



WebSphere software

**Running an on demand business
to succeed in the connected world.**

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Executive summary

The Internet has forever changed the way businesses operate. Buyers are more knowledgeable. Competition is global. Businesses deliver more products to market faster. Product life cycles are decreasing. And profit margins are shrinking. Global connectivity allows you to have easier access to worldwide markets. Now, with the emergence of Extensible Markup Language (XML) and Web services standards, you can more easily integrate your IT infrastructure with those of trading partners and suppliers. And transform your business model to optimize and extend business processes with value chains that include trading partners and suppliers. All to improve enterprise efficiency and gain greater business flexibility.

IBM defines e-business on demand™ as: An enterprise whose business processes – integrated end-to-end across the company and with key partners, suppliers and customers – can respond with flexibility and speed to any customer demand, market opportunity or external threat. It's an enterprise that has addressed the challenges of the connected world and has transformed its business processes and aligned its IT infrastructure with business needs to succeed.

On demand businesses need on demand operating environments. The on demand operating environment extends integration of people, processes and information to include the entire value chain. It virtualizes IT resources to improve utilization and align IT expenses with business needs. It's based on open standards. And it leverages automated technologies to manage IT resources – allowing you to focus on running your business.

IBM software offerings, including the IBM WebSphere® software platform, are integral components of an on demand operating environment. WebSphere software provides a robust platform to develop, run, integrate and access business applications.

To prepare for the transition to on demand business and an on demand operating environment, you should outline a plan to evolve your business processes and operating environment. The current capabilities of the WebSphere software platform and its future roadmap can enable you to become an effective on demand business and succeed in the connected world.

Defining on demand business

e-business on demand: An enterprise whose business processes—integrated end-to-end across the company and with key partners, suppliers and customers—can respond with flexibility and speed to any customer demand, market opportunity or external threat.

Introduction

Today, businesses face the daunting task of doing more with less – and doing it faster. To achieve your business goals, you have to improve efficiency, integrate current and future systems end-to-end, and become flexible and responsive. To compete, you may have to reach a more global supplier base and conduct business in realtime. Existing IT infrastructures aren't equipped to meet all these needs at once. To reach your objectives, new technology is available to help:

- *Reduce cost and improve speed.*
- *Integrate people, processes and information across and beyond the enterprise.*
- *Create and deploy new business processes as needed.*
- *Adapt existing applications and business logic to meet changing requirements.*

This paper describes challenges that businesses face and outlines an approach to leverage new capabilities to meet these challenges – by evolving your business processes and IT infrastructure. It explains how the WebSphere portfolio of offerings can help you build an on demand operating environment that enables on demand business.

Planning the path to on demand business

Many factors can shape the business model of today's enterprise, including the current economic and geo-political climates, the competitive environment, technological advancements and changing business environment. Some drivers, such as the economic and geo-political climate, are short-term; others can permanently change the nature of your business and your business model.

Identifying key business drivers

The ability to connect globally through the Internet has irrevocably changed the way we live and conduct business. Buyers have access to unprecedented amounts of current information about products, pricing, availability and the ability to purchase from anyone, regardless of location. This shifts more power to the buyer by helping them get maximum value from their investment.

The Internet has also introduced almost every business to global competition. Small businesses – such as locally owned bookstores – and even businesses without an Internet presence, have to address competition from companies on the Web.

Outsourced manufacturing and electronic design systems have reduced the barriers to entry into the worldwide marketplace. Using the Internet, vendors can work with their trading partners to design competing products, outsource manufacturing and quickly reach a customer base. Competition is poised to quickly target successful products. Product cycles are becoming shorter. And margins are eroding.

Fortunately, businesses also have easier access to a global marketplace and global resources. The Internet allows even small businesses to conduct business worldwide with little additional investment and often without establishing a presence in multiple countries. The availability of XML and Web services standards – complemented by universal connectivity – significantly lowers the cost of integration with trading partners and suppliers. And improved integration with trading partners and suppliers can lead to new business models, with dramatic gains in business process efficiency and lower costs.

Running an on demand business

The dot-com bubble has burst, but Internet technologies and global connectivity are here to stay. The result is a marketplace where businesses have to deliver increasingly innovative products and reduce product cycles by focusing on core competencies. Increase responsiveness to changing business conditions. And address electronic, natural and other threats. All while significantly reducing and managing costs to align with changing business needs.

Serving a knowledgeable buyer requires innovative, even customized, products – delivered rapidly to the marketplace. Innovation and differentiation can also keep a business out of a commodity marketplace, and as a result, help maintain business-sustaining margins. Each enterprise has different core competencies that are the source of innovation and competitive positioning. For example, one business may excel at design while another, manufacturing – or something entirely different. By focusing on your core competencies, you can quickly deliver leading and differentiating offerings to the marketplace.

Success may depend on your ability to respond immediately to unexpected change. The rise or fall of supply and demand. Global political and economic variables like oil prices or interest rates. Product pricing decisions. Shifting consumer preferences. Fluctuations in capital markets. And everything from the unpredictable to the unknown – whether hackers or hurricanes. In an increasingly dynamic world, your business has to be flexible to succeed. Flexibility and responsiveness have to be designed into the core business processes – including interactions with customers, trading partners and suppliers.

The competitive global marketplace requires that you lower your costs and improve the efficiency of your business. Judicious outsourcing of nondifferentiating functions to strategic trading partners not only improves efficiency, it can also help you achieve a variable cost structure to increase flexibility. And it allows your business to focus on core competencies. Your strategic trading partners can be innovative in their core competencies to provide your company better services at a reduced cost. You can adjust your use of these services on demand without making significant up-front investments in fixed assets.

Through on-going business transformation, focusing on core competencies, increasing flexibility and managing costs, your company can become an on demand business. You can satisfy customers with customized products and services – and respond in realtime. Provide employees, suppliers and trading partners with the information they need to work smarter, faster and at a lower cost to your enterprise. Reconfigure a supply chain based on schedule, price or location – whatever the present need – with the flexibility to integrate on the fly as suppliers change.

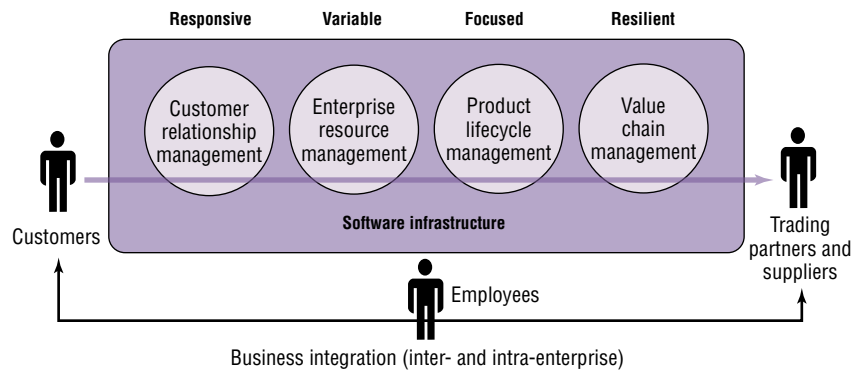


Figure 1. The on demand business

On demand business enables leaders to see and manage the enterprise as an integrated whole – even if other companies handle important processes. This way of doing business is about much more than operational efficiency. It’s about unlocking new value by transforming and integrating processes into an end-to-end e-business model.

Leading businesses have already started to transform their processes and IT infrastructures toward an on demand business model. Still, individual business needs differ. You need to evaluate your business, identify core competencies and then define a plan to transform your business into an on demand business.

Defining an on demand operating environment

The on demand operating environment integrates people, processes and information and extends integration to trading partners and suppliers—to include the entire value chain. It virtualizes IT resources to improve utilization and align IT expenses with business needs. It's based on open standards. And leverages automated technologies to manage itself—allowing you to focus on running your business.

Transforming your infrastructure to an on demand operating environment

As a traditional business evolves toward an on demand business, it increasingly leverages its IT infrastructure. In an environment where orders can impact manufacturing schedules and suppliers in realtime, the business is executed by the IT infrastructure. Typical IT infrastructures, however, are not prepared to support a highly dynamic, responsive and integrated business environment. The past 40 years of IT evolution have left most companies with an enterprise computing infrastructure that is heterogeneous, widely distributed and highly complex. To realize the benefits of on demand business, you will need to transform your current computing infrastructure to an on demand operating environment that is integrated, automated, virtualized and open.

An integrated operating environment enables you to optimize and extend your value chains to leverage new opportunities. Beyond connecting internal disparate computing assets, an integrated operating environment connects to people, processes and information within the enterprise and to the IT systems of trading partners, suppliers and customers. As a result, you can provide greater access to enterprise resources to your entire value chain. And improve the speed, efficiency and flexibility of your enterprise.

Increased dependency on IT systems makes the cost of failures very high. Automation enables businesses to overcome the complexity of systems management to enable better use of assets, and improve availability and resiliency while reducing costs. An automated operating environment provides system provisioning, optimization, security and availability aligned with business policy—even if faced by environmental conditions, such as human error or natural disaster.

To use computing capacity more efficiently, you need an operating environment that is virtualized. Virtualization improves asset utilization because it allows you to treat resources as a single pool, accessing and managing resources independent of physical location. Virtualization reduces idle time, turns isolated islands of resources into valuable data and increases capacity. You can reduce the need for fixed assets and align IT costs with actual business usage, such as servers and storage.

Today's disconnected and heterogeneous infrastructures which consist of a variety of hardware and software platforms were built through years of IT investment. To achieve enterprisewide integration, you need to evolve existing systems to support open integration standards. An open-standards-based operating environment allows you to preserve existing investments as you integrate your enterprise.

You need a flexible IT infrastructure to run a responsive business. One that can adapt to changing business processes and strategies. A service-oriented architecture (SOA) enables you to develop business applications that are inherently flexible and adaptable. In an SOA, you can turn applications into a set of services that performs business-level tasks like ordering parts or performing credit checks. Then, combine internal and external services to construct more manageable and better monitored business processes. This architecture can help you reduce cost by reusing IT resources. And an SOA can be implemented on an existing IT infrastructure incrementally with measurable ROI at each stage.

Creating an on demand operating environment using WebSphere software

The software at the core of an on demand operating environment must support key on demand business properties. IBM software products – including IBM DB2® information management software, IBM Lotus® collaborative technology, IBM Rational® software development platform, IBM Tivoli® intelligent management software and WebSphere e-business infrastructure software— provide proven solutions you can use to create and run an on demand operating environment. WebSphere portfolio products are specifically designed to enable:

- *Integration of applications, processes and content across and beyond the enterprise*
- *Expanded access to computing resources on demand*
- *Dynamic construction and assembly of new business services that leverage existing business systems*

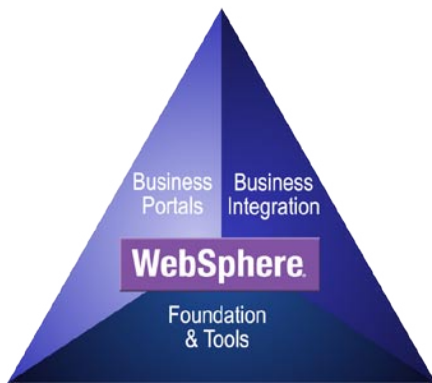


Figure 2. IBM WebSphere software platform

Building on the WebSphere software platform

IBM WebSphere software platform is the leading software platform for e-business on demand. Successful industry leaders choose this adaptable, open-standards-based platform to reliably deliver business results today – knowing that it gives them the freedom to grow their business in the future. WebSphere software enables business process and application integration within and outside the enterprise. Provides a platform to develop consistent user interfaces to business applications. And provides a scalable and reliable foundation to develop and deploy applications. To support your on demand operating environment, WebSphere software offers comprehensive solutions to address fundamental business issues:

- *A strong foundation and tools to help reduce business risk*
- *Business portal software to strengthen business relationships*
- *Business integration software to optimize operations*

Minimizing business risks using a strong foundation and tools

To rapidly develop and deploy applications for a high-performance, on demand business, you need an easy-to-use tool base. A reliable foundation and comprehensive tools from WebSphere software provide three key capabilities: open-services-based infrastructure, application development and enterprise modernization.

To minimize business risk, the core of the operating environment must be based on a strong foundation integrated with tools to support business flexibility and responsiveness. IBM WebSphere Application Server provides a scalable, open-standards platform that supports Java™ 2 Platform, Enterprise Edition (J2EE) standards, XML, Web services and others. WebSphere Application Server features can enable a virtualized and automated operating environment to maximize flexibility.

The new applications you develop should capture business knowledge effectively and integrate with and leverage your existing operating environment. IBM WebSphere Studio provides the open, extensible, comprehensive development environment you need to rapidly develop dynamic business applications and improve responsiveness.

You have to preserve existing investments in systems and applications – however disparate – to keep costs down. And integrate existing IT assets smoothly in your new e-business infrastructure. IBM WebSphere Host Integration can help you leverage and extend existing assets to reduce the time it takes to deploy new services.

Strengthening relationships using business portals

As critical business functions move online, you need to provide an integrated and tailored view of business information and applications to your employees to strengthen relationships with customers, trading partners and suppliers. Business portal software from IBM helps you increase customer loyalty and reach new markets using portal, e-commerce and access on demand offerings.

IBM WebSphere Portal integrates the business user interface to provide a single point of personalized interaction with applications, content, processes and people. When you personalize and customize user experience, you're better able to anticipate user needs and, as a result, improve customer satisfaction and employee productivity. Combined with sell-side solutions from IBM WebSphere Commerce, business portal software from IBM provides the capabilities to reach new markets and tailor each user's environment to meet individual needs.

When you extend the user environment to enable your entire value chain to access information when and where they need it, regardless of device, you provide access on demand. Today, with mobile device technology, you can take your business to places and people that were unreachable with traditional computing platforms. Natural voice interaction with devices and data systems has further extended the real and potential reach of e-business. With IBM WebSphere Everyplace® and IBM WebSphere Voice, business portal software from IBM allows you to give greater access to valuable business information. And facilitate realtime collaboration between users across the enterprise value chain.

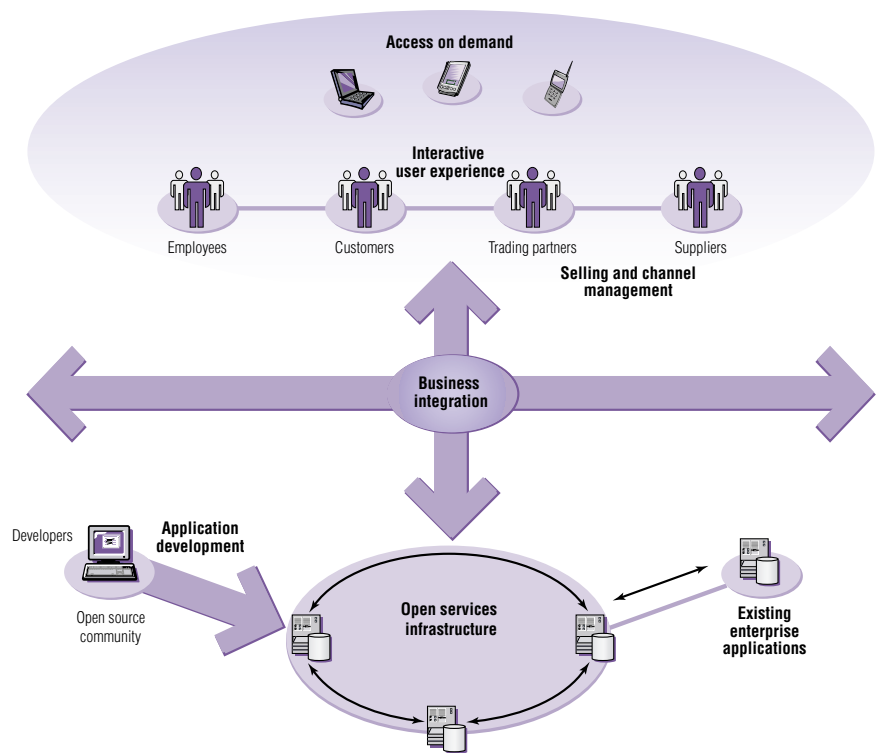


Figure 3. WebSphere software platform capabilities

Optimizing operations with business integration

Integration is critical to successful on demand business. IBM WebSphere Business Integration product families help optimize operations by integrating software applications and automating business processes – to yield operational efficiency and business flexibility.

IBM WebSphere MQ (formerly IBM MQSeries®) reliably connects internal and external applications to safely exchange information across and beyond the enterprise. The more complex your enterprise, the greater the integration challenge. You need a structure that supports business processes across functional and business boundaries. WebSphere Business Integration software provides the software infrastructure you need to address integration challenges. You can automate selected processes. And leverage best-practice industry process templates to speed process automation. WebSphere Business Integration software provides management and measurement functions, so you can adapt quickly to changing business needs. And model, integrate, connect, monitor and manage critical business processes efficiently.

Realizing the benefits of using WebSphere software

With the WebSphere software platform as the foundation of your on demand business, you can reduce overall costs, improve business flexibility, and operate faster and more efficiently. To see how, consider the success of actual customers.

Reducing costs

WebSphere software can help reduce costs through integration, open-standards support and by providing automated features. Integration of business processes and content across the extended enterprise allows applications to share capacity across existing application silos – leading to better use of resources and reduced total cost of ownership. And, WebSphere software enables integration with trading partners to help extend these benefits across the value chain and facilitate outsourcing – further reducing costs.

Food Lion, an eastern U.S. regional grocery retailer, wanted to leverage e-business supply chain technologies to better communicate with its suppliers. To improve business responsiveness, the company implemented an item management solution combining IBM WebSphere Business Integration for Retail Distribution and UCCnet item registry and data synchronization services. This enables Food Lion and its trading partners to improve accuracy of order information, efficiency and profit throughout their supply chain – and speeds the distribution of products to retail stores. The solution allows realtime changes to the item information infrastructure. So Food Lion can considerably reduce errant purchase orders, returned shipments, reductions, logistics systems errors and associated costs throughout its supply chain.

Improving flexibility

WebSphere software enables dynamic construction and assembly of new business services by promoting modular, open-standards-based development. As a result, you can change and deploy business processes almost at will. WebSphere software also facilitates dynamic integration with trading partners over the Internet. This allows you to rapidly create connections with new trading partners and adapt quickly to changing business relationships.

eBay, Inc., the leading Web-based auction site, wanted to build a highly extensible, flexible platform for its next-generation trading application. With more than 250 million Web hits per day, processing speed, 24x7 reliability and flexibility are key to the company's continued success. eBay chose the foundation and tools provided by WebSphere infrastructure software to help its IT team to develop a highly scalable, dynamic and robust platform capable of managing its enormous workload swiftly and continuously. This was a significant achievement. In addition, eBay's flexible infrastructure allowed the company to deploy new capabilities quickly to support changing business needs. And, the infrastructure allowed the company's developers to create and deploy weekly tens of thousands of lines of new code – with no downtime.

Increasing speed

To remain competitive, you need quick response times, as well as reduced time-to-value processing cycles – for example, reducing the time it takes to complete order-to-cash processes. WebSphere business integration capabilities increase the level of automation and execution speed of business processes – while reducing human involvement. WebSphere software also improves speed by optimizing use of IT resources. Automated system features – such as self-managing, self-calibrating infrastructures, application profiling and tuning tools – all work together to enhance the speed at which a system responds.

The Bekins Company, a major U.S. van line, needed to change the way the company assigned shipping jobs to its agents. Traditionally, assignments were given by phone or fax – which resulted in real delays and a perception among agents of unfairness. Today, Bekins' Tonnage Broadcast Exchange system – built on the WebSphere software platform – automates the job-tendering process. Each shipping opportunity is made available simultaneously to all qualified agents. Agents then instantly claim jobs. The solution has helped Bekins realize \$75 million in increased revenue and reduced operating costs by \$1 million. Cycle times are 25 percent shorter. And customer satisfaction and loyalty have improved.

Improving efficiency

Efficient systems help reduce costs and increase operational speed.

WebSphere software helps businesses build and maintain efficient systems through dynamic reallocation of IT resources (an automated feature), adaptive load balancing among servers and the benefits of a common, multiplatform transactional runtime environment with integrated collaborative services.

Prudential Financial companies serve individual and institutional customers worldwide. Prudential needed to deliver a more responsive customer service system while lowering operational cycles and costs. The company used WebSphere software to develop and deploy an integrated Web portal to merge realtime account access with insurance product information and planning services. These services were provided by a large workforce dedicated to helping customers make smart investments. The solution, built on the WebSphere software platform, included portal, development and messaging technology from IBM. It integrates content from various LOB back-end systems to enhance customer experience through realtime information access. Reduces call-center costs with significant year-on-year reduction in call volumes. Supports 300,000 registered users, with 400 new registrations and 8,000 unique visits per day. Now, Prudential processes 15 percent of exchanges and 5 percent of redemptions online, and nearly 155,000 mutual fund statements have been downloaded since Prudential's Web portal was launched. The new system's increased efficiency saves Prudential and its customers time and money.

Preparing your on demand business for growth

When you use the WebSphere software platform as the foundation of your on demand business, you're prepared to enter a new era of e-business, rich with opportunity for growth. As the WebSphere platform expands to deliver more on demand business capabilities –such as realtime business activity management, open integration services and business portals with enhanced collaboration – your company will be prepared to implement more comprehensive business integration. You'll be able to take advantage of automated error detection and automatic distribution of work and applications capabilities to enhance operating environment efficiency. And through the evolution of the foundation, leverage open grid services architecture (OGSA)-based computing –creating a continuous, virtual system that spans widely distributed computing resources – to benefit your entire enterprise.

Summary

The race to become an on demand business has already begun. The competitive marketplace and emerging technologies are driving the need for businesses to evolve. A wide array of business and technology services combined with software and hardware offerings makes IBM the leading vendor to enable on demand businesses.

IBM software offerings, including WebSphere software, provide key components of the on demand operating environment. WebSphere software offers leading integration capabilities, strong support of open standards and an on demand roadmap to meet your IT infrastructure needs today, and in the future.

For more information

To learn about growing and maintaining your competitive advantage by becoming an on demand business, visit ibm.com/ondemand.

To learn how IBM WebSphere software platform can help you plan and run an on demand business, visit ibm.com/websphere.



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