

# Getting the Best from Broadband

# What is Broadband?

- Many definitions ...
  - higher speed than previous data communication methods
  - comes from the words "broad bandwidth"
  - bandwidth broader than a voice-grade channel
  - A way of transmitting large amounts of data, voice, and video

Broadband is a 'fast' Internet connection

### What does 'fast' mean?

- Bits ...
  - Computer data travels in bits (binary digits)  
e.g. the letter A is transmitted as 8 on-off signals 01000001
  - Conventional dial-up modem: maximum 56 kilobits per second  
i.e. 7,000 characters (bytes) per second (one small picture)
  - Broadband modem: typically 2 Megabits per second  
equivalent to 250,000 characters per second

Websites load and display almost instantly

Fast enough for video, music and more

### Other Features of Broadband

- You are not 'on the phone'
  - Can use your phone while broadband is working
- Always on
  - You are not billed per minute so can leave it connected

### Kinds of Broadband

- ADSL
  - (Asymmetric Digital Subscriber Line)
  - Asymmetric - upload and download speeds are different
  - Supplied through the normal phone line
  - Up to 8 Megabits per second, typically 2 Megabits per second
  - Speed depends on distance from phone exchange
  - ADSL is carried by high frequency sounds (too high for people to hear) which is why you can use the phone for normal voice calls at the same time. Need 'splitters' to keep signals apart.

### Kinds of Broadband

- Cable
  - Internet data converted into TV signals
  - Carried through TV cable network
  - Joined into Internet at Provider's centre
  - Offers faster speeds than ADSL
  - Tends to cost less than ADSL
  - Only available if your street is TV cabled

### Kinds of Broadband

- **Wireless**
  - Available in some locations where ADSL not possible
- **Satellite**
  - Hugely expensive – only suitable for very remote locations
- **Mobile Phone Networks**
  - 3G phones technically said to have broadband
  - It is 'always on' but NOT FAST and NOT CHEAP
  - For occasional use - e.g. on travels with phone & laptop

### Who Supplies Broadband?

- ADSL
  - Almost all carried by BT phone lines
  - Many vendors reselling the BT service
  - Each vendor offers their own terms and prices
  - Vendors provide the technical support

BT, Tiscali, AOL, TalkTalk, Zen, Plus Net and many others.

[www.uswitch.com](http://www.uswitch.com) is a useful comparison site

# Who Supplies Broadband?

- Cable
  - NTL / Telewest
    - Only available if your street is already cabled for TV therefore more likely for working at home
  - TV add says “cable... if you can, you should”

# Who Supplies Broadband?

- **Wireless**
  - Various suppliers around the country. Wireless only reaches a small area remember.
  - e.g. East Tilbury Broadband  
[www.easttilburybroadband.co.uk](http://www.easttilburybroadband.co.uk)
  - List of wireless Internet Service Providers  
[www.solwise.co.uk/adsl-community-list.htm](http://www.solwise.co.uk/adsl-community-list.htm)

# Who Supplies Broadband?

- Satellite
  - ‘Sky’ broadband is not delivered by satellite

### Usage limits

- Many Providers apply usage limits
  - Principally to stop excessive downloading of music and videos
    - e.g. 8 Gigabytes per month (~ 10,000 web pages)
  - Unlikely to affect normal business usage
  - Extra charges for exceeding the limit
- Some Providers restrict certain traffic
  - e.g. online gaming

### What does Broadband Enable?

- Faster speeds and ‘always on’
  - Now realistic to do things that weren’t practical before
    - Frequent website updating/monitoring
    - Immediate email responses
    - All office PCs on Internet
    - Regular system updating (Windows, anti-virus, etc.)
    - Instant Messaging
    - Video Conferencing
    - ... continued

# What does Broadband Enable?

- Faster speeds and 'always on'
  - Now realistic to do things that weren't practical before
    - Online backups
    - Remote Access
    - Remote technical support
    - 'Private' network with colleagues
    - VOIP (internet phoning)
  - Plus digital radio stations, music downloads, online gaming and other leisure activities

### Frequent website updating/monitoring

- Keeping a high Google rank
  - Website content regularly updated
- If selling online
  - Check regularly for transactions

### Immediate email responses

- Rapid customer response
  - People expect a response in minutes or a few hours when they send a message or make a purchase online
- Often easier to do business by email
  - Avoids 'telephone tag'

### All office PCs on Internet

- Connect all your office PCs to Internet
  - Requires correct hardware setup
  - No additional usage costs
- Use any PC for Internet activity
- Email colleagues in same office!

### Regular system updating

- Windows Updates
  - Stay 'on top' of security updates etc.
  - Get latest upgrades – e.g. Internet Explorer version 7
- Anti-virus updates
  - The more frequent the better - daily recommended
- Software upgrades
  - Download upgrades and 'addons' to programs you use

### Instant Messaging

- Even quicker than email
- Like a shared blackboard
  - Imagine a small blackboard in the corner of your screen where you and colleagues can ‘chat’ by typing your messages.
- Makes it easy to co-ordinate efforts without being on the phone or meeting in person.
- Popular with teenagers!

# Video Conferencing

- Instant messaging with sound and camera
  - Avoid that long drive and hold a ‘virtual’ meeting instead
  - Not limited to two parties

### Online backups

- What if your PC breaks down or gets stolen?
- Always make backups – copies of important work
- Where to store those backups?
  - On CD in the office – is it safe from loss?
  - On CD at home – better
  - Transferred to secure storage online
    - This is the safest option
    - Variety of providers
    - About £100 per year per Gigabyte stored
    - [www.vsl-datasafe.com](http://www.vsl-datasafe.com) is based at High Halden in Kent

### Remote Access

- Ever forgotten to take that work home?
- Remote access means you can
  - Use the office PC from home
  - Use your home PC from the office
  - Transfer files between the two PCs
  - Print in the office while at home
- Requires remote PC to be left on
- A bit slow but definitely usable
- Requires correct software and settings

### Remote technical support

- Remote Access means a technician can help you
  - Already commonly used by BT, Sage and others
  - Let a 'friend' help you
  - Facility built-in to Windows XP
  - Alternative softwares with better facilities available
- Faster and cheaper support

### ‘Private’ network with colleagues

- Virtual Private Network
  - Like an office network with ability to share files between computers
  - Remotely located PCs linked through Internet
  - Signalling encrypted for security
  - Not simple to set up - get expert help

### VOIP (internet phoning)

- The next big thing?
- Wipe out phone call costs
- Call other VOIP users for free (if on same system)
- Awkward using PC microphone & speakers
- Get an 'Internet Phone' - £14.97 in Tesco
- Very cheap calls to other countries
  - Local call rates in destination country
- Also possible without using PC – Vonage
- Most famous is Skype – [www.skype.com](http://www.skype.com)

### Summary

- Broad band is Fast and 'always on'
- Most commonly provided by ADSL
- Check [www.uswitch.com](http://www.uswitch.com) to compare prices
- Enables new activities
  - Rapid website and email responses
  - Instant messaging and video conferencing
  - Remote access and support
  - All your PCs on Internet
  - Online backups
  - VOIP internet phoning

### Next Session

- Hardware and Software
  - Have you got what you need?
  - Are you making the best use of it?

# Questions

????