ROUGH TYPE nicholas carr's blog

Rumor: Microsoft set for vast data-center push

March 02, 2008

I've received a few more hints about the big cloud-computing initiative Microsoft may be about to announce, perhaps during the company's Mix08 conference in Las Vegas this coming week. One of the cornerstones of the strategy, I've heard, will be an aggressive acceleration of the company's investment in its data center network. The construction program will be "totally over the top," said a person briefed on the plan. The first phase of the buildout, said the source, will include the construction of about two dozen data centers around the world, each covering about 500,000 square feet or more. The timing of the construction is unclear.

If accurate, this report would be in line with comments that Microsoft CEO Steve Ballmer made in an interview with the Financial Times a week ago. Echoing predictions already made by representatives of Sun Microsystems, Yahoo, and IBM, among others, Ballmer argued "that a new super-group of tech companies would dominate the cloud computing market, each of them managing what amounts to a giant centralised computer made up of a number of big datacentres. 'Amazon has one. Rumours are Google will have one. We've said we're going to have one,' Mr Ballmer said."

Despite the airiness of the "cloud" buzzword, web-based computing requires a whole lot of bricks and mortar. Microsoft has the resources and, it appears, the will to invest many billions in the physical infrastructure necessary to secure a place among the "super-group" of companies set to dominate the new era of computing.

I've also heard that people may be "stunned" about the extent to which Microsoft will embrace open-source software and interoperability in its plan. We shall see.

Posted by nick at 10:47 AM | Permalink | Digg | Comments (0)

Rumor: Microsoft about to unveil web-apps strategy

March 01, 2008

Put your ears to the ground, my friends, for the Beast of Redmond may be stirring. I've heard that Microsoft has begun briefing its large enterprise clients on an expansive and detailed strategy for moving its software business into the cloud. If the report proves correct - and I make no guarantees - the company will unveil the strategy to the public either next week or the week after.

It's been two and a half years since the famous Halloween memos in which Bill Gates and Ray Ozzie warned Microsoft's top executives and engineers that a "services wave of applications and experiences available instantly over the internet" was approaching and that it would reshape the traditional software business. Since then, Microsoft has been fairly quiet about its plans for riding this new wave. It's rolled out, in a piecemeal fashion, some modest new web applications for consumers and small businesses, but these moves have largely been on the periphery of its business.

There are, it seems to me, at least two very good reasons for Microsoft's deliberate pace up to now. First, its business and marketing priority has been the rollout of the recent upgrades to its core Windows and Office

programs. It's had to milk the cash cows. Second, it's been building out the backend infrastructure - the data center network - required to run web apps reliably and on a large scale. These obstacles are now coming down. The upgrades have been out for more than a year, and, despite some glitches, have generated a lot of cash for the company. As for its infrastructure, a massive new data center near Chicago is expected to come online this year, adding to the capacity of the new centers the company has built or bought in Washington, Texas, and California.

The new strategy will, I'm told, lay out a roadmap of moves across three major areas: the transformation of the company's portfolio of enterprise applications to a web-services architecture, the launch of web versions of its major PC applications, and the continued expansion of its data center network. I expect that all these announcements will reflect Microsoft's focus on what it calls "software plus services" - the tying of web apps to traditional installed apps - but they nevertheless promise to mark the start of a new era for the company that has dominated the PC age.

Posted by nick at 12:09 PM | Permalink | Digg | Comments (6)

FairTrade bloody music

February 29, 2008

Andrew Orlowski has just posted an excellent interview with Feargal Sharkey, the singer whose inimitable warble iced the cake that was The Undertones. Sharkey has, Orlowski reports, "crossed into regulatory and policy work" in the music business. His level-headed observations about the future of that business, at once realistic and optimistic, provide a nice counter to the fuzzy-headed thinking that often arises in discussions about online piracy, free music, and the cost structure of musicianship and recording in the digital era.

Sharkey praises the fact that the Net has provided many people with new ways to express themselves - "in my book anything that's going to encourage people to be creative in any way gets my bloody applause every single time" - but he puts a fork into the rose-tinted arguments that piracy is good for the many musicians who struggle to turn their passion into a living:

> I'm aware a lot of people seem to think that when downloading something off the internet for free, there's a large, black, soulless, faceless, moneygrabbing multinational company there that will never miss the £7.99.
>
> But the brutal reality of life is: according to the Musicians Union, 80 per cent of musicians will make less than £10,000 this year. And according to the MCPS, 95 per cent of composers and songwriters will earn less than £15,000 in royalty income.
>
> Invariably, it's artists and creators who are at the sharp end of this food chain, and they're the ones that will get to the stage that they'll give up and go and do something else - because they have to pay the rent, pay the gas bill and feed themselves, buy shoes, and deal with all the things normal people expect to deal with in life. So people have to realise there's an implication in this.
>
> There's been all this play about FairTrade coffee and FairTrade sugar - but what about FairTrade bloody music?

Good question.

Posted by nick at 11:20 AM | Permalink | Digg | Comments (3)

Repricing Microsoft's future

For years now, we've seen a steady stream of would-be "Microsoft killers" - products that were going to break the hold of Windows and Office over the PC desktop. It's been assumed that a deterioration in Microsoft's fortunes and power would manifest itself in losses of market share. But that's been a faulty assumption, one based on a belief that future competition in personal computing would continue to be fought out on Microsoft's turf - the PC's hard drive.

The real threat to Microsoft has always been that the battle would shift away from its turf, that its traditional hegemony over the PC would begin to matter less. The threat, in other words, wasn't so much that Microsoft would lose its control over the operating system and the personal productivity application, control reflected in market share numbers, but that its control would simply fade in importance. And that phenomenon - the loss of importance - would be revealed through a loss of pricing power, not a loss of share.

That's what we're beginning to see today. At the edges of its vast and incredibly lucrative market, Microsoft is losing pricing power. As the center of personal computing moves from the PC hard drive to the web, people's reliance on Windows and Office begins, slowly, to fade, and as a result their motivation to buy or upgrade the programs weakens. To maintain its market share, Microsoft has no alternative but to cut prices.

Over the last couple of years, Microsoft has slashed the price to home users of retail copies of its Office suite. Last fall, it launched a special promotion aimed at college kids in which it cut the price of its high-end Office Ultimate 2007 edition by 90%, to just $60. In the end, as free alternatives continue to improve, it will probably have no choice but to give away a version of Office to students.

Now, Microsoft has also announced sharp discounts, effective later this month, for retail versions of Windows Vista. In the US, the price of Windows Vista Ultimate will be cut from $400 to $320, while the price for an upgrade version of Vista Home Premium will fall from $160 to $130. Such cuts, one analyst told Cnet, are "very unheard of." In explaining the reason for the discounts, Microsoft executive Brad Brooks was quite clear: there's been little demand among PC users for upgrading old versions of Windows to Vista. The PC operating system just doesn't matter the way it used to.

"Today," Brooks said, in a press release, "the vast majority of Windows licenses are sold with PCs; retail stand-alone sales, in contrast, have been primarily from customers who value being early adopters and those building their own machines." Microsoft has been testing price discounts for Vista in various markets, and, says Brooks, "one constant emerged – an increase in demand." Yep, it's true: if you cut prices, you increase sales.

It's true that retail sales of Windows and Office to consumers represent a relatively small portion of overall sales. But that's the way a loss of pricing power tends to work. It begins with the most price-sensitive customers and then works its way in toward the center of the market. To get a read on the long-term financial prospects of Microsoft's core businesses, don't focus on the market share report; look at the price tag.

UPDATE: Another point worth mentioning: Because the marginal cost of producing and selling a copy of a software program is so low, price discounts at the edge of the market are likely to provide an immediate boost to Microsoft's profits by bringing in high-margin revenues from a set of customers who otherwise would not have bought the programs. The financial danger to Microsoft lies further out, as the loss of pricing power expands to core customers. Given the relative price-insensitivity of a lot of those customers, the process could take a fairly long time.

Posted by nick at 09:35 AM | Permalink | Digg | Comments (7)

Monetizing illness

On Thursday, Google formally unveiled its personal health records service, Google Health, with a speech by CEO Eric Schmidt and a blog post by product VP Marissa Mayer. The service will initially be tested with a group of volunteers who are patients at the Cleveland Clinic before being rolled out to the general public later this year.

Future partners will include a slew of hospitals and care providers, medical testing companies, pharmacy chains, and health insurers. Microsoft rolled out a similar service, called HealthVault, last October.

There's much to be said for such services. Today, a person's health records are often scattered in many locations and in many forms, both paper and digital. They can be hard to find and even harder to combine into a unified whole. At best, that's a nuisance. At worst, it puts people's lives at risk. So far, the medical establishment has made little progress in rationalizing patient records. A company like Google, which knows how to apply enormous computer power to the organization of information, has the resources and the expertise to help solve this problem.

There are reasons for concern, however. The issue of security - in particular, questions about how sensitive medical information will be safeguarded once it enters a database that lies outside the realm of doctor-patient privilege - has already spurred much discussion. Less discussed so far, but perhaps even more troubling, is the issue of the possible commercial exploitation of personal medical information. Providing drug makers, law firms, and other companies with the ability to target ads to people based on their health histories and current illnesses would be a goldmine for the operator of a popular health records site. As one Wall Street analyst, Piper Jaffray's Gene Munster, told USA Today, "Advertisers would pay absurd amounts of money to be seen when someone wants to, say, refill a subscription online. This is more lucrative than commerce-related search."

Microsoft currently displays ads targeted to searches carried out through the HealthVault site, but it doesn't tie ads to the health records themselves. Similarly, Google has stated that, at the moment, it has no plans to use personal health information to target ads. But neither company has ruled out the practice explicitly and entirely. Both have left themselves plenty of wiggle room for the future. As USA Today noted in its report, "Google said it wouldn't start out selling ads but wouldn't rule it out." Munster, noting the huge amount of money that's at stake, "firmly believes ads will happen."

I hope Google, Microsoft, and the other for-profit companies aiming to get into the health records business will prove Munster wrong. Exploiting information about people's illnesses to feed them ads is ethically distasteful, and it could distort the course of medical treatments as well. It's true that we've already slid a good ways down this slippery slope, having allowed drug companies to advertise pharmaceuticals like soap, but tying ads to individual health records would vastly expand the potential for manipulation and abuse.

Now, while these services are in their infancy, is the right time for a public debate about the guidelines under which for-profit companies should operate health-care databases. I would hope that companies like Google and Microsoft would step forward and provide ironclad guarantees, without any wishy-washy "opt-in" and "opt-out" qualifications, that they will not allow any of the health information they store to be used to target ads or underpin other kinds of commercial promotions - ever. But if they're not willing to do that, policymakers should consider imposing such guarantees on them. Information technology can do much good here, but it can do harm as well.

Posted by nick at 12:04 AM | Permalink | Digg | Comments (8)

Devices for the deviceless

February 28, 2008

There are an estimated half of a billion people in the world who surf the Net every day yet don't own a computer. They depend on the public PCs available in cybercafes, which in many cities and countries remain the centers of personal computing. Cloud computing is ideally suited to these so-called cybernomads, as it can provide them with, in essence, a computer to call their own - a virtual desktop, or "webtop," that exists entirely in an online data center and hence can be accessed from any PC. Cybernomads can use their password-protected webtops to run applications, store data, and share files with others. Webtops can provide an attractive alternative to the cheap laptops, like OLPC's XO and Intel's Classmate, in helping close the digital divide. Virtual PCs are more energy

efficient than real PCs, they don't wear out or require physical maintenance, and they can often be provided free, through ad-supported or other subsidized programs.

As bandwidth costs fall and web apps proliferate, the webtop model becomes more viable in more places. The BBC today reports on a European startup, Jooce, that is emerging as a leader in the field. It's partnering with governmental agencies, NGOs, and local telephone companies and ISPs to provide its "Joocetop" to the deviceless. Currently in beta, the free service signed up 60,000 subscribers in its first month and it has the financial backing of Mangrove, which also backed Skype in its early days.

As the BBC notes, Jooce is far from the only company in this business. It's an increasingly crowded field, spanning not only companies serving the poor but also companies supplying virtual desktops to businesses to reduce PC maintenance costs and hassles. In fact, the people in cybercafes tapping into virtual PCs in the cloud may turn out to be the "lead users" of what will become, in one form or another, the dominant model of personal computing in the future. After all, aren't we all becoming cybernomads?

Posted by nick at 09:37 AM | Permalink | Digg | Comments (11)

Social networking goes to war

February 25, 2008

Call it Gruntbook. As part of its long-term effort to pioneer "network-centric warfare," the US military has rolled out a social networking system for soldiers in Iraq. Called the Tactical Ground Reporting System, or TIGR, the system was developed by DARPA, the same Defense Department agency that spearheaded the creation of the internet forty years ago. As described by David Talbot in an article in Technology Review, the system is built around detailed maps of the routes of army patrols. Patrol leaders can add photographs, videos, audio recordings and notes to the maps, building a shared intelligence database from the ground up:

> By clicking on icons and lists, [patrol leaders] can see the locations of key buildings, like mosques, schools, and hospitals, and retrieve information such as location data on past attacks, geotagged photos of houses and other buildings (taken with cameras equipped with Global Positioning System technology), and photos of suspected insurgents and neighborhood leaders. They can even listen to civilian interviews and watch videos of past maneuvers. It is just the kind of information that soldiers need to learn about Iraq and its perils.

Talbot says that the system, an amalgam of fairly routine Web 2.0 technologies, is for some units "becoming the technological fulcrum of the counterinsurgency." Right now, soldiers can tap into the system only when they're at their bases, before or after a patrol. But the military is planning

> to install it in Humvees and other military vehicles, allowing soldiers to download and act on new information in real time. Some of these vehicles already have some low-bandwidth connections, and [a spokesman] says DARPA is working on ways to make the software work using these thin pipes. In addition, the system may soon deliver new kinds of information. In the next two to three years, it could offer surveillance pictures from circling unmanned aerial vehicles (UAVs) or other sensor systems. It could store biometric information, so that a soldier could see if a civilian being interviewed was a known insurgent suspect.

One thing that Talbot doesn't mention in his otherwise excellent article is the fact that cheap, simple web-based systems are also easily available to insurgent and guerrilla forces. It's clear, for example, that insurgents are already using online mapping tools, like Google Earth, to target attacks and missiles, and other web-based social-networking and data-management tools are well-suited to the kind of real-time information sharing that armies can use to plan and coordinate their actions. Because they're cheap and easy to deploy - and in many cases

freely available over the web - the tools of what might be called social warmaking represent a two-edged sword for large, modern armies. They can provide a powerful new way to share tactical information, but they also tend to level the battlefield.

Posted by nick at 10:22 AM | Permalink | Digg | Comments (8)

Alan Turing, cloud computing and IT's future

February 21, 2008

The business computing site Internet.com asked me to write an essay speculating on what the corporate IT landscape may look like ten years from now. The result, "IT in 2018: from Turing's machine to the computing cloud," is available now as a free pdf download - though registration is required.

Here's how the essay begins:

> In 1936, as the clouds of war gathered once again over Europe, a 24-year-old Cambridge University mathematician named Alan Turing invented the modern digital computer. At least, he invented the *idea* of the modern digital computer, which, as it turned out, was far more important than constructing any particular physical manifestation of that computer.
>
> Turing's theoretical apparatus, which he called a "universal computing machine," was a simple one. In essence, it had the ability to read or write symbols – a one or a zero, say – on an endless roll of paper. It could only take one action at a time, reading or writing a single symbol, but it could remember what it had done, and over an infinite span of time it could take an infinite number of actions.
>
> What Turing had created was, in the words of the historian George Dyson, "a single machine that can exactly duplicate the behavior of any other computing machine." Any calculation, no matter how complex, can be reduced to a series of discrete, simple steps –an algorithm, or a code – and carried out by Turing's machine. What that means, quoting Dyson again, is that "in principle all digital computers are equivalent; any machine that can count, take notes, and follow instructions can compute any computable function." What it also means is this: "Software (coding) can always be substituted for hardware (switching)."
>
> The only real constraints on a universal computing machine are the size of its memory and the speed with which it can carry out its calculations and transmit the results. With enough memory and enough speed, Turing's work implies, a single computer could be programmed, with software code, to do all the work that is today done by all the other physical computers in the world.
>
> And that is why the modern corporate data center, with all its complex and expensive stacks of machinery, is on the path to obsolescence ...

Mr. Turing also pops up in my column in The Guardian today.

Posted by nick at 09:39 AM | Permalink | Digg | Comments (11)

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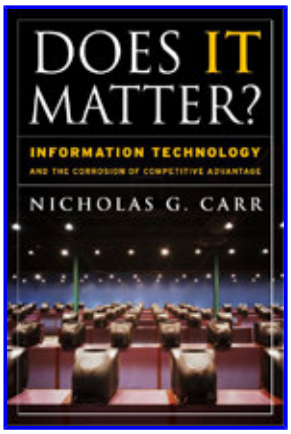
Nick's last book: 

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