

Predicts 2004: Emerging Technologies

Alexander Linden, Jackie Fenn

We highlight trends that will disrupt mobile and wireless technology, servers, infrastructure software, business applications and information management. They will provoke new thinking and change the way you do business.

ANALYSIS

We present emerging trends and opportunities from five domains: Software infrastructure, servers, mobile and wireless, information management and business applications. The trends within these areas have been selected largely for their originality, their business and societal impact, and last, but not least, for their ability to provoke new thinking.

There are quite significant changes ahead for **software infrastructure**. There are variations in creating composite applications, such as service-oriented business applications (SOBA), but there is also a new trend in relaxing even further the connectivity between software modules via complex event processing (CEP). Another trend that seems prevalent in the software, as well as the hardware community, is the virtualization of resources and its impact on increased utilization and real-time processing. Many of the innovations in this segment, will not so much address cost reduction, as enable new capabilities that are more dynamic and have better agility and flexibility.

This is in contrast to the **server** landscape where many of the upcoming innovations will spur cost savings. For example, to a certain extent, grid computing will start competing with supercomputers as a new, inexpensive platform for solving computationally intensive tasks. And the increasing server virtualization will provide much better utilization rates, again resulting in cost efficiencies.

In the **mobile and wireless** domains we will see much more attention given to user interfaces that are driven by the need for more product differentiation and diverse technological advancements. One of the big "killer applications" of wireless technologies will be the establishment of "plug and play" mesh networks, which provide optimized cost, benefit and reliability ratios. Another big factor will be how mobile infrastructure will start to merge with fixed computing infrastructure, mostly to use the micropayment facilities of the mobile providers.

Information management will benefit from renewed focus as enterprises find themselves needing to deal with high volumes and new types of data, with "lightly" structured, document-oriented data playing a role in key business processes. Text mining will emerge as the "hot" area in customer relationship management, causing enterprises to redesign customer-facing business processes to take advantage of improved customer insight. Other innovations, like the Semantic Web, will have a hugely beneficial impact on businesses and society. Like data mining, it will actually remain niche from a software market and practitioners' perspective.

A number of these technological developments will make themselves felt in **business applications**. In particular, a service-oriented "ecosystem" will enable a new wave of business processes and application innovation. These will hit first among applications managing time-critical products or processes. The potential of services-oriented development of applications (SODA) in driving high reuse, rapid development and high mutability of business applications will support the evolution of a global trading grid — a single overlay of interconnected extranets and e-marketplaces that enables partners to electronically interact, collaborate and transact business. Radio frequency identification (RFID) will drive the innovation of in-store retail systems, warehouse management, transportation systems and aftersales tracking of product use. Eventually, it will support full supply chain management and execution.

Features

"Emerging Trends in Software Infrastructure" — Discusses software infrastructure, application integration and security trends. **By David McCoy, Jackie Fenn, Charles Abrams, Roy Schulte, John Girard, Alexander Linden, Thomas Bittman, Donna Scott and John Pescatore**

"New Technologies Will Change the Way We Manage Information" — Presents trends for micro content and business, collaboration, Semantic Web, data integration and virtual communities. **By Alexander Linden, Frank Buytendijk, Scott Nelson, Ted Friedman, Whit Andrews and Nick Jones**

"Brighter Outlook Brings IT Hardware Market Back to Life" — Refers to some interesting trends in the hardware server domain. **By Steve Prentice and Mike Chuba**

"Emerging Technologies Reshape Business Applications" — Discusses trends that will affect the shape of future business applications. **By Kathy Harris and Scott Nelson**

"Act Now to Profit From Advances in Wireless Technology" — Presents upcoming trends in the wireless and mobile domain. **By Nick Jones**

This research is part of a set of related research pieces. See "Emerging Trends and Technologies for 2004" for an overview.

REGIONAL HEADQUARTERS

Corporate Headquarters

56 Top Gallant Road
Stamford, CT 06902-7700
U.S.A.
+1 203 964 0096

European Headquarters

Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Asia/Pacific Headquarters

Gartner Australasia Pty. Ltd.
Level 9, 141 Walker Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

Japan Headquarters

Gartner Japan Ltd.
Aobadai Hills, 6F
7-7, Aobadai, 4-chome
Meguro-ku, Tokyo 153-0042
JAPAN
+81 3 3481 3670

Latin America Headquarters

Gartner do Brazil
Av. das Nações Unidas, 12551
9º andar—World Trade Center
04578-903—São Paulo SP
BRAZIL
+55 11 3443 1509