

Third-generation roads **lead to Guildford**, finds Gordon Laing, in his search for the mobile future.

# Tasting the forbidden fruit



Be in no doubt that mobile computing is the future. Who wants a nasty big beige box dominating their desk when a handheld device will offer all the power and connectivity you desire? If you think high-speed wireless networks are exciting,

wait until you look into embedded systems, which could dominate your kitchen with a new flavour of oven chips.

**It's a dream** we've heard about for some time, but will any of it work? I was recently invited to Ericsson's HQ in sunny Guildford for a demonstration that both previewed future mobile comms, and once again confirmed this commuter town as the hub of high-tech services. If you winced when NTL announced the town would host the debut of its cable modem rollout, you probably won't want to know that Ericsson has already built a UMTS (Universal Mobile Telephone System) infrastructure throughout downtown Guildford.

UMTS will be the third-generation mobile phone standard, expected to launch in Europe by 2002. It solves three problems plaguing current second-generation GSM networks: user capacity, global roaming and high-speed data services. According to future predictions, data will dominate mobile traffic over the next few years, so it's crucial we have a significant service upgrade.

If you've used GSM's current data rates of 9.6Kbit/sec, you'll know that blistering is not the first word that springs to mind. Orange has at least announced that it will be the first UK network to upgrade its air interface to 14.4Kbit/sec per time slot, and allow multiple slots to be aggregated into a single higher-speed connection. Good news for mobile users this autumn, but it's hardly a quantum leap.

**Fortunately UMTS** will not be so much a case of jump, but how high? It promises data rates of around 384Kbit/sec to so-called high-mobility users (the ones in cars), and as much as 2Mbit/sec to low-mobility folk (the ones sat at your spare desk). It's a transformation that could see some traditional wireless Ethernet networks dumped in favour of a public mobile infrastructure.

Which brings me back to Guildford. In August, Ericsson invited me to climb into the back of a van – not for a 'discussion' of a review I'd written, but for an early demo of high-mobility UMTS in action. The 'handset'

was a rack-mounted beast, although once custom ASICs had been produced, Ericsson foresaw no problems building one to slip in your pocket – indeed the pre-release GSM 'rack-sets' were larger still.

**Fortunately, the need** for a van to carry it around at least allowed us to test the network at speeds of up to 40mph. Using a Sun UltraBook portable to get the system going, we connected to the network at an impressive 472Kbit/sec and started firing up various applications. We used a decent quality video conferencing link at 250Kbit/sec which included GPS positioning. Then we fired up Quake Arena over a 64Kbit/sec channel and played with the engineers back at HQ. Squeezing in voice over IP at 22Kbit/sec still left us sufficient bandwidth for a brisk web browsing experience. An impressive demonstration that never fell below 200Kbit/sec even under tough conditions.

Allegedly UMTS coverage has reached the Downing Street area, ready for the PM to make a publicity call at the launch of the licence bidding. That too promises to be an exciting time, with five UMTS licences to be granted in the UK, not all equal in capabilities. Nor is it a

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foregone conclusion that the first four will go to our existing UK GSM providers. In fact, at the last count, 37 companies had put their application money where their mouths were and applied for a licence.

It's not a cheap business either, with an expected £200-500m per licence, along with several billion to build any kind of network infrastructure, and more on top to continue the handset subsidising we currently enjoy in the UK. With that sort of investment, the contenders are more likely to be banks than groovy media companies.

Personally speaking, I can't wait. I've tasted the forbidden fruit and am hungry for more. I could always buy an old transit, come to some agreement with Ericsson, then drive around Whitehall. Then again, patience is a virtue, but if Clapham isn't one of the exchanges to be upgraded to ADSL by Easter, I'm just going to have to bite the bullet and move to you know where.

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Compuserve's new service has **launched without fanfare**, and Barry Fox thinks he knows why.

# Of CS 2000 and a pig's ear



It is easy to see why Compuserve has slipped the new CS 2000 service onto the market without any formal launch. Although potentially an improvement over previous versions, CS 2000 is still a pig's ear and an open briefing would

have exposed Compuserve to questions it could not answer and bared issues it hoped to keep hidden.

Subscribers who are currently being driven round the bend and into the arms of Freeserve, will be amused by Compuserve's considered thoughts on their problems: 'We are giving more attention to the service itself than to the technology used to deliver it – eg the new Compuserve Portfolio and TravelAgent products.'

**Compuserve has been promising** a complete rejig since its takeover by AOL. There were beta tests last year and now there is what is laughingly called a finished version. There were no mailouts to existing subscribers or press. The first I heard was when the company put free discs on magazine covers.

The disc installation process asks existing subscribers for their ID and password. But this does not refer to their existing ID. Confusingly it is the free trial code on the disc sleeve. The helplines were quickly clogged with long queues of enquiries.

Once past this hurdle, subscribers have to choose a new name. From then on, mail addressed to the old Compuserve name or number is automatically forwarded. Contrary to what the helpline told me, once you have converted one PC to CS 2000 and chosen a new name, you are obliged to convert every other PC you use because the old-style software can no longer receive mail.

**There is no escape** from the installation procedure, unless you crash out with Ctrl-Alt-Del. This is a trap because the real kick in the teeth for existing subscribers is that they cannot use their old CS name aliases, and every imaginable other variant of a real name has already been taken.

In an unguarded moment one of the helpline staff revealed why. CS 2000 shares a database with AOL, and millions of names were taken by AOL users long ago. The dogends are being snatched by people on a free trial with the cover disc, ahead of existing subscribers.

I spent hours online being offered monikers like Fox79854. Others have had the same experience. These

clumsy name-number combinations are every bit as unfriendly and hard to remember as the original number addresses which Compuserve used.

**Those who do not crash** out must eventually accept whatever nasty name the system forces on them. They are then stuck with it. One user asked to go back to the previous version but then found he was losing mail. Only then did the helpline tell him that the reversion process took several days, during which time mail was automatically deleted. And Compuserve sells itself as a service for business users!

I discovered one useful trick which I'll gladly pass on. For who knows what reason, the mainly American body of AOL users have not had the wit to try phonetic spellings. A few may still be available. In fact, I got away with becoming BarryPhox.

I am just getting ready to go to Berlin for the giant IFA consumer electronics show. In previous years I have connected to Compuserve with a portable PC, in hotel rooms or by GSM cellphone. This year, thanks to the wretched CS 2000 upgrade, I can only cross my fingers.

**Before leaving on any trip** I always do what I tell

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others to do. I get the access number for the city I am visiting, and dial in from the UK. The number which Compuserve has given me for Berlin does not work. Other numbers Compuserve lists can only be accessed from inside Germany. I have a nasty feeling they may not work from a roaming GSM cellphone. There is no way of checking from the UK in advance.

Compuserve is also completely at sea over surcharges for access from foreign countries. There was no surcharge under the previous system but the CS 2000 online advice page says there is a surcharge of £2.50, without saying whether it is per minute, hour or month. Compuserve's press office first said there was a surcharge, then there wasn't.

'The current information on the service is confusing because the link takes you to a US page, but we'll rectify this as soon as possible,' says a company spokeswoman, 'and if you are charged, we'll refund it.' What a mess.

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BT should make **local phone calls free**, particularly for Internet access, says Brian Clegg.

# How about some free calls?



I've been accused of being hard on BT in the past (poor little company), so here's a chance for the giant to prove that it can listen to customers. The pressure to provide free local phone calls, particularly for Internet access, has never been

greater. BT has been shackled in the past, but with its monopoly powers pretty well out of the way, it's time for a change. Last year, BT said that it couldn't make money out of unmetered access to the Internet – now there is good evidence it can.

**For a while now some service providers** have offered 0800 access to the Internet in the evenings and at weekends, but that unlikely hotbed of revolution, Kingston-upon-Hull, has changed the game. Hull had a separate telephone company long before BT existed; for six months the independent-minded Kingston Communications has offered low-cost unlimited Internet access, challenging BT's argument.

Kingston charges £15 a month, then a one-off 5.5p

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charge for each connection, however long you happen to be online. It's not free, but the lack of metering is the important thing. No more scuttering around, trying to find what you want on the web, you can surf at a leisurely pace.

**Most significantly for businesses**, you can leave your Internet connection on all day without the overhead of a permanent line. Email becomes virtually instantaneous outside the company just as it is inside, and the web is transformed into a real-time information resource. Just think of being able to laugh in the face of three-hour downloads, and to make use of all those dinky desktop utilities that need regular updates from the net. The proof of the acceptability of this approach is that Kingston went from losing customers to the likes of Freeserve, to doubling its new joiners. It seems only a matter of time before other telephone companies follow suit: how about it, BT?

And what about the newly floated Freeserve and friends? It seems as if every major retail company is climbing on the free connection bandwagon – I wouldn't be surprised if sales of drinks coasters have plummeted, given the ready availability of free CDs to rest your coffee cup on.

**For the big few** it has proved lucrative – but for how long? If customers prefer unmetered connection (I certainly would), it will tear the heart out of the free ISP model. Although they get some money from sales and advertising, few free ISPs could exist on this alone. It's the cut they get from the 0845 number that gives them the revenue to survive. With unmetered connection that would disappear, so look out for a big shake-up in the free ISP business if BT goes unmetered. Only those flexible enough to take on a hybrid model are liable to survive.

What we are seeing is just the first ripple of the earthquake. The dramatically faster ADSL is expected to have a flat pricing structure, perhaps as little as £20-£30 a month. While rural users like me may not see it for a while, wide availability of ADSL will throw the game up in the air again. The next five years will be very interesting times (in the best Chinese sense) for Internet Service Providers, and the winners are liable to be us, the businesses and individuals who make use of them.

One impact of ADSL's impending arrival is that BT has decided to make ISDN cost-effective before it becomes redundant. Interestingly, unmetered connection would work well with the Highway ISDN product, because Highway allows you to leave an Internet connection open all the time and still get voice calls through. As I mentioned last month, I've taken the lemming dive into Highway, a process that I expected to be painful, but that has proved the reverse.

I plugged the ISDN adaptor into the USB, loaded the software, told my dial-up connection what to use and, all of a sudden, I was online at 64K, doubling throughput, bearing in mind the error correction losses on a modem. The only irritation is that the combination of this USB adaptor and Office 2000 seems to upset Windows 98 Second Edition, so I get a blue screen of death on shut-down – but hey, who said computers were easy?

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Research has led Paul Smith to **conclude that BT** should play on our dependency on ISDN.

# Woe is my connection



If BT wants to make some SERIOUS bucks (because, you know, they really need more ideas how to make money out of us), here's what it should do: give everyone with an email address ISDN for a month... and then cancel it. I know,

through scientific research, that this is a surefire way to instill customer dependency on the service.

My empirical basis is a recent study I carried out, on a sample size of one (me, as it happens). Here's my methodology: get ISDN, move house, go back to analog modem. This has, indeed, had the expected effect: high frustration levels leading to falling productivity, long periods of wistful drooling and an outbreak of hives. My conclusion is that, once you've tasted of the fruit of instant connection and decent bandwidth, you shall no longer want to sup from the cesspit of 30-second handshakes and interminable downloads.

Of course, the strange and dastardly truth is that BT

**It stopped the zone just one block short of my flat. WHY DON'T YOU MOVE TO W12?**

**That's where the trial really is**

made me do it. It's the one that made me move in the first place. BT said: 'We'll put you on the ADSL trial. Where you live is fine. But try this ISDN thingy first.' So I did.

**Then it launched the trial** and stopped the zone just one block – literally – short of my flat. 'Ah, well, mate,' it demurred, 'slight change of plan. Why don't you move to W12? That's where the trial really is.' So I did.

And the day I moved, while my eight-month pregnant wife hoisted boxes and sofas around, I phoned up BT and joyfully announced, 'I'm here. When do I get it?'

'Ah, well, mate,' the reply began, 'slight change of plan. You see the truth is the trial, it's sort of finished. All the installers have gone and there's no kit left.'

'But you told me to move!'

'Sorry.'

Now I'm stuck. I can either sign up for another year

of ISDN or wait until someone comes off the trial so I can have their kit. This isn't looking too likely: today, I phoned the bloke looking into it for me and he wasn't really in a position to help: 'Look, mate, I'm... well, I'm on holiday, in Lake Garda. In a canoe.'

**In the meantime**, I have to use a modem and this has completely changed the way I work. In the short time I used ISDN, I used the net constantly: accessing a database online was quicker than loading a local application. Now, I have to carefully consider my online activities, saving up a bunch of tasks to make the wait worthwhile.

Meanwhile, I've learnt from someone I met at our antenatal class that Cellnet (another BT conspiracy) has begun internal testing of GPRS (General Packet Radio Services). This stepping stone to the UMTS nirvana should offer 115Kbit/sec with full mobility and, because it's packet-based, permanent connection and per-byte billing. My new breathing mate tells me that we should have it some time next year, but, with only 25 handsets and a very localised trial zone, he was reluctant to hand one over quite yet. And, two days short of a baby and having just moved to a new house, I wasn't going to move to Milton Keynes or Milford Haven or wherever the GPRS trial happens to be.

On the subject of telephonic conspiracies, let's talk about the now-annual landline number change. Everyone in London (and a handful of other cities)

now has a new number.

Every London number now begins 020. What is amusing is the number of people and businesses who are savvy enough to get the jump on their competition by upgrading their stationery and hoardings to the new number – but not savvy enough to get it right. All over, people are writing '(0207) 555 4567' and '(0208) 555 7654'.

**Unfortunately, these people** are going to be redoing their hoardings in April: the STD is solely the 020 part. If you're in London and drop off the bit in brackets, you won't dial the right number. Actually, this is an OfTel conspiracy. Or calamity really. The telecoms watchdog's done a hopeless job informing people what their new numbers will be, and I suspect that there are soon going to be a lot of annoyed people feeling rather misled. Then they'll know how I feel.

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