



TECHNOLOGY INSIGHTS

Netbooks Part 2

Silly gadgets or serious business tools?

This is an update on our earlier piece [‘Netbooks – Disruptive Technology?’](#)

The market is maturing fast, with all price points covered between \$500 and \$1,000, and screen sizes going up to a more useful 10 inches and beyond. Local manufacturer Kogan offers a 10in Agora netbook for \$499. For an extra \$40, Kogan throws in 2GB of RAM, Bluetooth and six-cell battery. The Operating System is gOS, a Linux variant that leans heavily on Google apps for ‘cloud computing’.

Netbook pioneer ASUS now offers 16 models in the Eee PC family, with the 1000HE offering decent size screen and keyboard, a 160gb disk drive, blue tooth, webcam, Windows XP and 8 hours work on batteries for less than \$800.

The 1004DN throws in an optical drive to compete with ultra-portables at a sub-\$ 1,000 price – slim design, light weight and long battery life remain. Old foe Acer is never far behind, matching the HE’s specs with the latest 10in Aspire One.



MSI’s wind is another smooth operator in the \$700 – 800 league, along with HP’s MiniNote 2140. Toshiba, Lenovo and Samsung and the rest are jumping in too, so it’s become crowded at the serious end of the netbook market.

http://itmanagement.earthweb.com/mowi/article.php/12069_3816641_1/Top-Netbooks-the-Eight-Best-Netbooks-Compared.htm

The Point Missed

The original EEE PC captured a new market of consumers who wanted a cheap, paperback-sized PC they could stick into a handbag or backpack. So what if the screen was a tiny 7 inches, and the keyboard not much bigger than a blackberry’s? The folks who bought these things didn’t buy them to do photo editing or write novels; they bought them for easy anywhere access to internet and email.



Small size and sub-one kilo weight offered true portability at a bargain price. You can still buy the original 7in EEE PC for less than \$300, or the 8.9in version for less than \$500. And people will go on doing that, for private use.

So will professionals who spend a lot of time away from the office - civil engineers and surveyors for example. And Pro photographers will take them on their travels instead of the old image tanks they’ve used for viewing and storing their photos on the road.

Serious Business

Apart from mobility, business users want comfort and performance. While the 10in netbooks offer a little more elbow room, performance is ordinary even on Intel’s latest Atom N280/GN40 netbook platform. That’s why most netbooks ship with XP or Linux. If you like Vista, be prepared to go backwards or wait for Windows 7.

These are our own opinions.

We have no commercial arrangements with vendors.

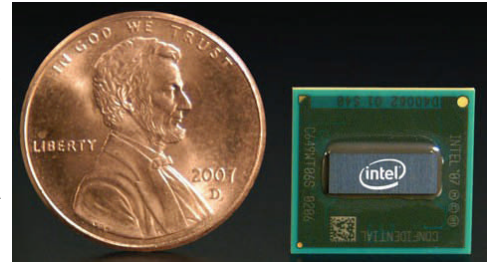
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The reason netbooks don't perform like notebooks is the Atom chip, which Intel designed for low cost/low power consumption applications. The single core cpu misses out on recent advances in processor design, runs at a leisurely 1.6GHz and performs on par with a Pentium 4 circa 2001. In addition, some Atom versions only support 1gb of RAM.

Linux runs well on netbooks but there were too many returns and complaints from users unfamiliar with the platform. That's why the Taiwanese makers happily accepted Microsoft's too-good-to-refuse price for Windows XP - the wafer-thin margins of netbooks leave no room for complications. Or education for that matter.

XP is far from an ideal choice for netbooks as it struggles with 3D graphics and blue-ray video performance because it doesn't support the DirectX 10 and DXVA 2.0 Video Acceleration technology the Atom/ GN40 chip set relies on. Some netbook makers use graphics chips from NVIDIA and ATI to get around XP's limitations.



Intel and Google aren't afraid of standing up to Microsoft, and are ready to plug the gap with Moblin and Android, Linux flavours designed for MIDs (Mobile Internet Devices). Intel is working hard to optimise its MID technology for cost, size and power consumption, as there's some serious competition in this market.

http://www.techworld.com.au/article/306292/android_market_work_intel_moblin

Apart from Google, there's Taiwan-based Via Technologies with its Centaur (US) designed Nano 1.3GHz cpu, which is said to outperform Intel's Atom. Despite the similar number, Intel's 1.33GHz Atom Z520 is not in the same league. Unless your demands are modest, it pays to check what's under the bonnet of these things.

Of course, Intel is already working feverishly on 'Pinetrail', the second generation Atom platform. It should give netbooks enough grunt to run Windows 7, and netbook users will once again experience the truth of that old proverb: what Intel giveth, Microsoft taketh away.

Other Issues

The lack of optical drive (with a few exceptions) is no big deal for business users who can easily map the optical drive on a nearby computer on their business or home networks. However, the Solid State RAM 'drives' so widely used in smaller netbooks have yet to prove themselves. Advantages include speed and silence of operation, but claims of lower power drain on batteries proved false - <http://www.tomshardware.com/reviews/ssd-hdd-battery,1955.html> .

In addition, Windows XP and Vista have no idea how to defragment SSDs since they were designed long before flash memory became a viable substitute for hard drives. Linux file systems don't get fragmented like the ones in Windows, so there's an immediate advantage for Linux. Flash memory can also deteriorate after numerous read/write operations, but Windows 7 will presumably be trained to work around the bad spots in due course.

Convergence



ASUS' latest offering is the Eee PC 1101HA, a \$800 1.35kg 12" netbook with a 160gb hard disk, Bluetooth, Windows XP, 10 hours' battery life but no optical disk. Under the hood is the single processor Intel Atom, but the spec is pretty standard for high-end netbooks.

HP is answering challenge with laptops like the Pavilion DV2Z, which deploys AMD's new dual-core Neo chip, Radeon 3200 integrated graphics, supports up to 4gb of RAM, up to 500gb hard disk and offers a blue ray disc option. It starts at US\$600 so it should come in at \$800 - 900 down under. Performance is streets ahead of the ASUS, battery life will be suburbs behind behind.

Meanwhile, Dell has ditched its Mini 12 because 'customers who buy a 12" system expect a little more horsepower ... for a lot of customers, 10-inch displays are the sweet spot for Netbooks.' That makes a lot of sense: small size, low weight, low price and long battery life are the cornerstones of the netbook concept. The Intel Atom makes a lot of sense inside those parameters. If you need more grunt and more hardware, a laptop is a better bet.

Reality Check

HP has also launched the Pavilion DV3T laptop, which starts at US\$649 (still under A\$1,000), has a 13.3-inch screen, Intel Core2 Duo chipset and runs Windows Vista. The DV3T weighs just under 2.5kg and is an inch thick at its slimmest point.

We own a 3-year old Compaq Presario V3000 with a 13.3 in screen, dual core AMD Turion 64 cpu and NVIDIA graphics that cost less than A\$1,000 in a run-out sale including Vista Business. The V3000 weighs just under 2.5kg and is an inch thick at its slimmest point.

The hard disk is only 80gb but more than adequate for our needs. Despite its 1gb RAM, we made the V3000 work just fine with Vista Business by using the techniques outlined in this piece <http://www.technoledge.com.au/pdfs/how-to-make-vista-fly.pdf> . Now RAM has become so cheap that it's easier to just buy more.

The obvious question that comes to mind is: have we made much headway in the three years since the V3000 was designed? Or have we simply mistaken new technologies and packaging for progress? There's nothing we need that the V3000 doesn't have. If we want more disk capacity down the track, we can upgrade at little cost. The big surprise is the build quality of the V3000 - it shows no signs of wear despite 3 years of frequent use and, with it's clam shell design and piano lacquer finish, it still looks as slick as the day we bought it.

Quality is one of the defining issues in the battle of netbooks vs laptops. When Apple COO Tim Cook was asked about the company's plans for netbooks, he said: 'For us, it's about doing great products. And when I look at what is being sold in the netbook space today, I see cramped keyboards, terrible software, junky hardware, very small screens, and just not a consumer experience ... that we would put the Mac brand on, quite frankly.'

More Convergence

Yes, there is a new market niche and No, it's not suited to Apple's way of doing things because this market segment is super sensitive to price. The MacBook Air is Apple's answer to netbooks - remember when Steve Jobs pulled it from a manila envelope at Macworld? Design like that comes at a price.

At the other end of the Apple cart, we find the iPhone and iPod Touch, and it isn't hard to imagine these things and netbooks converging to become mobile devices that you can use for internet access & email, for listening to music & watching movies, and for making phone calls & taking photos.

To be fair, rumours and pictures of the Mac tablet or iPad have been popping up for the last 18 months, and all have been scotched by Apple. But it must be tempting and, if Apple doesn't do a device like this, someone else will.



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