IT Information Sheet 2

Factors causing dial up disconnections

Dial up modems connect your PC to the Internet via standard telephone lines. Unlike computers and the internets, telephone line design have not changed much since the wide spread use phones in the early 20th Century. The CSU Network is connected to the rest of the world via Optical Fibre and Microwave links through the Telstra and Optus Networks. However, your phone line, regardless of which telecommunications carrier you use, is still connected via copper wiring to your local exchange.
Listed below are some of the factors that can result in random modem disconnections

Telephone Line Quality

As telephone lines where designed before even the first mainframe computers where invented, they where not designed with the internet in mind. While they work perfectly well for carrying voice conversations, they are not as effective for carrying data, which is far more sensitive to interference and line quality.

Line noise

Noise on a telephone line can disrupt the transfer of data and confuse your modem into thinking it should hang up. Some modems are more susceptible to noise than others. While your phone line may sound OK when speaking to callers, there still maybe low level noise which can't be heard, but will effect your modem.To check for line noise, contact your Telecommunications Carrier who can test your line remotely for any noise or interference.

Call Waiting

Call waiting is one of the primary causes of disconnections. It makes a beep on the line when someone else dials in, and that's usually enough noise to disconnect your modem. Dialing #43# will disable call waiting.

Weather Conditions

Some weather conditions can cause interference with your telephone line, causing your connection speeds to drop or cause random disconnections. Telecommunications Cable is layed underground in most areas, through conduits and pits. During heavy rain or prolonged wet periods these conduits and pits may fill up water. If the cable or connections in these conduits and pits are old or damaged, moisture may find its way into the cables, resulting in line noise and interference. When this happens, you will notice that even your phone calls sound crackly and noisy.

Mobile Phones

Mobile telephones cause a great deal of electronic interference. Make sure you keep your mobile phone away from your computer and phone lines.

Phone Cables

Phone cables links your modem to your phone wall socket, enabling you to dial in to the CSU modem pool. This cable, and how it is connected, and the condition of the cable itself have a major bearing on your connectivity.

Cable Length

The actual length of your phone cable from your PC to the wall socket can have a major bearing on your modem connection efficiency. It recommended that you try and use the shortest possible cable, to connect your PC to the phone socket. If your modem came with a phone cable, use this cable, rather than an existing cable you connect into your phone.
The standard length of most phone cables is around 1 metre, so try and arrange your computer work area so its close to your wall socket. Always try to avoid using phone extension cables if at all possible.

Cable Condition

Damaged or poor quality phone cables can also affect your internet connectivity. Always check that the cable is in good condition, and does have cuts or creases. If your cable has been cut, or if you can see copper wiring exposed, you should replace the cable. It is also important to make sure that the cable is not caught under heavy furniture, which may crease the cable. Creased cables can result in poor connectivity.
If you have pets, particularly kittens or puppies, make sure your cables are not accessible. Pets can often chew

on your cables, causing damage and a loss in cable performance. Buy a new cable if you suspect any problems with the existing one. A new cable will only set you back a few dollars and are readily obtainable from most electronics and computer stores

Adaptors used on the Phone Sockets

Double adaptors, piggyback devices, phone cable extensions and telephone line joiners can all be a source of line instability, resulting in poor connectivity. If possible, try to avoid using extension cables and line joiners altogether. If possible, try and have a dedicated wall socket for your modem line, rather than use double adaptors. If this isn't possible, use a good quality double adaptor and connect it at the wall socket, rather than to join two sections of phone cable.

Other devices on the telephone line

Avoid piggy backing fax machines, answering machines, telephones or other devices off the small phone wall socket or phone cable. These devices can interfere with your modem connection, causing lose of connection to the internet or reduced modem speeds. Always remove any faxes, answering machines, phones or other devices from the line before connecting to the internet. Some older telephones like the Telstra T200 model, or older cordless style phones are noted for causing problems with Internet connections.

House Alarm Systems

Some House Alarm systems, which are remotely monitored from a security service, are wired into your phone lines. These Systems can cause interference with modem connections. The only real solution to this problem is to get a second phone line installed.

Electrical interference

Make sure the telephone line does not come into close contact with other electrical devices or power points. Never run phone cables parallel to power cables as this will cause excessive interference to your modem connection.

Some Software disconnects you automatically

Make sure you are not being disconnected for this reason. Microsoft Outlook Express is a prime example as there is a setting that enables you to disconnect after Sending and Receiving emails. To disable this, open Outlook Express and click on Tools and select Options. Click on Connection and untick Hang up after sending and receiving.

Connection Speed

A common cause for modems to disconnect randomly is connecting at too fast a speed.
While the speed at the time of your connection may have been 48,000, this speed varies while you are connected due to line noise and errors. When your modem detects noise on the line, it attempts to reset itself to its optimum connection speed through a process known as `retraining'. When the modem is unable to retrain successfully it will disconnect.
Decreasing the port speed may help fix this as Windows Defaults the maximum speed to 115,200 which is just too fast. To reduce it, click on Start, Settings, Control Panel and Double click on Modems. Decrease the Maximum speed to 57600. Make sure only connect at this speed is not checked. Click OK to apply the settings

Keep your modem and drivers up to date

Modems technology and standards change on a regular basis. A modem you purchased 3 years ago will quickly be out dated. If you upgrade your Operating System, you need to make sure you upgrade your modem drivers. You can usually obtain driver updates from your modem makers web site. Usually you can download the latest drivers and firmware from your modem manufacturer's home page. If you need assistance on how to do this, consult the manual that came with your modem or give your modem manufacturer a call.

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