The Business Time Machine

Once upon a time,

there was a company in desperate danger of getting left behind. Their customers were demanding more personal service, more customization, more value. More, more, more. Instantly. *On demand*. But the company was inflexible. *Stuck*. They couldn't respond quickly. Things were dire.

SO THEY BOUGHT A TIME MACHINE. *THAT'S RIGHT, A TIME MACHINE.*

Flick a switch, they could go forward in time – and understand what their customers were going to need before they actually needed it. Touch a button, they could go back and undo investments in proprietary technology – stuff that slowed them down. Then, they could respond *like that*. They could catch up. It was exciting. *They were jazzed*. There was only one problem: the time machine was a dud. It didn't work.

And that's when they called IBM.

"Time is on the cutting edge…," the Harvard Business Review prophesied a while back. *"As a strategic weapon, time is the equivalent of money, productivity, quality, even innovation."* Keeping up will depend not

The *On Demand Era* is

A powerful transformation is taking place. Powered by

ON DEMAND
A business that is on demand is an integrated business, highly responsive to the dynamic demands of customers, partners, suppliers and employees.

SENSE-AND-RESPOND
A sense-and-respond environment is one in which you must be able to react quickly to unpredictable changes in markets and customer needs.

AUTONOMIC TECHNOLOGY
Autonomic technology can enable an IT infrastructure to be self-configuring, self-protecting, self-optimizing and self-healing.
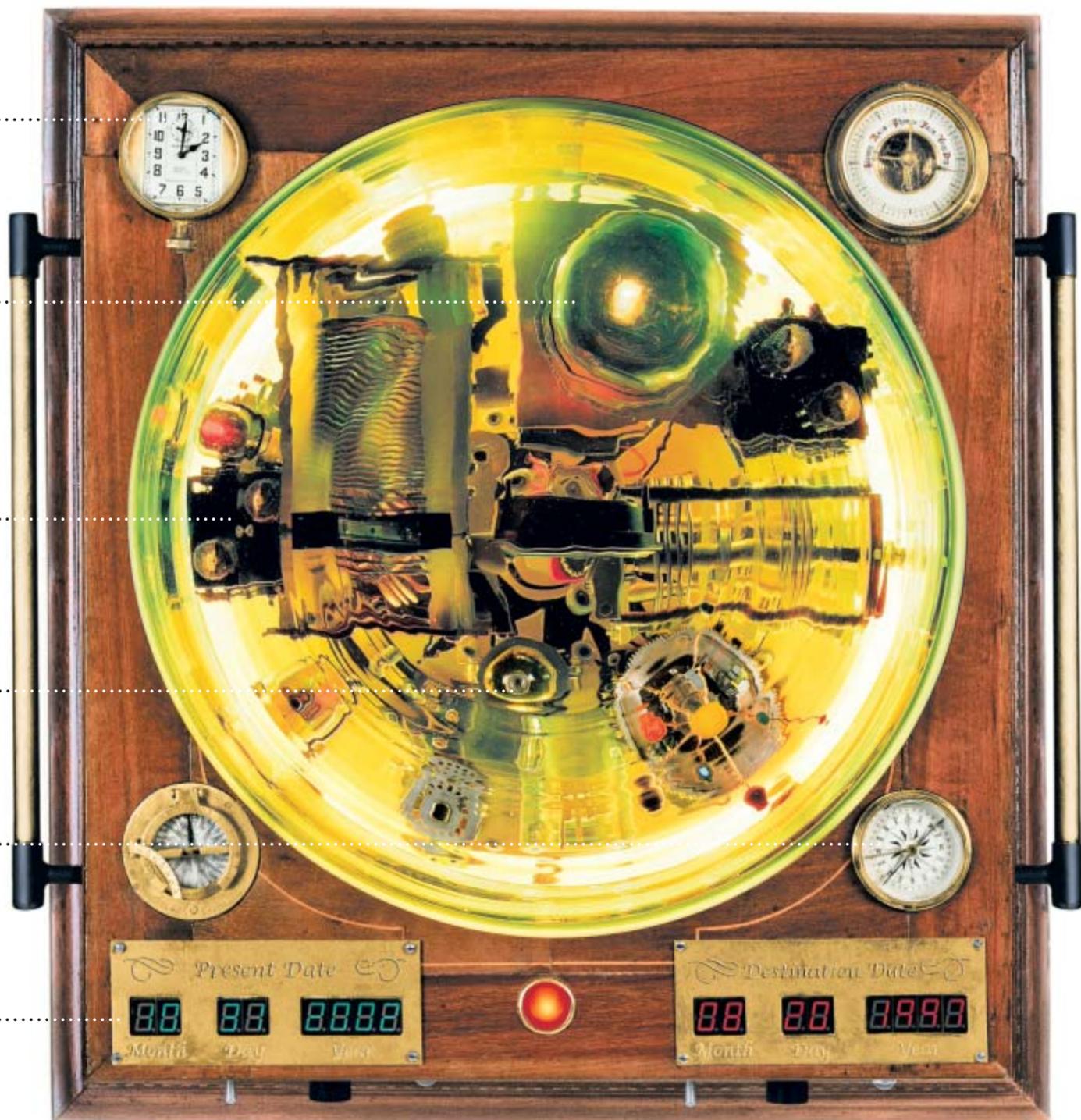
BUSINESS FLEXIBILITY
Required in a sense-and-respond environment. A variable, optimized cost structure lets you pay only for the technology you need – only when you need it.

FANTASY
Vision without execution. Imagination without the invention to back it up. It doesn't work.

REALITY
There is no time machine. So if you want to be ready for the on demand world, you need a partner you can trust.

The Business Time Machine, overhead view

just on technology, but on reorganizing core business processes around that technology and on integrating those processes with the help of technology. The stakes are high; the perils are significant; the opportunities are enormous.

upon us. *Are you ready?*

e-business, inspired by new ideas, based solely in reality.

We are entering a new era in business – the on demand era.

Your customers will demand that you be more responsive, more flexible and more resilient. They will expect you to build products only when they are ordered – to literally deliver things "on demand," with an unprecedented level of customization.

Your suppliers, partners and every department within your own organization will demand tighter integration of your most critical business processes – so they can deliver faster, better and more cheaply.

Your shareholders will demand that you wring every last bit of value from your business and eliminate every bit of inefficiency from your business model.

NONE OF THEM WILL HAVE ANY PATIENCE FOR HYPE, FLUFF OR GIMMICKS – *LET ALONE TIME*.

"We are seeing an infectiousness with respect to speed," wrote Fast Company. *"Once you know that you can have something tomorrow, you ask, 'Why can't I have everything tomorrow?' And increasingly, the answer is, 'You can.' Whoever delivers what you want the next day is going to win."*

In an on demand world, the ability to *sense* and *respond* to change in customer needs will be more important than size. Since change will be unpredictable, flexibility will be of the utmost importance. Fixed costs will reduce your flexibility – variable costs will increase it. e-business is the key factor in facilitating this transformation.

"Business agility today is limited by rigid technologies that prevent quick adjustment in response to changing business conditions," wrote Forrester Research.

The new business model will require a corresponding on demand operating environment – built on open standards to allow quick, easy and cost-effective innovation and reconfiguration. (To keep you from being held hostage by proprietary standards that limit your flexibility.)

But this is more than a technology issue – it's a business strategy and culture issue. The core processes in place in most businesses will have to adapt and change to meet the requirements of on demand business.

Successful businesses will also need help transforming their change-resistant cultures – in anticipation of what they'll need to be in the years ahead. The dramatic fall of the dot-coms is just a sample of how quickly and unexpectedly change will occur in an on demand world.

Today, most processes are in silos – departments with their own systems dedicated to doing whatever that department does. Sales focuses on sales; manufacturing on manufacturing; and so on.

But in an on demand era, those processes will have to be integrated from one end to the other – so a customer order, for example, creates a ripple effect in which every part of the organization responds appropriately to the impact of the order: logistics, manufacturing, distribution, individual stores. The level of integration necessary to make this happen is an enormous challenge – but a huge opportunity.

Of course, all of this is happening at a time when there is zero tolerance for overpromises and exaggerations. Vision without execution is a time machine – a fantasy. Interesting as an idea, worthless as a business tool.

And in this new era, you will demand to work with e-business partners you can trust, e-business tools that work in new ways and e-business people who understand your business as well as the technology it runs on.

A partner, in other words, like IBM.

Make it work.

POSSIBILITY

A pharmaceutical company could access integrated patient data in real time, through in-home diagnostic, monitoring and communications technologies. Their physicians and researchers could then respond much faster to real-world disease conditions – and the firm could reduce its reliance on expensive, risky "blockbuster drugs," and move toward the creation of customized medicines for smaller patient populations.

Making it work, of course, starts with people who have a strategic understanding of business and e-business issues. In other words, people who get it. End-to-end solutions will require end-to-end partnerships that extend from vision to implementation. And partners who are committed to delivering the results you need.

VISION BACKED BY IMPLEMENTATION.

IBM has acquired PricewaterhouseCoopers Consulting, now an integral part of the new IBM Business Consulting Services. A formidable force on its own, an unmatched force when backed by the depth, breadth and executional capabilities of the rest of IBM.

By acquiring the heavyweight in business consulting, rated #1 in *Consulting Monitor*'s survey for *"understanding client's industry,"* IBM is transforming what it means to be a game-changing strategic business partner.

In the last several years, IBM (the world's #1 technology company) has quietly moved up to become the world's #1 Business and IT Strategy Consultant, according to IDC.

UNDERSTANDING BACKED BY EXPERIENCE.

The on demand era will require companies to better sense and respond to the needs of their customers – and those companies will need help from partners who intimately understand their business processes and their industries and can help them shape everything from culture to infrastructure.

As companies grapple with fundamental questions of process and structure, insourcing vs. outsourcing, fixed costs vs. variable costs in their IT budgets, IBM Business Consulting Services brings an unusual degree of depth and experience to the strategic planning table.

And of course, the intellectual resources of IBM go even deeper: we have strategic alliances with leading software application companies like Ariba, J.D. Edwards, PeopleSoft and SAP. And a global network of 90,000 IBM Business Partners with local and regional expertise in a range of industries – from catalog operations to local banking.

IBM also gives you a glimpse into the future through the deep science and engineering research of IBM Labs. Each year, IBM invests more than $5 billion in R & D. Each year for the last 9 years, IBM was awarded more patents than any other company in the world. Last year alone, IBM earned 3,411 new patents – more than the other 12 largest U.S. IT companies put together.

IMAGINATION BACKED BY INNOVATION.

When you work with IBM, you are hot-wired into the innovations that will power the future. IBM helps you understand how the on demand era will affect you by letting you look forward at everything from new developments in infrastructure to software innovations like Linux® to far-out stuff like nanocomputing.

Strangely enough, IBM may well be the next best thing to a time machine – we can help you know where the future is going before it actually gets there. Of course, since you can't go back and undo your decisions, the earlier in the process that you call IBM, the better off you are likely to be. As the on demand era becomes a reality, and more companies realize the strategic implications of technology on business process, the importance of having a partner like IBM will become increasingly apparent.

Making the stuff work is what IBM is all about – from the deep scientists to the consultants to the guys in the server rooms up to their eyeballs in ethernet. Solving problems in a way that delivers real business value.

"For the next several years, corporate buyers will…look for technologies that address business problems directly, provide near-term return on investment, and improve customer acquisition and retention, cost-cutting, revenue or profits," wrote FORTUNE in their March 18 issue. *"The word from the top is clear: make the stuff work."*

Deliver value.

The central truths of the On Demand Era.

Hype.

Reality.

POSSIBILITY
A car company still has the problem of inventory lying stagnant on the manufacturing end. One of the largest car companies today could hold only 4 hours' worth of parts in its production plants – but have 90 days' worth of depreciating inventory on its dealers' lots. In an on demand world, not only could intelligence on actual (not projected) customer demand be fed into its core systems, but cars could be built to order in just a few days.

THE BUSINESS TIME MACHINE: *A simple, cost-effective tool that lets you go back in time to reverse expensive technology mistakes; or go forward in time to anticipate the infrastructure you'll need in the years ahead. Alternative: work with IBM, get it right the first time, let IBM help you understand how new technologies can help you.*

THE RESEARCH LABS AT IBM: *There is no time machine. But every year, IBM invests more than $5 billion in R & D on projects designed to help solve real business problems. Shown here: the IBM cube-shaped storage system – a new concept in network storage that incorporates self-managing, self-healing and self-optimizing technology.*

e business on demand | **IBM**

"Server infrastructures are a source of major corporate inefficiencies," wrote Infoconomy this year. *"In part, this is because server utilization rates are typically low, running at anywhere between just 8% and 20%."*

Technology for an

New ideas, new flexibility, new ways to manage costs.

AUTONOMIC

The term Autonomic Computing derives from the *autonomic* nervous system. The same way we take for granted the human body's management of breathing, digestion and fending off viruses, we will one day take for granted the network's ability to manage itself, repair itself and protect itself.

In an on demand world, inefficiency will be intolerable. Computing power will be a precious resource – and companies will devise new ways to deliver massive amounts of it to wherever it is needed. As companies are driven by competitive pressures to become sense-and-respond organizations, they will need to integrate all of their business processes.

This, in turn, will create complex technology integration projects – combining different platforms and applications, systems old and new, wireless technologies and much more.

It's all about infrastructure – there will be thousands of devices running different operating systems that must plug in and access information: laptop, palmtop, desktop, whatever.

THE ON DEMAND OPERATING ENVIRONMENT.

The infrastructure will have to be reliable, scalable and secure. It will be depended on by all your key constituencies – customers, employees, suppliers and contractors. It will handle billions of dollars' worth of transactions and all your vital communications.

It will need to be upgraded and improved behind the scenes – remotely – and continually made more flexible and resilient, and with new software. You will have to be able to meet peak usage demands – but you will not be able to afford a separate system that meets peak usage demands for every department and process.

SOFTWARE FOR THE ON DEMAND ERA.

IBM WebSphere® software is the must-have platform of the on demand era – the open standards architecture that allows you to build and deploy new applications and processes across multiple platforms and complex systems. As an e-business tool, WebSphere already has extraordinary momentum. For example, eBay – the world's most dynamic e-marketplace – has already standardized on WebSphere for its massive scalability and reliability.

IBM's Tivoli® software is designed to help you manage the complexity of an integrated on demand environment. It's designed to recognize problems before they happen and help you manage everything from wireless devices to network servers.

IBM's DB2® is the most advanced self-managing database in the world. It works across Linux, UNIX® and Windows® platforms. And Lotus® offers the instant collaboration and communication capabilities you'll need in an on demand world.

HARDWARE FOR THE ON DEMAND ERA.

IBM is already installing eServer systems that incorporate Autonomic Computing technologies that make them self-healing, self-configuring, self-protecting and self-optimizing.
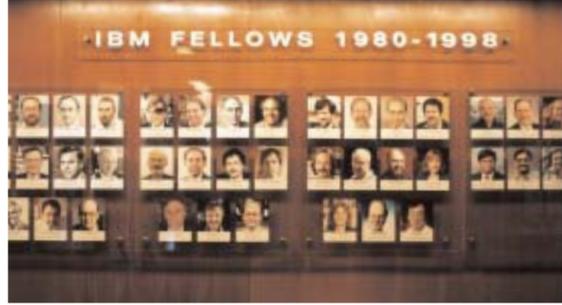
In an on demand era, this has two primary virtues: first, it can reduce management overhead (thereby controlling support

On Demand World.

costs); second, it can increase reliability across a heterogeneous computing environment. As data storage needs grow, the speed, reliability and flexibility of storage systems will increase exponentially. IBM TotalStorage® systems already incorporate autonomic self-healing and self-managing technology – and the ability to deliver things like "capacity on demand."

The result is more flexible infrastructures that require less management – while lowering administrative overhead. (Important because managing a server is typically more expensive than the server itself.)

Even IBM personal computers incorporate autonomic technology – the Rapid Restore capability on a ThinkPad® notebook activates sophisticated self-healing software.

LINUX. THE ON DEMAND OPEN STANDARD.

"Today Linux has become the hottest thing in corporate America since e-mail..." wrote FORTUNE on September 30. *"Linux may bring about the greatest power shift in the computer industry since the birth of the PC."*

No wonder. Linux is inexpensive to implement, reliable to run, works across all the major computing platforms in business today and allows for faster deployment of new applications – it's a vital component of the on demand world. Best of all, Linux is an open standard – so you're not locked in.

"For the year ended June 30, the number of servers sold with Linux as the operating system grew 18%," the article continued, *"...while those sold with Windows grew only 3%...."*

THE 21ST CENTURY TIME MACHINE.

Computing in the on demand era will be managed – or at least, large sections of it will be managed – like the Grid systems used to manage electricity.

A Grid is a collection of distributed computing resources available over a network that appear to an end user or application as one large virtual computing system. The idea of a Grid is to deliver computing power to where it is needed most.

"The GRID is the time machine of this century," exclaimed PrimeurLive!, the European high-performance computing news service. In the June 3 issue, BusinessWeek agreed: *"...Grids could one day transform the economics of computing...by aggregating the power of smaller, more affordable computers, Grids can outmuscle the largest supercomputers for a fraction of the price...."*

IBM and IBM laboratories are inventing core autonomic technologies necessary to make Grid computing a reality. We're working with many universities, as well as several biomedical and pharmaceutical companies that do computational intensive research, to build advanced Grid computing systems (the University of Pennsylvania Consortium and National Digital Mammography Archive Grid, for example).

The effect of Grid computing is to make network computing more like a utility. You deliver computing power to where you need it, only when you need it; you pay for what you use, when you use it. You can build your own Grid (insource it) or even tap into one built by IBM (outsource it) – in other words, let IBM handle the headaches.

The net effect of the utility model is to transform fixed costs into variable costs – giving your business more flexibility.

IBM is already shipping products with the advanced autonomic technologies that can make Grid computing possible: servers, software, storage and even PCs.

And through our IBM e-business on demand™ solutions, companies like Saks, Goodyear, Herman Miller and Staples are already improving efficiency and increasing flexibility.

e business on demand | **IBM**®

TIME

IBM has helped thousands of companies reach the next level of e-business. If you'd like to know more about what the on demand era means for you, go to

ibm.com/ondemand

Are you ready for *e-business on demand?*

POSSIBILITY

A retailer could equip its in-store managers with real-time pricing and supply information to make decisions on the floor (helping to create a truly "connected store") to drastically improve customer service and satisfaction in an increasingly cutthroat retail marketplace.

So the logical question now is, what do you do? And the logical reply is, call IBM. The sooner, the better.

Only IBM has the depth of industry knowledge and technology expertise. The vision that comes from having deep process skills in 18 different industries. The service depth to help make sure solutions actually work.

Only IBM has the leadership track record in e-business. Years of experience fulfilling our promises and delivering real business value to thousands of customers around the world.

Only IBM gives you the ability to see the future so tangibly. With more U.S. patents than any other company over the last 9 years, IBM has a unique ability to help you understand what's going to happen years down the road.

Only IBM backs up that knowledge with the kind of global horsepower needed to help make sure that the solutions you sign up for today deliver real business value tomorrow.

Only IBM was trusted enough to be ranked #1 in 2002's "100 Best Corporate Citizens" by *Business Ethics* magazine. IBM was also ranked #1 in *FORTUNE*'s 10 Most Admired Computer Companies. At a time when integrity is more valuable than ever, you can count on us.

All of which makes it an ideal time to call the one company with the people, the resources, the depth and the end-to-end solutions to deliver on the possibilities of the on demand era.

The earlier, the better, call IBM at **800-IBM-7080** (ask for *time*) or go to **ibm.com**/ondemand

WHAT DO YOU WANT TO DO?	HOW CAN IBM HELP?	WHERE SHOULD YOU GO?
Understand how to win with e-business on demand in my industry	**e-business on demand** industry solutions	**ibm.com**/industries/businesssolutions
Align our business processes for the on demand era	**e-business on demand** business transformation services	**ibm.com**/services/bto
Integrate systems across our business processes	**e-business on demand** integration software	**ibm.com**/software
Determine whether owning or outsourcing an e-business on demand operating environment is best for us	**e-business on demand** utility services	**ibm.com**/services/ondemand
Find a local resource to help me plan and implement an e-business on demand solution for my business	**e-business on demand** IBM Business Partners	**ibm.com**/partnerworld
Add e-business on demand capabilities to our current infrastructure	**e-business on demand** infrastructure solutions	**ibm.com**/servers **ibm.com**/totalstorage

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