



Adapt and thrive — the journey to e-business on demand.

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Executive summary

All technology companies have a vision about the ways their products and services will forever alter the business landscape – and perhaps even society itself. The meteoric rise and fall of the dot-coms clearly demonstrated that many of these companies really didn't understand the strategy, insight or expertise required to make such sweeping transformations.

But seven years ago, IBM began a dialogue with the world. We said that the Internet would change not just computing, but all of business. Education. Healthcare. Government services. Every institution, process and interaction. We called this new era *e-business*.

Much has happened in the past seven years. But it's all been a prelude. Today, businesses and institutions must respond to the changing needs of customers and constituents in realtime. And to fluctuations in demand, supply, pricing, labor, interest rates and capital markets. This is the era of e-business on demand™. A time when the stakes are higher than ever. The competition stiff. And the opportunities enormous.

Today, there's a universal movement in business. Leaders want to streamline their IT infrastructures to save money and to increase organizational productivity. And they want to find ways to fund growth. These leaders realize that by taking out costs associated with expensive IT infrastructures and their management, that money can be reinvested in their businesses.

- *As a CEO, you want to increase productivity and business value through innovation, improved processes and new capabilities.*
- *As a CIO, you want to deliver on management's expectations effectively to increase your systems' value – and reduce expenses.*
- *As a COO, you want to increase efficiencies by taking advantage of leading-edge process-integration and technology advancements.*

This executive brief discusses what an on demand operating environment is. How it works. What it means for your business. And how IBM can help you make the on demand operating environment work for you. With the right on demand operating environment – and with your IT operations aligned with your business strategy – your business is better able to deal with the opportunities and the disruptions that can influence your future growth.

Making the leap to e-business on demand

Think back to the days when business was predictable. You knew when to expect spikes in demand. And when things were going to be slow. Today, you can't predict market fluctuations. Count on forecasts. Or imagine just how impatient customers can become. But what you *can* do is learn to adapt to whatever the world throws at you. That means your organization must be responsive. Agile. Efficient. Able to operate your business around the clock, at the speed the market requires. Not merely to survive, but to thrive, in an ever-changing marketplace. Regardless of the economic climate.

e-business on demand is a fundamental shift in the way you do business. Allocate resources. Structure processes and costs. And interact with partners, customers and employees to make your value chain more fluid and interwoven. An on demand e-business is defined by flexibility. Unparalleled connectivity. The ability to adapt to changes in the marketplace quickly. Without a huge investment in time, money and resources. In the on demand era, you can streamline operations. Lower costs. Improve the quality of service you deliver to customers, partners and employees. And gain competitive advantage — while driving revenue.

e-business on demand enables you to see and manage your company as an integrated whole — even if important parts of it are outsourced to others. More than operational efficiency, e-business on demand is about building a dynamic infrastructure that allows you to create new business processes and leverage existing ones cost-effectively. And lets you integrate these processes across your entire organization and with those of key partners, suppliers and customers. The on demand business model can help you gain competitive advantage. Increase organizational productivity. And reduce your IT administration costs.

But how do you optimize your business processes — and maximize your operating environment — to capitalize on any marketing opportunities? And to help differentiate your business from your competition? With an on demand operating environment — the ideal IT infrastructure that enables you to experience the full benefits of an on demand e-business. And positions you to bridge the gap between your IT infrastructure and your business transformation objectives.

Meet the challenge with an on demand operating environment

The past 40 years of IT evolution has left most companies with a disparate, widely distributed, increasingly complex, enterprise-computing infrastructure. One that's made up of different kinds of systems – located in and managed through different departments and geographic locations.

The bottom line? Your customers don't know about the complexities of your infrastructure. And they don't really care. They want answers to their questions, regardless of where the information resides. And they want results, regardless of who has to get involved. That's why gaining competitive advantage in today's marketplace requires an on demand operating environment.

To reap the benefits of e-business on demand, you need an IT infrastructure that lets you:

- *Respond on the fly in an ever-evolving marketplace. And reap the rewards of these actions quickly.*
- *Focus on core competencies rather than on the technology behind them.*
- *Adapt readily to unpredictable demands and external threats.*
- *Benefit from variable cost structures.*

Think of an on demand operating environment as a unified infrastructure that is:

- *Integrated to connect people, processes and information across your extended enterprise*
- *Automated to reduce management complexity—and to help you make better use of assets, improve availability and resiliency and lower costs based on your business objectives*
- *Virtualized to help ensure peak efficiency – and to maximize the capacities of your servers and storage systems*
- *Based on open, industry standards so you can readily pull together your processes and applications with those of your customers, partners and suppliers*

With an on demand operating environment, your business can respond to – and manage – the internal and external conditions that influence it. So you can begin to immediately realize the strategic and financial benefits of e-business on demand.

Open standards equal business value

Building an on demand operating environment takes commitment.

But our experience shows that making the right choices up front can speed your progress. Make your business more responsive. And help you to more quickly reap the benefits of e-business on demand.

Basically, you have two choices. The impractical approach of ripping your current systems out and replacing those components with a single environment. Then edicting that everyone — every department, every supplier and every potential acquisition — do the same. Or commit to using open, industry standards that enable you to create a single, holistic environment that leverages your existing assets. With open standards, the process is simplified. Everybody can use the same technology — or you can connect and integrate a variety of technologies.

Without open standards, internal integration would remain a daunting task. And external integration? Nearly insurmountable. The good news is that, ever since the world embraced Internet protocols, open standards have been gaining widespread adoption — from Java™ technology and XML to Web services and the emerging Open Grid Services Architecture. And the Linux® operating system, the most successful of open-source platforms, is moving rapidly into mainstream business throughout the world.

That's why IBM is a champion of and devoted to advancing open standards — investing heavily in research, technologies and new tools. And incorporating the resulting capabilities into its products as standards-based technologies evolve.

“Credit Lyonnais Capital Markets needed to streamline a matrix of globally distributed systems and to deliver a sizable increase in the efficiency and effectiveness with which we process thousands of equity tickets from pretrade to settlement. We implemented a robust straight-through processing solution based on a business integration solution from IBM. Designed to integrate internal applications and databases, extend applications externally and automate the processing of business-critical transactions. A business integration solution from IBM helped us achieve a 99% reconciliation rate with custodians, virtually eliminate failed trades and reduce back-office costs by 20%.”

–Dominique Ioos, head of global equity operations, Credit Lyonnais

Integration taps into your most important assets—people, processes, information

As the efficient and flexible combination of resources to optimize operations across and beyond your enterprise, integration allows you to connect your most critical assets:

- **People.** Support for integrated business processes means employees, customers, partners and suppliers can interact with your business more efficiently.
- **Processes.** Your organization can't afford to develop and maintain isolated, vertical business processes. As an on demand business, you can manage and coordinate your entire enterprise horizontally—and your IT infrastructure can keep pace.
- **Information.** Integration gives everyone along your value chain realtime access to disparate, distributed information so both people and processes can leverage data and content resources from a variety of repositories.

Integration across people, processes and information may not be a new concept. But the return-on-investment value has never been higher. Companies that achieve success in fully integrating their enterprises recognize that every department doesn't need – and really shouldn't have – its own suppliers, data center and customer databases. An on demand operating environment delivers on a range of integration capabilities. And ties together disparate resources, data, applications and processes to create a single, cooperative environment.

- Provide employees, customers, suppliers and partners with the ability to access information in all the places it's stored. So they can make better-informed decisions, based on the most relevant, up-to-date information. And increase productivity in the process.
- Create a common set of processes and tools across the enterprise. To accelerate your evolution to an on demand business. And to improve operational efficiencies.
- Gain more from existing assets by integrating diverse and distributed information, without moving data or changing platforms.

An on demand operating environment is built on market-leading, proven integration, collaboration and systems management technologies from IBM – giving you the on demand capabilities you need right out of the box. So you can get started today. To evolve your processes at a pace that suits your needs. And begin to see your long-term vision while realizing business value every step of the way.

“IBM’s automated monitoring tools identify irregularities before they become problems. That means cardholders, merchants and member banks can rely on MasterCard payment transactions.”

– Brian Lock, vice president, technology and architectural services, MasterCard International

Automation allows you to focus on your business strategy — not the systems that support it

Complexity — that’s what keeps CIOs awake at night. And that’s just the complexity of conventional systems within their enterprises. Now, consider the on demand era, with its ubiquitous integration of business processes, systems, applications and billions of devices. Too much for humans to manage effectively — or to configure, protect, optimize and repair. The solution? Automated technology that manages itself. Increases efficiencies. Simplifies the provisioning of resources. And allows you to build a collaborative ecosystem that encompasses your entire value chain.

In an on demand operating environment, your systems automatically handle everything from shifting workloads to providing new-user access, based on predefined policies. With assured availability, you can reduce IT administration costs. And reallocate valuable IT and human resources to higher-value work. You won’t have to worry about processes and functions like embedded security and privacy protection, workload balancing, software upgrades and fending off threats.

An automated IT infrastructure can not only protect itself from attacks and failures, but can also proactively anticipate such circumstances by searching for and identifying suspicious behavior patterns. Then take action to resolve potential hazards. So your systems can continue to meet the demands of your value chain without disruption.

To maintain your competitive advantage and user satisfaction, you need to deliver the quality of service your employees and customers expect. That means during peak seasons or spikes in demand, your IT infrastructure must effectively and efficiently respond by managing the load. By automatically deploying and dynamically allocating your IT resources to meet fluctuating business needs, you can maximize the value of and investments in your infrastructure.

“The IBM @server™ BladeCenter will reduce our rack space by 50%, cabling and power requirements by more than 85% — and at the same time we’ll double our processing power. This powerful breakthrough technology from IBM will help us become an even more cost-effective business and help us maintain our competitive advantage.”

– Craig Allan, CEO, VirtualOffis

If you’re thinking it sounds challenging, you’re right. Automating technologies require true invention. Real – and new – science at both the component and overall system level. But IBM is making it happen today with software, server and storage solutions that automate functionality to save time and money.

Autonomic computing plays a major role in automation – providing the technology that can make IT infrastructures self-managing. These self-managing characteristics combine to deliver the automation your on demand operating environment requires to deliver business value. Just like the human autonomic nervous system – functioning without conscious awareness or involvement – autonomic technologies enable your IT infrastructure to become self-managing. Minimizing the need for human interaction. Through our autonomic computing initiative, IBM is committed to developing the technologies you need to automate your IT infrastructure. And we’re delivering offerings with built-in automated capabilities today. So you can concentrate on your business strategy – not the technology that supports it.

Virtualization improves organizational responsiveness

Through virtualization, you get a single, consolidated view of – and easy access to – all available resources in your network. No matter where the data resides. Historically, virtual memory, virtual storage and virtual processing enabled computers to process jobs for hundreds – and eventually thousands – of users, simultaneously. Users gained mainframe-strength computing. And businesses got more use out of an expensive and powerful asset. Fast forward to today. Your organization may be sitting on top of enormous, unused computing capacity – in a plethora of locations. Mainframes idle 40 percent of the time. Servers work less than 10 percent of the time. And most PCs are doing nothing 95 percent of a typical business day. It’s comparable to an airline with 90 percent of its fleet on the ground. An automaker with 40 percent of its assembly plants idle. Or a hotel chain with 95 percent of its rooms unoccupied.

The on demand operating environment provides the flexibility you need to pay for only the processing power your business requires. You don't pay for excess just in case you *might* need it. Much like purchasing electricity, telecommunications or water — by the flip of a switch, the push of a button, the turn of a knob or the click of a mouse, you can add resources when demand requires. Dynamic hardware virtualization automatically and efficiently allocates physical resources — like processors, memory and storage — based on the logical needs of your IT infrastructure. Virtualization services handle requests for additional resources — and insulates runtime services from having to know where or how to provision them. You can increase efficiencies by combining resources to form a virtual capacity pool for applications. Instead of dedicating isolated resources to each application, you can combine and distribute them across all applications as needed.

The grid-computing model is one implementation of a virtualized infrastructure. Right now, the experience derived from government labs and universities is being applied inside companies. And you can take advantage of this expertise to optimize the use of your data and human resources. A single, virtualized computing and data system allows you to access and manage information and computing assets faster — and more cost-effectively. And helps increase operational efficiencies.

Eventually, these virtualized systems will move beyond enterprise walls to connect internal grid systems to an external grid. IBM has already implemented a grid to enable engineers to design next-generation microprocessors. Servers and engineering workstations from multiple business units are pooled and shared to support computer-intensive chip design and verification simulations. And it runs at 80 percent utilization, on average.

IBM also has servers and storage options that offer everything from capacity-on-demand upgrades to the ability to add processing power on the fly. As a proven leader in virtualization technology — like partitioning and workload management — IBM can help reduce your risk and let you to do business more productively, efficiently and cost-effectively in an on demand world.



IBM: A chip off the e-business on demand block

At IBM's 300mm chip-manufacturing facility in East Fishkill, New York, you can see automated computing in action. It's IBM's first fully automated, integrated, touchless semiconductor manufacturing line. The system collects and prioritizes customer demands. Then, instructs each manufacturing tool which product to run and how to run it—all without the need for direct human intervention.

Recently, a massive snow storm sent everyone home. But the team left a few measurement tools operating—monitoring them remotely through the Web. They continued to pump out product through the storm—even though no one was there. Because the chip-manufacturing team knows exactly what's happening to the product throughout the process, they can offer incredible turnaround times—and world-class yields. And get a jump on the competition.

Conclusion

In a world where orders push manufacturing schedules and suppliers to the limit, your business demands thrust your IT infrastructure into motion. With the right on demand operating environment – and with your IT operations aligned with your business strategy – your business is more responsive. Focused. Flexible. Resilient. You can more easily manage IT operations as one cooperative entity – and more effectively deal with the opportunities and disruptions that can influence your future growth.

The technologies to build an on demand operating environment exist today. So you can successfully deliver products and services that meet your customers' specific needs – on demand. Provide employees and students with information and insight – on the fly. Help your supply chains operate in tune with market fluctuations – in realtime. And realize the significant benefits of an on demand operating environment.

IBM is ready to help you transform multiple, individual systems into a single, uniform operating environment – wherever you are in your e-business journey. We can help you build an integrated environment to connect people, processes and information across your enterprise and beyond. One that is automated to dynamically provision resources as your business requirements change. And virtualized to help you make the most of your IT resources. So you can build an open, standards-based IT infrastructure that allows you to respond quickly to whatever comes your way. Concentrate on business strategy – not the technology behind it. Accommodate the demands of your entire value chain. And leverage existing investments.

For more information

Combining significant real-world expertise with leading technology, products and services, IBM can help you on the journey to becoming an e-business on demand. Wherever you are in the on demand development cycle, we have comprehensive solutions that can address your specific needs.

Leverage the information and insights that helped us shape our services and product strategies to design, build and deploy your own strategy. At a pace that supports your business goals. With an extensive network of IBM Business Partners, we are uniquely qualified to provide the solutions you need to succeed in an on demand world.

To learn more about e-business on demand and the on demand operating environment, visit:

ibm.com/software/info/openenvironment



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