10 trends that will transform IT over the next five years

Version 1.0
February 20, 2008

By Jason Hiner

Gartner pours out a lot of opinions and predictions. While I regularly disagree with many of those opinions, I believe that Gartner is one of the best analyst firms in the business at organizing and clearly articulating its views. A recent example of that is Gartner's list of its top 10 IT predictions for the next three to five years.

Gartner released the list on January 31, and it stated, "The full impact of these trends may not appear this year, but executives need to act now so that they can exploit the trends for their competitive advantage."

The list was compiled from more than 100 predictions Gartner made over the past year and then narrowed down and summarized into this list of 10 trends for IT departments to watch. Here's a quick summary of the 10, along with my take on each one.

1 Mac will double its market share

Gartner says: "By 2011, Apple will double its U.S. and Western Europe unit market share in computers. Apple's gains in computer market share reflect as much on the failures of the rest of the industry as on Apple's success. Apple is challenging its competitors with software integration that provides ease of use and flexibility; continuous and more frequent innovation in hardware and software; and an ecosystem that focuses on interoperability across multiple devices (such as iPod and iMac cross-selling)."

My take: For Mac, doubling its market share would still not put it anywhere near equal footing with Windows. However, Mac sales finished strongly in 2007 to up its market share to 7.3%, so doubling its share to 15% would certainly make it more viable than ever as a Windows alternative and niche OS. I recently heard about a large U.S. company that has increased the number of Macs on its network from about 200 to 2,000 in the last couple of years.

A lot of the IT pros I know have become much more open to deploying Macs, and several have even adopted the Mac as their primary machine because of its versatility to run Mac apps and Windows apps (with Bootcamp, Parallels, or VMware Fusion) and even handle some Linux/UNIX apps using the BSD underpinnings of OS X. So all of that is a long way of saying that I can get on board with Gartner's aggressive prediction for Mac growth.

2 Half of business travelers won't take their laptops

Gartner says: "By 2012, 50 percent of traveling workers will leave their notebooks at home in favor of other devices. Even though notebooks continue to shrink in size and weight, traveling workers lament the weight and inconvenience of carrying them on their trips. Vendors are developing solutions to address these concerns: new classes of Internet-centric pocketable devices at the sub-$400 level; and server and Web-based applications that can be accessed from anywhere. There is also a new class of applications: portable personality that encapsulates a user's preferred work environment, enabling the user to recreate that environment across multiple locations or systems."

My take: This prediction may seem a little radical—especially since I don't actually know any business travelers or IT professionals who currently travel without their laptops. But I think Gartner is ultimately on the right track here. Last month, I wrote about the three gadgets that helped me survive CES 2008, and one of them was the OQO, an Ultra Mobile PC that I used for note-taking and quick Web access. I can see the potential of this device to replace a laptop, especially if there were wireless docking stations for these types of devices in hotels and public kiosks. However, an even greater factor for making this prediction pan out is the portability of applications and user data across devices, operating systems, and screen sizes.

3 Open source will penetrate 80% of enterprise software

Gartner says: "By 2012, 80 percent of all commercial software will include elements of open source technology. Many open source technologies are mature, stable, and well supported. They provide significant opportunities for vendors and users to lower their total cost of ownership and increase returns on investment. Ignoring this will put companies at a serious competitive disadvantage. Embedded open-source strategies will become the minimal level of investment that most large software vendors will find necessary to maintain competitive advantages during the next five years."

My take: I'm puzzled about what Gartner is trying to say here. Is it saying that open source components and code snippets will eke their way into the development of major software applications? If so, I'd say, "So what?" That's been happening for years and will continue. It's not really an issue of some companies jumping on that bandwagon and others consciously avoiding it, so I don't think there are any opportunities for competitive advantage here.

4 A third of all software purchased will be by subscription

Gartner says: "By 2012, at least one-third of business application software spending will be as service subscription instead of as product license. With software as a service (SaaS), the user organization pays for software services in proportion to use. This is fundamentally different from the fixed-price perpetual license of the traditional on-premises technology. Endorsed and promoted by all leading business applications vendors (Oracle, SAP, Microsoft) and many Web technology leaders (Google, Amazon), the SaaS model of deployment and distribution of software services will enjoy steady growth in mainstream use during the next five years."

My take: To be honest, 33% maybe actually be a little low, at least for new sales on the enterprise side. I think more and more vendors are going to want to deliver software via subscription contracts that guarantee recurring revenue, while businesses want to minimize handing out big chunks of cash for upgrades. Those two forces are simultaneously moving the two sides toward the subscription model for financial reasons. In terms of technology, SaaS delivers the portability of apps across multiple platforms, and the demand for that will certainly intensify over the next five years.

5 Many new businesses will buy IT infrastructure as a service

Gartner says: "By 2011, early technology adopters will forgo capital expenditures and instead purchase 40 percent of their IT infrastructure as a service. Increased high-speed bandwidth makes it practical to locate infrastructure at other sites and still receive the same response times. Enterprises believe that as service oriented architecture (SOA) becomes common, 'cloud computing' will take off, thus untying applications from specific infrastructure. This trend to accepting commodity infrastructure could end the traditional 'lock-in' with a single supplier and lower the costs of switching suppliers. It means that IT buyers should strengthen their purchasing and sourcing departments to evaluate offerings. They will have to develop and use new criteria for evaluation and selection and phase out traditional criteria."

My take: I like to call this phenomenon "Datacenter-as-a-Service" (DaaS), and I strongly believe that we are in the midst of a major shift to this model. Big service companies like IBM, Hewlett-Packard, and Verizon Business already allow you to essentially outsource your datacenter to them. With scale, these companies can provide a level of redundancy and management that are unattainable for small and medium businesses to do on their own at the same price. For large companies, they can offer the opportunity to outsource (locally) a service that is not a core competency.

6 Power efficiency will become a key criterion in IT purchases

Gartner says: “By 2009, more than one third of IT organizations will have one or more environmental criteria in their top six buying criteria for IT-related goods. Initially, the motivation will come from the wish to contain costs. Enterprise data centers are struggling to keep pace with the increasing power requirements of their infrastructures. And there is substantial potential to improve the environmental footprint, throughout the life cycle, of all IT products and services without any significant trade-offs in price or performance. In future, IT organizations will shift their focus from the power efficiency of products to asking service providers about their measures to improve energy efficiency.”

My take: It’s becoming very expensive to waste power and even to simply not be as power-efficient as you possibly can. There’s also a growing stigma—especially on the U.S. West Coast—against being a power-waster. Over the next several years, I fully expect IT departments to do their due diligence to unearth best practices in managing a power-efficient data center and to use that information when purchasing future products.

7 CO2 footprint will become part of PC purchasing criteria

Gartner says: “By 2010, 75 percent of organizations will use full life cycle energy and CO2 footprint as mandatory PC hardware buying criteria. Most technology providers have little or no knowledge of the full life cycle energy and CO2 footprint of their products. Some technology providers have started the process of life cycle assessments, or at least were asking key suppliers about carbon and energy use in 2007 and will continue in 2008. Most others using such information to differentiate their products will start in 2009 and by 2010 enterprises will be able to start using the information as a basis for purchasing decisions. Most others will state some level of more detailed life cycle assessment in 2008.”

My take: In the spectrum of Green IT issues, CO2 footprint is much more difficult to measure and define or to equate with business benefits than power savings. Thus, I don’t think CO2 will have a major impact on IT purchasing until governments set standards and pass laws to make it an issue.

8 Green sourcing will drive vendors to provide green credentials

Gartner says: “By 2011, suppliers to large global enterprises will need to prove their green credentials via an audited process to retain preferred supplier status. Those organizations with strong brands are helping to forge the first wave of green sourcing policies and initiatives. These policies go well beyond minimizing direct carbon emissions or requiring suppliers to comply with local environmental regulations. For example, Timberland has launched a 'Green Index' environmental rating for its shoes and boots. Home Depot is working on evaluation and audit criteria for assessing supplier submissions for its new EcoOptions product line.”

My take: There’s no doubt that “green sourcing” is going to become big business over the next few years, and vendors are going to compete with each other to market their “green-ness.” As a result, it’s going to be important to have some common criteria to adequately judge how “green” a product or supplier really is.

9 End-user preferences will drive half of all IT purchases

Gartner says: “By 2010, end-user preferences will decide as much as half of all software, hardware, and services acquisitions made by IT. The rise of the Internet and the ubiquity of the browser interface have made computing approachable, and individuals are now making decisions about technology for personal and business use. Because of this, IT organizations are addressing user concerns through planning for a global class of computing that incorporates user decisions in risk analysis and innovation of business strategy.”

My take: This trend has its roots in the long-running tug-of-war between business users and IT professionals. I wrote about this phenomenon in "Sanity check: Did The Wall Street Journal sabotage businesses by publishing tips on how to circumvent IT?" The bigger issue is that many consumers are now bringing technology into the workplace to help them do their jobs, and they are managing the process themselves instead of going through the IT department because IT is traditionally inflexible and not very service-oriented.

10 3D printers will grow 100-fold

Gartner says: "Through 2011, the number of 3D printers in homes and businesses will grow 100-fold over 2006 levels. The technology lets users send a file of a 3D design to a printer-like device that will carve the design out of a block of resin. A manufacturer can make scale models of new product designs without the expense of model makers. Or consumers can have models of the avatars they use online. Ultimately, manufacturers can consider making some components on demand without having an inventory of replacement parts. Printers priced less than $10,000 have been announced for 2008, opening up the personal and hobbyist markets."

My take: Where did this one come from? And what does it have to do with business technology? I'm puzzled as to why Gartner put 3D printers on this list. The idea here is pretty cool, but with the digital distribution of information, there is minimal demand for printers.

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Version history

Version: 1.0
Published: February 20, 2008

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