

## THE ACADEMY OF PLUMBING 13 – VoIP

Happy birthday! Or should that be 'appy birthday, Guv? This column is one year old this month; this is the 13th issue (superstitious, moi? Pah!) and to my surprise I find I still haven't run out of subject matter to blather about. I also find I'm still welcome here. I write this in mid-April with the sun shining and early-summer temperatures outside, so let's hope the year continues in this vein. And yet, straightaway...

## CRYSTAL BALLS

... and sure enough, it was. No sooner had I blasted off my copy for last month's column than Apple announced that the release of Mac OS X 10.5 Leopard would be delayed until October because engineers had been taken off its development to work on Apple's new iPhone. This is not as catastrophic as it sounds: by all accounts, Apple are confident that their current OS X 10.4 Tiger is more than a match to the somewhat flaccid and lacklustre initial version of Microsoft Windows Vista, whereas phones must work straight out of the box and with no (obvious) bugs. If the iPhone falls flat because it's buggy or insufficiently developed and polished on release it will do Apple much more harm than a six-month delay to the release of an OS which is better than the current one, which is itself already better than the competition. It's just a pity, that's all – I was looking forward to playing with the new stuff in Leopard.

## IT'S GOOD TO TALK...

... especially when that talking is free. This seems to be the year in which VoIP (Voice over Internet Protocol) is really going to go mainstream, so let's take a look. Telephones as we know them (rather laughingly referred to by nerds as POTS – Plain Old Telephone System – but actually called PSTN – Public Switched Telephone Network) involve direct real-time continuous connections being established between caller and callee. It was that way when they were analogue and involved large telephone exchanges full of patchbays, patch cords and Betty Davis-lookalike operators and stayed that way when everything finally went digital. However, the data-packet-based Internet offers some advantages over traditional ways of telephone networking and, behind the scenes, most large telcos such as BT are busy integrating their phone networks with the Internet anyway, whether or not we can tell the difference in the calls we make. So, in beautiful symmetry, VoIP uses your existing broadband connection, which if ADSL is carried on top of an ordinary phone line, to make another layer of telephone calls on the same physical line. You get multiple phone numbers for the price of one phone line. All you need is bandwidth.

Skype (<http://www.skype.co.uk>) was the first well-known name out of the box at this caper and along with free video or sound-only calls to other Skype users it's now possible for Skype to call and receive calls from the dear old PSTN, at pretty reasonable rates. Skype is good, and cross platform, too: it's easy for Macs to make video calls to PCs and vice-versa, although in my experience iChat Mac-to-Mac still gives superior picture quality. Dedicated hardware Skype phones are available: plug them in via USB and they integrate with the Skype software and act pretty well like ordinary telephones. Those of you with laptops such as MacBooks and MacBook Pros that incorporate built-in video cameras, microphones and speakers don't even need to go that far: the software alone is perfectly adequate. Be warned, though: all Apple laptops require a line-level audio input – an ordinary headset microphone just plugged in won't work. So, if you want to enjoy the superior sound quality possible with a headset microphone and headphones, get a headset with a USB connection,

or a Bluetooth headset and pair it with your Mac. Skype's main drawback is that it uses proprietary communications protocols rather than industry-standard ones (sound familiar? Think 'Redmond?'), so it's not possible to make or receive free Skype calls from other VoIP networks, of which there are now quite a few.

## DRAYTEL? PRAY, TELL...

Amongst the other now well-established VoIP networks are Vonage, SIPphone, CALLCentric, iptel, VOIPTalk, Gizmo and others, but the one I use and that I want to discuss is Draytel (<http://www.draytel.org>), a sister company to Draytek, the broadband router manufacturer. They do all of the now-standard VoIP services but have a few other nice tricks up their sleeve, including Call Divert, Voicemail, fax-to-email, UK geographic phone numbers (my office number is one such), up to three VoIP devices active simultaneously on one account, no subscription charges, no membership fees and pay-as-you-go calling credit which doesn't expire. Let's have a look at what some of this means.

Call Divert is easy. You can set things up so that if your VoIP phone is offline or you don't answer, incoming calls are directed elsewhere, such as your mobile. Call forwarding can be scheduled so that calls go to your answering service or agent during office hours and your VoIP phone at other times. Fax-to-email is nice: for less than ten quid you can purchase a 'fax' phone number for people to send faxes to, which then get converted to email attachments and forwarded straight to you. There's nothing new about 'Internet faxing', of course, but as far as I know it's never been as cheap, easy or straightforward as this before and finally enables you to ditch the dedicated fax

line. Voicemail is similar: voice messages left by callers are converted into audio files and attached to emails, which are then sent to you. This is great – you get a bunch of voicemail emails coming in and instead of having to deal with them in chronological order, as you do now, you can quickly scan through to see what the originating number is and deal with them in order of priority, just as you do with any other email. This is a much-touted feature of the as-yet-unavailable Apple iPhone; have it now with Draytel. The UK geographic number is nice as it enables people to call you from ordinary telephones very cheaply, or sometimes even for free. However, the last feature is the real killer: up to three devices active at once. Imagine this: you're on location somewhere. South Africa, for example. You have a broadband connection available to you, so you fire up your laptop, launch a softphone and instantly your office phone number is available to you. That means your real office phone: UK geographic phone number, UK domestic call rates, the lot. Roaming charges? Just Say No. Conversely, when I'm in Japan this coming October and my mobile phone won't work, I'll reroute all calls to my VoIP office number, plug a VigorTalk into the broadband router where I'll be staying and be straight back in business. All of this functionality is easily controlled from the Draytel account control panel.

VoIP Device:	(e.g. 'VigorTalk')
Telephone No(s):	08450041852 02070431194 (FAX) <a href="#">Configure Fax-to-Email</a> 02030519050 <a href="#">Configure Group Calling</a>
O/G Caller ID:	02030519050
Tariff:	DrayTEL Standard Tariff
Voicemail PIN:	267468
Voicemail Destination:	software@mamatus.com
<b>When Offline</b>	
Voicemail:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Call Divert:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
<b>On No Answer</b>	
Voicemail:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Call Divert:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
<b>On Busy</b>	
Voicemail:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Call Divert:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
<b>Call Forwarding Schedule</b>	
Start Time:	00 : 00
End Time:	23 : 59
Forwarding Destination:	447930312554
<a href="#">Save</a>	

## THAT'S ENOUGH GUSHING: WHAT ABOUT THE GEAR?

Well, there are free softphones such as X-Lite (<http://counterpath.com/>) and shareware such as iSoftPhone (<http://www.call4mac.com/>). X-Lite is hideous (why choose to emulate an awful, confusing hardware design on a computer screen?) but I could live with that if it integrated with the Mac's Address Book, which as a Unix port it doesn't. Fortunately, Jon's Phone Tool (<http://www.jonn8.com/jpt/>) can be used to make Address Book automatically dial numbers via X-Lite.



iSoftPhone looks much more the business but is obviously underdeveloped in its current version. It does include an Address Book dialling plugin, though. Both phones can give excellent audio quality, depending on your Mac, router settings and network speed.



Moving on to hardware, the easiest way to join Draytel's gang is to purchase a VigorTalk box from them. This has a power input, Ethernet input and telephone connector. Plug in the power, a telephone handset and an Ethernet connection from your existing broadband router, programme in your user code and passcode from said handset, and off you go. Simple as that. As before, sound quality can be excellent. Throw it into your bag and use it worldwide.

Most of the broadband router manufacturers now offer models with analogue telephone ports to simply plug a phone into and go. Examples include models in Draytek's range (<http://www.draytek.co.uk>) and Thomson's SpeedTouch range (<http://tinyurl.com/2myr5j>). The



## And there's more

### ANOTHER OUTRAGEOUS OS X FINDER BUG

If you drag Hasselblad FlexColor's default file-saving location, its Scratchpad folder, to the Trash, FlexColor will continue to save files to it. Even if you quit FlexColor and relaunch it, it will continue to save there. To a folder in the Trash. Of course, the next time you empty the Trash you can wave goodbye to your day's shoot, as happened to a client of mine last month. Recovering those lost files was difficult, time-consuming, tedious and not entirely successful.

Unbelievably, this isn't exactly FlexColor's fault. FlexColor only suffers unduly because it remembers its default save location between sessions, as would any application with similar behaviour. You can play a similar trick with Microsoft Word: open Word, create a document, save it to a folder on your Desktop. In the Finder, drag that folder to the Trash. Back in Word, continue to edit and save. Make a new document, and then save it. All saves go to the folder in the Trash! Because Word by default initially saves to your Documents folder you usually escape this dreadful Finder bug, and that's what it is: The World's Most Advanced Operating System™ doesn't know you're attempting to save to the Trash! It's just as well Apple have delayed OS X 10.5 Leopard until October – it'll give 'em time to fix this. One hopes.

### WESTERN DIGITAL MYBOOK HARD DRIVES

I like these, or rather, I did. They have a good case design which allows for genuine convective cooling, are fast and quiet, and have an easy-to-replace ordinary barrel power connector, unlike LaCie and others' fiddly 4-pin connector. I've never had a power supply problem with a WD or similar drive, whereas I've had and known of plenty of power problems with LaCies.

So what's happened? There seems to be a FireWire firmware bug in the latest MyBooks. Try to join two to a Mac using FireWire and one or both will immediately drop off-line. Why? Both drives appear to try to register themselves on the FireWire bus with identical FireWire device IDs, which is a no-no on a par with identical SCSI IDs for the grey of hair, or identical IP addresses on a network for the young and funky. Whoops. So, I recommend you avoid these until the bug is fixed. Sadly, WD appear to be behaving as if this problem doesn't exist, so if you have some that don't work, send 'em back as not being of merchantable quality in that the FireWire spec states that FW devices will daisy-chain, but these don't. That might get WD's attention.

'BeBox' router supplied by my current broadband provider, <http://www.bethere.co.uk>, is a modified SpeedTouch 780 with two phone sockets on it. Before they can be used, these ports require programming from the router's user interface, which can be daunting. It's much simpler just to plug in a VigorTalk. Of course, several big ISPs such as BT, Orange and Virgin now offer 'home hub' products which also include VoIP telephony, but these usually lock you into their own networks and deals. Dedicated VoIP gear such as that above allows you to chop and change with the market. Some mobile phones now include WiFi and can be rigged as VoIP devices when in range of and logged onto a broadband wireless network. Samsung and Nokia make WiFi-equipped models; the Apple iPhone also has WiFi on board, although it's not yet certain that this will have VoIP capability: the WiFi might simply be for iTunes synchronisation.

Next month we'll take a fresh look at storage and backup, for things have moved on a bit since the last time I wrote about this. Enjoy the Spring.