

THE ACADEMY OF PLUMBING 17 – KEEPING LINES OPEN

If there's really one thing that distinguishes the way we work now, as compared to the way we worked in the last century, it's our reliance on email. Many of us, especially agents and producers, literally can't work if our email is down. So, reliable email connectivity has become critical to us: we simply can't afford the disruption when the bloke fiddling with BT's box in the street gets the wires crossed yet again. Here's what to do if you just can't be without Internet connectivity.

STRENGTH IN DIVERSITY

Engineers have a term to describe what happens if you put all of your eggs in one basket, and then drop the basket: Common Mode Failure. When you think about it, everything we do to avoid losing a shoot to equipment failure such as having spare cameras, both film and digital, different digital formats, and so on is based on avoiding dependence upon just one critical component; yet back in the studio our communications usually rely on one single ADSL broadband connection. So, we should get two. Ideally, one ADSL and one Cable broadband connection.

As we all know, ADSL runs over our telephone wires to the box in the street, and then back to the telephone exchange. It's vulnerable to road works, telephone faults and loose or crossed wires at any stage of the connection. So, of course is cable, but the virtue here is that the cable connection goes to a different street box, and thence not to the telephone exchange but to a separate signal distribution point. So, a disruption to one connection is highly unlikely to affect the other. The next problem, though, is that we now have two separate Internet connections to our studio. How do we combine them into one, so that we get the benefit of both the increased bandwidth they make available to us, and automatic switching from one connection to the other should one fail? We get a router that can accept two Internet connections and combine them for us.

COMBINATION LOCK

One such is the Draytek 2910VG (<http://tinyurl.com/2y5l8h>). It's a Dual-WAN router, which means that it can accept two separate Internet connections and combine them so that they behave as one as far as we're concerned. It can do this in various different ways. For example it can:

- use both connections at all times to maximise your Internet bandwidth;
- keep one as a spare and switch to it if your main connection fails;
- fall back to one connection if the other fails, when using both connections;
- 'load-balance' and restrict the amount of data flowing down each connection, which is useful if your low-cost back-up connection has a monthly data bandwidth limit; and
- split traffic so that some services use one connection while other services use the other, which is handy for maintaining bandwidth availability if you make extensive use of video-conferencing or VoIP telephony.

In addition to this, the 2910 can use a 3G cellular data modem connected to its USB port as an alternative Internet connection (<http://tinyurl.com/2ly7vo>), a trick also possible with the Draytek 2800 when loaded with firmware v2.8 or above (<http://tinyurl.com/375tqg>). What on earth does this mean? Put simply, that you don't actually have to connect the 2910 (or 2800) to

a wired Internet connection at all. The router can get its Internet connection from a 3G mobile phone service such as provided by T-Mobile, Vodafone, O2, Orange and others. If you have a data contract with one of these providers you can not only get yourself a wireless backup if your primary connection fails, but also take the router on location with you to provide a local wireless hotspot for yourself wherever you are. Now that solves location email problems. Furthermore, if you use Voice Over IP telephony (The Academy of Plumbing 13/IMAGE 380) you'll find that you've just taken your office phone on location with you, too, with all of its advantages.

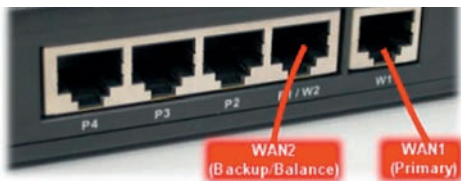


I like Draytek gear. It tends to be more expensive than Netgear, Linksys and the rest but it does a really professional job and offers business-class features such as these that are mostly absent from the competition. It's also hard to whack a company that provides knowledgeable, well-written online help by a bloke called Mikey.



SO HOW DO I SET THIS ALL UP?

- 1) Get a decent, fast primary ADSL connection. Providers and their deals come and go all the time, but my current favourites are <http://www.bethere.co.uk> and <http://www.zen.co.uk>. <http://www.thinkbroadband.com/> is an excellent source of advice and comparisons when shopping for an ISP. Consider getting a fixed IP address. It solves lots of problems, especially if you want to remotely access your network or run an in-house server for client downloads.
- 2) Get a second broadband connection. For maximum protection against Common Mode Failure, make this a cable connection. In the UK, Virgin Media are the only cable providers and at the time of writing are offering a combined broadband, TV and phone package for £10 per month for the first year. This is good value, especially if you have a need for the other services and already pay for satellite TV service, for example. Don't hold your breath if you need customer service but remember that this is your backup, not primary, connection.
- 3) If cable isn't available in your area, get a second ADSL connection from an 'unbundled' provider such as Talk Talk. You'll still be vulnerable to a fault in the box in the street, but unbundled providers have their own gear in the telephone exchange and don't use BT's, which provides protection against failure or misconfiguration of BT's equipment.
- 4) If that's not an attractive option or you want to take your installation with you on an extended location trip, get a 3G cellular data modem and data contract. Draytek keep a list of compatible modems on their information page at <http://tinyurl.com/2ly7vo>.
- 5) Get a Draytek 2910VG Dual-WAN Router (<http://tinyurl.com/2y5l8h>) and Draytek Vigor 100 ADSL Ethernet Modem (<http://tinyurl.com/3betfe>). Connect the Vigor 100 to your ADSL splitter and thence to your broadband telephone socket, and then connect the Vigor 100's Ethernet output to the 2910's WAN 1 socket. Connect the Ethernet output from your Virgin cable modem to the 2910's WAN 2 socket. Then, following the Quick Start wizard, instructions in the manual and very good online help available at <http://www.draytek.co.uk/support/index.html>, set up the 2910 to taste. Or, get someone to do it for you.



6) If you want to go the 3G data modem route rather than getting a second wired connection (and you're not using Bethere.co.uk: currently the Draytek 2800 is not fully compatible with their service) get a Draytek 2800 (<http://tinyurl.com/375tqg>) and set it up normally, then connect the 3G modem to its USB socket and, again following the manual and online help at <http://www.draytek.co.uk/support/index.html>, set up the 3G connection as your failback. Job done.

Of course, routers can fail, too. If you're really concerned about that, get a second, identical router. When you've completely finished setting up the first one, save its settings to a file, import that file into the second one and stick it on a shelf as a backup. If the first one breaks, replace it with the backup. Keep them up-to-date and swap them over every six months so that they share the wear and tear, just as you would your cameras and lights.

BUT MY EMAIL STILL GOES DOWN!

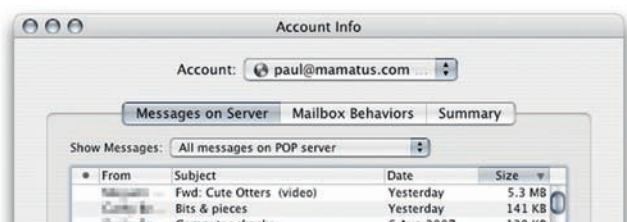
It does. It's in the nature of things, and it still brings your operation to a grinding halt. I've found that more often than not, email failure is the result of:

- a glitch at your email provider, which usually clears of its own accord within a couple of hours; or
- your mailbox being over quota, often as a result of someone sending you a load of huge email attachments such as 'funny' 24Mb movie files. If people complain that their emails to you are bouncing back, ask them to look at the bounce message. If it refers to 'Account Over Quota', this is your problem. (It's surprising how few people actually bother to read the contents of a bounced mail as the reason for the bounce is always stated there. I suppose it's easier for them to just complain to you.)

If nothing else has changed and your Internet connection is otherwise working normally, email failure is almost never the result of a problem with your email program, so DON'T CHANGE THAT DIAL. Messing around with your email settings will only make matters worse. Be patient. Restart your Mac. Call your provider and find out what's going on at their end. To clear your POP3 mailbox if you suspect that you're over quota, do the following:

Apple Mail

- 1) Get your mail, and wait until it's finished downloading.
- 2) Click on the little ratchet icon at the very bottom-left of Mail's main window, and from the pop-up menu select Get Info.
- 3) A window appears showing the current contents of your POP mailbox on your ISP's mail server. Sort it by size. Ah, there's the problem: an email with an attached 5.3Mb video of 'Cute Otters'. Select it, press the Backspace key on your keyboard to delete it and inwardly snarl at the inanity of people who mindlessly send such stuff to your business email address. Then, resume work.
- 4) Alternatively, if you're happy to delete everything on your mail server (I tend to leave my incoming mail on there for seven days, just in case my Mac gets stolen or I lose my mail database for some



Retail

As The Digital Plumber I've moved on from simple consultancy and have started reselling some items of hardware and software that I've mentioned in these columns. I have no intention of allowing a conflict of interest to occur, though, and will continue only to recommend stuff that I regard as being the best for its purpose and value for money that I'm aware of. I won't be broken-hearted if you don't get it from me, either, but of course if you do you'll make me a happy man. So, if any items in these columns are of interest to you, please take a look at my website and follow the links you'll find there. I Thank You.

reason), open Mail's Preferences, click on the Accounts icon, select the Advanced tab and press the Remove Now button. This completely clears your server mailbox (NOT the Inbox in Apple Mail on your Mac; you won't lose any email by doing this) and any incoming mail stuck waiting in a delivery queue will then arrive the next time you get your mail.

Microsoft Entourage

- 1) Get your mail, and wait until it's finished downloading.
- 2) In the Menu Bar click on Tools and select Accounts. A small Accounts window appears. Double-click on your email account, or the affected account if you have more than one. The Edit Account window opens. Click on the Options tab. Check the Allow Online Access button.
- 3) A small icon looking like an envelope attached to a wire and named as your full email address appears in the Folders pane of Entourage's Main window. Click on it. The List pane of the Main window then shows all the emails still on your mail server. Again, sort by Size. Select the offender and Backspace or click on the dustbin icon. Alternatively, Select All (you know the keyboard shortcut for that by now, don't you?) and Backspace. Again, this only deletes the mail in your mail server's POP mailbox, NOT the mail on your computer. Job Done.

BUT MY EMAIL PROGRAM IS BROKEN!

Then use <http://www.mail2web.com>. It's basic browser-based access to your email account and allows you to continue to work when your mail application doesn't, especially on location if you can't send email normally because your connection provider won't allow it.

BUT MY EMAIL REALLY HAS GONE DOWN!

Then get an alternative email address and add it to your normal email signature, advising your contacts to use it if they have problems sending to your normal address. Hotmail, Yahoo Mail and GMail are all viable any-port-in-a-storm backups for your normal email address. And remember: email is only one form of communication among many. If people really need to contact you, then they can always call or text you. If they can remember how to do it, that is.

AND FINALLY...

Is all of the above worth it? Well, that depends upon how you cost your time. If your studio or workspace is within sensible range of another wireless connection, find out to whom it belongs and come to an arrangement with them to share each other's connections as backups. Use theirs if yours goes down, and vice-versa. This is practicable if all of your computers have wireless cards and your studio is in a multi-tenanted building or, if you work from home, your neighbours are known to you and within range. Another possibility is to go down the 3G data modem route. If all else fails, trudge off down to your nearest Starbucks or similar and use the wireless connection there with your laptop. On the other hand, if you're really studio or office-based, have an in-house agent or producer or several staff and you really can't afford to lose the Internet for even an hour, this installation will pay for itself the first time a connection goes down and your staff won't even notice.

Next month: *The Complete Location Survival Guide.*