
The well-equipped professional

Applying technology to running your business

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Introduction

Increase your level of understanding about computer systems and communications technology.

Improve how you work as a professional business.

Borrow ideas from other people's experiences.

This seminar is unlikely to answer all of your questions, so please be prepared to contribute and share your knowledge.

Overview

- Think about how you use technology and the effect it has on your professional appearance
- Understand more about the terminology
- Understand more about how things work
- Be safe – don't lose data
- Be secure – don't have unencrypted client data
- Improve your capability to fix the wretched things!

Why do we need computer systems?

- Keeping in touch with other people
- Document writing and exchange
- Finding and carrying information
- Software tools to help us do our work, for example:
 - Finance and accounting
 - Graphics design, photography and video
 - Data network trouble-shooting
 - Modelling and Data Analysis
 - Writing software
 - etc.
- Business administration (invoicing, banking, etc.)
- and so on ...

Being seen to be professional

- What you have and how adept you are at using it is part of your professional appearance
- Your data and your systems are your responsibility. You have no-one else to blame. Invest accordingly.
- Your ability to function depends on your equipment being fully functional when you need it to be
- Need to interact easily and safely with your clients
- Safe data interchange and compatibility in whatever form the clients needs or provides
- Think about security and confidentiality. Ask first.

The “survivability test”

Types of Outage:	Planned (Maintenance)	Unplanned (Failure)
Hardware	?	?
Operating System	?	?
Application Software	?	?
Data	?	?
Connectivity	?	?
Upgrades & Updates	?	?
Users	?	?
Environment	?	?

Minimising risk and hassle

- Things will fail. It will never be convenient. Be prepared. Have a “Plan B”. Murphy was an optimist.
- Hassle hurts an independent professional more than it does a bigger business. Plan ahead as best you can.
- Minimalism is good. Avoid complexity wherever possible.
- Know how to set your systems up. Know how to recreate them. Know how to back them up and restore them.

Buying and running systems

- Systems have a finite operational life - plan accordingly
- You generally get what you pay for - budget accordingly
- Even with a support contract – have enough alternatives to survive and be able to meet your client's expectations
- Stay reasonably current with hardware, firmware and software updates
- Make the effort to understand more and thus improve your ability to describe a problem

Performance and reliability

- How much capacity do you need ?
- What kind of performance do you need ?
- What connectivity do you need ?
- Most machines are slow because they have a slow storage subsystem (discs)
- Increase memory to minimise the need to go to disc (4GB maximum for 32bit, 8GB minimum for 64bit)
- Solid-state disc has no moving parts = fast and reliable
- Disc controller with RAID and protected cache = fast and reliable with a lot of storage

Backups and archives

- The whole purpose of a backup is to be able to restore the data and the system quickly
- Practice your recovery procedures
- The two key components to consider:
 - System (difficult and time-consuming to recreate)
 - Data (sometimes impossible to recreate)
- Archives are useful for long term storage of data
- You need to keep the software that wrote the data in order to be able to read it one day
- Make two copies and keep one off-site

Security – information protection

- Authentication – prove that you are who you are
- Encryption – protect access to sensitive information

- Strong passwords
- Digital certificates
- RSA fobs
- Web site transactions (HTTPS)
- E-mail
- Files (eg: PDFs)
- Whole disc encryption / container file encryption
- Portable storage encryption

E-mail

- Mail flows between mail servers:
 - ISPs (Internet Service Provider)
 - Individual organisations
- Mail originates and terminates with mail clients
- SMTP (Simple Mail Transfer Protocol) to send (ideally authenticated)
- POP3 (Post Office Protocol Version 3) to receive
- IMAP (Internet Message Access Protocol) to look in mail folders on mail server
- Don't send big attachments – ever!

Viruses and malware

- Viruses are generally carried by e-mail or other files being exchanged between computers. Be highly suspicious of e-mails from anyone you don't recognise and never open attachments without scanning them.
- Anti-virus software **MUST** be kept up to date in order for the software to scan your files and e-mails successfully.
- The operating systems **MUST** be kept up to date by applying security updates and patches. Microsoft software tends to be particularly vulnerable.

Examples

- New desktop PC. What did I buy – and why?
- What software do I run – and why?
- New portable PC. What did I get – and why?
- It mirrors my desktop PC as closely as possible.
- What add-ons are useful when travelling – and why?
- How do I connect to the ‘net’ and clients when in my office?
- How do I connect to the ‘net’ when travelling?

Summary

- Think big, implement small.
- Buy on functionality and reliability, not price.
- Buy carefully from reputable suppliers. You need to minimise hassle if there are problems.
- Invest in things that make your life easier.
- Take frequent backups of both your data and your system. The objective is minimal restore time.
- Regularly prove that your backups work.
- Avoid single points of failure wherever possible.
- Carry copies of your data separately.
- Don't be 100% dependent on technology.

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Technology is a horrible monster – do what you can to keep it on a tight leash and under control!

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