 5: Prioritization

Use this worksheet to begin developing an idea of the priority areas within your YMCA's technology.

- List the projects your YMCA plans to undertake.
- Rank the subsequent columns.

Resist the urge to rank using numbers, as doing this will tempt you to make decisions based on simple mathematics instead your best judgment.

PROJECT	ORGANIZATIONAL NEED A = highest need E = lowest need	EASE OF IMPLEMENTATION A = easy E = difficult	AFFORDABILITY A = very affordable E = expensive	CAPACITY A = all resources/ knowledge available in-house E = few resources/ knowledge available	DEPENDENCIES A = few dependencies E = many dependencies
<i>Upgrade backup system</i>	<i>B</i>	<i>D</i>	<i>C</i>	<i>B</i>	<i>D – Replace main server</i>

Thanks to NPower ([www.npower.org](http://www.npower.org)) for this worksheet. © 2006 NPower

## HSC Worksheet 6: IT Staffing and Training

TASK	PERSONS RESPONSIBLE (NAMES AND TITLES) OR COMMITTEE/TEAM/COMPANY NAME
<i>Setting technology budget</i>	
<i>Managing the network, server, and user accounts</i>	
<i>Resolving day-to-day technology issues</i>	
<i>Ensuring that the database is accessible, secure, and running</i>	
<i>Administering backups and testing restores</i>	
<i>Administering basic Web site content updates</i>	
<i>Administering e-mail accounts</i>	
<i>Tracking software licenses</i>	
<i>Overseeing technology skills and training</i>	
<i>Managing other tasks</i>	

TRAINING NEEDS	TRAINING TYPE	PARTICIPANTS	PRIORITY
Basic IT training			
Training in specific procedures			
Training in specialized applications			
One-on-one training with super-user			
Role-based training			

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## Appendix B: Supporting Documentation

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## IT Manager

### *Sample Job Description*

The IT manager should have a general interest in and understanding of technology issues. He or she does not, however, need to be a programmer or network administrator. The IT manager must be able to do the necessary research and ask the necessary questions regarding IT 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 IT manager should have a good understanding of technology, be able to develop strategies, oversee implementation and manage staff. He or she should also have a thorough understanding of your YMCA culture and the ways in which technology is used to further its mission

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

Responsibilities of this position include

- managing the budget process; approving, funding and creating technology plans, policies, and strategies,
- designing, maintaining, and reviewing organization-wide IT policy,
- serving as a member of the technology team,
- making final decisions about hardware and software standards,
- approving all IT projects,
- acting as IT advocate to other executives and board,
- ensuring that IT operates in step with strategic plan,
- ensuring that IT operates in step with the YMCA's mission, and
- managing integrity of the YMCA's applications and data.

Requirements for this role include

- strong interest in technology,
- ability to make decisions regarding technology,
- understanding of the YMCA's strategic plan,
- understanding of the YMCA's mission,
- understanding of budget process,
- skills in meeting facilitation,
- excellent analytical and problem-solving skills,
- excellent communication skills, written and oral, and
- ability to work with highly sensitive, confidential data.

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## Accidental Techie

### *Sample Job Description*

This person is accountable to management and is responsible for maintaining system and network documentation, identifying IT problems, managing upgrades, and providing basic user support. While it is the IT manager's job to make decisions about the above tasks, the accidental techie is responsible for implementing the YMCA's technology plans and policies and keeping systems operational. These tasks may be achieved with the assistance of other IT team members or non-IT staff.

The accidental techie should have specific knowledge of computer systems and networks and is expected to consult with management regarding IT plans and policies. He or she is expected to be able to solve user problems, system problems, and network issues independently.

The accidental techie works closely with the IT manager and responds to user problems as required. Additionally, in a networked environment, she or he serves as the system administrator, though many specific tasks of system maintenance may fall to others within the YMCA.

Responsibilities of this position include

- handling system maintenance,
- creating system documentation,
- identifying potential IT problems and needs,
- working with CIO to prepare budget or other reports, as required,
- managing relationship with vendors, contractors, and service providers,
- conducting and leading training, as required, and
- managing integrity of the YMCA's applications and data.

Requirements for this role include

- knowledge of required network systems,
- familiarity with operating system and server applications,
- ability to manage multiple projects,
- ability to perform system tasks such as backup, upgrades, and network troubleshooting, as required,
- ability to prioritize diverse tasks,
- ability to troubleshoot user systems or network devices, as required,
- excellent communication skills, written and oral, and
- ability to work with highly sensitive, confidential data.

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## Sample Online Privacy Policy

### Privacy Policy

You should consider your YMCA's needs and review your online privacy policy with local counsel. In addition, if you collect personal information from children, you must comply with the Children's Online Privacy Protection Act (COPPA). This privacy policy will not be suitable for every organization. For more information, visit [www.ftc.gov](http://www.ftc.gov) and search for COPPA FAQs.

This privacy statement discloses the privacy practices for [Organization].

### Information Collection and Use

[Organization] is the sole owner of the information collected on this site. We will not sell, share, or rent this information to others in ways different from what is disclosed in this statement. [Organization] collects information from our users at several different points on our Web site.

### Web Site Registration

In order to use some features of this Web site, users must first complete the registration form. During registration, users are required to give their contact information (name and e-mail address). This information is used to contact users about the topics on our site for which they have expressed interest and to enable users to retrieve lost passwords. It is optional for the user to provide demographic information (mailing address, position, technical skill, etc.).

### Cookies

[Organization] uses cookies to remember if users have logged in while on our site. This allows Web site users to avoid logging in more than once, thereby saving time. Users have the option of disabling or not accepting cookies by changing the preferences on their browsers\*. If users opt to disable cookies, they will still be able to use our Web site. However, they will not be able to use some functionality or post to the message boards. No personally identifiable information (such as e-mail address, name, etc.) is collected with the cookies that we set. Accepting cookies while on the [Organization] site will not put the user at risk for marketing to other sites.

\*Different browsers have different cookie settings. With Netscape, you can ask the browser to allow, warn you about, or completely disable cookies. Internet Explorer has an additional feature with which you can specify different settings for different security zones. You can choose to allow Web sites to create cookies for you in your trusted sites (such as [Organization]), to warn you before you create them in your local intranet zone, or to give you the option of never allowing them in a restricted zone. See the "Help" section of your particular browser for more information on working with cookies.

### Web Statistics

We use IP addresses to analyze trends, administer the site, track user movement, and gather broad demographic information for aggregate use for reporting and sponsorship purposes. IP addresses are not linked to personally identifiable information.

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## **Sharing**

We will share aggregated demographic information with our partners, sponsors, and donors. This is not linked to any personal information that can identify any individual person. We share this aggregate information as a statistical analysis only to show the reach and impact of our site, which helps validate to potential supporters the value of having the Web site.

## **Links**

This Web site contains links to other sites. Please be aware that [Organization] does not claim any responsibility for the privacy practices of such other sites. We encourage our users to be aware when they leave our site and to read the privacy statements of each and every Web site that collects personally identifiable information. This privacy statement applies solely to information collected by this Web site.

## **Security**

This Web site takes every precaution to protect our users' information, and we have security measures in place to protect the loss, misuse, and alteration of the information under our control.

## **Surveys**

Occasionally, our site requests information from users via Web surveys. Participation in these surveys is completely voluntary, and the user therefore has a choice whether or not to disclose this information. Information requested may include demographic data (such as zip code and age), but nothing that can identify any individual person will be collected. Survey results will be used for purposes of monitoring or improving the use and satisfaction of this site.

## **Send This to a Friend**

If users elect to use our "Send This to a Friend" function, we ask them for the friend's name and e-mail address. [Organization] will automatically send these friends a one-time e-mail message inviting them to visit the site. [Organization] stores this information temporarily for the sole purpose of sending this one-time message.

## **Updates**

We may also send site and service announcement updates to users. Members are not able to unsubscribe from service announcements that contain important information about the service. We communicate with users to provide requested services and to discuss issues relating to their accounts via e-mail or phone.

## **Correcting/Updating Personal Information**

If a user's personally identifiable information changes (such as zip code or e-mail address) or if a user no longer desires our service, we will endeavor to provide a way to correct, update, or remove the personal data that was provided to us. Users can use the "Edit My Profile" link from their home page, or they can e-mail our Help Desk to change, correct, or remove information.

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### **Choice/Opt-in**

Our users are given the opportunity to "opt in" to newsletters and site update e-mail messages. To unsubscribe from mailings, please see the section above. To unsubscribe from any updates, users can use the "Edit My Profile" link from their home page. To avoid receiving certain topic updates, the user can simply deselect the topics and select the Modify button.

### **Notification of Changes**

If we decide to change our privacy policy, we will post those changes on our home page so that our users are always aware of what information we collect, how we use it, and under what circumstances, if any, we disclose it. If at any point we decide to use personally identifiable information in a manner different from that stated at the time it was collected, we will notify users by e-mail. Users will have a choice as to whether or not we are permitted to use their information in this different manner. We will use information in accordance with the privacy policy under which the information was collected.

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## Appendix C: Sample System Documentation Templates

## Physical Network

### YMCA Recommends

All YMCAs should create an electronic inventory of their desktop and network hardware and software. Having an electronic version is important for insurance reasons. An electronic version can also be stored in multiple locations, including off site. Several options are available for creating an electronic inventory.

One free inventory tool is TechAtlas, available at [www.ymcaexchange.org](http://www.ymcaexchange.org). In addition, TechAtlas offers a tool called TechSurveyor that will scan your network and automatically create an online inventory that can be downloaded to Microsoft Excel. Another free, downloadable tool is available at [www.belarc.com](http://www.belarc.com).

Many YMCAs use Track-It, a program from Numara Software ([www.numarasoftware.com/Track-It.asp](http://www.numarasoftware.com/Track-It.asp)).

WIRING	
ITEM	DESCRIPTION
Wired by	
Cable type	
Central wiring location	
Wiring diagram location	

WIRELESS						
MAKE AND MODEL	SSID	PROTOCOL	IP ADDRESS	ENCRYPTION SETTINGS	CHANNEL	CONNECTED TO

HUBS/SWITCHES							
MAKE AND MODEL	SPEED	LOCATION	PORTS		IP ADDRESS	USER/PASSWORD	CONNECTED TO
			TOTAL	FREE			

ROUTER						
MAKE AND MODEL	INTERNAL IP		EXTERNAL IP		USER/PASSWORD	PURPOSE
	IP		IP			
	SM		SM			
	GW		GW			

FIREWALL						
MAKE AND MODEL	INTERNAL IP		EXTERNAL IP		USER/PASSWORD	RULES
	IP		IP			

SERVERS	
Server name	
Hardware	
HARDWARE ITEM	DESCRIPTION
Computer model	
Serial number	
BackPlane	
CPU	
Hard disk(s)	
Floppy disk	
RAM	
NIC	
Hard drive controller card	
CD-ROM	
Tape backup	

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## Windows Server Installation

ITEM	DESCRIPTION	
Windows Server version		
Windows Server role		
Domain name		
Computer name		
Install directory		
Source file location		
Swap file		
Protocols		
Disk configuration		
Licensing		
Printer		
Special groups		
Item	Address	
	Internal	External
IP used on this machine		
Subnet mask		
Default gateway		

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## Services

IIS	
ITEM	DESCRIPTION
Version	
InetPub location	
Purpose	
Security	
FrontPage extensions	

DNS	
ITEM	DESCRIPTION
Forward lookup zones	
Forward lookup zone type	
Reverse lookup zone	
Reverse lookup zone type	
Manually configured hosts	

DHCP	
ITEM	DESCRIPTION
Scope	
Exclusions	
Options	

ROUTING AND REMOTE ACCESS	
ITEM	DESCRIPTION
Remote access ports	
Remote access security	
Remote access policy specifications	
IP assigned via	
Routing purpose	
NAT configuration	

WINS	
ITEM	DESCRIPTION
Purpose	
Replication configuration	

SHARES			
SHARE NAME	ACTUAL LOCATION	DESCRIPTION	SECURITY

## Backup

HARDWARE	
HARDWARE ITEM	DESCRIPTION
Tape drive	
AutoLoader	
Driver version	
Updated/from	

SOFTWARE	
SOFTWARE ITEM	DESCRIPTION
Backup software	
Version	
Responsibilities	

SCHEDULE	
DAY	BACKUP DETAILS
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE/DISK ROTATION						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

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## Exchange Server

MICROSOFT EXCHANGE SERVER INSTALLATION	
ITEM	DATA
Organization name	
Site name	
Computer name	
Service account	
Service account password	
Connectors	

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## Peer-to-Peer Configuration

COMPUTERS				
COMPUTER	SHARE	ACTUAL LOCATION	DESCRIPTION	SECURITY

PRINTERS				
PRINTER TYPE	SHARE	LOCATION	IP ADDRESS	SECURITY

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## Appendix D: Documentation Checklist

## Documentation Checklist

INVENTORY	STATUS (E.G., NONE, NEEDS REVISION, NEW)	PRIORITY
Desktop hardware		
Desktop software		
Server hardware		
Server software		
Network hardware		
Network configuration		
Specialized software		
Internet service accounts and passwords		

POLICIES	IN PRACTICE	WRITTEN	PRIORITY
Information access, usage, and distribution (data privacy)			
E-mail and Internet usage policy			
Password security policies			
Licensing and copying software			

PROCEDURES	IN PRACTICE	WRITTEN	PRIORITY
How to access databases			
How to create new e-mail users			
How to restore backups			
Updating virus definitions			
How to request technology support			

BUDGET ITEMS	IN PRACTICE	IN BUDGET	PRIORITY
Hardware			
Software			
Ongoing costs			
Printer toner			
Hosted services (Web domains, ASPs, e-mail)			
Support contracts			
Training			
Support and maintenance			