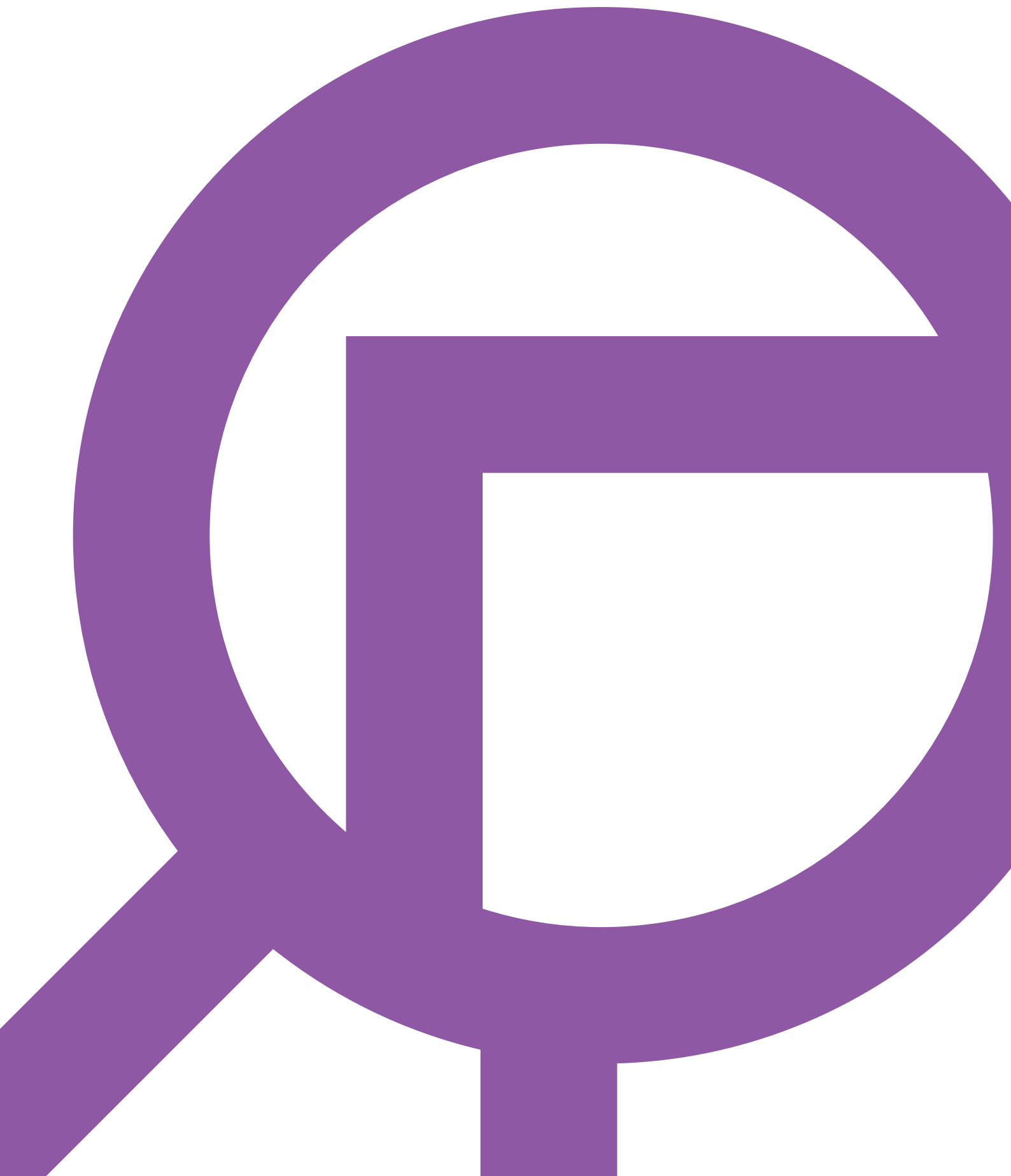# Everything Elastic

Accenture Technology Vision 2010

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Renewed annually, the Accenture Technology Vision is a comprehensive analysis of emerging trends and major technological changes that may have a significant business impact on Accenture and its clients in the next three to five years. High-performance businesses use the Vision to help understand potential opportunities—and challenges—that lie ahead.

This year's Vision builds on last year's vision of an elastic world in which business capabilities—infrastructure, people and thoughts—can be expanded or contracted on demand. As the "Everything Elastic" world starts to emerge, our scientists and thinkers have identified seven technology trends that help define how this new world is developing.

1. Computing forecast: Into the clouds

A more flexible model that aligns better with business objectives

Long foreshadowed under names like "grid computing" and "network computing," cloud computing is finally gaining momentum. Rather than simply replacing one computing paradigm with another, the era of the cloud looks to create a somewhat chaotic proliferation of options, with many paradigms coexisting. Any layer of the technology stack—from computing power to storage to services—can be sourced from the "cloud" and, because IT needs are diverse, every cloud layer should be able to find a market. Organizations will be free to evolve individual IT models, based strictly on business needs rather than on technology constraints; hybrid, "partly cloudy" models will be the norm. This new, adaptable IT framework may make it much easier to manage issues of cost, scale and agility. But decision makers must also be prepared to navigate a new set of tradeoffs: the price of agility may be the loss of some visibility—or some control. Most enterprises will want to take their bearings carefully before heading off into the cloud.

2. The new Web

The Web at a turning point

Because of the Web's reach (1.6 billion devices connected, with this number expected to reach 2.7 billion by 2013),[1] even small changes to its basic capabilities can have enormous potential—changing how people socialize, changing how societies link together and changing how businesses operate. Right now, the Web is in the midst of its most significant overhaul since the first browsers emerged 15 years ago. Low-level engineering work (from networking protocols to browser optimization) is making the Web faster and more robust. New capabilities (location-awareness, online/offline modes, social connectivity and more) are paving the way for whole new classes of Web applications. And a growing set of productivity, communication and integration capabilities is making the Web increasingly attractive as an enterprise platform. The Web world is multivalent: multi-browser, multi-platform, multi-device. It is a world that presents a new set of challenges—privacy, security, control of standards, interoperability—and requires a new set of technical and strategic skills. But very soon, more and more enterprises will find that it is their interest to "speak Web" fluently.

[1] IDC, Number of mobile devices accessing the Internet expected to surpass one billion by 2013 http://www.idc.com/getdoc.jsp?containerId=prUS22110509, Doc # prUS22110509, December 9, 2009

3. Devices as doorways

User experience integrates over devices

Conventional computers have become only marginally more powerful in recent years; mobile devices, on the other hand, have increased their capabilities tenfold. During the same period, the amount of content on the Web has grown exponentially. The two trends, taken together, are breaking up an age-old paradigm where certain kinds of devices (temple scrolls, record players, or GPS units) give access to certain kinds of content (words, music, or location). That era is ending. We are now entering a world where any device can deliver any content.

In such a world, there are many avenues to a given piece of content, and devices—in different shapes and sizes—are simply doorways. A key principle of the new paradigm is that users will tend toward whatever access patterns maximize their own convenience and productivity, whether this means reading a transcript of a voicemail on a tablet computer, making a dinner reservation using a video game console, or approving a purchase order by touching a phone. For enterprises that see the work machine as the sole way to access corporate information—the old paradigm—this trend will initially appear problematic. Soon, however, they will likely see it as an opportunity to get out of the business of hardware support while improving system security. Users will supply their own devices, and the job of enterprise IT will be to provide a secure transport layer for work information. Through the adroit use of virtualization, "webification" or other thin-client technologies, enterprises will be able to rise with the tide of devices.

4. Fluid collaboration

Seeking collaboration technology that pulls its weight

Collaboration across time zones and geographies is the new business norm. Given the realities of global workforces, carbon-reduction efforts, and the drive for greater productivity, no one expects these numbers to go anywhere but up. Still, the basic technologies that underpin day-to-day collaboration (such as e-mail) have changed only incrementally in the past decade. Where will the new capabilities come from to equip a more productive, more effective workforce?

There will be three sources:
• From innovation around the core functions of e-mail, messaging and voice. As communications become more unified, vendors can begin to deliver features—like robust, unified search—that will have real impact.
• By expanding the core suite of tools. The challenges to doing so are less technical than practical. For example, valuable tools to improve virtual meetings already exist, in the form of videoconferencing, screen-sharing, digital whiteboards, and more. But these tools are not universal, interoperable or even always user-friendly. With the growing power of the (universal, user-friendly) Web platform, the equation will change.
• By supplementing the core messaging suite with collaboration systems based around the principles of publishing and aggregation. A fast-evolving array of tools for social chatter, wiki writing, tagging, rating and voting will provide enterprises with ways to tap human capital, increase peripheral awareness and sustain engagement.

5. The conversation economy

Social computing creates discontinuities in how we communicate and consume information

Social computing has brought about substantial change in how people connect, how they converse, and how they get and share information. The social network itself is fast becoming a primary information channel for many people. Any object of attention—rumors, novels, recipes, petitions—can explode in importance and visibility if it taps into the right social channels at the right time. But information can also travel in the opposite direction: social networks are emerging as a rich source of information about consumer sentiment, preferences and desires.

One clear implication of all this is that the conversation between organizations and individuals is changing, and customer relationships are being remade. We see three major "discontinuities" in the patterns of business-consumer communications.

• Episodic communications are being replaced by continuous interactions;
• "Talk at you" broadcast messages are making room for "talk with you" conversations; and
• With a powerful media device as close as the nearest phone, companies—and individuals—have a new, powerful ability to "show" instead of "tell."

6. Fourth-generation system development

New architectures and new approaches

From the mainframe era, through client-server, and into the era of the desktop, the history of computing has been shaped by new capabilities (new hardware, new algorithms, new ways of doing things) that in turn stimulate new kinds of demands. Simply giving the 1980s-era personal computer a network connection, for example, turned out to have far-reaching effects on how enterprise systems were designed, built and used. In this decade, a wave of new capabilities will push system architecture into unexplored territory, ushering in a fourth generation of system-building.

The forces propelling this new era are, as always, both technological and economic. The technologies range from parallel chip architectures to multi-tenancy, from new data storage techniques to advancements in programming languages. The economies are economies of scale: the cost profile of modern data centers or the efficiencies wrung from the manufacture of mobile chips. But progress may not be as smoothly and broadly distributed as it was in the age of Moore's Law. Instead, innovations may be more localized, confined to more narrow domains. Competitive advantage will go to those who are aware of the technology hot spots, able to discern what will prove useful—and ready with the skills to seize the opportunity.

7. Data + decisions = differentiation

As analytics becomes a commodity, the real differentiators are data and decisions

Insightful analytics can help organizations discover patterns, detect anomalies, improve data quality and ultimately take effective action. But as analytics tools have been incorporated into standard offerings from software vendors, it is becoming clear that the real advantage in analytics is gained before the analysis begins—in data collection; and after it ends—in decision making. Analytical maturity varies widely across companies and across industries: some organizations are already integrating analytical decision making into their business processes, while others are still working at basic measurement and collection.

In the next phase, what may truly differentiate an organization is whether turning information into action becomes part of its DNA.

"Everything elastic" is proving to be a durable concept, whose influence is spreading thanks to the technological developments sketched above. Business executives—and CIOs in particular—should consider reshaping their thinking in line with this concept. The idea of elasticity—scalable, infinitely flexible, adaptive—may be integrated into the very fabric of the business. Only then will high performance be achievable in this new market place.

About Accenture Technology Labs

Accenture Technology Labs, the dedicated technology research and development (R&D) organization within Accenture, has been turning technology innovation into business results for more than 20 years. The Labs create the Accenture Technology Vision, a view of how technology will shape the future and invent the next wave of cutting-edge business solutions. Working closely with Accenture's global network of specialists, Accenture Technology Labs helps clients innovate to achieve high performance. The Labs are located in Chicago, Illinois; San Jose, California; Sophia Antipolis, France; and Bangalore, India. For more information, please visit our website at www.accenture.com/Global/Services/Accenture_Technology_Labs.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 176,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US $21.58 billion for the fiscal year ended August 31, 2009. Its home page is www.accenture.com.

For more information, please contact:

Don Rippert
donald.j.rippert@accenture.com

Kishore Swaminathan
k.s.swaminathan@accenture.com