

Guide: Computers in small business

Your computing needs will vary greatly depending on the type of business you run and how many team members you have.

This guide will give you an idea of the basic options available.

Computer Setup

Basic desktop computers

A standard desktop computer is a great option for a small business. These can be bought out of the box from online retailers or appliance store and come with the latest software pre-loaded.

If you have more than one team member you can create a network and share files and printers.

Desktop computers are generally robust and have a long lifespan. For example:

- PC: 4–6 years
- Mac: 10 years plus

Laptops

Laptop computers or notebooks are an excellent choice for people who travel a lot, but need the full functionality of a desktop computer.

These are perfect for a person who shares their time between two offices or lives “on the road”.

Laptop computers are not designed to be moved when going, and this makes their lifespan much shorter than desktop computers. For example:

- PC: 2–4 years
- Mac: 4–8 years

Netbooks

Netbooks are very small laptops. These are designed for running basic programmes and surfing the internet.

Computer power is generally much less than a full-size laptop.

This may be a good solution for a mobile team member using cloud applications.

Tablets

Tablets are mobile computers which are designed to be highly portable. Eg Apple’s iPad. They generally use touch sensitive capability or a stylus rather than a keyboard.

Users can download apps to allow their tablet to have more functionality, eg word processing, however functionality is generally much more limited than a fully laptop computer.

Tablets are a great solution for someone who needs a lower cost way to simply check emails and surf the net when away from the office.

Handheld devices

Handheld devices are starting to replace pen and paper for remote tasks for example, ordering in restaurants, issuing parking tickets or checking passenger numbers on flights.

Handheld devices can be used to great effect for inventory and stock management, digitising notes and scanning and programming barcodes.

Data is recorded on devices then transmitted back to computer systems using wireless, 3G or satellite capability.

PC vs Mac

PC is the general term for Personal Computer, however most people use the term PC to refer to a windows-based computer as opposed to a Mac.

The term 'Mac' is short for Apple Mackintosh and refers to Apple computers.

Both types of computers have loyal followings based not only on functionality and capability but also style and fashion.

PCs

PCs are the worlds most commonly used home and business computers and can be made by many different manufacturers, eg

- HP/Compaq
- Toshiba
- IBM/Lenovo
- Dell
- Acer
- Asus
- Samsung
- Sony

PCs are favoured for business computing, gaming, engineering, manufacturing and retail.

Macs

Macs are becoming more popular amongst general users since the introduction of Apple's all-in-one desktop computer the iMac in 1998.

Apple Mackintosh computers have been used since the 1980s for design-specific use and are still considered the best computers for computer assisted design.

Although more expensive than a standard PC, most Macs generally have a longer lifespan and are less prone to viruses.

On the downside, many software types and devices are not compatible with Apple computers.

Apple computers come in four main forms:

- iMac: The all-in-one computer/monitor
- iBook/MacBook: Notebook/laptop
- Mac mini: Small desktop computer
- PowerMac/MacPro: Full-size workstation

Marketing of Apple computers is now aimed at lifestyle users – those who want to use photos, movies and music.

Business users still predominantly favour PCs.

Software

Most larger software companies such as Microsoft and Adobe produce software to be used on both PC and Mac, so there is no real reason that you could not choose either type of computer.

However, business users will tell you that Microsoft software works best on PCs and designers will tell you that Adobe programmes run better on Mac.

Making a decision

For Windows users, the Mac operating system can take a bit of getting used to as can the absence of a right-click button on the mouse. And the same goes for Mac users switching to Windows.

Which type of computer you choose may well come down to personal preference, so try making a pros and cons list, and try out the computer before you buy — go into an appliance/electronics store and get the salesperson to give you a guided tour of your prospective computer.

Setting up a Network

If you have more than one computer in your business, you will most likely want to network your computers so that all users can access shared files.

There are varying levels of networks, from two or three computers sharing hard drives, to multiple computers accessing a server, to thin clients using a terminal server.

For more information about the hardware and cabling needed to set up a network, refer to Telecommunications in Small Business Guide.

Connecting two computers

You can create a basic network with two computers simply by using your internet router as a hub. Routers generally have up to four Ethernet ports on the back which means you can connect up to four devices on your hub. More if you use wireless.

An IT person can set this up for you. This means you can share files and hard-disk drives from both machines.

Setting up a server

A server is a computer that runs applications and processes on behalf of a group of computers.

Servers are commonly used to handle:

- Email exchange
- File storage
- Printers
- Websites

The server also handles how computers connected to it talk to the internet.

As opposed to a PC, a server typically may include a faster CPU, increased high-performance RAM, and typically more than one large hard drive.

Most business set up one or more servers in a dedicated space (eg server room) and all desktop computers are networked to it.

Terminal Server/thin client

A terminal server setup is where all application and user data is stored on the server as opposed to a local PC ('fat client').

This means that programmes etc are updated on only one application server as opposed to multiple computers.

The 'thin client' connects each user through the network directly to the server and bypasses the need for a PC altogether.

Server Room Considerations

There are many key elements to a highly-performing server which should not be overlooked. Consider these key things when setting up a server room:

- Ventilation & cooling: Your server room should stay around 20–21°C with a good flow of air and a thermostat on your air conditioning

- UPS or Uninterruptable Power Supply: Both your server and phone system should be hooked up to a UPS. This will give you enough time to shut down your system properly, in the event of a power failure
- Monitor: You may also need a monitor available when your IT person works on the server directly
- Power: Your UPS will work as a giant surge protector, but any additional hardware should be plugged into a good quality surge protector
- Racks: If you have more than one server, and limited but tall space you may wish to consider a rack system where servers and components are stacked on top of each other.

Backing up your computer

Backing up your computer and system regularly is absolutely fundamental.

There are many ways in which you could lose your computer or server contents:

- Virus
- Hard-disk failure
- Power surge
- Theft
- Fire
- Natural disaster

Backing up a PC

If you are a one-man-band and you have only your own computer to worry about, then you are best to have a simple backup system.

Many people backup their files on to DVD or a small flash drive, however, these methods are not very robust as discs tend to degrade and flash drives regularly stop working.

Buy two removable USB hard drives and start from there.

- One drive is to use for off-site backups — weekly and/or monthly
- The other is for daily back ups

Your computer will have built-in backup software which you can set on a timer.

Leave one hard drive plugged in permanently and set your computer to back up to it each night. You are best to do a full back up (as opposed to incremental) everyday, but as it can take time, it is best to run it over night.

Each week, run a full back up on to a different drive and take it home. If you work from home, keep it somewhere else. There are companies that offer facilities for this.

Also run a full backup to this drive each month. You will want to keep these monthly backups for at least a year or two. The week 4 backup generally doubles as a monthly backup.

Keep your backup drives in a fireproof safe.

If you have very important files which are in constant use, you may wish to save these to a small flash drive multiple times per day while they are in use.

Backing up a Server

If you have a server set up, it's likely that your IT company has set you up with a tape drive which backs up all data every day.

Check with your IT provider and ensure that the daily back ups are full rather than incremental, otherwise if your systems crashes on a Friday, you will need Monday–Thursday's tapes rather than just Thursday.

Monthly and weekly backup tapes need to be kept offsite in a fireproof safe, and daily tapes should also be taken home at night.

You may wish to increase your risk management by having different team members take home the daily vs weekly tapes.

NB: Tapes are magnetic, so they will need to be kept away from strong magnetic fields such as motors and magnets. They can also be fragile and should be kept away from high heat. A car's glove box in summer is not the place to keep a backup tape!

Imaging

A server image takes a snapshot of your server at a certain point.

The image includes:

- Operating system
- Programs
- Software updates
- Patches
- Mission critical data files
- Configurations
- Settings
- E-mails

An up to date image means that if your entire system goes down, it can be restored without having to re-install all your programs and updates etc.

You should image your entire server once every two months, if not more often.

The combination of server image and back up tapes ensures that you can get back up to date quickly, if anything should happen.

Data Checks

It's all fine and dandy to be backing up regularly, but you need to make sure you can actually restore from your images and backup tapes.

Your IT contractor can perform data checks for you to ensure your backup and imaging process is working correctly.

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