Benchmarking Partners
A division of Surgency™

Competing for the World Cup in Business:

Qualifying as Players, Winning as Teams

How Powerhouse Firms Are Leveraging e-business Infrastructure

IBM

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Benchmarking Partners is the industry analysis and research division of Surgency. Since 1994, Benchmarking Partners has been working with multinational corporations to advance emerging best business practices and assess the benefits of technology-based transformation.

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Executive Summary: World Cup Every Day

Benchmarking Partners recently completed a new study of key firms across 21 major industries, conducting over 1,100 confidential, in-depth interviews with executives from 425 firms on their business processes and information systems—emphasizing their plans for team competition through inter-enterprise collaboration.

The study revealed a distinct subset of businesses that are qualifying themselves for World Cup competition.

When Kmart filed for Chapter 11 bankruptcy protection, many saw it as the fall of an individual company or the rise of individual competitors such as Wal-Mart and Target. But business today is a contest between teams that are, themselves, made up of multiple international enterprises. These winning teams offer customers an unprecedented range of products and services, customized and delivered as part of a new style of competition.

Every four years in football ("soccer" to Americans), national teams assemble "their" best players from among the established franchises across the globe. The FIFA World Cup™ goes to the team that can best mold these all-stars into a cohesive unit.

In business, World Cup competition is fought every day. But no matter how strong an individual enterprise is in this competition, it can't win as a single player. Only a team can compete for and win the World Cup in business.

In the late 1990's, just when many senior executives thought they knew what global business demanded, the world and the game of business shifted under their feet. Market forces such as the rising demand for "total solution" aggregation and for customized solutions, as well as the accelerating compression of product lifecycles, drove many of the world's most powerful companies to form new alliances.

These new "teams" have changed the landscape of business. Wal-Mart, for instance, upped its offerings to its customers by forging new working relationships with its suppliers and, as a result, became the world's largest retailer. In the last 13 years, Wal-Mart went from zero revenues in the grocery business to becoming the largest grocer in the United States, responsible for 11% of the entire U.S. food chain store sales.

These corporate alliance teams now work so closely together that they are best understood as ecosystems. They have so changed the competition that average businesses fear for their continued existence if they cannot become a member of a winning team.

What does it take to qualify to play on a team that ranks as a contender? And what will it take for that team to win?

The level of play continues to escalate even in today's conservative business climate. Indeed, market leaders see themselves as being in only the early stages of ecosystem formation.

Recent research by Benchmarking Partners found team competition across 21 industries (with the obvious exception of the Government sector where related but different dynamics are at work). This study identified the distinctive market forces that are driving that competition in each industry, and the strategies that market leaders are adopting to participate on winning teams.

The study also decomposed the business processes required for ecosystem teams to serve customers in each industry. The process status in each of the 21 industries was used to populate process maturity grids that stratified the range of practices now in use. The study's findings have been incorporated into a new tool for executives, **the e-business Collaboration Tool**, jointly developed by IBM and Benchmarking Partners/Surgency.

Championship Qualities

A wide gap separates **players** who qualify for championship teams from those who do not. A similarly wide gap separates **teams** who win consistently from those who do not. **Championship teams are** *solving* **problems that average players do not even** *recognize*.

The study identified four "championship qualities" that distinguish the all-star players (enterprises) and their emerging winning teams (ecosystems).

Championship Qualities

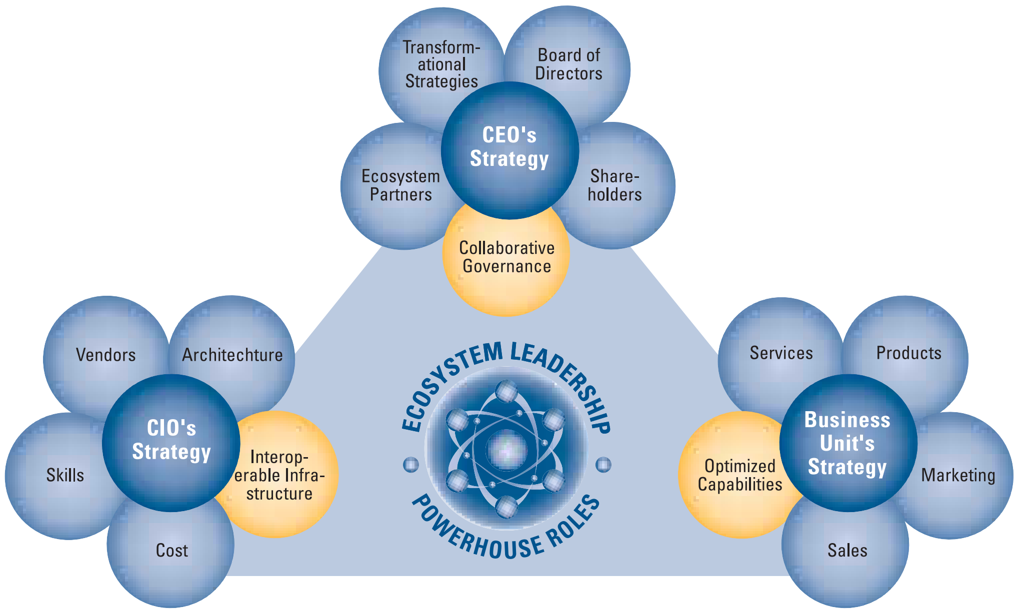
Championship Qualities	Key Actions	Who Has Primary Responsibility	Primary Impact Dimensions	Champion's Activity
Ecosystem Leadership	Seizing Powerhouse Roles by Using External Market Forces in Combination with Internal Competencies	**CEO & Board of Directors**	Catalytic	**Champions play a different game.** **Proactively leveraging external market forces and organizing around powerhouse roles is the defining prerequisite of both championship players and teams.**
Collaborative Governance	Adopting Transformational Strategies	**Senior Management (CEO's Team)**	Strategic	**Champions act on the basis of what is happening on the entire field, not just in one zone.** **Strong players and teams align and mobilize their entire organizations around transformational strategies.**
Optimized Capabilities	Differentiating the Ecosystem with Coordinated Execution	**Business Unit Leaders (COO's Team)**	Operational	**Champions embed intelligent, closed-loop, proactive feedback into their *team* decision-making.** **Champions implement incentives for sharing knowledge and information.**
Interoperable Infrastructure	Joining Team's Information Systems and Business Processes with Interlinked Technology	**CIO's Team**	e-business Infrastructure	**Champions integrate information flow as an enabler of interoperability.** **They link the demand and supply business process and decision-making systems of ecosystem partners.**

Source: Benchmarking Partners™/Surgency™

While the four Championship Qualities express themselves most powerfully outside the enterprise—in ecosystem value delivered to customers—these qualities are located within each member firm of winning teams.

Figure 1

The Four Championship Qualities As Situated Within an Individual Enterprise



Source: Benchmarking Partners™/Surgency™

These championship qualities are currently influencing competition in every sector of the global economy. In order to highlight the actionable aspects of this dynamic for the executive, this document reports on several concrete examples from three very different points of reference:

- **Emerging Business Processes:** "Profitable-to-Promise" is a central capability—fast becoming common to all championship players and teams and usually requiring all four of the championship qualities for its implementation.
- **Industry Sectors:** The Automotive industry is being reshaped by the growing role of the Tier 1 suppliers.
- **Emerging Trends in Bundling Products and Services:** IBM has exerted market leadership as a Total Solution Provider.

Report of Study Findings

21 Industries Covered

- Aerospace / Defense
- Automotive
- Banking
- Chemical
- CPG
- Education
- General Manufacturing
- Electronics
- Government
- Health / Life Sciences
- Insurance
- Media & Entertainment
- Net.Generation
- Oil & Gas
- Pharmaceutical
- Retail
- Telecommunications
- Transportation
- Travel
- Utility
- Wholesale

The Competition for the World Cup in Business: How Champions are Outplaying Their Competitors

Executives from "all-star" enterprises repeatedly emphasize how their firm's strategy is based on ecosystem team success. This document distills lessons from the experience of these extraordinary companies (firms as "players") and their closest business partners (organized ecosystems as "teams").

The all-star executives most often perceive their own teams and those of their competitors as being under construction. They point out how their own ecosystem's roster is in flux. They perceive their marketplace to be at the earliest stages of global ecosystem rationalization.

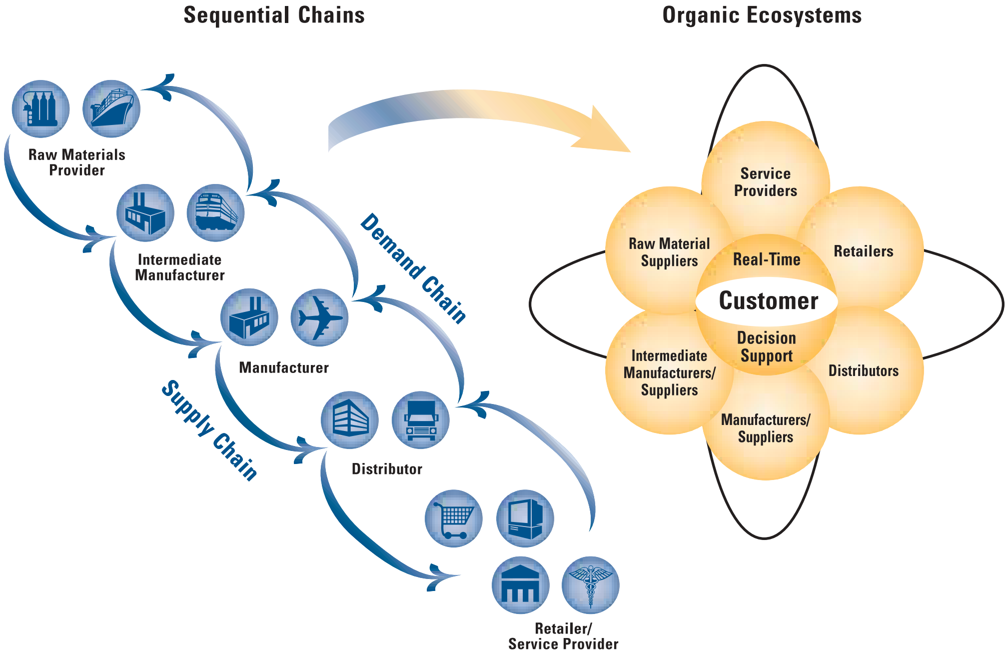
While their team's success is enabled by advanced technology, executives from all-star enterprises stress the primacy of three additional key dependencies:

1. **Targeted Scoring Offensives**: Build upon strong business models, i.e., having a winning, unique value proposition in tune with a thriving market. Here, they most often stress the importance of global market conditions beyond their control and how they are shifting their business relationships to adapt to changing market forces.
2. **Team Alignment**: Synchronizing their individual firm's value proposition, their sales and marketing efforts, and their product/services & business development efforts with those of their ecosystem partners.
3. **Coordinated Execution**: Operationally connecting their ecosystem's supply and demand chains in real time (i.e., how their ecosystems combined to produce value for their customers[1]).

[1] For simplicity's sake this document uses the term "customer" to refer to the ecosystem's ultimate customer (the firm or individual who pays for the goods/services that are the combined output of the team). The fact that this customer may or may not be the end-user or consumer of this output raises other issues that are outside the scope of this paper. Increasingly, the player serving the end consumer has the greatest potential for securing ecosystem leadership.

Figure 2

Powerhouse Team Formation



Source: Benchmarking Partners™/Surgency™

Ecosystem Leadership: A Single Brand Owner in the Role of Team Captain

This study focuses on how market-leading global teams are changing the nature of business competition. Customers often only recognize the work of a single brand owner. That brand-name organization, then, represents the efforts of multiple enterprises in the mind of the customer who sees that one firm as ultimately responsible for:

- pulling together the overall value package
- customizing the total solution (product/service offering and buying experience)
- creating unique value
- standing behind the quality of the purchase.

A brand owner leads its ecosystem by winning the customer's allegiance. And this allegiance confers on the brand owner a captain's role that goes beyond that of a star player.

Business teams are not democratic. As long as the captain maintains the confidence of customers and teammates, it leads the team in targeting markets, choosing partners, changing team strategy, and setting expectations of others—including the pace of new technology adoption, standards for judging performance, and modes of joint decision-making.

Customers and the public, with little visibility into the ecosystem, most often refer to championship teams by their captains (e.g., Wal-Mart, Cisco, or IBM).

Championship players and teams distinguish themselves from average competitors in the majority of business operations areas that Benchmarking Partners examined. In fact, in certain key process areas the level of play is rising at an accelerating pace. This means that championship teams are pulling further away from their average competitors in terms of the specific business processes most important to competition among ecosystems.

This document summarizes the highest impact take-aways, drawn from close examination of team participation by the cross-industry sample of 425 individual firms, many of which are, themselves, multi-billion dollar enterprises with multiple divisions across the globe.

From Vertical Integration to Virtual Interoperability

The industrial giants of the past built empires on the basis of vertical integration, the direct ownership of multiple tiers of supply chain participants. The Carnegie Steel Corporation, for example, owned iron ore and coal mines, railroads and steamship fleets, smelting plants, warehouses, and distributors. But even under a single owner, efficiently coordinating all these "departments" proved to be unwieldy and burdensome.

Today, industry leaders are moving in the opposite direction as far as ownership. But in order to achieve efficiencies they are pursuing "virtual interoperability". These captains are offloading activities and, in some cases, even the coordination of those activities—going far beyond what has traditionally been described as "outsourcing."

With execution coordinated as a team, these new virtual extended firms can be much more efficient in their business processes than their competitors, even those who are vertically integrated. More importantly, their combined business capabilities extend to areas not even possible in the world of vertical integration.

From Vertical Integration to Virtual Interoperability		
Characteristic	**Vertical Integration**	**Virtual Interoperability**
Role Orientation	**Own It All, Do It All**	**Multiple Players Have Powerhouse Roles**
Focus and Primary Decision-Making	**Process Control**	**Getting as Close to the Customer as Possible; Meeting Need of End Consumer**
Style of Operations	**Repetitive and Predictable**	**Flexible with Calibrated Responsiveness**

Source: Benchmarking Partners™/Surgency™

"We want to be a 'virtual factory' in order to have all of the advantages of our own facility—e.g., direct visibility to WIP (work in progress) and being able to make changes online—without having to make the $1B+ investment."

– Manufacturer VP

(Source: Benchmarking Partners Primary Research)

Winning teams are going beyond cross-functional processes to address cross-enterprise processes. Constraints on an ecosystem's degree of interoperability limits how much value it can deliver to its end consumers.

Ecosystems are organizing themselves to make readjustments in most demand and supply functions as close to the customer as possible. In contrast to vertical integration scenarios, this process takes advantage of information in the hands of dispersed ecosystem partners who are closer to the action in question.

Ecosystem dominance today is as much about the rapid introduction of—and market penetration with—new and enhanced products and solutions as it is about serving demand for existing solutions. Championship teams leverage the total asset capabilities of all their constituent players to accelerate product/service development and introduction in ways not previously possible in vertically integrated enterprises.

"Interoperability" is more than the exchange of data or automated messaging between application systems. It is also more than cross-enterprise processes that are limited to individual buying and selling transactions.

True interoperability extends across enterprises so effectively and efficiently that individual members act in a synchronized decision-making and execution fashion around the end consumer. For example, Cisco developed an ecosystem that works from a single daily customer demand signal shared across all its suppliers—allowing the ecosystem to deliver more than 50% of its orders from supplier to customer without the intervention of a single Cisco employee and without even stopping in a Cisco warehouse.

Simply securing data flows without enabling harmonizing business processes and decision-making guarantees that players will not achieve more than a fraction of the business value potential from virtualization—incurring huge hidden opportunity costs.

The Hidden Costs of Virtualization

Market-leaders have made substantial investments to achieve the benefits of inter-enterprise collaboration. But virtualization requires much more than simply passing data back and forth between ecosystem partners.

Enterprises often underestimate the cost of aligning themselves in terms of collaborative decision-making and business processes. These "hidden" costs include investments in restructuring responsibilities and business rules (both in organizational and software terms), in change management, and in building the intelligent interoperable infrastructure needed to support the workings of a virtual enterprise.

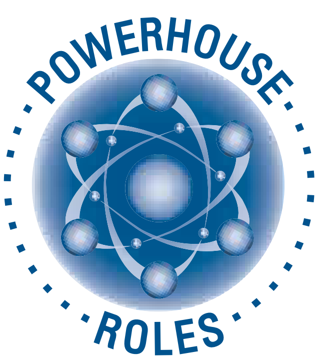
Worse, simply unleashing data flows without harmonizing business processes and decision-making guarantees that players will not achieve more than a fraction of the business value potential from virtualization–incurring huge hidden opportunity costs.

Significant coordination and effort are required to handle governance issues, for example. When Wal-Mart, Warner-Lambert, and others worked together in the development of CPFR (Collaborative Planning, Forecasting, & Replenishment) they had to identify ecosystem-wide benefits and work out how to share the costs and risks as well as the benefits.

The first generation of computerized inter-enterprise collaboration was limited to point-to-point communication, often amounting to a game of automated catch up. The primary "automation" was the generation of exception messages in response to the detection of discrepancies from expected outcomes. Dealing with the volume of these exception messages became a significant expense for many early adopters.

For champions, the benefits of ecosystem virtualization are, nonetheless, proving to be worth the costs and risks. They are managing the hidden costs of virtualization so that the ecosystem value equation is a profitable win-win-win for the ecosystem customer, the ecosystem as a whole, and ecosystem team members.

Champions manage their investments in interoperable infrastructure as a critical component to competitive ecosystem differentiation rather than a necessary evil. Consequently, champions lead in facilitating and accelerating ecosystem infrastructure development.



The "Championship Qualities" of Powerhouse Players and Powerhouse Teams

In this new study, Benchmarking Partners identified four "Championship Qualities" that characterize winning players and teams.

1. Ecosystem Leadership: Champions play a different game.

Leaders at all-star firms, invariably and repeatedly, set goals connected with specific roles for their firms within their ecosystem and do what it takes to achieve them. This preparation begins years before it is visible and continues as long as they remain in business.

More than the traditional focus on existing customers or existing core competencies, these champions focus on which customers they "should" have—both now and in the future—and what competencies they will need to attract those customers. Champions focus on capabilities required in a changing game.

Championship teams concentrate their collective attention on the goal of providing exceptional value to the end consumer, but their players all understand and focus on unique roles. Contrast this with "teams" who are not able to coordinate their activities in reaching the goal: they trip over each other. They all try to do the same thing—like grade-schoolers trying to play football/soccer for the first time—simply milling around wherever the ball is at the moment.

Pressure to reduce the number of suppliers intensifies as teams evolve. Cuts are being made at every "position" on the team and reported in the trade press—whether it is in direct materials (where one large OEM recently just cut its primary computer and printer suppliers from 20 to 4) or indirect goods (where Cargill's goal is to go from 46,000 to 5,000).

One manufacturer said, "We can't afford the cost of interacting with our 12,000 suppliers or even our 1,200 key suppliers."

Leveraging external forces to their advantage and organizing around powerhouse roles is the defining prerequisite of both championship players and teams.

Brazil, the quintessential powerhouse team, didn't just have the "athlete of the century", Pelé. It had a slew of other players known throughout the world on a single name basis (Jairzinho, Rivellino, Zico, Gerson, Tostao, Socrates, and Garrincha). Similarly, the U.S. team that won the first Women's World Cup in 1999 was not limited to its most famous member, Mia Hamm.

In a recent speech, Joe Magliochetti, Chairman and CEO of Tier 1 Automotive Supplier, Dana, said "DaimlerChrysler, Ford, and GM are expected to move from an average of more than 2,000 suppliers each in 1999 to an average of 175 each by the year 2005."

Every firm (player) doesn't have the speed and shooting accuracy to aspire to Pelé's or Mia's striker position. But it may be able to develop the stamina required to be a successful halfback or the big kick and good headers to make it as a fullback.

Champions repeatedly and systematically recognize and respond to external market forces, such as:

- globalization of their markets
- the entrance of new low-cost suppliers
- rapidly shifting customer preferences
- expectations for newly bundled goods and services
- increasing market transparency
- falling technological and regulatory barriers

These market forces affect all firms. Market leaders respond earlier and more substantively by changing their own business models. They set clear destinations linked to particular roles that realistically match their capabilities—although often not limited to their current capabilities at the time. They do not try to be the best at everything. They work toward appropriate powerhouse roles, directly linked to their vision of the ecosystem's future and their firm's potential role & contribution to that ecosystem's success.

Just as there are only 11 "starters" on World Cup teams, business teams are formed with a limited number of players. And, across every industry in this study the number of players is being consciously reduced. It is not only more cost-effective to concentrate purchases with a few strategic suppliers, but also reduces the number of collaborative partnerships that take time and energy to develop.

All-stars are making this dynamic a centerpiece of their planning. They are making decisions today in the context of their ecosystems' future.

2. Collaborative Governance: Champions act on the basis of what is happening on the entire field, not just in one zone.

Champions align and mobilize their entire organizations around choosing and executing a select few transformational strategies. This allows the whole ecosystem to unify and prioritize resources and business processes around strategic themes. Through these themes, a championship team is constantly expanding its offerings and sharpening its unique value proposition to its customers.

Average players expect continuity. They assume their job tomorrow will be a variant of what it is today. They may be determined to do their best at that job, perhaps even to improve their performance substantially. But their blinders confine their vision to excelling at their present duties and fail to consider events outside their field of vision.

Average companies do not even recognize that the capabilities that once differentiated them are now expected of all competitors. They often fail to recognize the new capabilities around which their powerhouse competitors have mobilized.

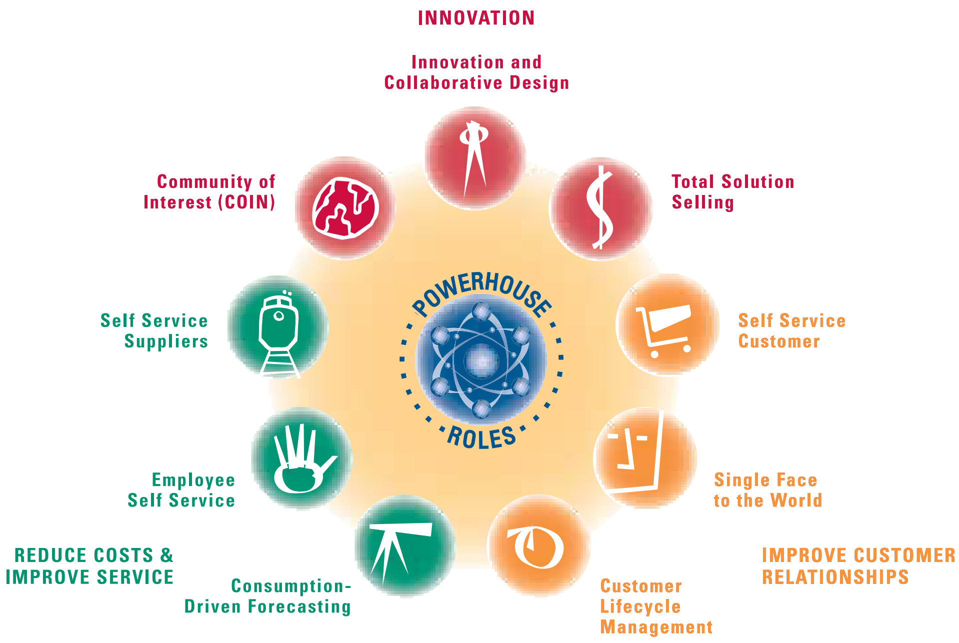
All-star players are noticeably different. They key off the needs of the team as a whole, particularly following the lead of their team's captain and doing all they can to increase the scoring power of that captain. They accept that their responsibilities require them to be aware of what is happening across the entire field of play.

Championship teams quickly respond to their changing external environment—both the changing needs of the customer and the changing offerings of competitors—by altering the activities of the ecosystem as a whole. They change their strategy in response to the strengths and weaknesses of their opposition as well as their teammates. They would never leave an extraordinarily talented opponent unguarded. Captains who lead championship teams are constantly looking for teammates capable of such flexibility.

A strong team responds as a unit to assure that it achieves what the opposition cannot, even though each of its players may not be independently superior to their counterparts.

Figure 3

Ten Transformational Strategies

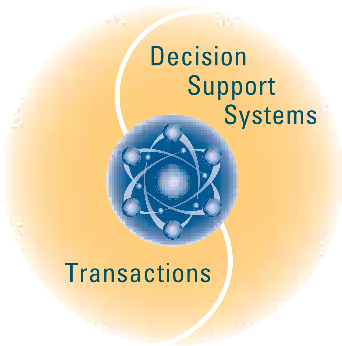


Source: Benchmarking Partners™/Surgency™

After deciding that GE would be either #1 or #2 in any market in which it participated, Jack Welch pursued only four initiatives while at the helm for 20 years:

- Globalization
- Services
- Six Sigma Quality
- Digitization

At each step along the way, these were not just the most important things **he** was doing. They were the agenda **for everyone in the company.** Over time, they became the agenda for everyone in GE's ecosystem.



3. Optimized Capabilities: Champions differentiate themselves by embedding intelligent, closed-loop, proactive feedback into their team decision-making.

Champions build real-time, flexible process capabilities that enable ecosystem partners to respond to changing market conditions and constraints. They coordinate execution throughout their ecosystem and utilize simulations to develop contingency plans for responding to the unexpected.

All business capabilities are not created equal in importance. Champions prioritize their initiatives and target their spending toward those that are most important to achieving the firm's ecosystem aspirations.

They manage customer profitability opportunities, for example, with capabilities that average players can barely understand (see section below on Profitable-to-Promise). Champions bring full information—both of a particular firm and the ecosystem—to bear in deciding:

- which customers, products, segments are more or less attractive to target
- which product platforms to design
- what bundled solutions (products and services) to offer and at what price

"Our product life is all of eight months. Taking three months to set up a connection is just too long. We need to be able to go into business [with new trading partners] on a handshake."

– Electronics Executive

(Source: Benchmarking Partners Primary Research)

Championship teams exhibit business intelligence in using feedback early on, when it is most useful. They assemble and disassemble alliance partnerships quickly, effectively, and without undo stress on the team.

A championship team assesses the specialized competencies of its players in the context of both the team, itself, and its opponents. Thus, the value of any individual firm's competencies to the team changes constantly. On championship teams, the captain reconfigures the team and its tactics in the midst of play in response to unexpected threats and opportunities.

Championship teams operate with superior intelligence because they implement incentives for sharing knowledge and information.

Champions focus on and invest heavily in relatively few business areas—ones they have identified as enabling competitively superior performance. They reject the "peanut butter" approach of investing broadly and equally across all areas of IT and, only then, attempting to figure out where value can be derived.

4. Interoperable Infrastructure: Champions build interoperability into their infrastructure—including business processes and people as well as information technology systems.

They integrate information flow to enable this interoperability and link the demand and supply business process and decision-making systems of ecosystem partners.

The Benchmarking Partners study found that losing teams in this competition and average players are, more often than not, spending as much on information systems as winners. But the study found that all-star players structure their investments in e-business infrastructure quite differently than average companies.

Over the last several years, immediate market pressures pushed even average competitors to increase overall spending on information systems. But championship players have been redeploying their expenditures toward those areas that are critical to team performance.

Benchmarking Partners found no direct correlation between spending more on IT and getting more payback for those expenditures. Because benefits realization is so tied to business practices, the same information systems, implemented in different enterprises, yield vastly different results.

Businesses that organized their processes and people to leverage the new technologies got huge paybacks. Others just became more efficient at doing the wrong things.

Champions pointedly ask, what do we need to know to enable our processes to win out over our competitors? The answer usually points outside the four walls of the enterprise. Champions report that many of their most valuable current expenditures are tactically specific, closed-loop solutions with end-to-end, not just wall-to-wall, connectivity.

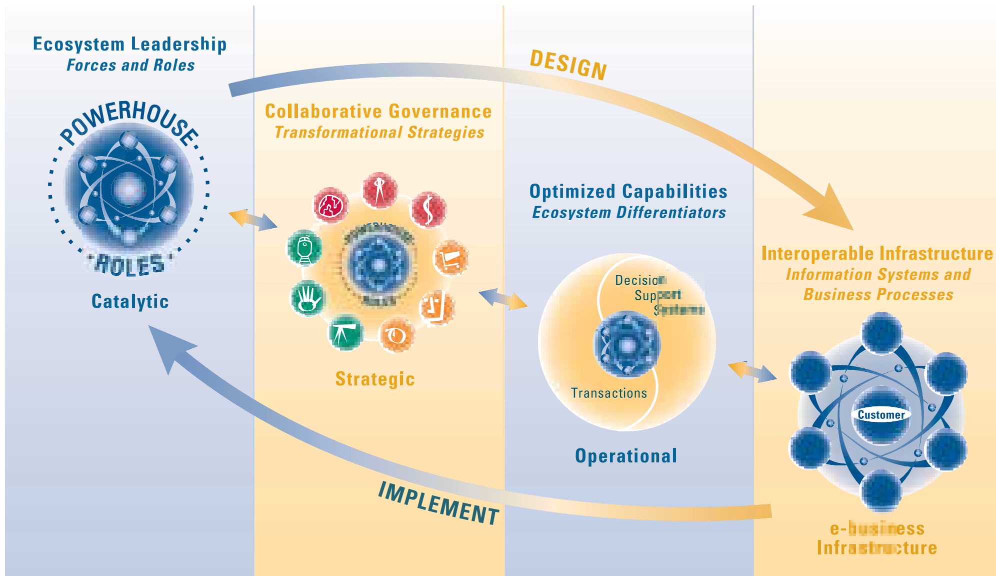
Champions identify their most difficult challenges as inter-enterprise rather than intra-enterprise.

Champions increasingly identify their most pressing challenge as building the inter-enterprise middleware layer of intelligence to allow interoperability.

Combining the Four Championship Qualities to Achieve Market Leadership

Figure 4

Designing and Implementing for Market Leadership: The Four Championship Qualities



Source: Benchmarking Partners™/Surgency™

Winners of the World Cup in business express championship qualities repeatedly and concurrently at all levels of the enterprise and the ecosystem (see Figure 4 above). They repeat—iteratively and recursively—the key activities that link e-business infrastructure to ecosystem powerhouse roles.

Average firms deal with each of these four areas in comparatively haphazard fashion. Typically, they begin with infrastructure issues and, only later, attempt to make business process, strategic, and ecosystem sense of their operations.

These "average" firms become trapped into a "right-to-left" pattern in terms of the diagram above. Champions, in contrast, design their strategies and prioritize their activities from "left-to-right". And they implement pragmatically, implementing from "right-to-left." They sequence their projects and activities not only on the basis of which building blocks are needed first but also based on their strategic importance.

Qualifying for World Cup Competition: Profitable-to-Promise

Imagine a world in which a producer did not—at the time of a potential sale—know enough about its supply constraints to know what it could **profitably** promise? The seller might know what they had "available to promise" or what they were "capable to promise," but they couldn't identify that which was "profitable-to-promise." **Most executives, even in the world's largest firms, don't have to imagine such a world; they inhabit it**.

Most companies are stuck without "Profitable-to-Promise" (PTP) capabilities because it requires all four championship qualities.

Profitable-to-Promise is already a reality in the most advanced ecosystems of the high tech arena where Multi-tier[2], Configure to Order[3] manufacturing is most common. The producer can adjust the terms of sale accordingly, promoting purchases that are especially profitable under current constraints and not accepting orders that do not meet its immediate profitability threshold.

For example, while a customer is online to make a purchase of a 17" flat screen monitor, a computer systems vendor with Profitable-to-Promise capability is able to check and determine what flat screen monitors could be available and at what cost. The OEM's automated systems can determine that it would be more profitable to offer $100 off the 19" monitor, make the offer, accept the order, and direct the assembly of the new monitor in real time—all without human intervention.

Designing product architectures and ecosystem processes to facilitate this configurable, streamlined production process allows the manufacturer to postpone final assembly until the last possible moment and build more virtual relationships among its ecosystem partners.

[2] "Multi-tier" manufacturing refers to those processes that require a number of sub-assembly stages in order to manufacture a product for final end-user consumption (as opposed to a product that can be manufactured in a single assembly process).

[3] "Configure to Order" ("CTO") refers to assembling where the precise configuration of discrete components of the final product is performed in response to the customer's actually placing their order. CTO differs, fundamentally, from the more traditional "Make To Stock" environment in which products are manufactured in their final form based on estimates of anticipated end consumer demand. There, end consumers must choose from specific finished products that the manufacturer has decided to produce.

Configure to Order should not be confused with the "Direct Model." The Direct Model is essentially a channel distribution strategy rather than a manufacturing strategy. The Direct Model involves the sale of the product/solution directly to the end consumer, but it can involve a pre-configured/ Make To Stock product or a Configure to Order product. Similarly, it is feasible to manufacture a Configure to Order product and sell it through an indirect channel, such as kiosks in a retail distribution outlet.

In a make-to-stock world, companies produce complete products and deploy them close to the customer, in order to minimize order-to-delivery lead-time. This approach creates excess inventory wherever customer demand does not meet forecasts and stock-outs where fluctuating customer demand exceeds availability. Make-to-stock exacerbates every problem related to rapid product and component obsolescence.

In a Configure to Order environment, the focus changes to postponing manufacturing and deployment decisions until customer demand is clearly defined. Manufacturing and distribution are only finalized after actual demand signals are received. This strategy is improving total responsiveness to changing customer demand and reducing the risk of product and component obsolescence.

"We realized substantial time and cost savings when we gave our design engineers the information and guidance they needed to build-in only standardized components. Prior to this, they really didn't know what other designers were doing, and they had no idea what the lack of standardization was costing."

– Supply Chain VP

(Source: Benchmarking Partners Primary Research)

Configurability impacts every player within the ecosystem. In the siloed world, new products are designed without regard to existing product composition. Over time, companies find themselves producing large numbers of unrelated, low-volume models using an even larger number of unrelated, low-volume components.

When product designers have no awareness of the parts being used by their colleagues, parts proliferate. The real cost to the system may be, as recent studies suggest, enormous, but they continue to grow as long as they remain unrecognized and uncalculated.

The best-managed producers, though, stepped in to standardize component usage, allowing the new only where it was demonstrably better than the old…and, at the same time, retiring the old components systematically.

The level of competition continues to rise. Not long ago it was enough for an enterprise to take orders and discover, only after the fact, whether or not they could fill that order. Customers now expect firms to say what is "Available to Promise"—and when.

But the powerhouse players are now able to know, in real time, what they can produce profitably. When this information is available to a sales force or automated sales system, prices can be shifted through markdowns, promotions, or special pricing offerings to maximize profits. Dynamic pricing agents can vary price quotes based on any number of variables such as customer requirements for specific delivery dates.

Profitable-to-Promise brings together the customer-facing and supplier-facing elements of the firm and ecosystem. It demonstrates the relevance of customer demand data as well as "back-end" and "team-wide" information. ATP (Available to Promise) and CTP (Capable to Promise) were often among the stated goals of ERP implementations, but, in reality, the enterprise needed connectivity to its suppliers and customers to achieve the full benefit of these goals.

Near real-time connectivity is required in order for Profitable-to-Promise systems to work—both forward (to the customer at the Point of Sale or, in more complex transactions, the points at which prices are set) and backward (to suppliers and suppliers' suppliers). With this connectivity, production can be fine-tuned to demand and, at the same time, merchandising, pricing, and allocations to retail outlets can be optimized to maximize profits.

Wal-Mart, to take another example, implemented a quite different version of Profitable-to-Promise. Wal-Mart combines (1) its sales volume with (2) its strategic use of house brands to strengthen its bargaining position within its ecosystem, and (3) its understanding of its own cost dynamics to identify the price points at which it will continue to be able to profitably offer its customers lower prices.

Wal-Mart's strongest suppliers, Johnson & Johnson, for instance, have prepared themselves for this challenge with their own version of Profitable-to-Promise. Johnson & Johnson found that it needed to be prepared for pressurized negotiations with real-time capabilities for definitive responses.

Since such responses can have profound ramifications, no supplier can afford to be bidding based on imprecise or out-of-date data. Profitable-to-Promise, then, is being adapted for use in a wide range of ecosystems, fast becoming a required capability of champions.

Ecosystem Examples

Even though business ecosystems are not democracies, strong players who are not "captains" play more than just subordinate roles. These dynamics are best understood in the context of team interactions. For that reason, two ecosystems are described below:

1. **Automotive:** with a focus on the rise of Tier 1 Suppliers
2. **e-business Infrastructure:** IBM solutions ecosystem (combining services, application software & middleware, and hardware)

Automotive Sector–An Example of World Cup Teams in Formation

Figure 5

Tier 1 Supplier View of Multiple Emerging Automotive Ecosystems

Source: Benchmarking Partners™/Surgency™

The automotive sector has been a leader in using information systems for a generation, but no single OEM has emerged as captain of a perennial championship team. The entire automotive industry suffers, as it has for years, from overcapacity. And no one now knows whether which, if any, of the OEMs will be able to convert their current market positions and skills into hyper-efficiencies.

Nevertheless, a number of Tier 1 suppliers are now seizing opportunities to mobilize **their** suppliers (the Tier 2 and 3 suppliers) and **their** customers (the OEMs). They are emerging as standout players in the ecosystem teams still being assembled by the OEMs.

These standouts are responding creatively to demands from OEMs to deliver ever more complete modules to the OEM assembly line. And the strongest Tier 1 suppliers are taking this opportunity to expand their powerhouse roles.

Innovative Tier 1 suppliers like Johnson Controls, Inc. (JCI) have adopted transformational strategies to leverage their roles as aggregators. JCI has a strong history[4] and is best known as the leading producer of complete dashboards and interiors. It is driving new efficiencies by the way it relates to both its suppliers and its customers:

- It has, for example, jointly developed design collaboration software and developed a portal for mobilizing its suppliers around creating next generation cockpits and electronics.
- At the same time, JCI is organizing its multiple OEM customers in efforts like its "Core Product Portfolio" program to standardize the OEMs' use of modular components in building interiors—extending the simultaneous use of parts combined as modules for inclusion in quite dissimilar models.

But a pivotal battle is now being waged within each of the automotive ecosystems where JCI plays a major role. The conflict is over control of business processes and, specifically, over data ownership, sharing, and transfer. Competition and cooperation are simultaneously realigning relationships throughout the automotive industry.

Covisint is the auto industry exchange backed by GM, Ford, DaimlerChrysler, Nissan, Peugeot, Delphi (a key Tier 1 supplier that was a spin-off of GM's component operations whose customers now include every major manufacturer of light vehicles in the world), and over 2,000 smaller suppliers. Covisint[5] is now playing a major role in the reconfiguration of alliances.

JCI customers include Covisint members Ford, DaimlerChrysler, GM, Nissan, and non-Covisint member Honda. In 2001, JCI announced that it was rolling out an inventory management application through Covisint to all 86 of its North American manufacturing facilities and thousands of its own suppliers.

Basic issues of ecosystem leadership are being contested in the automotive sector. Innovators like JCI are preparing to participate on more than one team as those teams coalesce. And every company in the automotive sector will be influenced by the outcome of these developments.

[4] Fiscal year 2000 was JCI's 54th consecutive year of increased sales, 10th consecutive year of increased income, and 25th consecutive year of increased dividends. And last year, JCI was named General Motors "Supplier of the Year" for a sixth consecutive year.

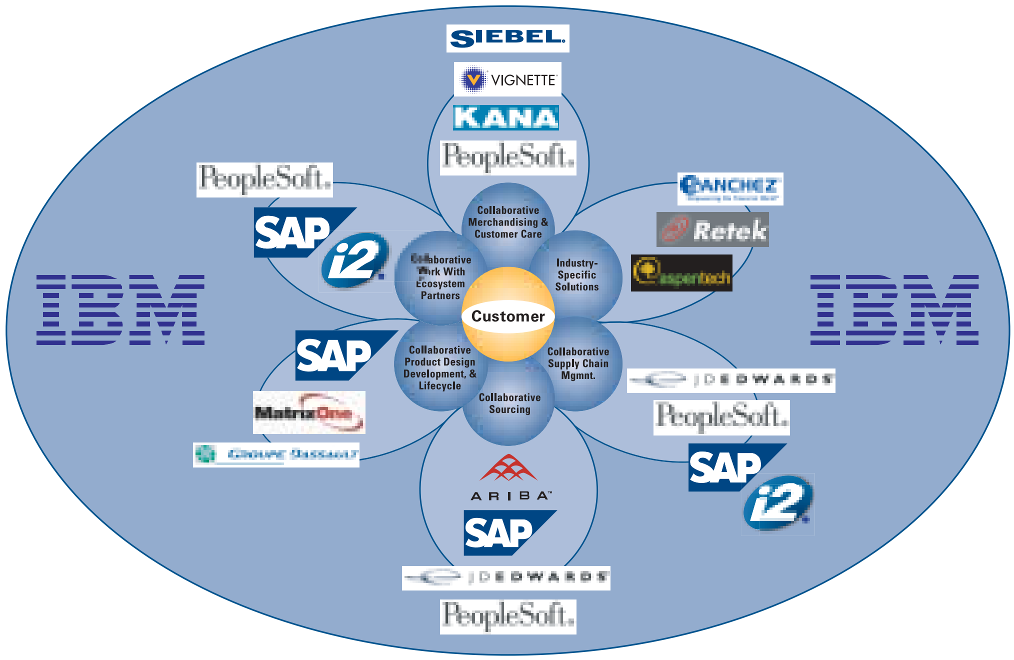
[5] Covisint's founders were attracted to the value creation model pioneered by American Airlines in 1959 when it built Sabre, the online reservations system that became the industry standard. American Airlines wound up with a division that became more profitable than the airline itself.

e-business Interoperable Infrastructure for World Cup in Business Competition: The Promise of the IBM Brand

Figure 6

Customer View of IBM Solutions Ecosystem

(Examples of IBM's ISV—Independent Software Vendor—Partners are a partial listing for illustration only.)



Source: Benchmarking Partners™/Surgency™

As the 1990's began, many industry observers thought that IBM had run its course as a prime mover in global business and were predicting the demise of IBM's famed research operations. IBM's own management was preparing to break the company up and sell the pieces.

Instead, IBM chose a path that renewed its market leadership, anticipating the needs of its customers for global computing and communications infrastructure and moving to ecosystem collaboration. IBM leveraged its vast customer base with multiple legacy systems to simplify and manage a rapidly proliferating array of e-business infrastructure elements.

IBM not only coined the term "e-business" in 1997 and staked its claim with a new symbol: e , it proceeded to define and deliver many of the constituent elements that became e-business. IBM embraced and actively supported the new culture of open e-business infrastructure standards.

Putting its brand fully behind a solutions strategy, IBM brought together its global services, software, and hardware with leading applications providers under IBM's cohesive team leadership.

IBM's approach and activity exemplified each of the four championship qualities:

1. IBM's CEO and Board of Directors decided in the mid-1990's to **assume a new powerhouse role** that would most effectively serve its customers by growing its services business. They would take primary responsibility for organizing the smorgasbord array of e-business infrastructure into solutions that its customers could understand and use.

2. IBM **pursued three transformational strategies** to support this new role:

   - moving from applications development and other non-core activities to partnering with select strategic partners [Powerhouse Roles]
   - moving from dispersed products and services to unified delivery of e-business transformation services and everything that goes with them [Single Face to the World]
   - mobilizing the entire organization and ecosystem around delivering total solutions for its customers [Total Solution Selling].

IBM was only able to pursue its chosen strategies because it made the tough decisions to eliminate non-core activities and get out of certain market sub-sectors that did not serve its new direction. In 1999, for instance, it sold its router and switching business, where it had only a small market share, to Cisco Systems and, simultaneously, created a strategic alliance between Cisco and IBM Global Services.

3. **IBM tightened the connectivity of its internal products and services with its external partners.**

   Total solutions brought together:

   - IBM's software and hardware:
     - Databases, middleware, application servers, etc.
     - Specific industry solutions—such as its widely used POS solutions
     - Decision support and business intelligence
     - Offerings of its subsidiaries—like CrossWorlds, Lotus, and Tivoli
     - Multi-platform mainframes, servers, and PCs
   - IBM's strategic outsourcing, in-house applications management, and systems integration capabilities.
   - Team selling and implementing many of the strongest "best-of-class" applications and suite solution providers (such as Ariba, i2 Technologies, J.D. Edwards, PeopleSoft, SAP, and Siebel Systems).

This meant delivering standardized processes, applications, and infrastructure as a service with both business and IT functionality.

In 1964, at the time of IBM's introduction of the 360s, its competitors were what business writers at the time called the "Seven Dwarfs:"

- Sperry Rand
- Control Data
- Philco
- Burroughs
- General Electric
- National Cash Register
- Honeywell

The combined revenue of the entire group was only $1.7 billion.

None survived as an independent player in the key computer markets that IBM targeted.

4. **IBM unified all its offerings around delivering an interoperable infrastructure**—that is, business processes and information systems that put all these disparate parts to work for global players—first within an enterprise and then between enterprises. IBM took an early lead in the integration services and business intelligence market spaces.

   IBM has been especially visible in assisting many of the most aggressive ecosystem leaders, firms that are taking the lead in building World Cup teams in virtually every industry.

IBM has leveraged its global brand strength in its alliance relationships with its applications partners. By organizing those relationships on an ecosystem basis, IBM has been able to direct and target development efforts toward the most pressing e-business infrastructure needs identified by its consultants.

At the same time, IBM has been able to stay above the fray when its partners compete with one another. For example, when i2 and Ariba were in open conflict, IBM, which had taken equity stakes in each firm, was able to continue working successfully with each.

Furthermore, IBM has been more successful in converting its laboratory research into commercial returns than its competitors. According to the U.S. patent office, IBM has now completed its ninth consecutive year of being awarded more patents than any other private-sector organization. And with 60% of its sales to customers outside the U.S., it is a truly global operation.

IBM understands business discontinuity and successfully rising to such challenges from multiple experiences. Many executives, today, are jaded in their attitudes toward large-scale improvements. They should recall IBM's 1964 introduction of its System 360 family of six mutually compatible computers. To develop the System 360, IBM invested $5 billion—what, at the time, was more than four times its annual revenue.

Conclusion

Championship players are qualifying for powerhouse roles within business ecosystems by mobilizing their own organizations. Championship teams are competing for the World Cup in Business every day on the basis of their newly optimized capabilities to compete as tightly bound units, leveraging ecosystem-specific dynamics and interoperable infrastructure.

Acronym Guide

ATP — Available to Promise

CEM — Contract Electronic Manufacturer

CEO — Chief Executive Officer

CIO — Chief Information Officer

COO — Chief Operating Officer

CPG — Consumer Packaged Goods

CTO — Configure to Order

CTP — Capable to Promise

FIFA — Fédération Internationale de Football Association

ISV — Independent Software Vendor

IT — Information Technology

JCI — Johnson Controls, Inc.

OEM — Original Equipment Manufacturer

POS — Point of Sale

IBM Solutions for World-Class Business

A championship e-business is an organization that interacts with its customers, suppliers, business partners, and employees using Web technologies, thereby reaching new markets while building lasting relationships. Fundamental to this model, is the end-to-end Value Network. The Value Network is a group of trading partners, focused on core competencies and connected via Web-enabled technology, collaborating to provide total solutions to customers. This is a true example of e-business. Just as no two businesses are exactly alike, every e-business is unique. Differences in industry, size, culture, geography, and mission mean that each e-business has its unique requirements. To meet these requirements, IBM has an end-to-end e-business portfolio that can be tailored for specific industries, customer and supplier environments, and infrastructure needs.

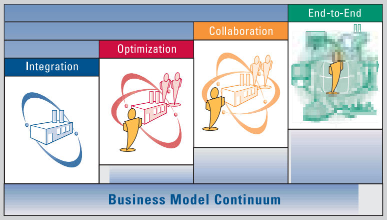
The Stages of e-Business

To keep a clear view of e-business trends and activities, IBM has commissioned ongoing research which focuses on the transitions that businesses face during their e-business journey. While 90% of businesses have opted to use Internet technologies in some way, the issue lies in what they are doing and the value they receive. More than 85% of of small businesses use the Internet for nothing more than publishing static information and accessing content. While larger enterprises offer more sophisticated technology, less then half of them are using their Web sites to allow customers, suppliers, or employees to transact business. Beyond this reality check there are valuable insights into what happens as a company evolves from a traditional business to an e-business. Studies of organizations worldwide make it clear that they follow a similar metamorphosis evolving through three stages: Early, Integrating, and Advanced. More importantly there are a common set of drivers and inhibitors at each stage.

0 Access	I Publish	II Transact	III Integrate Internally	IV Integrate Externally	V Adapt Dynamically
Computerized establishment may use the web for e-mail and may support a simple home page	Maintains a multi-page website Uses the web for one way communication	Uses the web to enable clients to execute one way or two way transactions against core business	Uses the web to improve and or integrate core business processes within the enterprise	Uses the web to integrate business process across the enterprise	Uses the web as the foundation for existing in a digital community

- Early Stage: Enable clients to execute one-way or two-way transactions against core business systems using point solutions.
- Integrating Stage: Uses the web to integrate processes across enterprises.
- Advanced Stage: Uses the web as a foundation to exist in a digital community.

IBM understands these stages, the detailed activities that lie within them, and can help your company or your client's company to decipher what stage they are in, and what should be their next stage.



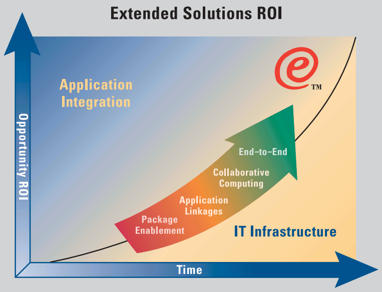
Leveraging the strengths of your integrated infrastructure through optimization, to collaboration between you and your partners, to a point where business is being conducted efficiently and effectively across your Value Chain network. That is end-to-end solutions, that is e-business, and that is the goal of a world-class business.

Innovative Approaches

Enterprise Application Solutions (EAS/ERP)

Enterprise Application Solutions integrate core business processes and serve as the launching pad for e-business collaboration. These have traditionally been defined along the lines of Enterprise Resource Planning (ERP), and more recently the strategic extensions from ERP vendors such as Customer Relationship Management (CRM), and Supply Chain Management (SCM). These software solutions support the integration of the core business processes that drive an enterprise and are so vital to businesses of every size and industry.

ERP has become the infrastructure foundation that is necessary to make all the extended applications like SCM and CRM work. ERP was the business process enabler, now it is the plumbing behind the other business processes; ERP was “the” strategic investment, now it’s the basic cost of doing e-business. As these business processes become more integrated towards true e-business, the boundaries between the applications blur. Reliable guidance and implementation experience is required to create and sustain these critical functions. The ERP solution and its associated return on investment, provide the foundation necessary to build e-business solutions—the integrated information that you and your customers need to stay competitive. IBM has created a wealth of alliances and business partnerships with leading EAS/ERP application providers within various industries to provide you and your clients with the right solution.



Application integration and deployment within a safe/secure and scalable infrastructure give businesses the opportunity to drive return on investment.

Customer Relationship Management (CRM)

Your customers determine the health of your business. CRM is a business process an enterprise performs to identify, select, acquire, develop and retain customers through multiple communications channels. It is a combination of people, process and technology, based on sound business strategy, that helps companies optimize revenue and shareholder value. CRM solutions enable companies to view customer information throughout the enterprise, across multiple channels, in real time. CRM solutions enrich your customer, partner, and employee relationships, provide opportunity to reach out to new markets, improve customer and employee satisfaction and allow your company to become more profitable while reducing costs. CRM provides customers the ability to engage your organization in the way that they want to, across any channel, whether mobile, contact center, web, self service, face to face, mail or fax, 24 hours a day 7 days a week, an important competitive differentiator in today’s wired world.

IBM strategic partners for CRM applications provide companies with solutions that meet the exacting wants and needs of the organization, across vertical industries and geographies supporting unique CRM initiatives sales, marketing, and customer service. IBM provides the end-to-end solution built upon a world-class e-business infrastructure, along with industry-leading integration middleware and the world’s largest CRM consulting and services organization to support the most demanding CRM projects.

Supply Chain Management (SCM/B2B)

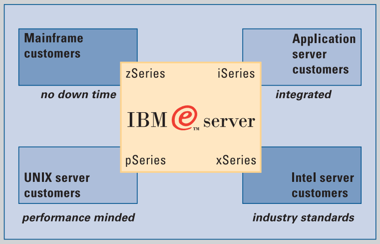
Supply Chain Management has emerged as one of the most powerful combinations of technologies and business practices for companies worldwide. Companies that have already streamlined their internal operations are now working to realize further savings by improving the processes and information exchanges that occur between trading partners. A successful supply chain enables companies to improve responsiveness, lower costs, and reduce cycle time by optimizing internal logistics and linking suppliers and trading partners to deliver the right products at the right time and price to the right place. A supply chain connects the business processes of multiple companies, as well as multiple divisions within an enterprise. Speeding time to market and reducing distribution costs lead to competitive business advantage. Supply Chain Management solutions feature a combination of IBM infrastructure products and business partner applications to optimize and extend your end-to-end solution with best-in-class software.

e-Procurement

In a September 2001 study, AMR Research estimates that investment in procurement applications will increase to 18% of corporate application budgets by 2003 for service industries and up to 16% of application budgets for the manufacturing industry. Historically, procurement processes in most companies were decentralized, manually intensive, and highly fragmented. e-Procurement applications can have a huge impact on a business' bottom line. By committing to an aggressive deployment of an e-procurement solution, a company can expect to save between 5 and 15% of their total procurement spending and begin to see results in 6-9 months. The challenge is picking a robust and flexible tool, integrating it with your legacy systems, and enabling your supplier base for electronic content and transactions. IBM knows how to make this easier through partnerships with the top procurement providers and a wealth of know-how in all of the touch points of a solution implementation.

Product Life Cycle Management (PLM)

Product Lifecycle Management Solutions are the next wave of e-business, focused on integrating product data across the extended enterprise. These solutions focus on enabling product innovation—integrating technology silos that have limited interaction between the people who design products, and the people who build, sell and use them. PLM's main focus is squarely on growing revenues through product innovation and speed to market. After all, it's estimated that 80% of market share goes to the first two companies to market with a new product. Product Lifecycle Management solutions from IBM span the product lifecycle from concept to production planning and production to service after sales and retirement. These solutions are built on IBM's collaborative middleware and use a set of integrated e-business tools that leverage the power of the Internet to facilitate collaboration and stimulate innovation.



it is all connected...

Fast, Agile Infrastructure

Successful e-business strategies depend on the strength and flexibility of the underlying e-business infrastructure—hardware, middleware, and services that work together seamlessly, to support your Value Network as a whole.

IBM @server is a generation of servers featuring mainframe-class reliability and scalability, broad support of open standards for the development of new applications, and capacity on demand for managing the unprecedented demands of e-business. They include:

- The **xSeries**®, affordable, Intel processor-based servers with mainframe-inspired reliability technologies for thousands of small businesses and large enterprises—IBM xSeries is implementing IBM X-Architecture™ technology, a blueprint for extending the benefits of advanced mainframe technologies to Intel processor-based servers. These benefits increase availability, scalability, systems management, service, and support providing affordable servers for businesses.
- The **iSeries**®, for fast implementation, high performance, and near-zero maintenance for thousands of ready-to-run business solutions—IBM iSeries is designed for the secure end-to-end integration that businesses need to succeed with ERP, CRM, SCM, and business-to-business applications—plus speedy deployment with the lowest total cost of ownership and highest reliability in a single machine. The promise of EAS/SCM and the power of the IBM iSeries combine to deliver innovative technology, application flexibility, and new tools for managing end-to-end e-business, a world-class business solution.
- The **pSeries**®, fastest, most technologically advanced UNIX servers—IBM pSeries offers leading UNIX servers that can help companies make a successful transition to e-business. Whether your organization requires a lower-cost and rapidly deployed server solution, the speed and power of a high-end system, or both, pSeries offers leading UNIX performance, unlimited scalability and flexibility, and interoperability for your current computing environment.
- The **zSeries**®, highly reliable mission-critical data transaction servers—IBM zSeries and IBM S/390® servers offer the ultimate platform for reliability and scalability; a high-performance delivery environment to support comprehensive EAS/SCM applications from industry-leading software vendors. EAS/SCM solutions running on zSeries and S/390 provide the functionality you need for bringing dramatic new levels of productivity and flexibility to your organization.

To gain an understanding of how your business need maps to the @server family go to http://www-1.ibm.com/servers/solutions/

Storage

IBM TotalStorage products provide a reliable storage infrastructure designed to complement emerging data intensive applications.

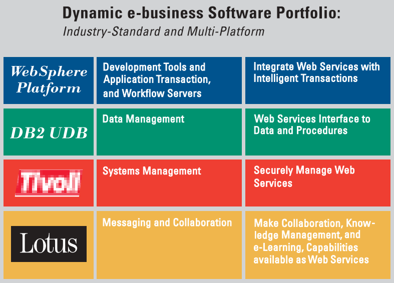
- The **Enterprise Storage Server (ESS)** represents the integration of multiple advanced technologies for safely storing, quickly accessing, and easily managing data as an all-in-one disk system. ESS reduces barriers to efficient I/S operations by reducing technology constraints between users and the data they need.
- **IBM Enterprise Storage Area Networks (SANs)** work across platforms to provide cost-effective, reliable, manageable storage solutions that scale to meet business needs.
- **Ultrium** line of **Liner Tape** open products, utilizing a new open tape format, is optimized for streaming data applications, such as back-up, restore and archive applications.

Linux

Open source and Linux are changing the nature of application development and deployment and allowing for integration of heterogeneous environments with flexibility and speed. Many of the Global 2,500 companies are already using open source software, Linux and IBM Linux-enabled products. For distributed e-business applications, especially those with multiple location replication needs, Linux reliability, low total cost of ownership and Web-affinity with IBM products, services and support, is an especially attractive choice. In the web environment, workload consolidation of numerous physical servers into a single @server platform running Linux, significantly reduces overall cost, improves systems management capabilities and enhances reliability and scalability of systems. Clustering in Linux enables companies to link hundreds of Intel-based servers like the IBM xSeries to create low-cost supercomputing environments. More than 70% of companies are using open source and Linux software to run e-business single-function appliances like firewalls, web servers, caching, and security servers. Linux and IBM @server and middleware enable improved availability, security, and performance for your end-to-end solution. IBM is committed to helping Linux grow and become the platform of choice for e-business.

Middleware & Software

The IBM e-business Portfolio is a set of software solutions needed to build, integrate and run a successful end-to-end e-business. IBM software is industrial strength, designed to help you build and manage an infrastructure that can cope with overwhelming demands in this dynamic e-business environment. IBM software is based on industry standards, implemented on servers for rapid deployment, and scalable as offerings and volumes grow.



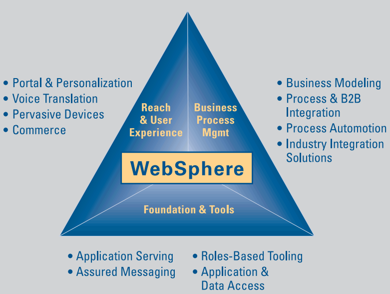
Systems Management

The **Tivoli**® family is a leader in comprehensive solutions for internal systems management. Ranging from your web to your infrastructure network, Tivoli can track configuration information, update software, minimize response time, manage problem calls, resolve problems and schedule work. Tivoli also offers solutions extending to the Web and wireless devices as well as providing storage management capability. Tivoli manages to availability, security, privacy and performance. Your enterprise solutions are the lifeblood of your business. Tivoli solutions make sure they are available when your business needs them.

Messaging and Collaboration

The **Lotus**® **Notes** and **Domino**™ families combine global messaging and collaboration capabilities with the reach of the Web to make the most of business information resources, connect communities and teams and manage relationships to create an organization that responds faster.

- The Domino family of servers provide a multi-platform foundation for collaboration and e-business, driving solutions from corporate messaging to Web based transactions and everything in between.
- Lotus Notes is an integrated, Web like environment that provides users with quicker access to and better management of many types of information including Domino and Internet based e-mail, calendar of appointments, personal contacts and to-dos as well as Web pages, news groups and intranet applications.
- Lotus Domino helps turn your transactional applications into true collaborative solutions and provides the basic tools to connect all of the pieces of your virtual enterprise into a collaborative network.



WebSphere Software Family

Foundation and Tools

The **WebSphere**™ **Application Server** is the powerhouse of the WebSphere platform. It assures scalability, speed and performance for any level of e-business demand. It provides the essential e-business functions of handling transactions and extending back-end business data and applications to the Web. The platform helps build applications that perform these functions with robust security, reliability and scalability. Building on this solid foundation, WebSphere provides rapid application development tools to shorten costly development cycles, reuse your existing systems, and capitalize on your developers' skills. IBM leads the industry in open standards adoption, giving the highest level of interoperability and flexibility to WebSphere e-businesses.

Reach and User Experience

A key factor in building customer loyalty is providing users with a more personalized Web experience. With **WebSphere Portal Family** you can build portals so that users, partners and employees readily find what they need in a highly interactive and personal way.

WebSphere Commerce Suite makes it easy to conduct e-commerce to reach a global market quickly and cost effectively. With performance and personalization abilities to ensure that users don't have to wait or search for relevant information WebSphere Commerce Suite makes it easy to increase customer value on a global scale, collaborate with customers, suppliers and trading partners and drive profitability.

Business Process Management

WebSphere leads the industry in integration technology, and **WebSphere Business Integrator** is the complete solution for business process management. Business Integrator delivers an e-business framework that accelerates business processes across the entire application portfolio of the enterprise. With IT systems adjusting to the speed of your business ideas, and business people in control of value chain processes, you slash cycle time and costs for a rapid ROI.

Integration

MQSeries® messaging and integration software simplifies the task of intelligently connecting and reconnecting applications across unlike environments. MQSeries enables process and information flow across more than 35 different operating platforms in a way that is easy for programmers to design and deploy. MQSeries supports Java Messaging Services (JMS), XML, and all the protocols needed for e-business applications.

The purchase of **CrossWorlds** in January of 2002 builds on IBM's industry leading middleware offerings and extends the unparalleled breadth of IBM's WebSphere e-business infrastructure software. CrossWorlds is a leading provider of software, enabling companies to automate business processes that integrate multiple end-to-end applications, such as those for managing customer relationships and supply chains, as well as to integrate business processes unique to individual industries such as telecommunications, financial services and industrial sectors.

Database

DB2® **Universal Database**™ is a multimedia, Web ready relational database management system that can meet the demands of large corporations with the flexibility to serve medium sized and small e-businesses. It powers industry, business intelligence, and content management e-business applications, easily integrating traditional operational data with XML and complex in-memory text searches to add new application dimensions. DB2 runs on Linux, Windows, and UNIX systems as well as the IBM zSeries and iSeries.

The **Content Manager** portfolio provides the enterprise content management infrastructure to manage the full spectrum of digital information. Large collections of scanned images, facsimiles, electronic office documents, XML and HTML files, computer output, audio, and video can be stored and accessed. Integrating content with line of business, customer service, ERP, digital asset management, distance learning, Web content management or other applications can accelerate benefits across the enterprise.

Business Intelligence solutions from IBM deliver data warehousing, data mining, and OLAP solutions to spot customer trends, create customer loyalty, enhance supplier relationships, reduce financial risk and uncover new sales opportunities.

DB2 OLAP Server gives you fast, intuitive multidimensional analysis. With the many applications, tools, and solutions providers who support DB2 OLAP Server, you can create your own applications or have turnkey solutions built for you. *DB2 Warehouse Manager*, built on DB2, provides a distributed, heterogeneous infrastructure for designing, building, maintaining, governing, and accessing highly scalable, robust DB2 data warehouses. *DB2 Intelligent Miner* allows your business to gain new business insights and to harvest valuable business intelligence from your enterprise data. You can even mine high-volume transaction data generated by point-of-sale, ATM, credit card, call center, or e-commerce activities.

WebSphere Commerce Analyzer is the premiere tool to understand your company's eCommerce operations when using a WebSphere Commerce Suite store.

Informix information management solutions are open, scalable, manageable, and fully extensible—providing the kind of flexibility that is essential for growing organizations. From data warehousing, analysis and decision support, to Web content delivery, Informix products are engineered to enable today's businesses to efficiently manage any kind of information, anywhere, and at any time.

Informix Dynamic Server (IDS) provides best-of-breed, general purpose, mission-critical OLTP database for e-business. IDS provides support for Datablades, IBM Informix's powerful extensions for non-traditional data types. The Datablades form the basis for exciting product offerings for vertical markets such as Finance, Law Enforcement, Trading, and Geographic Mapping.

IBM Red Brick Warehouse is a database server designed to meet the specialized requirements for business-critical, high-demand data analysis.

IBM Global Services

IBM has embraced the diversity and challenges of e-business and has partnered with many of the leading application vendors to offer you expertise and "best of class" solutions. These offerings can be tailored to your specific industry, geography, company size, and unique business requirements. After literally thousands of e-business engagements, IBM has created services offerings to guide you through the business transformation process, from the initial evaluation of applications to implementation, and day-to-day management of the applications.

Business Innovation Services (BIS)

IBM's BIS can help companies identify opportunities for leveraging their back end EAS systems toward strategic end-to-end e-business collaboration with customers and partners. The IBM e-business collaboration portfolio is a core set of services, performed by business experts across BIS, to help companies integrate, optimize and collaborate ERP systems with e-business solutions extensions, such as supply chain management, customer relationship management, e-commerce, business intelligence, e-procurement, e-marketplaces and pervasive computing.

IBM e-business Value Chain Services are the means to accelerate operational improvements and financial returns to your company or your client's company. The application of leading practices to marketing and sales, supply planning, design engineering and other business areas delivers improvement in forecast accuracy, inventory turns, time to market and other operational areas. Operational improvements such as these can result in revenue increases, cost reductions, improved margins and other financial returns. IBM Value Chain Services is a strategic consulting engagement, prior to investment in specific applications or project initiatives. Customers will be shown how they are performing against industry benchmarks and specific competitors to help them identify opportunities to increase market share and profitability. This approach results in the identification and deployment of transformation initiatives, which may or may not involve implementation of new software packages. This approach to defining your game winning plays is becomes an educated decision in the overall strategic direction.

Application Management Services (AMS)

To help you address the challenges you face in maintaining your application portfolio environment, IBM offers Application Management Services. The challenges are many and span across industry and solution implementation, including delivering on your original business objectives, competing for skilled technical professionals, dealing with the inherent complexity of solution environments, dealing with ongoing enhancements, new applications to support strategic initiatives, and round-the-clock support for critical legacy applications. Add to that the challenges of keeping pace with technology and ensuring an adequate supply of resources with the right skills when you need them. These demands can push even the most flexible information technology organization to the limit. AMS provides the skills, expertise, methods, and assets needed to manage your corporate applications.

Integrated Technology Services specializes in providing world-class IT Infrastructure services, including consulting, design, deployment and ongoing management services. Included are:

- Enablement Services for e-business
- Infrastructure & Systems Management Services
- Networking and Connectivity Services
- Business Continuity and Recovery Services
- Technical Support Services
- Security and Privacy Services

Strategic Outsourcing Services help you become more competitive, allowing you to concentrate on your business strategy. These services include:

- e-business Hosting Services
- Interchange Services for e-business
- IT Outsourcing Services
- Network Outsourcing Services

The IBM Value

IBM Global Financing (IGF)

As an integral part of IBM's e-business strategy, IBM Global Financing can help Business Partners and customers acquire a complete range of e-business solutions, from hardware and software to services. With leasing and financing from IBM Global Financing, customers can take full advantage of the unprecedented opportunities provided by e-business, while enjoying critical flexibility and investment protection in this dynamic and unpredictable environment.

IBM Global Financing is the leading provider of financing solutions for Information Technology (I/T). We offer competitive financing for virtually any I/T acquisition, both from IBM and other manufacturers or vendors. We also provide commercial financing solutions such as revolving lines of credit, term loans and inventory financing facilities for manufacturers, distributors, resellers and service providers. And through our Global Asset Recovery Services, customers can purchase IBM-certified used and surplus equipment, responsibly dispose of retired assets, and replace or upgrade their hardware.

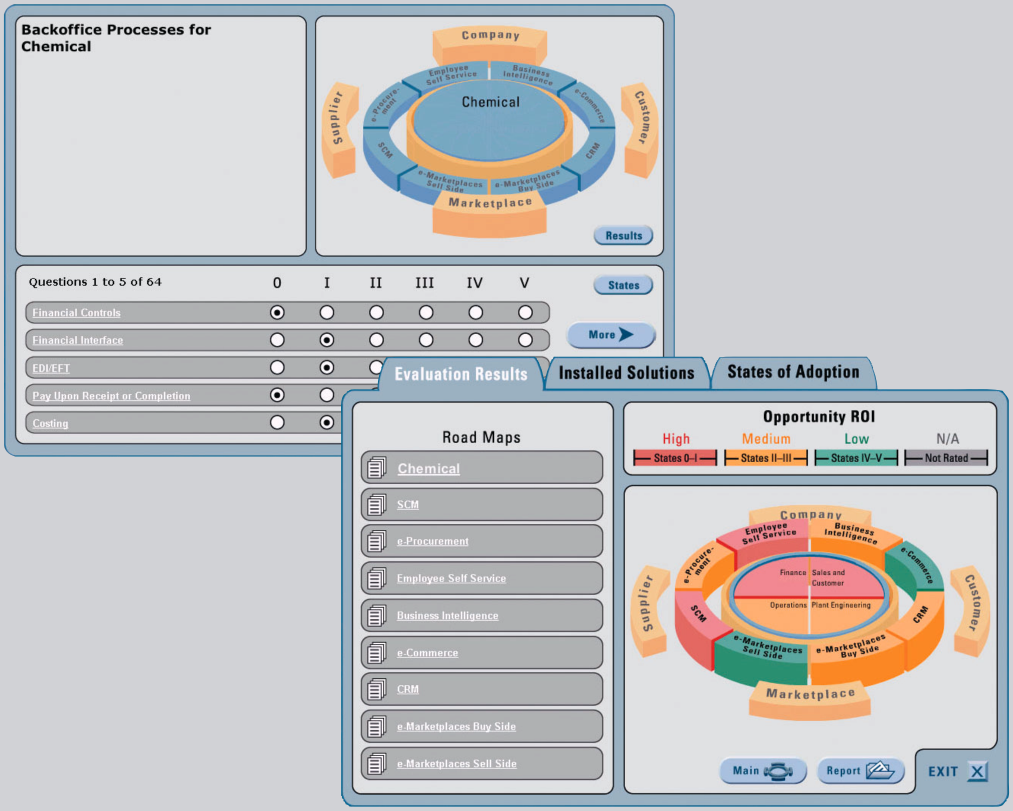
e-business Collaboration Tool

In today's business environment, how does an enterprise locate and assess its unique areas of greatest opportunity? How does it map the fastest route to achieving its most pressing business objectives? How does it best prepare for powerhouse roles on the championship teams of the future?

Since 1994, Benchmarking Partners and IBM have conducted annual research into ecosystem leadership, collaborative governance, optimized capabilities, and systems infrastructure best practices. This research has distilled the insights of market leaders and pointed the way toward emerging cross-industry best practices.

Now, Benchmarking Partners and IBM have converted the results of this ongoing, worldwide research into a suite of diagnostic and prescriptive tools to be used in conjunction with trained IBM personnel. With this software, IBM customers can confidentially assess their process maturity and create their own implementation roadmaps.

Senior executives and key line of business managers work with IBM to apply industry-specific expertise to their most strategic business process opportunities. They now have the tools to quantify both their own current levels of application functionality and business practices as well as their prime opportunities. Using the **e-business Collaboration Tool** they construct process roadmaps, prioritizing and sequencing key opportunities in terms of return on investment.



IBM customers are using the **e-business Collaboration Tool** to focus more precisely on achieving business objectives and to align their organizations around clear cases for action.

In order to take advantage of this opportunity, contact IBM to complete an evaluation of your own.

www.ibm.com/solutions or gsmnews@us.ibm.com

IBM Industry Solutions Labs (ISL)

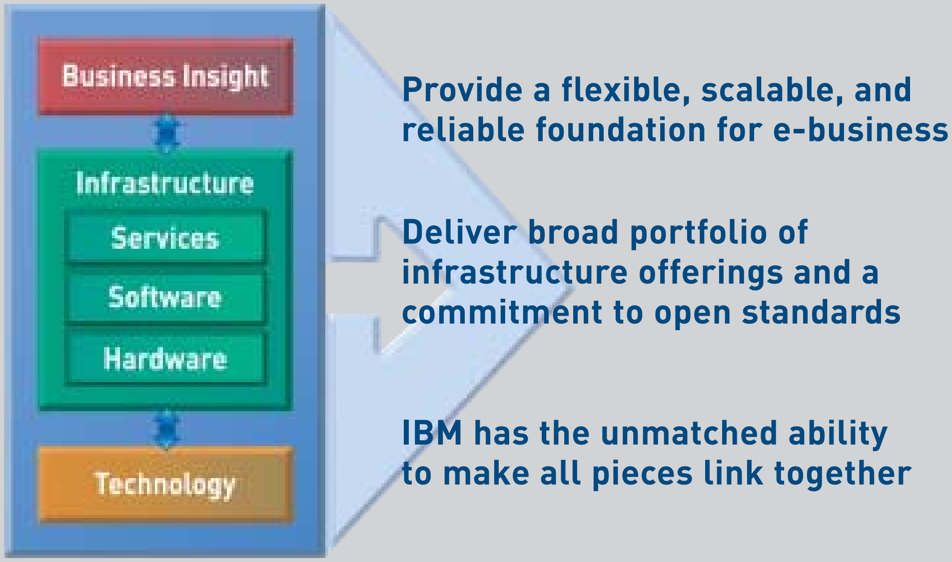
The Industry Solutions Labs (ISLs) are a collaborative partnership between IBM Research and Global Solutions to provide a unique environment for customer executives and/or Business Partners to discover how leading-edge technologies and innovative solutions can help solve business problems.

There are two ISLs: one in Hawthorne, NY and the other in Zurich, Switzerland. Each is collocated with an IBM Research lab, which provides strong ties to leading-edge Research technologies. A visit to an ISL allows visitors to gain valuable insights into technologies and solutions still in development, in addition to learning about existing solutions, products, systems, and services. Its unique demonstration floor has well over 70 demonstrations spanning a range of research prototypes, IBM products, strategic partner offerings, and integrated solutions which together deliver the IBM end-to-end solutions story.

IBM Value Proposition

IBM is the only technology company that can provide an end-to-end, total solution in any industry and solution area for businesses and organizations world wide. IBM has established expertise within five key sectors including Communications, Distribution, Financial Services, Industrial and Public Sector. IBM's comprehensive solution encompasses e-business infrastructure, integration, strategy, management, operational, and financing capabilities necessary to enable you to successfully deploy enterprise applications which form your value network. IBM has invested heavily in an Application Vendor Business Partner network that includes SAP, JDE, PeopleSoft, Siebel, i2, Sungard, and Ariba, as well as hundreds of other partners that you may already be working with, to offer the flexibility you desire to connect your heterogenous systems. Our focus in hardware, software, and services experience can help your company match solutions to strategic objectives, and compete with world-class industry leaders or maintain status as best in class.

e-business is a reality, reshaping the way companies function. IBM has helped its customers—companies in all industries, of all sizes, around the world—reinvent themselves as world-class businesses, maximizing their efficiency and capturing profits from the value they create for their customers. Some of our customers are just starting out, extending themselves as single-tier Value Networks; others are mature, highly functioning virtual end-to-end businesses. To find out more about how IBM can help your company create greater value for your customers today, please visit our Web site at: ibm.com/solutions or email to gsmnews@us.ibm.com.



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