



Smarter computing builds a Smarter Planet: 1 in a Series

## Smarter comes to computing.

Today, everything computes. Intelligence has been infused into things no one would recognize as computers: appliances, cars, roadways, clothes, even rivers and cornfields. This is the daily reality of an instrumented, interconnected and intelligent world—a Smarter Planet—which IBM began chronicling nearly three years ago.

Realizing its promise, however, will require more than infusing computation into the world. We also have to make computing itself smarter.

Wait, isn't computing smart, by definition? Without question, remarkable levels of computer intelligence are being reached—with inventions such as Watson, the IBM system that defeated the two all-time champions on the TV quiz show *Jeopardy!* But most organizations' computing infrastructures—consisting of mainframes, servers, PCs, enterprise applications, Web sites and more—were simply not built for zettabytes of data, global connectivity and advanced analytics.

So, as our planet gets smarter, our computing systems must do so, too. They must become far more automated, robust and adaptive—that is, industrialized. Thankfully, a new, smarter computing model is emerging. It is designed for data. It is tuned to the task. And it is managed in the cloud.

**Designed for data:** Organizations of all kinds need to manage not just information, but vast, global *information supply chains*. Not only the ones and zeros that traditional computers love, but streams of text, images, sounds, sensor-generated impulses and more. They need to apply sophisticated analytics to the real languages of commerce, processes and natural systems—and to conversations from the growing universe of tweets, blogs and social media. Decisions based on structured data alone are no longer adequate. Which is why today's leading companies are building new systems and processes that locate, recognize and interrogate "big data."

**Tuned to the task:** Generic computing stacks are no longer up to the job—because today there are fewer and fewer generic jobs. Transaction processing, with thousands of online users, is different from business analytics, with multiple data types and complex queries, which is different from the need to integrate content, people and workflows in a company's processes. That's why leaders are looking for more than high-performance technology. They are moving to architectures optimized for specific purposes, and built around their own deep domain knowledge—in healthcare, retail, energy, science and other fields. This workload-specific approach integrates uniquely tuned software and hardware—everything from the applications to the chips themselves.

**Managed in the cloud:** The need to manage these large data-driven workloads is driving broad adoption of cloud computing. But that means something different for business than for individual consumers. By infusing clouds with security and manageability we can make them smarter, providing companies with the agility to move quickly in highly competitive environments; to activate and retire resources as needed; to manage infrastructure elements in a dynamic way; and to move workloads for more efficiency—while seamlessly integrating with their traditional computing environment.

Major computing models don't change very often—but when they do, they unleash enormous productivity, innovation and economic growth. So the good news is that smarter computing is now shifting from theory to reality. Look for more reports in coming weeks on how smarter computing is meeting the demands of a smarter planet.

Let's build a smarter planet. Join us and see what others are doing at [ibm.com/smarterplanet](http://ibm.com/smarterplanet)

