

Broadband Does Change Things

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Cable Connections

Last year, I went high speed and got a cable modem [1]. BT told me that I couldn't have ADSL (a mere nine months after I had ordered it). This was because I live too far away from an exchange, apparently: clearly, Woking is considered beyond the pale by BT's superhighway specialists. Anyway, I called the cable company (NTL) to see if they had anything to offer and was genuinely astonished when they not only had a broadband internet product for home users but said they would install it in a week. I was even more astonished when they did: a man in a van turned up (on time) and in less than an hour I was up and running.

The service (512Kbit/s downstream, 128Kbits/s upstream) is permanently on line and there are no call charges. It's £25 per month (or £50 per month for the 1Mbits/s version), including the modem rental. This seems quite reasonable to me, even though broadband users in the UK pay about a third more for broadband access than users in the US or even Germany [2]. Hopefully, in the medium term, this gap will shrink as the cost of the broadband access comes down. There is certainly no shortage of bandwidth at the wholesale level: in fact there is significant excess capacity, but the situation at the retail level has only recently started to resemble a market.

More competition has started to bring retail prices down. So what are the current choices? ADSL supplied by the local telecommunications operator is expected to have significantly more users than cable, even though cable has had a one to two year head start. ADSL can also offer a higher user experience through a better quality of service, as well as being able to offer a higher capacity on the return channel. This is because ADSL offers users an unshared link to the local telephony exchange, while cable users will have to share their "last mile" with other users in their neighbourhood.

Here in the UK, the local loop was supposed to be opened up by BT, but access charges are so high that some potential broadband suppliers have delayed their launches. BT signed only around 100,000 subscribers for its service in its first year (about 0.5% of home passed) even though they have reportedly upgraded 60% of exchanges. Recently, however, since they announced the April 2002 wholesale price cut they have reported sales of ADSL connections have soaring from 3,000 to 8,000 per week.

Many people will get their BT ADSL connection not through BT but through an ISP (such as Freeserve or AOL). BT are launching a "DIY" ADSL kit, which may help some of these other ISPs to get people on board. Freeserve, the UK's biggest ISP is offering ADSL for less than £30 a month this way (although consumers will have to spend £100 on the modem).

Other options are becoming available, but are they attractive? Broadband satellite sounds good but is expensive. Although prices vary, at over £150 per month for a

year's connection, it's far more expensive than ADSL. So, until other wireless connections appear, cable and ADSL will remain the only options for most people.

Anyway, back to the story: I have been an "always on" power surfer for more than a year now. The service isn't perfect, but it's pretty good. "Always on" is a bit of an exaggeration: "generally on" would be a better description. When I was putting together my notes for this article, the modem had been out for about six hours (to be fair, it doesn't usually seem to be out for that long at a time). I've no idea why it was down: after being on hold (at local call rates) to NTL's "help" desk for over 35 minutes, I just gave up and put the phone down. Later that evening it started working again. Oh well.

Life on the Front Line

I'm now in the vanguard of the broadband revolution, and may be there for some time, because despite all the talk of broadband technologies, even in the US most connections will remain dial-up modem for the foreseeable future (Figure 1).

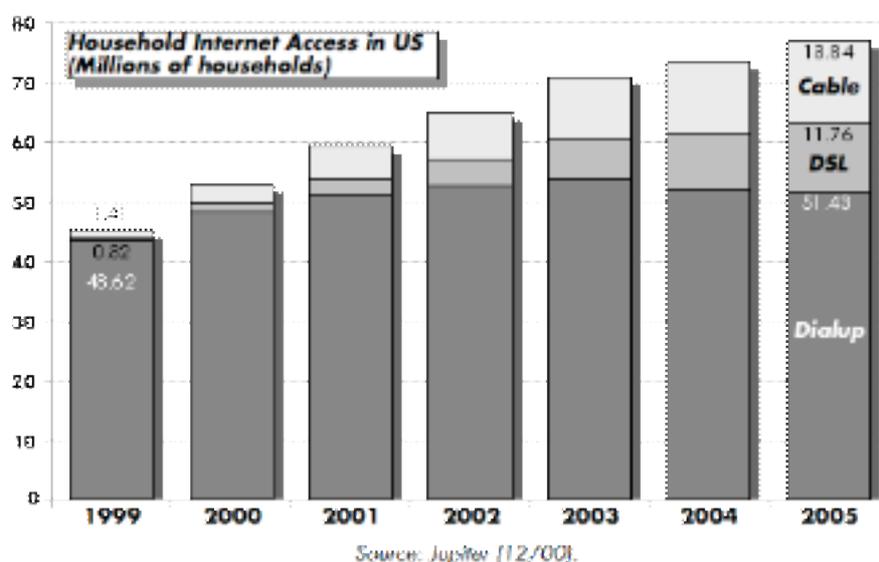


Figure 1. Household Internet Access in US.

My original reason for wanting broadband—apart from my unreconstructed nature as an early adopter of everything (I even have a GPRS phone!)—was to do with speed more than anything else (eg, the cost). I work from home a great deal, and therefore I am always e-mailing huge Powerpoint and Word documents backwards and forwards as well as downloading documents from web sites.

Now, the extra bandwidth is certainly useful—I don't bother transferring files between my Powerbook and my home Mac any more, because if I need a file from home when I'm at the office I just connect to my home machine and get it—but it isn't the sole reason for my satisfaction. In practice, speed has turned out to be less life-changing than the fast (ie, instant) connection time and the low (ie, zero) marginal cost of usage.

Dial-up users don't appreciate how "always on" Internet connections change the communications landscape [3]. Once your home computer is permanently connected to the Internet and it costs you nothing to use it, the Internet becomes an extension of your

machine: it's like having a giant hard disk attached. You rapidly stop bothering to download documents and store them on your system, simply saving links instead. If you need a software upgrade, a game patch or a new device driver then you simply set it downloading and get on with something else. There are many reasons why people choose to go broadband (see Figure 2), but for me the persistent connection has turned out to be far more important than the speed.

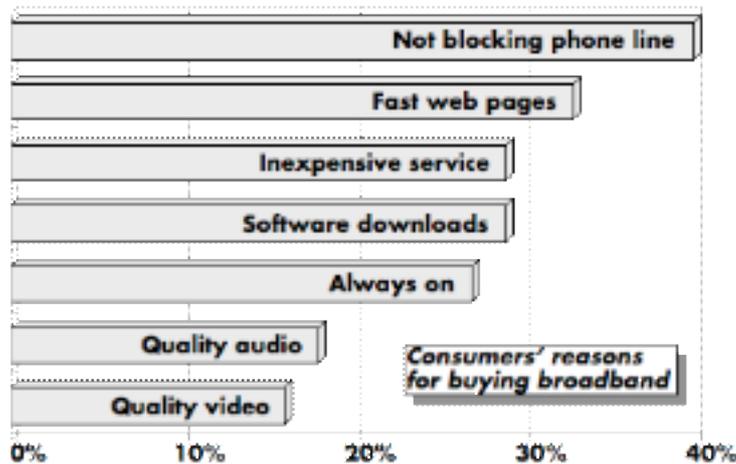


Figure 2. Why Consumers Choose Broadband (Source: Jupiter MMXI, 5/01).

Since there's no wait for connection, you're much more likely to use your PC to find out what's on TV, whether you paid your Visa bill or what kind of washing machines Curry's have on sale. These are all real examples, although sadly I won't be checking my online banking service again any time soon. I found my 12-digit user name and got my 5-digit pass code from my filing cabinet, typed in my name OK but then forget my "secret word" so I got the two letters I was asked were wrong. Oh well.

Changes

I think the early experiences gained from the transition to broadband have something to tell us about the equivalent impending transition from 9.6Kbits/s GSM circuit-switched data (eg, current WAP services) to the world of 3G. It won't be the bandwidth that is the driver (hence my scepticism about video conferencing as the major revenue stream for mobile operators) but the fact that connection is instant and has very low marginal cost. With a permanent connection, for example, why store phone numbers in your phone? If your phone is permanently connected, you may as well leave the phone numbers on your PC at home: the phone can get them when it needs them. The entire Internet will appear as if it is stored in your handset and you will be able to access it from anywhere just as I did, for example, to check my e-mail using my WAP phone while on the train yesterday. (I didn't really: I got "Network not available".) Oh Well.

Still, broadband penetration rates in Europe range from around only 3% in the UK to 6% in Denmark. Not exactly mass market, but if a lack of penetration limits opportunities in the consumer space, it's more likely we'll see lead revenues coming from the corporate sector. The corporate workforce is perhaps less price sensitive and needs the reliable and fast access offered by broadband for collaborative working, electronic trading communities and application service provision. Perhaps, home workers and SMEs would not be put off by broadband costs over satellite.

Broadband offers companies the ability to provide interactive streaming media applications, to communicate, train, motivate and retain employees. We are seeing streaming media service providers emerging: companies who bring extensive hosting infrastructure, digital asset management capabilities, and a variety of other services that help their customers get the most from streaming (eg, Tornado). Well over twenty thousand corporate sites around the world will be doing this online during 2001, and the number is anticipated to grow by a factor of 10 to more than two hundred thousand sites paying fees for streaming media services during 2005. Having said that, it's unlikely that the global "killer applications" for this bandwidth have yet been implemented. One of the reasons for this is the global re-focus of broadband: as shown in Figure 3, in a relatively short time major new markets will come on stream and demand their own services¹.

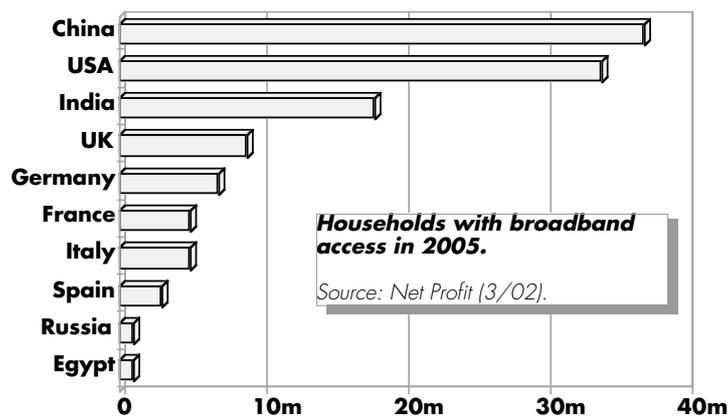


Figure 3. Broadband access around the world in 2005.

Offering, as it does, high-speed access to everything from information, communication and research tools through audio and video entertainment to travel, financial and other services, broadband will have another major impact on business. It will ultimately shift the balance of power from the suppliers of content to the consumers of content and in the process lead to the evolution of entirely new businesses.

Other than the obvious ones (ie, gambling and pornography), it is already possible to see new areas of online interaction where always-on, high-speed access will bring new people online and allow them to do new things. Genealogy, for example. The overwhelming public interest in the UK's 1901 census going online was a clear indication of the general public's thirst for interesting things to do with the Internet. In fact, I think I'll use my broadband connection right now to pop over to the Public Records Office and browse through the census records to see if I can find some of my relatives. "Connection refused". Oh well.

Acknowledgement

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¹ Coming soon, a major video-on-demand boost for Bollywood in *Reconnaissance*. 1(1): p. 30 (Mar. 2002).

References

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