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▶ INFORMATION
TECHNOLOGY



community resource kit



For full details and contents of the kit please read the introduction at www.community.net.nz/how-toguides/crk.

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FOR FURTHER INFORMATION

As well as printed copies, the Community Resource Kit will be available on CD and online at www.community.net.nz. Any future updates to the kit and details of where to obtain further copies of it will also be posted on this website.

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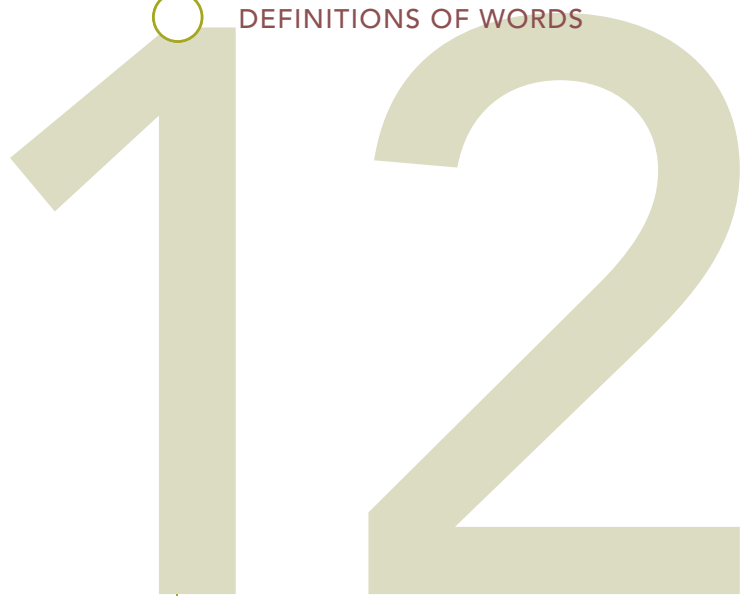
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introduction



what's IT?

Information technology (IT) is the use of **technology**, such as computers and the internet, to manage **information**.

what's in this section?

IT can be a powerful tool for community and voluntary organisations if it's understood and used correctly. But IT can be frightening for those who are not familiar with it. In this section we will give you some basic tips and tools to get you started on using IT and some slightly more advanced tips for those ready for the next step. We provide you with some website addresses and names of books that you can turn to for further information if you need it. At the end of the section we also give you definitions of some commonly used words that sound more like nasty diseases than something to do with IT. Happy "surfing"!

planning and budgeting for IT equipment



why plan and budget?

Before rushing out to buy computers and software for the first time or rushing into upgrading your existing equipment, it's essential to plan and budget for IT properly. This is important because not only is IT expensive in terms of the cost of equipment and staff training and support, but it's complicated and requires skill to understand and use well. IT should be considered as tools to do your work faster and better, not to create processes that do not exist. IT also needs to be driven by the overall goals of your organisation.

who should make IT decisions?

Decisions that will have a major impact on the way your organisation works should be made by people with a good idea of the "big picture", for instance the board or management committee. IT decisions come under this category and therefore should not be taken in isolation – they are just as important as decisions on money or people. You should consider the needs and future direction of your organisation. For example, ask yourself whether your organisation is thinking of developing a new service in the next 12 months. If so, what software and hardware will you need to accommodate that change?

Once your organisation has a broad IT strategy in place, then more routine IT decisions can be made by appropriate staff as long as clear targets and guidelines are provided to them. Who has final responsibility for IT decisions is likely to vary from organisation to organisation, but what is important is being clear about which decisions can be taken by whom.

budgeting for IT

When it comes to budgeting for IT, ask yourself the following questions:

- For those just starting up – where are you going to get the money from? Will IT be included as part of every fundraising application? Can the cost be built into your core costs?
- For those upgrading rather than starting up – how has money been raised and spent on IT in the past e.g. by ad-hoc fundraising when a new computer was needed or by emergency replacement of broken equipment? What worked best?

To go a step further, you need to have a realistic annual budget for IT. You will need to budget for:

- hardware and infrastructure
- software
- internet
- training
- support
- consumables.

TIP

In the "Choosing the Right Software" section we also provide details of places you can go for donated equipment that won't cost a thing.

setting goals – deciding what you want to achieve

As we've said, it's important to ensure that your use of IT is driven by the overall goals of your organisation rather than your organisation being driven by IT. Setting goals should be the first thing to consider as part of your overall IT strategy. These goals don't have to be big or complicated but could include something like:

- we want to produce written documents more efficiently
- we want to record our contacts with clients more accurately
- we want to improve internal and external communications.

Write down the major goals your organisation would like to achieve for which IT is required.

TIP

what's in an IT strategy?

IN GENERAL TERMS

So now that you have an idea of your organisation's goals, you are part of the way to having an IT strategy in place. Such a strategy will help ensure that the purchase and use of IT is firmly tied to your organisation's current and future aims and business.

In general terms, an IT strategy for choosing what IT equipment you will need involves:

- deciding what you want to achieve (that is setting goals – see previous section)
- choosing the software to achieve those goals
- choosing the hardware to run the software.

IT strategy checklist

An IT strategy – which need not be any more than 2 sides of an A4 piece of paper – should include:

- the date the strategy was agreed on and by whom (e.g. 1 November 2006 by the board)
- a timeframe for carrying out and reviewing the strategy (e.g. carry out the strategy over 3 years but review that timeframe every year)
- goals at organisational, departmental and/or team level (e.g. organisation to record contacts with clients more efficiently)
- how IT can be used to meet these goals (e.g. database to assist staff with client information)
- any specific IT projects (e.g. developing a website)
- administrative policies (e.g. how will the information be stored, backed up and secured? Who should have access to what information?)
- details of equipment to be retained or replaced (new or upgraded). If upgrading, check all aspects of hardware and software compatibility
- estimation of how many computer users will be required for the next 3 to 5 years and selection of an appropriate network configuration i.e. standalone, peer-to-peer network or server domain network
- a decision on whether remote access will be required
- training requirements
- schedule of costs.

Have a go at writing your IT Strategy.

TIP

where can you go for IT support?

Those who end up with responsibility for IT decisions may have to seek technical advice if they are not technically able themselves. Don't worry about that – it's fine and there is help available out there.

In the first instance you should look at other not-for-profit organisations that you consider to be good role models and could act as benchmarks on where you'd like to be. Failing that, you should approach a good local IT specialist organisation. But remember – some local IT suppliers/providers may not always meet professional standards nor have the capacity to support a large not-for-profit organisation. In such instances, it would be best to source from a bigger out-of-town organisation that could supply best price and quality and perhaps engage them for remote support using the internet or telephone dial-up links.

TIP

To find out who the local IT specialist organisations are in your area, ask people within the not-for-profit sector that you know or look in your local telephone directory or check out the Universal Business Directory (UBD) at www.ubd.co.nz.

choosing the right software



don't let software choose you!

To write letters, organise your client information, or develop a fundraising strategy etc, you'll need the right software. With thousands of packages available, finding the right applications to fit your needs (and IT budget) can be difficult. Don't let software choose you and end up with something unsuitable. If you take the time to assess your needs and choose software that suits your organisation, then you won't waste money and end up with something that simply doesn't work for you.



Checklist for choosing your software



Compatibility – there's software available that works well on both Mac and Windows computers. There's also a lot of software that doesn't require a super fast processor and a large hard drive to work.



Stability – ask other users of the software you intend to buy whether it's stable or not i.e. did they experience blue warning screens, frozen keyboards, and strange behaviour from it when they used it? There are also websites that provide reviews of various software from users.



Scalability – make sure that the software is likely to meet your current and future needs especially if your organisation is growing or likely to grow.



Support – it's important to find out what level of support comes with your purchase. Use your contacts and ask around. If you have time, you may even like to test the support by phoning and asking a question to see what response you get.



Ease of use – depending on your situation you may wish to choose software that is not too complicated. But, your needs may require a complex program. If that's the case, just make sure that you include staff training in your budget.



Individuality – don't be swayed by what everyone else is using. Sometimes software that is not so well-known or free can beat the latest releases. If you choose something less well-known, just make sure that it will still allow you to communicate with everyone else.



Good deals – if you don't have a big IT budget, keep on the look out for discounted or donated software.

Microsoft software donation program

As we just mentioned, there are places to go to apply for donated software. Microsoft has a program where they donate the latest software technology to eligible non-profit organisations throughout New Zealand. If you're eligible you can apply for a software donation. Applications are evaluated four times a year, and donations are subject to changing product availability. Microsoft's grant-making deadlines are February 15, May 15, August 15 and November 15 each year. Applicants will be notified approximately two weeks after the deadline but it's advisable to allow another 6 to 8 weeks for delivery of software. To check out whether you're eligible to apply and how to apply for a donation refer to – www.microsoft.com/nz/citizenship/giving/swd/guidelines.msp.

free downloads

As well as donated software, there are also a large number of free "downloads" available out there. This means you can copy a software application off the internet at the click of a button and be able to use it without having to buy it. But, you need to be a little careful about what you download as some of the free software available may be unreliable or untrustworthy. Some websites that are worth checking out where you can download free software are:

- www.download.com
- www.microsoft.com/downloads
- www.freewarefiles.com
- www.theopencd.org.

choosing the right hardware



buying a new computer

HOW MUCH WILL IT COST?

Currently you could spend around \$1800 on a new computer depending on specifications or extra capacity required. There are cheaper models available but they are likely to be based on older or cheaper technology and will therefore have a shorter useful life than a more expensive one.

WHAT DO YOU GET FOR YOUR MONEY?

At present, for around \$1800, you should be able to get a computer with the following features which will be sufficient for ordinary office use:

FEATURE	WHAT IT MEANS
3.0 GHz P4 processor	Refers to the processor speed of the computer. For most tasks you will not notice much difference between 3.0 and 3.4 GHz. You will also have a choice between Intel and AMD processors and both are a good buy. Intel make the budget Celeron and widely-advertised Pentium 4. AMD make the budget Duron and the Athlon. All these, including the budget versions, could meet your day-to-day needs. The only thing is that a Celeron or Duron processor is likely to be slower than a Pentium 4 or Athlon especially when multitasking devices and running heavy applications. The best advice is to buy the most powerful processor you can afford. That way you will have an investment for the future.
1 GB of memory	With 1 GB of memory you will be able to run more than one software application at a time and switch between them. If you can't stretch to 1 GB you should buy a computer with at least 512 MB of memory. Any less than 512 MB and the latest software, like Microsoft Office, may run slowly.
80 GB hard disk space	This refers to how much space there is available in which to store information. New machines are now usually sold with a hard disk of at least 40 GB and often 80 GB. Hard disks always seem to fill up quicker than expected so it's worth buying more space than you think you will need.
1.44 MB floppy disk drive	Many machines are not sold with floppy disk drives any more so make sure you say you want one if you need one.
CD/DVD drive (16x DVD+/-RW)	Most software is supplied on CD and some larger packages on DVD. A DVD drive can read both CDs and DVDs and now comes included with many PCs. A DVD RW DVD drive also means you can make CDs or DVDs for backups.
56K modem and network card	If you think you will be using dial-up to connect to the internet, choose a machine with a 56K data/fax modem. You can also use this to send and receive faxes. If you plan to use broadband you will need a network card. Most PCs these days have one included, but be sure to check.

FEATURE	WHAT IT MEANS
Windows XP professional (Service Pack 2) software	Buy a machine with this software installed. The cheaper version of Windows XP called "Home Edition" does not allow as much flexibility for networking and is not suggested for use by organisations with more than one PC.
17 inch TFT flat screen monitor	It's good to buy a machine with at least a 17 inch TFT (flat screen) monitor, preferably 19-inch. A brand name monitor will provide noticeably better quality than the cheap monitors sold with budget machines and is worth paying extra for.
Speakers	Speakers are often included in the price. Some monitors may have them built in. They are needed for computers to make noises other than beeps and are especially worthwhile if you need to use multimedia applications or voice recognition systems.

FURTHER TIPS

1. You may want to look at spending a little extra on a separate graphics card if it's not built into your computer. This is important if you will be doing a lot of work with graphics software such as Photoshop.
2. Don't choose a machine simply because it comes with free software. Many are cut down versions of the full software (e.g. Microsoft Works is a cut down version of Office) which may not meet all your needs.

CHOOSING THE BEST WAY OF BUYING COMPUTERS

Below are four common ways of buying computers and some tips for deciding which way might be best for you depending on your needs and situation.

1. **Buying direct** over the phone, via the internet, or from the manufacturer or mail order company by placing your order, providing your credit card details and waiting for the delivery.

Buying direct is a popular option because it's quick and cheaper, but don't expect much discussion about your particular needs. But if you're clear about exactly what you want, the mail order option would be good for you. Be aware though that mail order after-sales support is usually available via phone only and therefore is limited. But this may not be an issue if you have other IT support available to you.

2. **Going to a computer dealer** and looking for a full package of equipment, installation and after-sales support.

This may cost more but help with installation and after-sales service will be well worth it especially if you don't have technical expertise within your organisation. This is also the best option as your IT set up gets more complicated and you might, for instance, be installing a network or an important application like a database or email system. If these things are badly installed and not expertly maintained, it could turn into a disaster.

3. **Going to a shop** and choosing a computer from those on display.

This option means you can try before you buy but prices are generally higher and after-sales service tends not to be as good. Their market is predominantly home users and therefore may not offer the best business solution.

4. **Leasing equipment.**

Advantages of this option include: no cash outlay, freeing up cash for other operating expenses; you don't have the hassle and cost of ownership, allowing you to focus on your core business; you avoid technology obsolescence and the hassles of selling used office equipment; lease payments fit within your operating budget, eliminating the need for capital expenditure approval.

Always try to get a minimum warranty of 3 years on computers.

TIP

buying second-hand computers

As a last resort, there are second-hand computers available out there because, for example, the original organisation may have had a policy of replacing their computers every 2 years. New is still better if you can afford the initial outlay because after-sales service costs are included. Such support is unlikely when buying second-hand.

If you still wish to go second-hand, low-cost recycled PCs are available to community groups from companies accredited by the Computer Access New Zealand (CANZ) Trust. For further information on this refer to www.canz.org.nz.

Other organisations that specialise in second-hand computers include:

- www.the-ark.co.nz
- www.ccc.govt.nz/Community/Computers/benefits
- www.recycledtechnology.co.nz
- www.trademe.co.nz.

using your IT



So you've planned and budgeted for and even purchased your IT. Now it's time to use it. In this part we will look at the internet and other related tools such as email and web browsers. These are common IT tools that you're likely to use at some stage.

the internet

Many people are afraid of the internet and think it's too hard to understand. Fortunately, it's not necessary to understand the internet to use it. What you see or hear on the screen is designed to be as user-friendly as possible. The best way to learn how to use the internet is by doing exactly that – using it.

In simple words, the internet is a network of computers all over the world connected by telephone, cable and satellite. "Going online" refers to the act of connecting your computer to the internet.

The internet can be used to send and receive email and to access websites using web browsers. All this allows you to do things like network with like-minded people and groups, identify funding sources, and obtain current information on almost any topic you wish.

Remember – where you see underlined text, you can click on these words to link to a page or website. Some images can also be "clickable" – you will know this if the cursor turns into a pointing finger when you move it over the image.

TIP

what's an ISP?

ISP stands for Internet Service Provider – a company with a large computer that hosts websites and provides access to the internet. If you have a website or email (other than free email) on the internet, you will have an ISP.

internet connectivity

Connectivity is how a computer connects to a network. If you want to access the internet or email you have to have a connection. The two types of access (or connection) can be grouped into two broad categories – dial-up and broadband (or high-speed).

A broadband connection allows faster web browsing, downloading and transferring files than is possible with a dial-up connection. It does not use a voice signal and can share your phone or fax line while you talk or fax at the same time.

DIAL-UP INTERNET ACCESS

Dial-up internet access is a type of internet connectivity that operates through a standard telephone line and a dial-up modem device built in or connected to your PC. It's what you would use if you're working from home. It uses a voice tone to connect to another modem requiring exclusive use of the line. You cannot talk on the phone and connect to the internet at the same time using this technology.

Dial-up access is offered through a number of ISPs to which you pay a monthly or yearly fee. For this fee, you can access the internet when you like and send and receive emails etc.

Dial-up service is the least expensive but also the slowest type of internet access (at 56Kbps or less). This means it could take up to 5 minutes to download just one megabyte of data, which isn't a lot.

BROADBAND INTERNET ACCESS

There are a number of different technologies currently used to deliver high-speed internet access. Two common ones are:

- DSL (Digital Subscriber Line or Dedicated Service Line)
- cable.

DSL uses your standard telephone line for fast internet access, but differs from dial-up in that DSL uses a digital frequency compared to dial-up which transmits data across the phone line using the standard analog frequency. All this means that, with DSL, you can be online and use the phone at the same time, whereas with dial-up, you are tying up your phone line. There are several types of DSL of varying price but generally they're affordable. However, DSL is only available in limited areas and can vary widely in speed.

Cable differs from dial-up in that internet access is provided via the same cable company that brings cable television into the home. This means it's completely separate from your phone. Cable offers high speed connection at relatively low costs but the connection is shared and slower speeds sometimes occur due to congestion. It's primarily for home users and is only offered by TelstraClear in Wellington, the Kapiti Coast and parts of Christchurch.

Both DSL and cable provide an "always-on" internet connection, allowing you to leave the computer actively connected to the internet 24 hours a day. These services are also more than 30 times faster than dial-up but they're also more expensive than dial-up.

Other less common types of broadband internet access are:

- **satellite** – data arrives at your computer via a satellite dish (a little larger than the Sky TV dish), which is installed on your property
- **wireless** – land-based transmitters send the information to a special modem (about the size of a small notebook) which sits on your desk. The advantage is you can move around anywhere in the coverage area and stay connected. Speeds are fast (up to 500Kbps) and several companies are providing a wireless service and many new computers come with wireless infrastructure.

viewing websites using web browsers

A website is a collection of linked files on a computer that can be copied (or "downloaded") and viewed by other computers around the world. This is done by using a piece of software called a "browser", such as Internet Explorer and Netscape Navigator. One website can link to other websites, and the World Wide Web (or the web) is the term used to refer to all the network or "web" of interconnected websites.

Every website has an address, which is a line of text called the URL (Universal Resource Locator). A URL begins with `http://` and tells your browser where to find the site or page you want. You can see the URL of the site you are at in the location bar at the top of your browser. You can save URLs that you use frequently so that you can go directly to them at a later date. Simply choose "add bookmark" or "add pages to favourites" and the browser will automatically remember the URL.

searching the internet

The internet can be the quickest and least expensive way to find information – as long as you know how to use a search engine. This is particularly useful if you don't know the exact URL or you want to obtain as much information as you can on a particular subject.

A search engine is like an indexing system or librarian that helps you find what you are looking for – if you ask properly. Basically, search engines are websites that allow you to search the internet for whatever you ask it.

There are many search engines and each are different. For example, some require you to enter key words, while others require a phrase. Experiment with different search engines to find the ones that best suit your needs.

If you go to websites www.xtra.co.nz and www.community.net.nz you will experience how to use search engines. If you try searching within these websites and you run into trouble, read the information provided under the "Search" and "Help" headings. This will explain exactly how the search engine operates and what's required from you before it will search properly. The same kind of help is often provided under the heading "Hints" on other websites.

Listed below are some common search engines. Just go to the website address (the word in brackets beginning with www.) and have a go at searching for something:

- **Google** (www.google.co.nz) – uses a very sophisticated system to find the most-visited sites and suggests alternatives to misspelt words in your search and can be set to search within New Zealand only
- **SearchNZ** (www.searchnz.co.nz) – a local search engine that is easy to use and provides a good list of sites
- **AltaVista** (www.altavista.com) – a Web and Usenet News searcher, indexing over 100 million pages. Can search under categories: simple, people, business, subject and advanced
- **Ask Jeeves** (www.askjeeves.com) – features a question-answering system allowing anyone to ask a question in plain, simple English without having to use key words. Great for beginners
- **Excite** (www.excite.com) – searches by keywords or text strings or browses the categories of reviewed sites
- **Yahoo** (www.yahoo.com) – the original search engine and directory of the web.

email

WHAT IS IT?

Email stands for "electronic mail". It's a way of sending messages from one computer to another. Generally, if you have access to the internet, you will also have an email account, but you can have an email account without having your own web access.

You can either have an email account with an ISP (Internet Service Provider) or a free email account via the internet e.g. Hotmail. If you have a free email account you will access it through a website, which means you can access it from anywhere in the world.

To access an email account with an ISP, you will need to dial into the ISP and have the right account settings, so it's a bit more complicated. But if you're using it from one computer, it's more secure and offers more functions than a free account. ISPs offer different packages and prices, so if you're looking at setting up an email account with an ISP it's worth shopping around.

Email can also be used to send files from one computer to another. These are called attachments, and can be text or graphics. Occasionally you can run into problems if the computer you are sending an attachment to doesn't have compatible software, but these problems are happening less often as the technology improves.

TIPS ON USING EMAIL

It is difficult to give detailed guidance on emailing because this would vary depending on the different email software packages. For this type of detail, you're advised to refer to the manuals that come with your software, ask an expert or search the internet using one of the search engines mentioned above by entering the words "using email".

To follow is some advice on good email style:

- provide your audience with adequate context:
 - use meaningful subject lines
 - quote the email to which you are responding
 - avoid pronouns.
- be aware of page layout issues. Stick with:
 - short paragraphs
 - lines under seventy-five characters long
 - messages under twenty-five lines long
 - plain text.
- to convey emotion use:
 - smileys
 - asterisks
 - capital letters
 - typed-out vocalisations
 - whitespace
 - lower-case letters
 - creative punctuation.
- be aware of what cues people will use to form impressions of you, for example:
 - name
 - domain name
 - grammar, punctuation and spelling
 - formality
 - signatures.

(Adapted from the website www.webfoot.com/advice/email.top.html).

TIP

Make it a routine to pause before you send an email, especially if you are feeling any strong emotion, and re-read it from the point of view of someone likely to misunderstand it. When replying to messages, be careful you don't include recipients you did not intend. There are many true stories of intimate messages reaching wide audiences, and gossip reaching the people it was about.

advanced technologies

For those organisations that are ready to take the next step on from getting started and want to keep up with the latest IT technologies, it's great to know that there's a lot of information available out there on topics like:

- developing a website
- blogs
- email lists.

DEVELOPING A WEBSITE

There are lots of books and online advice available about developing websites (which your organisation might want to do at some stage). These are listed towards the end of this section under "Where to go for more information".

Here are a few tips for developing a website:

- Try to think like the people who will be using your website. What will they know already? What will they need to know and want to know? Assume too little rather than too much.
- Have great consideration for people with disabilities using your website. For example, blind and sight-impaired people can't use a mouse, so provide keyboard-based alternatives to clicking on images. Their browsers read out links separately from text, so offer more information with links than "click here". Use captions (and the "ALT" command) to tell them what is in pictures. For deaf and hearing-impaired people, provide text alternatives to speech files.
- Have regard to people accessing your website with slow connections (as in rural areas). If you must include large files, such as big pictures, make them open on new pages, and provide thumbnail images so users can decide whether they want to open them.

BLOGS

If you need to keep people informed but email isn't enough and you don't have the time, skills or money for a website, then a blog may be the answer. A blog is a way of quickly posting your thoughts, interacting with people, and more. It's also free and really easy. Give it a go by clicking on www.blogger.com and follow the steps given.

EMAIL LISTS

Electronic mailing lists are a way of emailing information to many internet users at the same time rather than having a "send to" list a mile long. These lists are most often used for a group of people working together on a project and as a way of distributing current news and the like. Actual discussion and information exchanges can occur. The commands "subscribe" and "unsubscribe" are often used to have your name added to or removed from an email list.

computer security

Below are some tools you should consider using to keep your computers safe and secure from intentional or accidental harm. It's up to you to decide which tools best fit your organisation's operations, equipment and budget.

passwords

Access to your organisation's computers should be maintained using a password system.

A good password should:

- be at least 6 characters long
- be made up of a mix of numbers, letters and symbols
- be easy to remember
- be changed regularly (say, every 30 days)
- NEVER be shown to another person
- NOT be obvious e.g. never use your birthday
- NEVER be written down for someone else to find.

Use screensavers set with a password lock to activate after 5 minutes. Never save a password on a machine other than your own when prompted to do so or where users are sharing the same logon credentials. That will give others access to your password-protected sites or email boxes without your knowledge.

TIP

backups

A computer backup is when you store copies of your files on to something other than your computer hard disk. In the event of an unexpected disaster – like your computer crashing – you'll be thankful for having a backup of your data. This will mean that you can retrieve any information, back to the date you last backed up, which would otherwise have been lost. Two straightforward forms of backup media are:

- copying files to a USB drive
- burning files to CDs or DVDs.

USB drives

Tiny USB drives are the ideal solution for transporting files and even some small programs. Two drives (512MB and 1GB) plug into any USB port without installation software, and are relatively cheap. But, because USB drives are so tiny, they can be easily lost.

CDs or DVDs

Burning files to CDs and DVDs is inexpensive but also requires the most effort to keep up-to-date. Your labeling system has to be precise too so if you're concerned about old backups falling into the wrong hands, this option is not for you. The other thing is that CD-Rs and DVD-Rs both hold a lot of data but can only be used once. On the other hand, CD-RWs and DVD-RWs can be used more than once but you must rewrite all the data rather than only parts of the data. The burning software associated with CD and DVD RW drives to enable you to copy and paste, requires a lot of system resources and could make your computer unstable when mixed with some applications. Also, optical media such as DVDs and CDs has no proven long-term storage track record.

TIP

If you have a more sophisticated organisation, there are other forms of backup media available to you such as backing up on a tape drive or using a zip drive. Your IT specialist will be able to advise you on these.

virus protection software

Hundreds of computer viruses are transmitted over the internet. Without knowing, a person can open an attachment to an email that contains a virus and as soon as that email is opened, the damage has been done. Some viruses can do huge damage to your computer systems and removing it can be time consuming and costly. Files that have been damaged by viruses – or “corrupted” as we say – have to be restored or, in some cases, recreated. Infected systems also have to be carefully contained and cleaned or they risk infecting other machines.

A number of virus protection programs exist on the market today e.g. Symantec, McAfee and Trend etc. It would pay to ask around to find out what other people are using.

TIP

Any virus protection is better than nothing, but remember, it's important to regularly update that protection.

computer worms

Unlike a computer virus that replicates as many copies as possible on one machine, a computer worm is designed to copy itself to as many computers as possible on a network. A virus needs human help to spread, whereas a worm needs little or no human intervention. Again the damage from a worm can be huge and costly to fix.

To reduce the threat posed by worms, a mix of strategies should be put in place. You will need to rely on your system administrator or IT specialist within your organisation to activate these strategies as they are quite complicated.

protection against hacker attack

Hackers are computer experts who can break through your computer security systems. They may want to use your site to broadcast their messages, obtain confidential information or disrupt your network because they oppose your organisation's cause.

To put off hackers or reduce the damage they might do, you can take the following precautions:

- protect your passwords
- protect your system with a firewall (see separate section below on firewalls)
- protect your access points (i.e. gateways to the internet, remote access servers and websites)
- create, review, enforce and revise your security policy
- backup your network devices, servers and power systems
- insure your network against hacker attacks.

uninterruptible power supply

Events such as power surges can cause your computer system to experience problems or totally fail. But most power surges don't affect your systems if you have a surge suppressor or surge protector as it's better known. But these wear out and therefore should be replaced every 3 to 4 years.

Another tool for protection against partial and total power loss is an uninterruptible power supply (UPS) unit. A UPS unit senses dips or surges in voltage and immediately switches from electric current to battery power. The battery life of your UPS will determine the price you pay and the amount of battery life will depend on the size of your computer network.

TIP

A server should have a UPS of no less than 1000VA power capacity (which will cost around \$900). Workstations, switches and routers will do fine on 420VA (around \$300) or 350VA (around \$200) minimum. The UPS should always have a signal cable connected to monitor the status of electrical supply.

firewalls

A firewall is the first line of defence against unwanted intruders to your network while still allowing authorised users full flexibility of use. This separate program or device allows or denies entry. Firewalls help keep hackers out by adding another level of security to your basic system. Most also have the ability to generate an activity log so that you can see who tried to access your system.

Firewalls range from a simple DSL modem with built-in firewall (at a cost of around \$120) to stand-alone firewalls (costing \$400 – \$2500 depending on size of the network) through to products that combine hardware and software (which can cost up to \$4000).

Firewall products are available from a number of vendors e.g. D-Link, Sonicwall, Cisco, Allied Telsyn, Netgear etc.

Spam

Spam refers to electronic junk mail or junk newsgroup postings. Because the internet is a public network, little can be done to prevent spam, just as it's impossible to prevent junk mail in your letter box. However, the use of software filters in email programs can be used to remove most spam sent through email. Most anti-virus applications have some form of spam control built in but the problem of spam can be so prolific that a dedicated spam filter becomes the only practical solution.

If you suddenly experience a high level of spam, the computer or mailbox or both should be checked for a virus or spyware infection. In a worst case scenario, you may have to change your email address to remedy the problem. Spam due to spyware infection is not only transmitted by email. A lot of websites may infect your computer with various forms of spyware which, in turn, can generate spam in your mail box. Keeping your Windows and other applications updated will further eliminate unnecessary "holes" in your system.

human health and safety



what are your obligations to your people?

Computers, if used incorrectly, can be bad for a person's health. As you know, people are your most precious resource in your organisation, so you need to look after them. Below we will look at some of the risks relating to computer health and safety and some ways to lessen these risks.

There are also legal obligations you have as an employer relating to occupational health and safety (or OSH). Refer to *Keeping it Legal* (Fact Sheet 10) for further details – www.keepingitlegal.net.nz.

TIP

what are the risks from using computers?

The main risks from using computers include:

- **eye strain** and a greater awareness of existing eye problems (e.g. blurred vision, burning eyes, headaches, frequent changes in prescription glasses)
- **musculoskeletal problems** (e.g. back and neck ache, upper limb disorders also called repetitive strain injury or RSI, tension stress headaches).

Rashes and other skin complaints have also been reported. But these probably relate more to the atmosphere surrounding a computer screen – dry and full of static electricity – rather than from the screen itself.

what causes these problems?

Eye strain usually results from visual fatigue or glare from bright windows or strong light sources, light reflecting off the display screen or poor display screen contrast. There is no proof that eye strain causes permanent eye damage but the temporary discomfort may reduce productivity, cause lost work time and a reduction in job satisfaction.

Musculoskeletal problems can be caused by bad posture while using the computer, inadequate lower back support, sitting in the same position for too long and poor workstation set up.

how can these problems be avoided?

Eyestrain can be avoided by:

- exercising the eyes every now and then by looking away from your screen toward other objects at various distances away
- blinking regularly
- keeping the air around you moist (e.g. by having plants)
- adjusting your screen height or seating so that your eyes are in line with the top of your screen
- adjusting the contrast or brightness control on your monitor
- positioning your screen to avoid glare
- keeping your screen clean
- repairing or replacing screens that flicker or aren't clear
- regular eye testing – at least once every 2 years.

Musculoskeletal problems can be avoided by:

- ensuring your workstation is correctly set up
- taking regular breaks from your computer (e.g. a few minutes at least every hour)
- doing regular stretching exercises
- alternating your work tasks
- keeping your mouse and keyboard at the same level
- NOT gripping your mouse too tightly and using keyboard shortcuts as much as possible to avoid overusing your mouse
- using necessary equipment such as document holders, wrist rests, footrests.

computer health and safety checklist

Although an employer has legal responsibilities for their staff's health and safety, there are practical measures we as individuals can all take to avoid harming our own health. Take some personal responsibility and check out the following computer health and safety checklist which provides a useful self-assessment of your computer and workstation – www.lasa.org.uk/knowledgebase/pages/vdusafetychecklist.shtml.

TIP

If you do experience health problems from using your computer, seek prompt medical attention and have a proper workstation assessment carried out by a health and safety expert.

where to go for more information



publications

GENERAL

1. *Communities Online: Information and Communications Technology Case Studies*, 2001, 25 pages. Published by the Department of Internal Affairs, P O Box 805, Wellington. Also available free online from: www.dia.govt.nz

This book provides several examples of how a number of New Zealand community organisations are using IT. Be sure to check out the other references given in this book. These are well worth a look and it saves us including them in our list here!

SECURITY AND BACKING UP YOUR SYSTEM

2. *Full Speed Ahead: Managing Technology Risk in the Nonprofit World*, 2001, 122 pages. By Melanie L Hermon, Nonprofit Risk Management Center. ISBN 1-893210-07-3. Cost US\$25. Order from: nonprofitrisk.org/pubs/full_spd.htm

online resources

GENERAL

The following links cover a broad range of IT issues rather than specific topics.

1. The CommunityNet Aotearoa website is a source of information and advice to support communities. The following link covers all aspects of setting up and running community organisations and projects, including using the internet: www.community.net.nz/How-ToGuides/IT/PublicationsResources

2. The following Techsoup US-based website features information about everything to do with IT and is tailored to non-profit organisations: www.techsoup.org
3. www.itrainonline.org/itrainonline/english/basic_skills.shtml

PLANNING AND BUDGETING FOR IT

4. LASA (London Advice Services Alliance) provides a central source of help and information for those who work in the advice field. The following link is specifically on planning and budgeting for IT: www.lasa.org.uk/knowledgebase/pages/Buyjan01.shtml

CHOOSING THE RIGHT SOFTWARE

5. www.techsoup.org/howto/articles/software/index.cfm

FREE SOFTWARE

6. www.download.com
www.microsoft.com/downloads
www.freewarefiles.com
www.theopencd.org

CHOOSING THE RIGHT HARDWARE

7. www.lasa.org.uk/knowledgebase/pages/Buyjan01.shtml

BUYING SECOND-HAND COMPUTERS

8. www.canz.org.nz
www.the-ark.co.nz
www.ccc.govt.nz/Community/Computers/benefits
www.recycledtechnology.co.nz
www.trademe.co.nz

THE INTERNET

9. Information for new internet users:
www.community.net.nz/About/Help/information-for-new-internet-users.htm
10. Searching the internet: www.community.net.nz/How-ToGuides/IT/PublicationsResources/search.htm
11. Learn to use the internet step-by-step:
www.bbc.co.uk/webwise/course/search/menu.shtml

EMAIL

12. A beginner's guide to effective emails:
www.webfoot.com/advice/email.top.html

INTERNET CONNECTIVITY

13. www.wisageek.com/what-is-dial-up-internet-access.htm
14. www.techsoup.org/howto/articles/connections/pages1447.cfm

HUMAN HEALTH AND SAFETY

15. www.lasa.org.uk/knowledgebase/pages/Buyhealth.shtml
16. *Keeping it Legal E Ai Ki Te Ture* (Fact Sheet 10) – www.keepingitlegal.net.nz

definitions of words

The following definitions of common IT words have been "downloaded" off the "internet". To find other words not in the list below, please click on or copy the following "links" into the search box of your internet "browser":

- www.bbc.co.uk/webwise/course/jargon/a.shtml
- www.itrainonline.org/itrainonline/english/glossary.shtml.

A

Address book

Part of your email software where you store details of your friends' and contacts' email addresses so you don't have to remember them.

ADSL

Another word for broadband, a high-speed internet connection. It receives digital information at up to 560 kbps, 10 times faster than a normal modem and is "always-on".

Anti-virus

Anti-virus software helps protect your computer from viruses.

Application

Another word for computer program. For example, Word, which is used for creating documents, is a word-processing application.

Attachment

A file which is "attached" and sent with an email message. Often photographs or word documents are attached to emails.

B

Backup

The word used for copying files onto disk or CD-Rom for safe keeping so that they are kept in more than one place.

Bandwidth

The amount of data that can be carried per second by your internet connection. Usually measured in kilobytes per second (kbps).

Bookmark/favourite

Any website you like and want to remember can be made a "bookmark" or a "favourite" in your browser. So, when you want to go back to that page, you can go there in one click instead of trying to remember its address.

Boot up your system

Simply means to start your computer.

Broadband

Another word for ADSL, a high-speed internet connection. It receives digital information at up to 560 kbps, ten times faster than a normal modem and is "always-on".

Browser

A program you use to view web pages and "browse" websites e.g. Netscape Navigator and Internet Explorer.

Bugs

Errors in a piece of software or web page that can make it break or work strangely.

Byte

Bytes are used to measure amounts of computer data. One byte is roughly the same as one character (letter) of text. One Kb (or one K) is approximately 1,000 bytes, one Mb is approximately 1,000 Kb, and one Gb is approximately 1,000 Mb.

C

CD-Rom

Discs that look like a music CD but can hold software, data, text, pictures, sound and video files.

CD-RW

CD rewritable. These are CD-Roms you can save files on over and over again. (On CD-Rs you can only save once.)

Compressed

Compressed files are electronically "squeezed" so they take up less memory. This makes them quicker to send over the internet.

Compression

The process of reducing the size of computer files by electronically “squeezing” them so that they can be passed around the internet more quickly. Zip files are a common example of one type of compression.

CPU

Central Processing Unit – the “brain” of the computer. When people talk about the speed of a computer, they are talking about the speed of the CPU.

Crash

When your computer temporarily stops working. It may pause or “freeze” up, or tell you to restart or quit.

Cursor

The flashing vertical line on the screen that shows you where you are and where the next character you type will appear.

Cut and paste

Selecting text, images or files and deleting them from one place while putting them in another.

D**Database**

A program that stores information in tables. This allows you to search, sort and use it in many different ways.

Desktops

Workstation computers.

Dotcom

A commercial website. Comes from the .com address which is used mainly by businesses in the United States.

Dial-up

Internet connection using a phone line. You have to dial a number (using your computer) and usually give a password before you can gain access to the internet, email, etc.

Directory

A folder where a computer stores other files and information. Keeping files on the same topic together in the same directory is a good way to keep track of your files.

Download

Getting a file onto your computer from another computer on the internet.

Drag and drop

Clicking on an icon or selection, holding the mouse button down and moving the mouse to “drag” the selection to a new location. When the mouse button is released the item is “dropped”.

DVD

Looks like a thick CD but has a greater storage capacity – up to 4-8.5 Gb compared to 650Mb on a CD-Rom.

E**Email**

Electronic mail. Messages (sometimes with attachments) sent over the internet from one email address to another.

Error message

A “complaint” by the computer that something has gone wrong. There will often be some type of explanation, maybe including an “error code” which is usually hard to understand.

F**File**

Data stored on a disk. There are two types: “program files” (with instructions that make up software application, e.g. Word) and “data files” (files created by you and me, e.g. a letter or photo).

File extension

The group of letters added after the fullstop at the end of the file name. They tell the computer which program to use when opening the file. For example, in the file “myfile.txt” the “.txt” is the file extension. Not used on Apple Mac computers.

File not found

Error message you see when you enter an incorrect website address or an address for a site that has moved.

Firewall

Program which sits between your computer and the internet and watches for hacking, viruses or unapproved data transfer.

Floppy disk

Small rectangular magnetic disks which go in the slot found on the front of your computer. They are becoming less popular as they can only hold 1.4Mb of data (not enough for one MP3 song.)

Font

The typefaces you see on-screen and in print in documents or on websites. Some of the most frequently used are Times New Roman, Arial and Courier.

G**Gigabyte (Gb)**

A thousand million bytes (=1000 Mb).

H**Hacking**

Unauthorised access to a computer, its files and programs by a "hacker", a computer expert who can break through its security.

Hard drive/hard disk

The place inside your computer where you save documents, pictures, applications, etc.

Hardware

The physical stuff to do with computers like chips, keyboards, monitors, printers, modems, scanners, CD-Rom drives etc.

Hits

The number of times a web page has been visited. Every time you go to a web page it counts as a "hit".

Homepage

The "front page" of a website, where you're told what's on the site, how to get around it and how to search for things that'll interest you.

Host

Another word for a computer offering services on the internet. When an Internet Service Provider (ISP) gives you space for your website on their computer they are said to be the "host" of your website.

HTML

Hyper Text Markup Language. The language web pages are written in.

HTTP

Hypertext Transfer Protocol. The letters at the start of an address on the worldwide web.

Hyperlink

Technical name for a link on a web page. Clicking on one takes you to another page or internet file. The mouse pointer changes to a hand shape when passing over a hyperlink to show that it may be clicked.

I**Icon**

A small picture which, when you click on it, launches an application, program or acts like a link on the web.

Inbox

The folder in your email program/webmail where you get your incoming emails.

Information technology

Known as IT. The use of electronic devices (such as computers, software, internet/intranet etc) to acquire, store, process and distribute information.

Installing

Putting a program on to your hard disk so you can use it. Installation is usually started by clicking on a file called "setup.exe" on Windows and shown by a diamond/arrow icon on a Mac. The most common ways to install programs is from CD-Rom or via the internet.

Internet

Millions of computers (and the data stored on them) around the world connected together by telephone lines, cables or satellites.

Internet address

A unique combination of letters, most of which start with HTTP.

Internet Explorer

One of the most popular web browsers, designed by the company Microsoft.

Intranet

A company's internal website used for communicating between staff.

ISDN

A special digital phone line that offers internet connections of up to 128kpbs.

ISP

Internet Service Provider. An ISP is the company that provides internet connections to private and business customers e.g. Slingshot and ihug.

J**Java**

A programming language widely used on the web, to run small programs in your browser called applets.

JPEG/JPG

A common type of image file that is good for saving photos and other images with many different colours.

Junk email

Direct marketing sent by email rather than by the post.

L**LAN**

Local Area Network. Describes a network, usually (but not always) within an office, building or closed geographical area.

Laptop

A small, portable computer which can be battery operated as well as run from the mains.

Link

Words or pictures you can click on which take you from somewhere (an internet page, an email message etc) to somewhere else (another page, a picture etc).

Logging in

Using a user name and password to prove your identity so that you can enter your computer or internet account.

M**Macintosh/Mac/Apple Mac**

A family of computers developed by Apple. The Mac operating system (Mac OS) was one of the first to use a "drag and drop" interface for organising files and is still the major rival to PCs.

Macro

A way to record and save a series of commands so you can reapply them later with a single command or keyboard stroke.

Mailbox

The folder that contains a person's individual items such as an inbox, outbox, sent items, notes and calendar.

Megabytes (Mb)

A measure of memory equal to 1000 kilobytes (=one million bytes).

Memory

The storage and thinking parts of your computer. More storage memory on your hard disk (ROM) means you can save more files and more thinking memory (RAM) means your computer can perform more complex tasks quicker.

MHz

Megahertz. A measurement of a computer's speed. The more MHz, the faster the computer.

Modem

MODulator-DEModulator. The hardware that connects you to the internet or to other computers around the world. Some are inside your computer (internal) and some are separate boxes outside your computer (external).

Monitor

The bit you look at – the display screen.

MPEG

A standard used for compressing video and audio files. The popular MPEG3 format is popular for distributing music on the internet.

MP3

A digital audio format that allows CD tracks to be reduced to around a tenth of their normal size without a significant loss of quality i.e. on average from a massive 35 megabytes down to three.

N**Narrowband**

The opposite of broadband. Normally used to refer to a modem running at a speed of 56Kbps or less.

Navigate

To move within or between websites using navigation bars and links.

Navigation bar

A set of links to the main sections of a website which appears on each web page within that website. The Nav Bar often appears at the top or left of a web page.

Net

Another word for internet.

Network

A group of computers communicating together via a server along cables or wirelessly.

Notebook

Another name for a laptop. A small, portable computer which can be battery operated as well as run from the mains.

O

Offline

What you call it when you are not connected to the internet.

Online

What you call it when you are connected to the internet.

Operating system

The software environment on your computer. The most famous ones are Windows and Mac OS.

Outlook Express

A free email program that usually comes with Internet Explorer. It can be downloaded from Microsoft's website at www.microsoft.com/.

P

Password

A series of letters, numbers and characters that you enter to get into your computer, internet connection, email or websites that you are registered with.

PC

Personal computer. Used to talk about computers which are IBM-compatible rather than Apple Macintosh computers.

PDF

Portable Document Format. These files will print exactly as they appear on the screen. You need the free Acrobat Reader program to open a PDF file.

Photoshop

A software package written by Adobe used to design, produce and alter images which can be used on websites or in print.

Portal

A website which acts as a gate to the internet by directing you to information elsewhere. Search engines are one example.

Pull-down menu

A menu appearing at the top of the screen in Windows applications. When selected, another menu drops down.

R

RAM

Stands for Random Access Memory. It's the memory a computer needs to run software. When you load or "run" software, it goes into RAM. If you type something it also goes into RAM before being saved on the hard disk. When you turn your computer off all the data in RAM is lost.

Refresh/reload

The button that you use to download a web page again. In Internet Explorer it's called "Refresh" and in Netscape Navigator "Reload". You should press this button if for some reason a web page appears not to have loaded correctly.

S

Scanner

A device which scans images or printed material and converts them into a digital format which the computer can then process. Scanned images can be used in desktop publishing or added to web pages.

Search engine

A search engine is usually a website which allows you to search the internet for information. The search engine lists results that relate to your search phrase. For example, inputting the word "IT" would bring up a list of sites on the web containing information on information technology. Google is a well-known search engine and can be accessed by clicking on www.google.co.nz.

Secure

A method of sending or storing information that is encrypted or security protected to prevent unauthorised users accessing it.

Server

A powerful computer which holds data to be shared over a network or over the internet. When you get a web page it is being sent to you by a server.

Signature file

A small file of text which can be automatically added to every email message you send. It usually contains details such as your name, email address, your job title or a favourite quote. It is sometimes called a ".sig".

SMTP

The internet protocol for the sending and receiving of email over the internet.

Snail mail

A slang term used for the normal postal service because it is slow (like a snail) compared to email.

Software

Any computer programs such as word processors, email applications or internet browsers.

Source

The code a web page is written in. This is usually HTML but may also involve CGI, Java or Java Script as well. You can view the HTML source code of a web page by clicking on the "View Source" menu option in your browser.

Spam

Junk email sent to many people at once, usually involving advertising or offering services. Spam is very deeply frowned upon by most internet users, and where it involves advertising or a false return address, it is particularly disliked.

Spyware

Software that you install on your computer, often without realising, that sends information on your software and internet usage to outside companies.

Surfing

Looking for interesting things on the worldwide web using search engines and hyperlinks.

T**Toolbar**

The selection of buttons displayed vertically or horizontally offering desktop and application functions such as print, save, copy etc.

U**Uploading**

The process of putting any data (text, audio, video) online.

URL

Uniform Resource Locator. A website address with the name of the server where the site's files are stored, the file's directory path, and its file name e.g. <http://www.ird.co.nz>.

Username

A series of letters and/or numbers you input into your computer, internet account or other computer network service to tell it who you are.

V**Virus**

Pieces of code that are designed to reproduce and damage data or system performance. There are thousands of viruses and the numbers keep growing.

W**WWW**

WorldWide Web (or the web). The web provides a way of linking the computers on the internet through HTML tags and using hyperlinks that allow you to click on a link and advance to another location on the web.