Disruptive Technologies Reshape IT Landscape

According to market research firm Gartner (www.gartner.com), business IT applications will increasingly reflect the popularity of “disruptive” technologies such as social networks, Web mashups, and cloud computing—technologies that cause major changes in the “accepted way of doing things.”

Gartner released its list of the technologies it believes will reshape the business landscape for the next five years:

- multicore and hybrid processors;
- virtualization and fabric computing;
- social networks and social software;
- cloud computing and cloud platforms;
- Web mashups;
- user interface;
- ubiquitous computing;
- contextual computing;
- augmented reality; and
- semantics.

At the Gartner Emerging Trends and Technologies Roadshow in Melbourne, Australia, Gartner fellow David Cearley said business IT applications will borrow some of the collaboration features found in consumer social networking applications such as MySpace and Facebook to foster feedback from consumers as well as employees.

Web mashups, with their blend of publicly available information and the ease with which developers can create them, will become the dominant way to create new enterprise applications, he asserted.

“Because mashups can be created quickly and easily, they create possibilities for a new class of short-term or disposable applications that would not normally attract development dollars,” said Cearley. “The ability to combine information into a common dashboard or visualize it using geolocation or mapping software is extremely powerful.”

IT Spending Growing at Small and Medium Businesses

Small- and medium-sized businesses (SMBs) in the US increased IT and telecom spending by 6.5 percent in 2007—three times more than the country’s gross domestic product (GDP) growth (2.2 percent), according to a study by market analysis firm Access Markets International-Partners.

The growth in IT spending is a direct result of vendors’ increased attention to SMBs, said Melissa Chong, an analyst with the firm.

“We’re beginning to observe IT vendors—especially larger, established vendors—transforming themselves to be increasingly SMB-focused. This applies whether they are creating SMB-specific channel programs, acquiring companies with significant SMB influence, or building distinct SMB product lines and ensuing marketing programs.”

The study notes that IT spending by SMBs on hardware and the software and services that go along with it, has increased significantly in the past 3 to 4 years. PC shipments, for example, have increased by 25 percent.

Chong sees software and services as the fastest growing segment and says it will continue to increase.

“Software, security, storage, and services investments are growing fastest and will continue to do so until the end of the current forecast period, or 2012, when we expect SMB IT and telecom spending to be close to 2.5% of GDP.”

IBM Stokes Antitrust Fears

IBM’s purchase of rival mainframe vendor, Platform Solutions, has one industry trade group calling the deal a “black hole.” The nonprofit Computer and Communications Industry Association (CCIA) has questioned the move and raised concerns that IBM is trying to stamp out the competition.

“It sucks the life out of the market and destroys the matter,” said Ed Black, CCIA president and CEO. “Transforming a market with latent potential for competition and innovation into a sector with little prospects for anything but complete domination by IBM.”

Neither IBM nor Platform Solutions released the financial terms of the deal. However, as part of the purchase, both companies dropped lawsuits against each other stemming from IBM’s initial patent-infringement lawsuit against Platform Solutions in 2006.
TECHNOLOGY

Intel Extends C/C++ for Multicore Computing

At its annual open house at the Computer History Museum, Intel displayed Ct (C/C++ for Throughput Computing), a new programming language for developing multicore software applications. Intel’s Ct compiler automatically partitions code to run on different cores according to the data type and the operation performed on the data. Because Ct is an extension of C/C++, programmers should pick up the new language quickly said Mohan Rajagopalan, a senior researcher at Intel. Ct’s runtime environment adjusts to the platform so applications should scale to the number of cores available. (For more, see www.intel.com/go/Ct/)

Open Patent Alliance to Jointly License WiMax

Executives from Cisco, Samsung, Sprint Nextel, Clearwire, Intel, and Alcatel-Lucent announced the formation of the Open Patent Alliance (www.openpatentalliance.com).

The group’s goal is to gather patents and rights to WiMax, the IP-based wireless technology, and license them to manufacturers of consumer electronics, networking equipment, and computers. The alliance hopes to increase WiMax 4G adoption by making the patents inexpensive. In a webcast introducing the new group, executives from the founding companies stressed the alliance’s open model and encouraged companies to join them.

Server Energy-Efficiency Ratings Nearing Completion

The US Environmental Protection Agency (EPA) is set to release the first Energy Star rating system—which rates products based on their energy efficiency and practices—for servers later this year. The EPA is still working on developing a rating system that measures actual workloads, which has proved problematic because servers aren’t limited to one type of workload.

Andrew Fanara, head of the Energy Star development team, acknowledged from the outset that determining benchmark tests to measure work would be a tough task.

“We all knew that, in the long run, the most intellectually satisfying approach would be to marry energy consumption with work completed, yet admittedly we are not quite there yet in devising that holistic metric,” he said.

So far, the team has developed one benchmark that measures workload efficiency using a Java framework. In the interim, the EPA has created an initial “Tier 1” rating that measures the efficiency of servers’ power supplies and the amount of power servers use when idle. This rating is intended as a temporary measure until the EPA settles on a more definite specification.

“If we were to develop this Tier 1 and then leave it in place indefinitely, I think it would not sufficiently recognize the most efficient products that emerged over time,” Fanara said.

Currently, the EPA is hashing out details for the Tier 1 spec, including the types of servers the rating will cover, as well as how to define idle servers. It is also working to include Energy Star ratings for data centers.

(Additional information is available at www.energystar.gov/index.cfm?c=prod_development.server_efficiency.)
SECURITY
Cloud Computing’s Security Concerns

Although many view it as a technology that will change business IT in the next several years, cloud computing is not without its own set of security concerns. In a report issued in June, Gartner advised customers to get security assessments from neutral third parties before selecting cloud vendors.

Gartner lists the following security issues to consider:

• **User access.** Ask cloud vendors about their processes and controls for managing administrators who handle sensitive company data.
• **Compliance.** Avoid cloud vendors who refuse to undergo the external audits and security certifications to which traditional service providers are subjected—or, at least, use them only for the most basic functions.
• **Data location.** With cloud computing, data can be stored anywhere so businesses must ask where the data will be located. And cloud vendors should be contractually committed to following local privacy laws.
• **Data segregation.** Because data in the cloud rests in a shared environment, businesses should ask vendors how they segregate and secure data. Encryption helps, the research firm says, but customers must be sure that the encryption schemes have been tested to avoid data loss.
• **Recovery.** Speaking of lost data, what are the cloud vendor’s plans for data recovery in the event of disasters? The ability to completely restore data is the key, Gartner advises. Ask potential cloud vendors if they replicate data and the application structure across several sites.
• **Support.** Cloud vendors should be committed to providing support for investigating illegal activity, especially given that logging and data are likely to be spread over multiple servers and data centers.
• **Viability.** What happens if another company buys your cloud vendor? Businesses should ensure that contingencies are in place to retrieve data in the event that cloud vendors are acquired or go out of business.

Transparency is the key. Gartner recommends avoiding cloud vendors that are unable or refuse to provide detailed information on security, compliance, and technical requirements.

Google Makes Internal Security Scanner Available

Google has released its internal Web application scanner, Ratproxy, as open source. The tool scans Web applications and looks for coding errors that could lead to security vulnerabilities, such as cross-site scripting attacks or caching problems.

“We believe that responsible security research brings a net overall benefit to the safety of the Web as a whole, and have released this tool explicitly to support that kind of research.” wrote Michal Zalewski on the company’s security blog.

Ratproxy runs in passive mode so it shouldn’t interfere with application performance. However, the scanner’s alerts aren’t always indications of actual vulnerabilities. Rather, the tool highlights areas of code that might cause flaws. Ratproxy runs several different low-level checks, including

• potentially unsafe Javascript Object Notation (JSON)-like responses;
• bad caching headers on sensitive content;
• suspicious cross-domain trust relationships;
• content serving issues;
• queries with insufficient cross-site request forgery defenses;
• suspected or confirmed cross-site scripting or data-injection vectors; and
• HTTP and <meta> redirects;

Google’s information security engineering team developed the tool, which is available at http://ratproxy.googlecode.com/files/ratproxy-1.50.tar.gz.