

Technology and the Non-Profit

Resources for understanding and obtaining the technology needs for your organization.

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UNIVERSAL ISSUES

Communications

How can staff communicate better as a team? Collaboration through your technology - shared folders and drives, shared access to client and vendor lists, document libraries and intranets. Promote the network as a whole, not each user and workstation as a separate identity.

Budget

Best practice is to create an IT wish-list for the next three years and constantly review. It is always the best and worst time to buy a computer - something will always be faster and cheaper next month.

Support

Whether internal or external , proper IT support can save downtime and money.

Control

Can you answer the following questions?

Who registered our domain name and when does it expire?

What are the username and password for the router and server?

How many licenses do you currently have from Microsoft?

Who has remote access to your network?

It is sometimes overlooked, but control needs to stay with your organization. Consultants move and companies go out of business. The information that is critical to your operation needs to be current and accessible to the right staff.

Planning & Training

The best network setup still needs users to know the new features.

HARDWARE

One of the biggest mistakes a company can make is buying the wrong equipment. This is especially true for a new company since funds and time are at a premium and wrong equipment purchases will impact both negatively.

The Three Year Plan

You should plan on replace your critical computer hardware every three years.

The old adage "you get what you pay for" is still true today when it comes to computers and technical equipment. Almost all computer systems come with either a one year or three year warranty. The cheaper systems that are likely to fail sooner have the shorter warranty while better built systems come with the longer warranty. There are very few warranty packages that are over three years.

Why is three years the most common and not longer?

Not only does the failure rate increase after three years, but the speed of the hardware relative to the newer models and software decreases. **Basically, if it is not going to fail it is becoming obsolete.**

Three years doesn't seem that long....

In the world of computers three years is a very long time. Take the facts that CPU speed and RAM capacity doubles every two years, power consumption every 18 months, and storage every year and three years is a lifetime for your computer.

Why not save money and buy the least expensive computer, even replacing it once over the three years?

The difference in price between an entry level model and business class model of computer is rarely double. If you have to replace the cheaper system once during the three years, you have not saved any money. What you have gained is downtime and possible loss of data. Most people do not look forward to reloading or reconfiguring a new system once they have their work process down. Another concern would be the environmental impact of numerous "disposable" machines.

What are the difference between an entry level and business class computer system?

The main difference is the length of warranty and reliability. The home market for computers may focus on such items as custom color options for the case or bundled game packages. The options most desired for business use are reliability and speed.

Primary vs. Secondary Roles

Older machines can still be used at your organization in secondary roles. The critical machines in primary roles should have reliable and current hardware. An example below on evaluating the different roles of a computer on your network:

Primary - For full-time users that depend on the computer for their day-to-day operations. Includes the role of your server hardware and power users.

Secondary - Interns, part-time support, and computer labs are possible secondary roles for older systems. Even older servers can be reloaded as backup systems.

SOFTWARE

Common Types of Software Licenses

Retail - Boxed and purchased at full price usually from chain stores. This is the most expensive option and should be used as a last resort. Almost all software companies offer some sort of discount for non-profit customers.

OEM - Purchased with equipment and usually preloaded on systems. Less expensive than Retail but not as low as the next two options.

Volume - Least expensive option for products such as Microsoft. Minimum purchase is usually five titles to qualify. Many *Tech Soup* offerings are volume licensed. This is the best option for most organizations.

Open Source - Free usage, no license purchase needed, such as Linux and Sun Open Office. Titles are starting to make ground, but not very common yet.

Tech Soup

Probably the best IT resource for non-profit organizations. Tech Soup manages the donations from many large software vendors to qualifying organizations. Accounts are free to setup and tax documents must be submitted to qualify. There is a limit on the amount and frequency of orders per group, so it is best to plan your purchases.

Examples of Tech Soup pricing on popular software:

Software Title	Tech Soup Cost	Retail Cost
Windows XP Pro	\$8	\$199
MS Office 2007 Pro	\$20	\$499
Symantec 25-User Anti-Virus	\$85	\$859
Small Business Server 2008	\$35	\$1089

Other Software Discounts

Almost all software vendors have a discount for non-profits.

Microsoft OPEN CHARITY - Typically 50-80 percent less than retail and OEM. Great resource if you cannot order from *Tech Soup*.

WEB PRESENCE

Remember that you can only lease a domain name, you can never own it forever. The maximum limit is 10 years to lease a name.

Domain Names - renew at registrar company such as Network Solutions, Godaddy, and Yahoo. Yearly charge usually costs \$20 or less.

Hosting - where the website and possibly e-mail for organization resides.

Newsletters - a great way to reach a wide audience. It is worth a look at companies such as Constant Contact that can provide this service to you in an easy format and save time and bandwidth on your network. Also, many Internet companies limit the amount of messages sent out at one time to combat spam.

SECURITY

Virus Protection - Essential in today's computing environment. New forms of virus and worm attacks are playing on social aspects of users. Examples would be "Hallmark" or "UPS" spoofed e-mails.

Encryption - The best precaution is to deploy some level of data encryption, especially on mobile devices such as smart phones, notebooks, and off-site storage.

Passwords - Set a policy to use difficult passwords and please remind users that a password written on a post-it note stuck to their monitor is not a good idea.

Wireless - Secure networks with encryption and take precautions. Remember that almost all wireless networks are vulnerable to some level of intrusion.

Content Filtering - Limits risk and increases productivity. Free services such as OPEN DNS or paid subscription companies like Sonic Wall and Barracuda are available. An important part of any system that is accessed by the public in a lab setup.

BACKUP (When bad things happen to good computers)

Not having a backup in place is bad. Thinking that you have a backup system only to find that it is not working when you need it is worse. Verify and testing backup systems are the only way to get a good night's sleep.

Backup Plan

A good backup plan has the following key components - multiple revisions and offsite copies. Example of multiple revision importance - user accidentally deletes accounting directory before vacation. Problem is not discovered until the following week.

Offsite copies are just as important to protect against localized issues such as fire, flood, theft. A backup disk will not help if it burns up or walks away along with the server.

Types of Backups

Full Backup	A Full Backup takes the longest time and copies all the data selected to the backup location.
Incremental Backup	Only copies data that has been changed since last backup, decreasing total backup time.
Mirrored Backup	Copies data in real time and used to protect against hardware failure.

FUTURE TRENDS

The Green Movement

Moore's law describes a long-term trend in the history of computing hardware. Since the invention of the integrated circuit in 1958, the number of transistors that can be placed inexpensively on an integrated circuit has increased exponentially, doubling approximately every two years. The trend was first observed by Intel co-founder Gordon E. Moore

in a 1965 paper. It has continued for almost half a century and in 2005 was not expected to stop for another decade at least.

As computers and servers grow more powerful, they are using more energy and require additional cooling. There is a new focus on other features besides speed in the design and manufacturing of processors. With the introduction of smaller and more energy efficient designs, like the Intel Atom processor, devices such as netbooks are becoming more common. These systems excel at basic computer functions (web, office, communications) for a fraction of the cost and energy. Variable speed hard drives and intelligent power supplies are also being incorporated into newer server and desktops.

Cloud Computing / SaS

What is "Cloud Computing"?

The term refers to the use of computing resources that are not local. In other words, you could store and process information via the Internet on a providers server. The requirements for your local computer could be lower since most of the "work" is being performed elsewhere.

What is SaS?

SaS stands for Software as Service. A perfect example would be Google Apps. Instead of purchasing an Office package, you pay a lower monthly fee to use the software over an Internet connection. Revisions and upgrades are free and automatic since it is housed at the providers server and maintained by them.

Mobility and Virtualization

Everything gets smaller and faster. Today the average smart phone capabilities keeps increasing. It is no longer necessary to have multiple computer systems for multiple jobs. One piece of hardware can now run multiple servers, decreasing cost, energy, and maintenance.