Industry Trends and Directions Scenario

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Conclusions

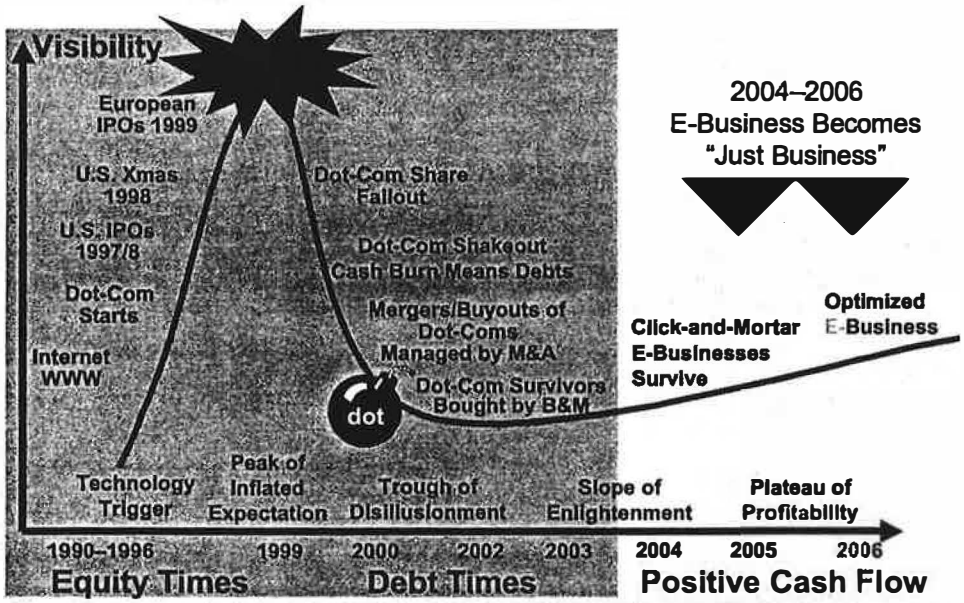
- The collapse of distance and time is reshaping our world:
  - Millions will lose jobs while the economy is booming
  - Business structures and relationships change for many
  - Continued transformation of industries and markets
- Ubiquitous computing is unfolding:
  - The mobile connected phase will last just 20 years
  - Personal access expectations will force sweeping change
  - The wall between work and personal lives is crumbling
- The risks and rewards of IT have never been higher:
  - Spending will climb past 10 percent of revenue on average
  - Major transition under way in CIO roles and risks
  - Be alert for technologies to watch, to try, and to exploit
  - Be prepared for the application service provider (ASP) vendor implosion

Many of the surprising events, emerging trends and fundamental shifts we experience today are the consequences of powerful underlying forces that, in some cases, have been in place for more than 100 years. The three major shifts that this presentation covers are the collapse of distance and time, the transition toward ubiquitous computing, and the increasing centrality of IT as a cause of success or failure.

The research findings of hundreds of Gartner researchers cover a wide domain and produce a mountain of conclusions, predictions and analysis. Many of the most significant of these are included in this presentation, allowing the reader to gain an overview. By placing these in the context of powerful, long-lived trends, future evolution and discontinuities will be easier to foresee. Projecting outward, in some cases 10 to 40 years ahead, this framework will help guide reader decisions toward approaches that will not just address the issue of the next few years but will remain useful in the further changes that will come as these long-term forces continue to perturb our actions and our world.

Strategic Planning Assumptions: By 2008, e-business solutions will cause more than 2 million workers to be reassigned or lose their jobs (0.6 probability). Global 2000 enterprises that are transformed by e-business will have 10 percent fewer workers on their payrolls by 2005 (0.7 probability) and 30 percent fewer by 2010 (0.6 probability).

The Hype Cycle of Global E-Business



Source: Gartner Research

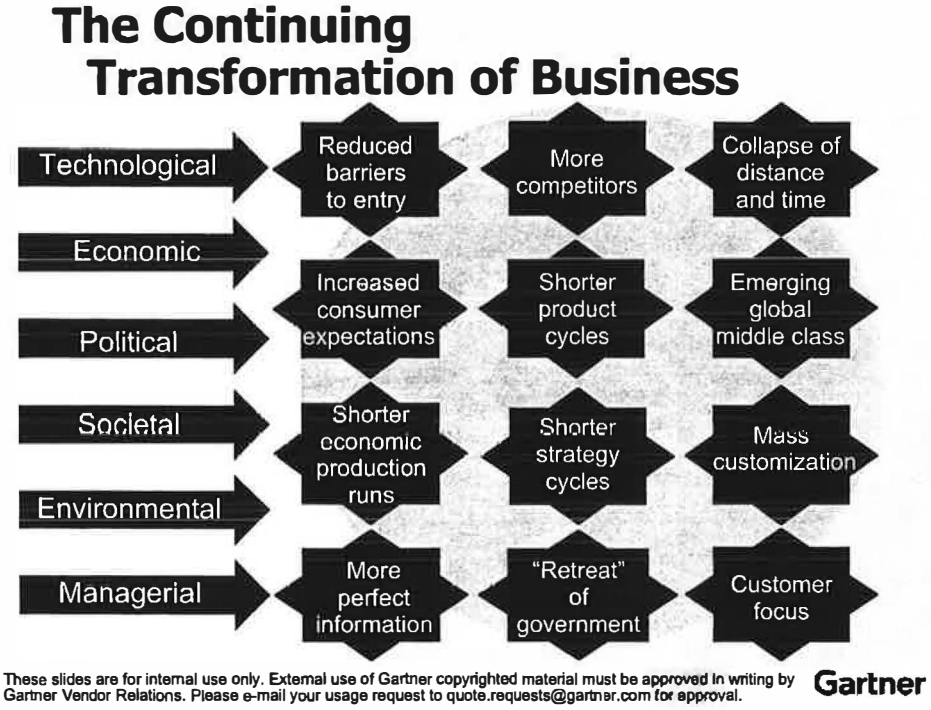
Collapse of Distance and Time

Gartner's Hype Cycle is a useful tool to chart the predictable course of new ideas and new technologies. At its heart, the cycle demonstrates how human nature leads to four phases after the introduction of a new technology or idea. First, as the buzz and excitement swells, expectations are set far too high. Early experience brings with it early disappointments or failures. The bad news spreads just as fast, leading to an overreaction in the opposite direction until the new concept is judged worthless in any event. Cooler heads prevail, as the partial successes and limited achievements are gleaned during the climb up the slope, until the world at large knows the limits and potential of the new concept along with the best and worst implementation practices; at this point, the concept has reached maturity.

The new-economy ideas, often identified with dot-com and startup ventures, have been following this cycle as well. The euphoria over the new ideas led to the rush of capital, both private and public, to fund these ventures in the light of completely unrealistic and overly broad expectations. The failures of some have led to an equally hasty flight of capital and enthusiasm away from the new concepts, where we are now hearing these entities termed "dot-bombs."

We project that we will glean the good ideas from the bad, the successful implementations from the faulty ones, and climb the slope until these ideas are firmly embraced by all businesses in 2006.

Strategic Planning Assumption: E-business as a discrete set of management and technological activities will end in the 2006 to 2008 time frame (0.8 probability).



Source: Gartner Research

Collapse of Distance and Time

Frances Cairncross, in her "The Death of Distance," outlines the sizeable changes that come with today's improved communications capabilities. These changes may be considered to have begun in earnest more than 100 years ago, perhaps with Samuel Morse or Guglielmo Marconi, accelerating with the work of Alexander Bell, exploding upward with the modern computer invented by Alan Turing, John Von Neumann, John Atanasoff, Presper Eckert and William Mauchley, then racing to today's heights aboard the Internet "steed" that evolved from these roots.

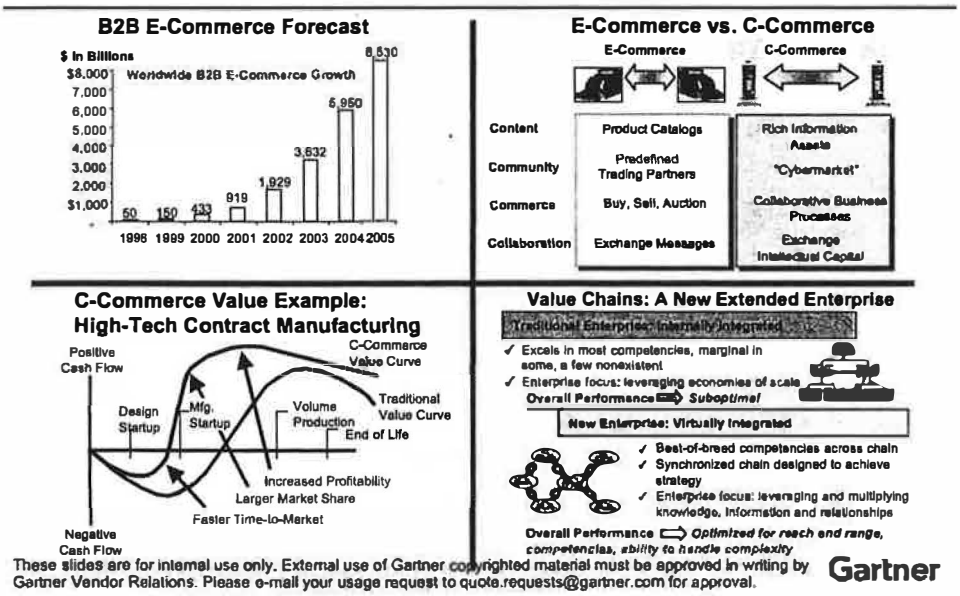
The consequences include the flow of more perfect information, which is leading to fundamental shifts in relative power between buyers and sellers. Globalization and new patterns of competition flow from these factors as well. A more powerful, better-informed buyer now thrives in a world with increased competition and lower barriers to switching. Many enterprises have focused far more closely on the needs of this more fickle and informed customer.

Markets and market power change as more perfect information brings us closer to what Adam Smith, in his "The Wealth of Nations," defined as the perfect marketplace, where both buyer and seller have full knowledge of both price and supply.

Government authority is so closely tied to distance that it is struggling to address the needs of a world where distance is less relevant. Taxation and rules of conduct are defined geographically, while the actors today are more often spread confusingly across an interconnected world.

Strategic Planning Assumption: By 2003, 70 percent of all business relationships will be "nontraditional" (0.8 probability).

Changing Face of B2B Connections



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Source: Gartner Research

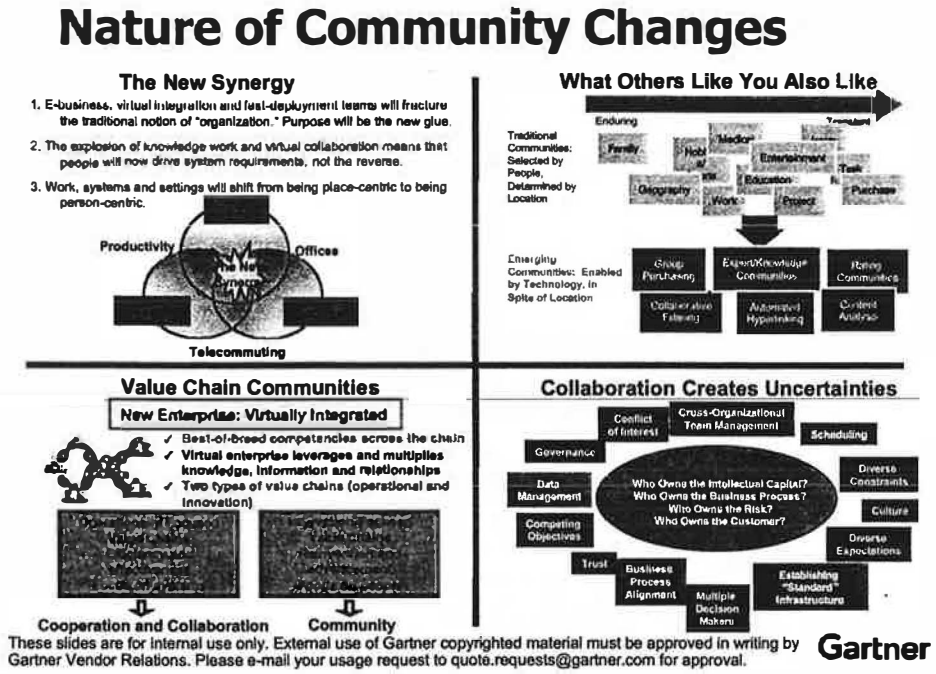
Collapse of Distance and Time

The increased use of electronic means for purchase transactions is most obvious in a business-to-business (B2B) context. Our projections for the growth of nonfinancial goods and service transactions worldwide reflect the current economic slowdowns in many regions of the world but will still account for somewhere on the order of 7 percent of all such transactions by 2005. This varies by industry type and by region, but we conclude two things — it is too big to ignore but too small to replace existing channels.

The relationships between enterprises were fairly rigid and simple in the past — standard products are offered, some are ordered, a price is agreed on, the product is delivered and the payment is made. This transactional arrangement is continued in e-commerce, but the power of IT systems is allowing the walls between enterprises to become porous. The collaborative-commerce (c-commerce) model covers much-more-complex relationships. Shared design work, shared forecasts and information, joint planning, and other collaborations are much more achievable. Some industry segments, such as contract electronics manufacturing, are already substantially converted to a c-commerce model.

The old vertically integrated and self-contained business model is increasingly giving way to the virtual model (also called network or nodal business structure), where entities work together on market opportunities without being owned in common.

Strategic Planning Assumption: Enterprises' scope of operations will shrink to a small set of core competencies as they outsource to strategic suppliers. E-business will facilitate the information flow through the supply chain (0.8 probability).



Source: Gartner Research

Collapse of Distance and Time

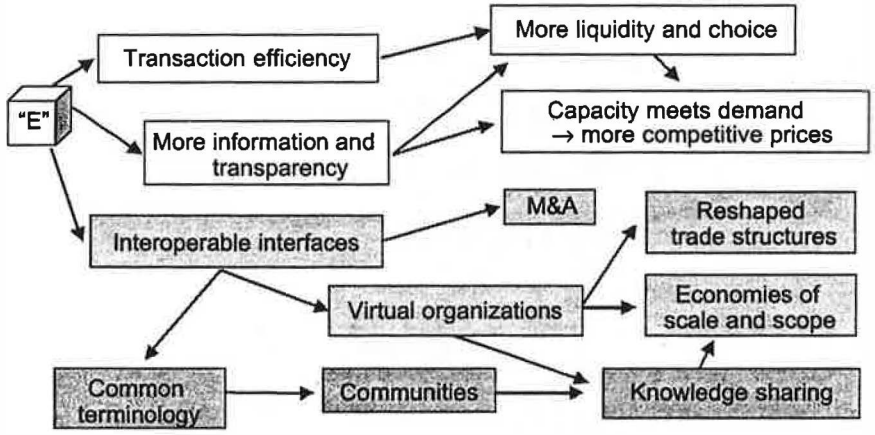
The nature of business is to coordinate resources and activities toward some common purpose. Over the centuries, we have discovered mechanisms to best accomplish this, in light of the strengths and weaknesses of humankind. The formally organized and hierarchical structure worked best for most endeavors, but interesting alternatives exist when technologies ameliorate the limitations of distance, time and coordination.

Communities of common purpose can achieve what hierarchical formal organizations did, given the right tools and policies. This ability is bringing more enterprises to focus on those unique differentiating capabilities where they add the most value, finding others who are stronger to address the other portions of the value chain. The virtual corporation, if it can be composed quickly, operated efficiently and disbanded expeditiously, can be used to attack opportunities of shorter and smaller scale than ever before. C-commerce technologies allow the coordination, cooperation and collaboration of a community spread across more than one formal structure and more than one set of owners.

We formed communities, whether transient or lifelong, mainly defined by colocation – family, country and job are all related to nearness. The collapse of distance brings communities that ignore or overcome distance, including the "distance" of ownership or organizational allegiance.

Strategic Planning Assumption: By 2008, enterprises with c-commerce-based systems that support dynamic interoperability will address merger, acquisition and divestiture events without major IT system restructuring (0.7 probability).

C-Commerce Brings Opportunities



Source: Gartner Research

Collapse of Distance and Time

C-commerce will bring with it IT systems that can dynamically and almost spontaneously connect and interoperate. The benefits that will accrue from that electronic capability are represented on this chart in three broad categories.

First, these systems will make our systems more efficient. Just as we automated the back office of enterprises during the 1990s to improve efficiency within the organization, we now automate the systems of suppliers, customers and partners so that the entire "ecosystem" or market becomes more efficient.

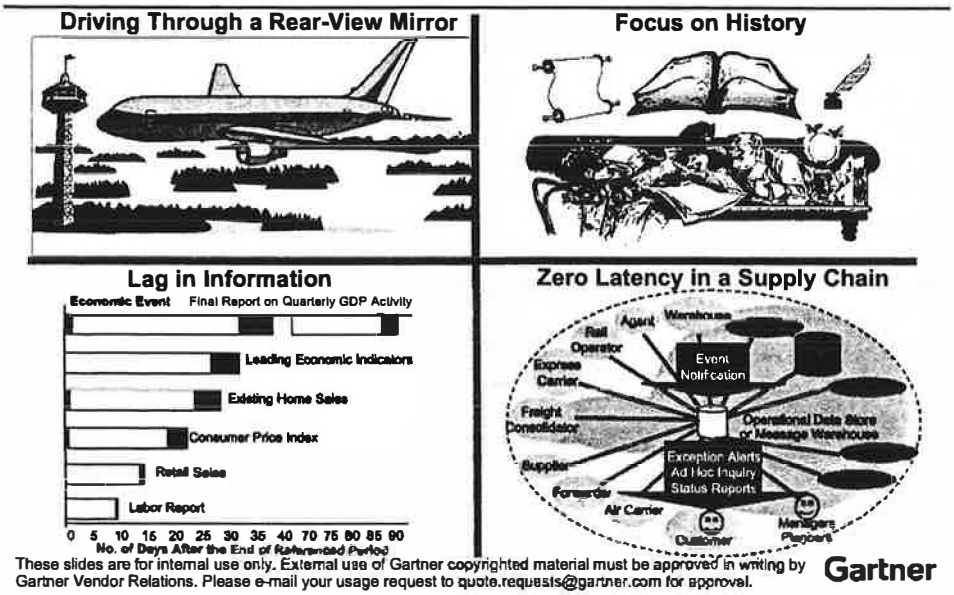
Second, the dynamic interoperability permits ad hoc combinations into virtual organizations to better address market conditions. In addition, if two enterprises have IT systems that interoperate while they are separately owned, the mere fact of a change in ownership during mergers, acquisitions or divestitures will not change that reality; the burdensome conversions of the past will be greatly reduced for c-commerce-enabled enterprises.

Third, the automatic translation of terminology and policies that is a part of c-commerce will shatter the "Tower of Babel" that limited joint activities by employees of separate organizations, permitting more sharing of information and better cooperation.

Definitions:

- **A zero-latency enterprise (ZLE) strategy is a strategy that exploits the immediate exchange of information across geographic, technical and organizational boundaries to achieve a business benefit.**
- **Latency is the time it takes for a system to respond to an input.**

Toward a Real-Time Enterprise



Source: Gartner Research

Collapse of Distance and Time

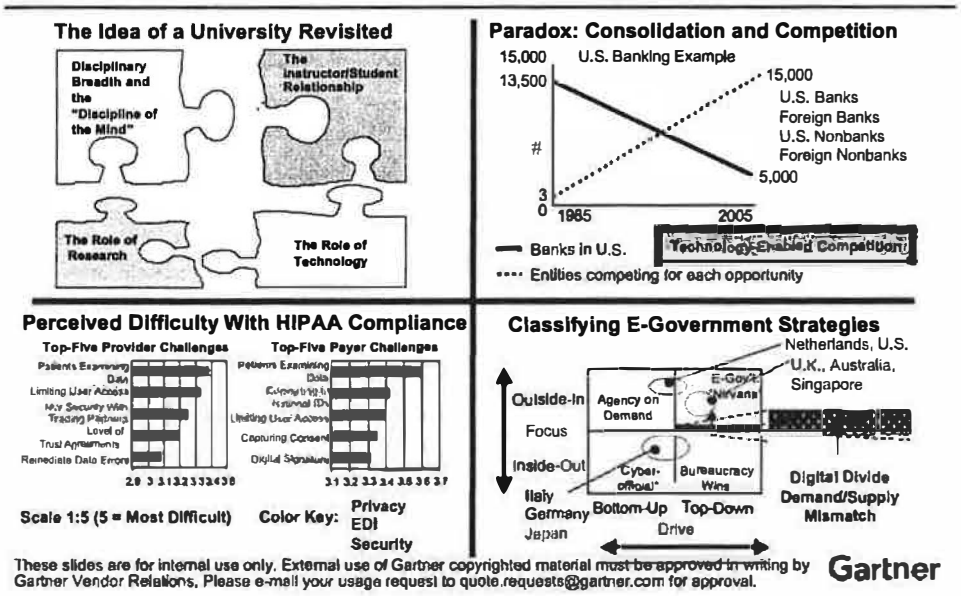
Much of the information available to enterprise managers and leaders was historical in nature. The lags while processing the information melt away with the collapse of distance and time. It is becoming possible to provide real-time or low-latency information, allowing a small correction made immediately to adjust for deviations that previously grew and grew before the changes reached decision makers. The adjustments were made late and the magnitude of the corrections was correspondingly great. We would be uncomfortable flying in that airplane above whose pilots sit in the rear, watching the terrain they have left as a guide to steering the flight. The enterprise driven solely by reference to the rear-view mirror of historical reports is just as much at risk.

Zero-latency enterprise (ZLE) is a strategy to provide minimum latency of information to allow better decisions, to exploit opportunities ahead of competition or to provide additional value to customers. The integration of IT systems in the enterprise through enterprise application integration activities will span outward to integration of information sources outside the walls of the legal entity.

If a derailment causes raw materials to be delayed getting to a plant, the real-time flow can allow the entire system from manufacturer to downstream manufacturer to shipping agents to end user to adjust and optimize, rather than inducing idled machinery and wasting resources.

Strategic Planning Assumption: By 2006, 90 percent of financial-services organizations will have been involved in a merger or an acquisition since 1996, as either the dominant player or the acquired player (0.6 probability).

Transformation and Evolution



Source: Gartner Research

Collapse of Distance and Time

The collapse of distance and time affects the landscape of many business segments. In our vertical-industry research, we have identified key changes in each area. As an example of how these are being changed, consider the revolutions underway in higher education, financial services, health services and government sectors.

The ability to conduct education at a distance and to combine students into a critical mass is pushing a crisis in higher education, with vocationally oriented "universities" inside enterprises and distance education alternatives competing with traditional institutions. The role of research vs. pedagogy, the balance of practical and intellectual content, and the maintenance of brand and funding are hot issues today.

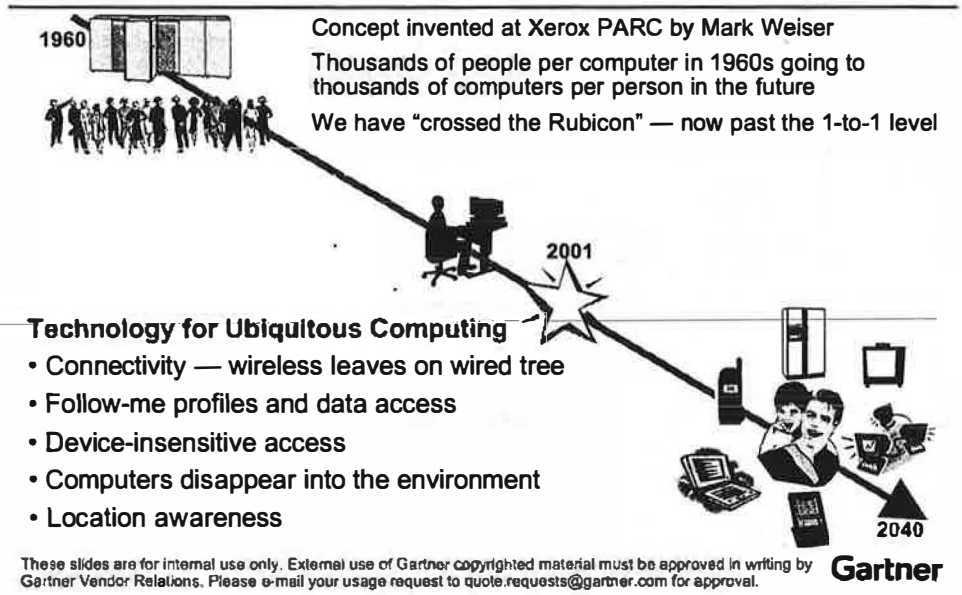
Banking was a geographically defined market in the past, but it is facing enormous global competition as distance factors fade. The resulting consolidation in that sector will affect 90 percent of all institutions by 2006.

More perfect information flow is in conflict with social concerns about privacy and security, leading to a sweeping set of Health Insurance Portability and Accountability Act (HIPAA) requirements that are placing healthcare organizations in turmoil.

E-government can serve many purposes and be pursued in many strategies. Much of government spending includes replication to address distance, such as multiple local offices for constituents. The collapse of distance and time can address spending, improve access and create new services.

Strategic Planning Assumption: By 2021, sufficient portions of the environment will be smart and connected that the majority of people will cease carrying personal-computing and data access devices (0.7 probability).

Ubiquitous Computing



Source: Gartner Research

Ubiquitous computing is unfolding.

The work of Mark Weiser and other researchers at Xerox's PARC paints a picture of the coming third wave of computing — one where computers surround us, yet become embedded in our environment. Weiser and others are heavily influenced by the work of Donald Norman and others, who demand that the design of machines be tailored to the human. Norman's seminal book, "The Design of Everyday Things," articulates principles for human interfaces that make machines both more usable and less intrusive than before. The vision of the third wave is the relegation of computers to hidden roles, exposing only enough technology to fit the need. Computers in cars are hidden behind steering wheels and simple buttons; in the future, most computers will be equally transparent.

Ubiquitous computing requires connectivity among all these systems. Connectivity will be achieved with a mixture of wired and wireless technology — the wireless leaves on the wired tree existing as short range mobility enablers (e.g., Bluetooth) and access points where wiring is inconvenient (e.g., 802.11 and 3G cellular).

Location awareness and the ability to use computers where they lie, instead of transporting your own, enable powerful new services and accessibility. Even in the world of carried computers, many are moving among multiple portable computing devices — personal digital assistants (PDAs), cellular phones and laptops.

Strategic Planning Assumption: By 2005, at least 40 percent of user data will reside outside the enterprise and will not be directly accounted for (0.7 probability).

Source: Gartner Research

Ubiquitous computing is unfolding.

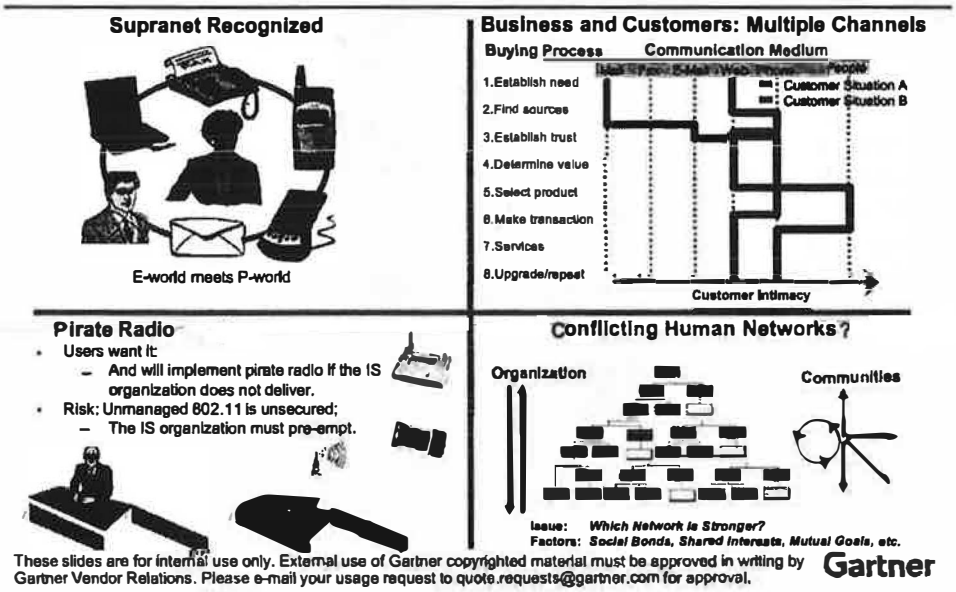
From 1996 through 2000, we saw many enterprises integrate total cost of ownership (TCO) into their cultures. Understanding TCO, and the policies and best practices that can reduce it, has enabled enterprises to save millions of dollars during the past five years. These policies have included limiting the number and types of devices that they support in their environments and standardizing their computing infrastructures as much as they could.

In the next few years, we expect that new TCO challenges will appear for enterprises. The coming explosion in user devices — such as Internet-enabled game machines, TV set-top boxes, handheld computers, smart and enhanced cellular phones, and other personal Internet appliances — will lead users to demand that the IS organization support enterprise applications running from these devices. This could lead to the IS organization being asked to support an impossibly diverse pool of devices that were not chosen by the enterprise. The intermingling of personal and work-related data will increasingly expose the enterprise to unsanitized and, perhaps, infected or illegal data, along with increased risk of loss of corporate data.

Action Item: Modify support policies to provide support for the interfaces between client devices and enterprise systems rather than the devices themselves. Build plans that accept and support great diversity in the personal devices that are used for enterprise purposes.

Strategic Planning Assumptions: By 2003, among Global 1000 enterprises, 75 percent of business-to-business relationships and 65 percent of business-to-consumer relationships will involve three or more channels (0.8 probability). By 2005, most enterprises systems for the multiple supported channels of communication with customers will remain isolated islands, leading to customer frustration (0.7 probability).

Change Is Coming



Source: Gartner Research

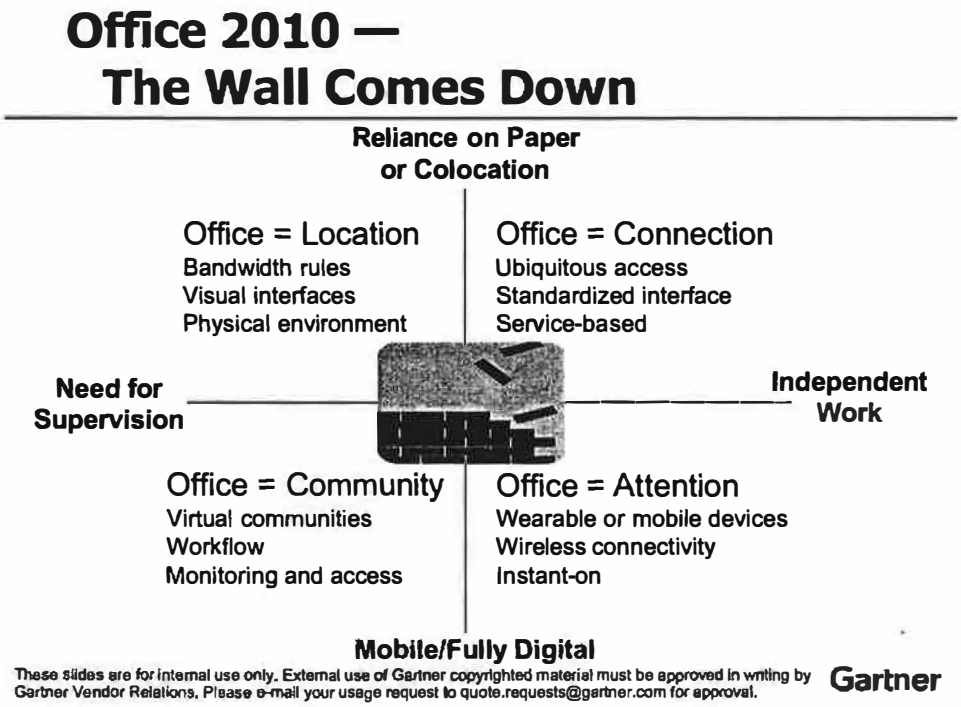
Ubiquitous computing is unfolding.

In a world where people are increasingly aware of moving between the many computers they touch each day and where those computers increasingly allow access to data and Web systems, the customers will come to expect that they can continue where they left off even as they move from computer to computer. The number of channels with which they can communicate with your enterprise is wide and growing. Cell phones, PDAs, laptops, voice response, fax lines, telephone, physical mail and in-person visits all exist for many, but few enterprises today can support the migration of an activity from channel to channel; they are separate islands for most.

In the 1980s, we faced users who pressed for access to external data sources and the Web, often ahead of the desire or ability of the organization to support them. We faced an era of unauthorized modems giving poorly secured access through a myriad of back doors into our networks and computers. It was only when adequate access through well-designed firewalls was provided that the pirate modems were stamped out. Today, the pressures for wireless access, perhaps to allow temporary movement of PCs to an outside table or conference room, will lead to pirate radio stations hidden under the desks unless IT departments move decisively to pre-empt this by providing adequate support in a secure manner.

Increased ability to form communities in spite of distance also creates information flows that bypass the organizational hierarchy. This is a growing challenge for leadership and governance.

Strategic Planning Assumption: By 2010, 40 percent of adults and 75 percent of teenagers will have always-on, wearable computing and communications capabilities (0.6 probability).



Source: Gartner Research

Ubiquitous computing is unfolding.

The walls between work and personal life have been crumbling for years. The blurring of the line is accelerating, with more telecommuting, remote e-mail access, and mobile access available today than ever before. One dimension we examine is the nature of the work — Does it need close monitoring and supervision? The other dimension is the ability of the work to be done electronically — Does it require in-person activities, such as special machinery, or rely on physical paper documents?

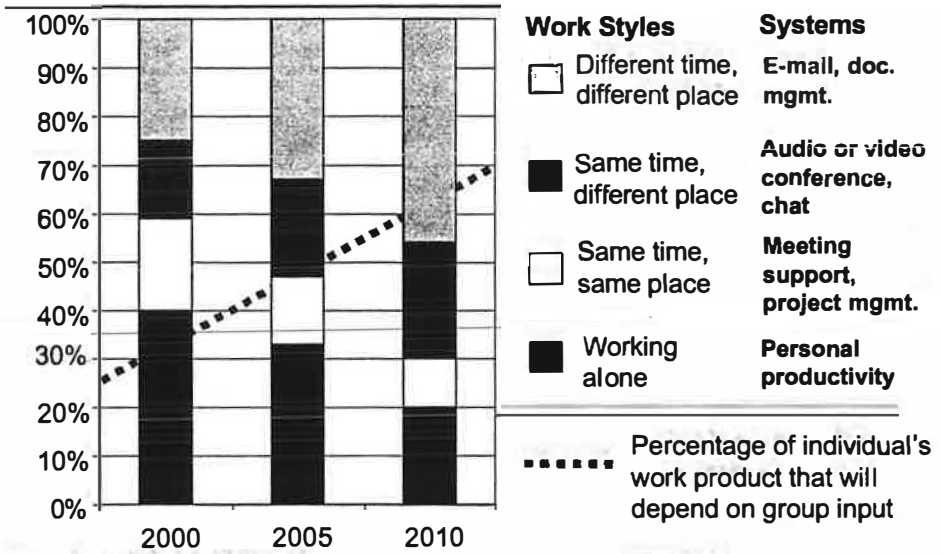
From these dimensions we have four scenarios for the definition of work:

First, the classical notion that work is when we are in the office, with a well-supported physical environment and high-bandwidth communications. Second, the remote-access notion for the classical but traveling employee — work is when we are connected. The time in the hotel room when the modem is active is when we are "at work." Third, a view that maintains the close supervision of the office environment but allows the people to be physically dispersed. Finally, the idea of office as attention — "When I think about work, I am working, otherwise I am not."

Action Item: Develop polices and culture shifts to address the blurring of the notion of "office."

Strategic Planning Assumptions: By 2005, agile enterprises will assess people not by what skills they possess, but rather by whom they interact with and how well they either collaborate with or manage the work of other parties (0.7 probability).

Modes of Work Will Change



Source: Gartner Research

Ubiquitous computing is unfolding.

Work will increasingly be accomplished where convenient, both for the enterprise and for the employee. The percentage of work that is done by physically colocated employees working at the same time is steadily declining. However, it is not simply a transition to solitary work. Instead, the amount of collaboration and communication is growing too. The ability to work from different places but at the same time is growing rapidly, while the more mature ability to work together while separated by both distance and time is growing a bit more slowly.

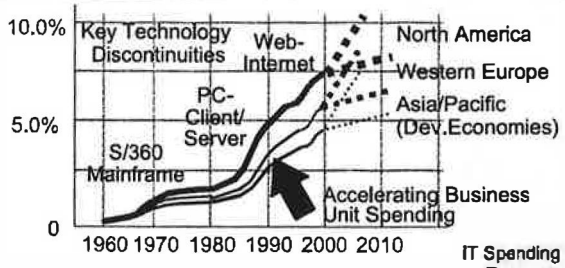
The tools that warrant the most investment and that will be of most value will change as the amount of collaborative work increases from a minority to a majority of the work "day" over this decade. Correspondingly, purely personal productivity tools will be less relevant as that class of activity decreases.

We will have to assess, nurture, build and value skills in collaboration and communication to a much larger extent than in the past, when individual productivity skills were the most relevant factors to consider.

Overall, our orientation will shift from task-focused to more process- and relationship-focused.

Strategic Planning Assumptions: By 2005, investments in e-business applications and infrastructure will drive average IT spending (in North America) beyond 10 percent of revenue (0.8 probability). By 2010, at least 50 percent of the corporate capital budget for large enterprises will be devoted to IT (0.8 probability).

Total IT Spending as a Percentage of Revenue



	IT Spending % Revenue	Central IS Budget Per Employee	IT Baseline/ Infrastructure as % IS Budget
Telecom	12.70	$10.4K	72
Insurance	9.42	17.4K	67
Fin./Banking	8.66	19.1K	76
Services	6.47	7.1K	78
Retail/Wholesale	4.54	3.1K	73
Hospitals	4.53	1.7K	72
Utilities	3.86	5.6K	77
Transportation	3.30	1.4K	77
Manufacturing	2.99	4.1K	76

Source: Gartner Research

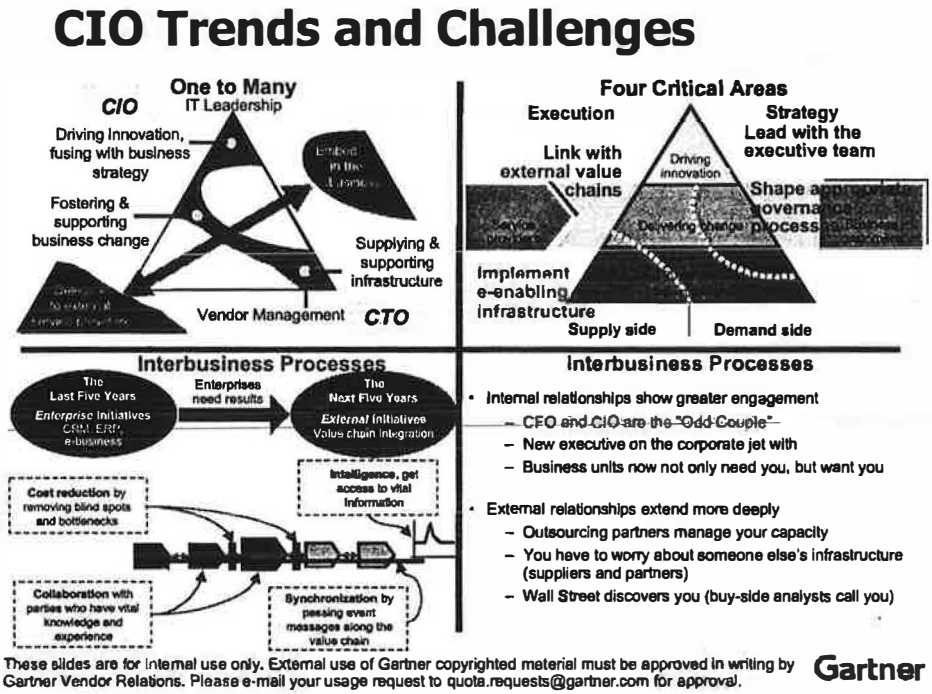
The Increased Significance of IT

The percentage of the average enterprise's revenue spent on IT is climbing toward 10 percent, even during the current economic downturn. This level of expenditure is a combination of the central IS budgets, the capital spending that is IT-related and the portions of business-unit budgets that are earmarked for IT activities. New business models and an increased dependence on IT in most segments is causing that percentage to increase. Many pure dot-com businesses have IT expenditures of 30 percent of revenue or more.

While these values vary by segment and the relative aggressiveness of the enterprise toward IT, in every segment the characteristic spending rate is increasing. As industry segments are being transformed by IT, some that had historically low expenditures find themselves much more dependent; costs take a step function upward, looking more like those of traditionally more IT-intensive industries. These step jumps are difficult to adjust to — often increasing the importance of IT while changing executive relationships.

Action Item: Build a value chain between expenditures and business benefits to help justify and defend the increasing burden that IT expenditures will place on enterprise resources.

Strategic Planning Assumption: By 2003, the majority of IT leaders who keep focused solely on technology and process matters will either be replaced or share leadership of IT by moving into a CTO role alongside a new, business-oriented CIO (0.8 probability).



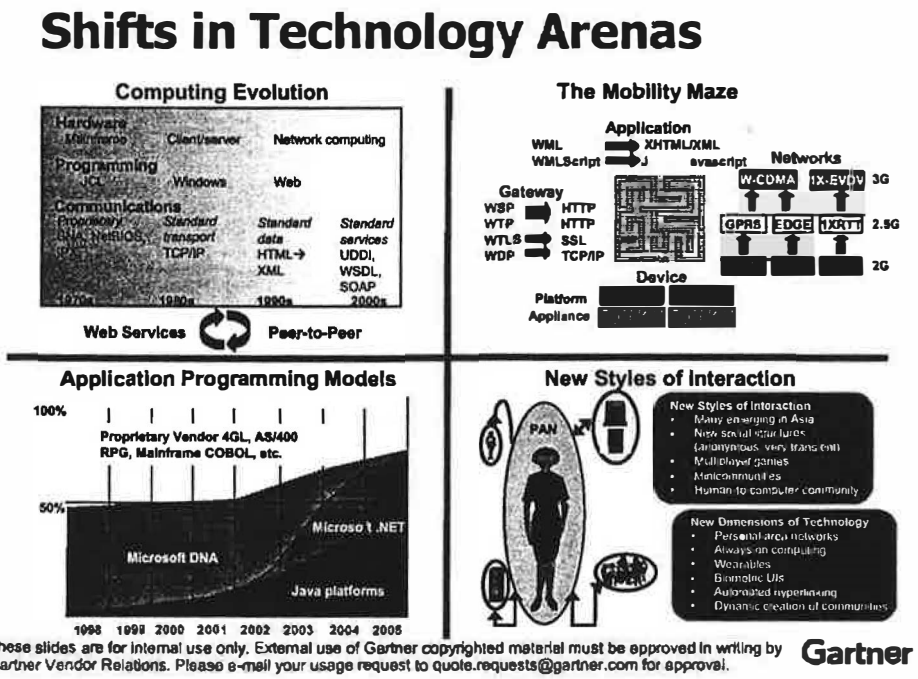
Source: Gartner Research

The Increased Significance of IT

The responsibilities and activities of IT leadership are becoming so broad that a diversification of leader types is emerging. In the upper left, we can represent IT as three bands of responsibilities — supplying infrastructure, supporting change and driving innovation. These responsibilities can be viewed either from the business side, called the demand side, or from the technology and process standpoint, called the supply side. The drive by business to have IT leaders who apply IT to achieve or create business, product and market strategies resulted in a high percentage of new CIOs drafted from the business side instead of the technology ranks. The very difficult tasks of developing systems, running the infrastructure, designing the architecture and selecting the resources are often being led by a parallel IT leader often called the chief technology officer (CTO). These two or more IT leaders work on their respective sides of the triangle, but are facing the four critical challenges of linking strategy and execution show in the upper right.

IT systems are being linked across enterprises, to a degree and at a rate unprecedented in the past, just as the role of IT bubbles up to the "top-X" lists of both costs and key factors for executive monitoring. This is dramatically altering the nature of the job of the IT leaders.

Strategic Planning Assumption: By 2003, peer-to-peer (P2P) technologies will become pervasive, having an impact on enterprise messaging, collaboration and content management applications and architectures (0.7 probability).



Source: Gartner Research

The Increased Significance of IT

In the upper left, we see a continued shift away from centralization, even as the bulk of the processing has cycled back and forth from center to edge. The client/server shift saw business rule logic move outward to the smarter edge. Network and Web computing moved the processing back to the (Web) servers, but the P2P trend is moving the bulk of the processing and control back to the smart edges.

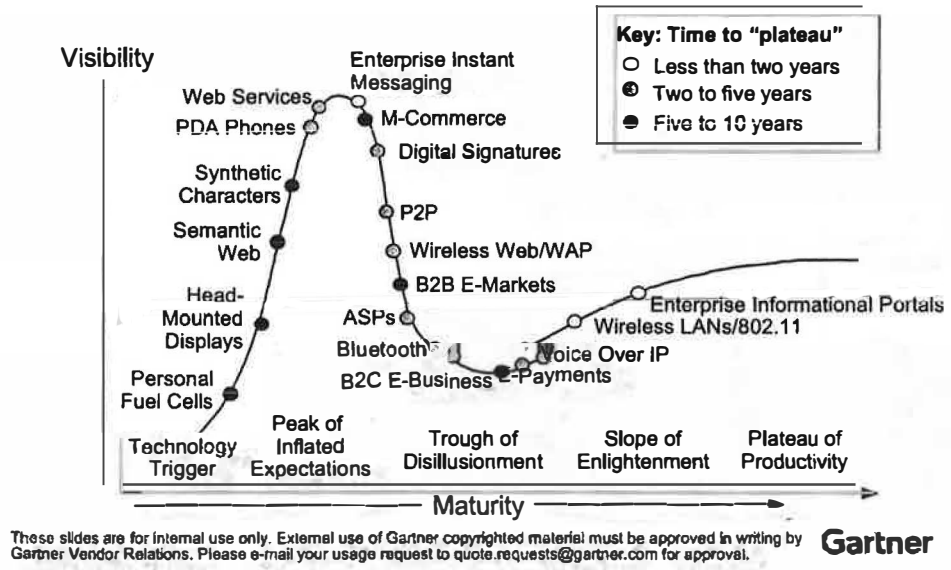
Mobile always-on computing is facing a welter of conflicting standards in many areas that will slow down the market realization of this phase of ubiquitous computing. The cellular telephone networks continue to battle with incompatible protocols for second-, 2.5- and third-generation networks. Gateway protocols to provide content to mobile devices are promoted on several fronts, and even the issues of device platform and connection technologies remain unresolved.

The application programming base has been shifting from stand-alone code in various languages to depend on the Microsoft tools and protocols for application interaction. Java offered an alternative that was not so dependent on a heavy Microsoft presence, and has been growing share. The growth rate of Java will be blunted by the .NET replacement for DNA.

The wireless connectivity, shrinking devices and desire for instant communications gratification will lead to a new, always-on lifestyle for many.

Strategic Planning Assumption: By 2010, the "killer applications" for location-based services will be those that help with scarcities in the real world (0.7 probability).

Technology, Hype and Maturity



Source: Gartner Research

The Increased Significance of IT

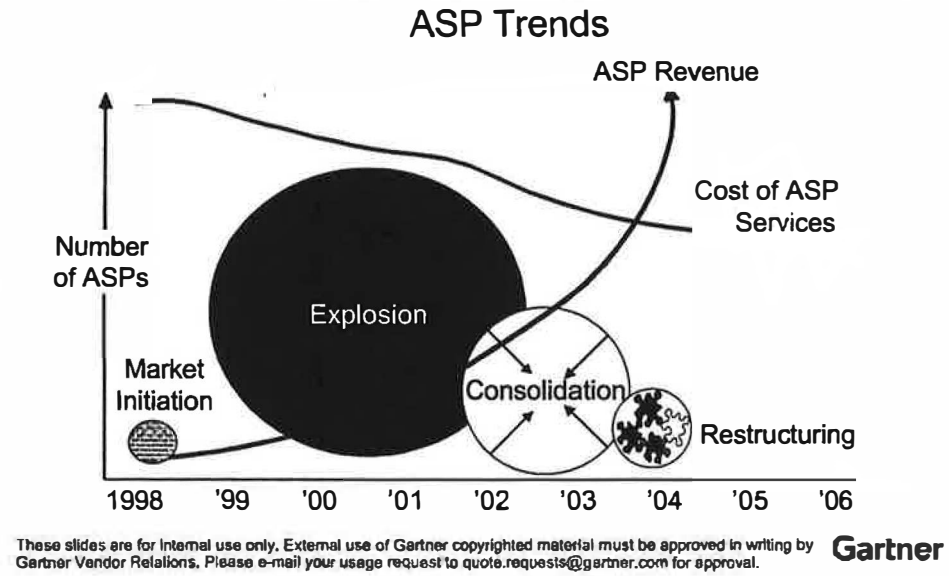
New technologies tend to follow the hype cycle model we explained at the beginning of this presentation; however, the rate at which each progresses through the phases varies depending on factors as diverse as market pressures, human factors and technological challenges. This chart shows the current position of each technology on the hype cycle, along with a color-coded indication of the number of years before it will have moved through the cycle and up onto the plateau of productivity.

Enterprises may adopt technologies before they reach the plateau for very valid reasons. However, before the technology gets up the slope there is heightened risk for the adopter. Therefore, any project that will use a technology before the projected maturation point should justify the increased risk by commensurate rewards. Correspondingly, if a project does not promise to deliver outstanding benefits, then immature technologies should be avoided.

Those technologies that may offer the greatest future benefit to an enterprise should be explored early, so that the enterprise will be ready to exploit it when its risk and reward profiles line up. The faster-moving technologies should be examined earlier to gain sufficient lead time.

Strategic Planning Assumptions: By 2004, all but 20 of the 480 ASPs that existed in 2000 will disappear, either because of consolidation or failure (0.8 probability).

Service Providers



Source: Gartner Research

The Increased Significance of IT

ASPs are the latest innovation in the overall trend toward the increased use of selective outsourcing by the IT community. Currently, almost every service provider is jumping on the bandwagon, with new ASPs popping up almost nightly. We expect that this field will be the battlefield of competition and consolidation as the many vendors with immature operations fail, are acquired or exit the market as losses mount.

The extreme volatility of the ASP market in the coming years will mean a high risk that ASPs used by enterprises will change beyond usefulness or disappear from the scene. The benefits of the ASP model outweigh the risks, but prudence requires a carefully constructed set of contingency plans for any enterprise making use of ASPs in the coming few years. The plan must list the steps to move to a backup that meets the enterprise's criteria for business continuity, including the selection and arrangement with these alternatives in advance of any crisis. Best practices will have the trigger events well defined so that the implementation of the contingency plan is semiautomatic.

Action Item: Develop a contingency plan for every ASP relationship, including well-defined triggers and careful consideration of the time to activate the backup mechanism.

Recommendations

- Adopt techniques and technologies to transform your enterprise to exploit the collapse of distance and time.
- Adapt enterprise infrastructure, applications, processes, policies and culture to the coming realities of ubiquitous computing.
- Apply business values and skills to reshape the enterprise while managing risks, such as changing technology and the implosion of ASP vendors.

Some of the Action Items for the reader are:

- Look for successes and useful techniques from failed dot-coms to fold into your business.
- Build IT systems that can support c-commerce; look for opportunities for new relationships.
- Investigate network business models and opportunities.
- Find and exploit the opportunities of a zero-latency enterprise strategy.
- Plan to support the edges as client access devices proliferate.
- Build processes and systems to support channel hopping by customers.
- Actively address wireless needs to head off pirate radio compromising your network's security.
- Face the cultural and governance challenges of the office-as-attention future.
- Demonstrate the value chain from IT expenditures to enterprise objectives and performance.
- Address the business-oriented demand side to avoid being replaced or augmented by a new CIO.
- Assess the impact of a technology, project the risk-reward point and get early experience.
- Build exit and contingency plans to safely gain benefit from ASPs during a period of market volatility.

This is the final page of the presentation.

Click anywhere to continue

IT Trends and Directions

CPC / DTC Meeting

November 6, 2001

William Hamre

Gartner Group Symposium Materials

Major Themes

- Collapse of Distance and Time
- Ubiquitous Computing
- Risks and Rewards of IT

Collapse of Distance and Time

- E-Business Becomes Just Business (2004-2006)
- Globalization and New Patterns of Competition
- Defining the Higher Education Marketplace
- Redefinition of Government Boundaries
- Changing Face of Business to Business
- New Nature of Community
- Transformation of Higher Education

Ubiquitous Computing

- Universal Connectivity, Wireless, Mobile Profiles
- Multiple, Device Independent Access
- Computers in Environment, Location Awareness
- Explosion of User Devices, External User Data
- Multiple Channels of Communication
- Communities vs. Organizational Hierarchies
- Office as Connection, Attention
- Modes of Work Will Change

Risks and Rewards of IT

- IT Spending as % of Revenue Will Increase
- IT Integration With Business Strategy
- Impact of Peer to Peer Technologies
- Application Services
- Technology Hype and Maturity
- Application Service Providers

Model Admissions Office for the 21st Century

It has often been said that the 21st century will herald a new demand for learning, not only learning in the traditional sense of a liberal education but also learning how to utilize the tools provided by the technology of the 20th century.

With the ever changing complexion of education and the increasingly full lives of both traditional and adult learners, a flexible, friendly, yet efficient Office of Admissions and Records will be one of the marks of a truly model learning environment.

The model Admissions Office empowers and provides users with useful and effective means to handle business with the institution. Administrative systems need to be available, accessible, intuitive, user-friendly and function in real time. With these principles in mind, the Office of Admissions and Records at Santa Barbara City College with the implementation of the Oracle Student System will be able to provide students, prospective students and former students with the following capabilities:

- ✔ Ability to make an inquiry and request information
- ✔ Ability to apply via the web
- ✔ Ability to update personal information
- ✔ Ability to search for classes and build a schedule
- ✔ Ability to enroll in/withdraw from classes
- ✔ Ability to select a grading option
- ✔ Ability to make payments via the web
- ✔ Ability to access academic records
- ✔ Ability to request transcripts and certifications via the web
- ✔ Ability to make requests for special consideration (future)

Faculty will also be able to do the business of the college using the new technology's web capabilities. They will have access to student records and class rosters. They will be able to assign grades, report positive attendance, file incomplete grades and make grade changes using the functionality provided by the Oracle Student System.

The correspondence engine of the student system will allow for individualized communication to prospects, applicants and students.

State regulations will be met by features of the self-service enrollment system configured to "know" the enrollment, withdrawal, credit/no credit request and refund deadlines for each individual section. Exceptions will apply, but will be resolved through interaction with the Admissions Team.

Although a prospective, current, or former student may do their business in person, there is no doubt that an increasing number of individuals will want to

utilize the web based environment. Many will be able to do this with their home or work computers, but many will expect the college to provide computers for student access. As a result, the college will provide students with a list of campus and community resources with access to computers and locations equipped with "plugs" for students' own laptop or net (?) computer.

SBCC prides itself on the diversity of our college community—including our students, faculty, staff and administration. We also pride ourselves for modeling respect for diversity. With students from more than forty countries in attendance, an annual lecture in honor of a student victim of a hate crime, and programs and courses that include a focus on tolerance, it is critical that the model Admissions Office also be representative of who we are. With this in mind, the Office of Admissions and Records

- ✔ Provides a low counter for physically challenged students
- ✔ Has worked to ensure that the Oracle Student System meets ADA requirements
- ✔ Maintains a diverse permanent and hourly staff
- ✔ Provides an application in Spanish
- ✔ Provides staff training regarding students from other countries and students with disabilities
- ✔ Maintains a close working relationship with ESL, DSPS, EOPS and ISPS programs

The Oracle Student System will greatly enhance the college's ability to make required/requested changes as a result of state or local policy. Currently, within the legacy system, any small change is a major drain on college resources. The configuration, use of workflow hooks, flexfields for unique data will allow the Information Technology staff to make required changes efficiently and quickly. In addition, users will have access to desktop tools that will allow them to obtain information and reports quickly and efficiently without putting demands on a stressed Information Technology staff.

Forms as well as information and instructions will be provided on line. Staff will be able to edit and update forms in an efficient manner. The increased self-sufficiency of the model Admissions Office will strengthen its capacity to provide superior service to the college community.

The full lives of traditional and non traditional students together with the need for retraining and an influx of retired baby-boomers eager to take courses, require that the college look at alternative delivery modes of courses. Such delivery changes will require that the college calendar and the processes of the college be flexible to meet non-traditional offerings within the calendar. The proposed student system with its flexible calendar options will allow for various "teaching periods" within a term each with deadlines determined by class meetings,

whether they be regular (same days each week) or irregular (no regular meeting pattern).

Societal changes also require that the model Admissions Office maintain flexible business hours. Currently there are evening hours four nights a week, extended morning hours at the beginning of each term, and Saturday hours for 3 Saturdays each term. It is expected that there will always be traffic, but that the advent of self-service will greatly enhance the amount of time students can access and do business with the college.

In addition, we will need to ensure that correspondence to the unique populations that will be entering the college is structured to meet the needs and interests of individual learners. As an example, select information for reentry students will not be appropriate for younger traditional students. The correspondence system within the Oracle solution will allow for the development of such group-specific correspondence.

Every individual brings a unique set of expectations when enrolling in an institution of higher education. In addition, the institution itself has expectations for the learner, which fall outside the realm of content. The Office of Admissions and Records, like other service providers within the institution, has expectations for the individual learner. In order to anticipate and ensure expectations are met, the Office of Admissions will

- ✔ Provide each prospective and admitted student with knowledge of the procedures and requirements surrounding admission and enrollment
- ✔ Provide students and former students with clear information of how to obtain information or make special request
- ✔ Provide information and service in a variety of formats to meet varying individual needs, including self-service, paper, web, in person
- ✔ Ensure information and processes are user friendly

The information, processes, and procedures should provide the students with the ability to apply and enroll properly, make timely and complete requests and meet deadlines.

The model Admissions Office, although responsible for the security, validity, and accessibility to information, is no longer the gatekeeper of that information. With the Oracle Student System, students will have access to the following information via the web: semester schedule, academic history, class schedule, academic standing, finals schedule (future), faculty office hours (future), holds to their record, financial aid status. In addition, at any time, students will be able to view and update their address, telephone, and goal, major, transfer plans, and employment expectation. Students will be required to either update or verify their personal information on a periodic basis, generally every 4 to 6 months.

The model Admissions Office will be able to use technology to "push" information to students based on their self-reported interests or other characteristics, either self-reported as in the case of address (ex: bus information or classes in satellite locations) or derived (reentry status, at-risk status). The model Admissions Office will use technology to remind groups of students of deadlines such as start or withdrawal dates for a short course. Faculty communication will become similarly more directed. Faculty will be reminded or pending deadlines as well as deadlines not met on a need to know basis.

Based on data access, administrators, faculty and staff will be empowered to access the database through tools such as Discoverer to obtain necessary information for reports, clean up of data, or analysis.

The model Admissions Offices maintains continued compliance with State and Federal law as well as changes in District policy or procedures. In some cases, compliance becomes more error free with the use of rules incorporated within the system that prevent errors such as students adding or applying for a different grading schema past the deadline. Exceptions will be made, but will require making a request through the Admissions Office. The new student system, through use of configuration, flexfields, and workflow hooks will make changes to the system much easier.

The model Admissions Office has a highly knowledgeable, well-trained and technology-comfortable staff. The new student system will require training for current Admissions staff to enable them to utilize the web as well as back office forms to be able to access, input or update information quickly and efficiently. They will need to be able to do this in the normal course of their job, but also for those within the college community desiring such information. The jobs of those on the Admissions staff and the functions within the Admissions office will be increasingly technology driven. As a result, staff will require frequent training and retraining. Training will also be provided that focuses on essential skills beyond technology such as communication and customer relation skills for working with the college community. Employee development will take place in the form of individual training, workshops, and classes.

The model Admission Office of the 21st century takes access and service to a height that empowers the student, prospective student, alumni, faculty and college staff as a result of increased knowledge, timely access to information, enhanced responsiveness and customer service and, most importantly, increased self-reliance.

VISION STATEMENT

Santa Barbara City College as a Model Community College for the 21st Century

Santa Barbara City College will provide many ways for students to access the College's high quality and affordable higher education programs. Students will achieve academic success in greater numbers as they prepare for *transfer*, acquire *occupational* competencies and the academic *skills* required for succeeding in higher education. The College will develop new ways to fully respond to the needs of its community. Such efforts will focus on a comprehensive *continuing* (*adult*) *education program* and targeted programs to provide *economic development*.

As a model community college, SBCC will serve all segments of its community while expanding its efforts to meet the educational needs of groups traditionally underserved. To achieve unprecedented levels of community responsiveness, SBCC will collaborate with local organizations to identify and respond with programs to meet educational needs. The College will operate knowing that it is a part of the larger community. The College's development and operations will be consistent with the environmental well-being of our larger community.

The College will continue to value and promote educational change and innovation that increases the quality, efficiency and effectiveness of our programs. The following four core values will continue to guide institutional decision making:

1. A commitment to excellence in all that the College undertakes;
2. A focus on students in determining policies, practices and programs;
3. A commitment to faculty and staff collaboration and collegiality; and,
4. An environment that is both psychologically and physically supportive of faculty, students and staff

SBCC will achieve its goal of becoming a model community college by capitalizing on the strengths of its culture and values and its mission by becoming a fully technologically enabled institution. The potential of technology will be leveraged to provide students with maximum possible independence and college responsiveness to meet the student's educational objectives. Technology will be applied to increase the College's efficiency, effectiveness and communication, and build a community of students, faculty and staff all of whom are committed to educational excellence and student success.

Approved by the SBCCD Board of Trustees on May 24, 2001

Proposed Format for Writing Section V of the Self Study – SBCC's Approach to Defining and Achieving a Model Community College

Model Community College Drivers and Processes (Means)	College Plan 2002-05 Outcomes (Ends)
	Student Outreach and Responsiveness to the Community
- Technology	Goals 1-4, Objectives 1-16
- Globalization	***Student Learning and Achievement***
	Goals 5 – 6, Objectives 17- 33
- Collaboration	***Governance and Management***
- Flexibility	Goal 7, Objectives 34 - 35
- Societal/Community Changes	***Technology***
	Goals 8 –10, Objectives 36 - 42
- Learner Needs/Expectations	***Facilities***
- Knowledge Management	Goal 11, Objectives 43 - 47
- Accountability Regulations	***Fiscal Support***
	Goal 12, Objectives 48 - 50
- Employee Development	***Human Resources***
	Goals 13 – 14, Objectives 51 - 60

Model Community College Drivers and Pro

Technology:

What role can technology play in promoting the achievement of the college's goals and objectives?

The college has or is in the process of implementing a number of technologies including Campus Pipeline, WebCT, Oracle iPortal, Discover Web-based reporting, Oracle HR, Finance and Student System and Web-based Self-Service Systems for employees and students.

Globalization:

The college needs to prepare its students to function effectively in a diverse and inter-connected world. Changes in communication and relationships among people throughout the world will have a substantial influence on America's cultural, economic and political ideas and interests. In addition to its Study

Abroad, International Students and International Education programs, the college needs to continue to expand efforts to internationalize its curriculum.

Collaboration:

The college can more effectively achieve its goals and objectives by collaborating with educational, business, government, non-profit, and other organizations within and, where appropriate, outside of its service areas. Examples of successful collaborations in which the college is engaged include: Employee University program with the County, Dual Enrollment Program with local high schools, joint nursing programs with Cottage Health Systems and joint facilities use projects with the City of Santa Barbara

Flexibility/Adaptability to Change:

Rapid and significant changes in many areas will continue to affect the college. The institution's ability to anticipate, respond and adapt effectively to these changes will influence the college's viability and effectiveness in achieving its goals and objectives.

Societal/Community Changes:

Demographic, economic, technological and social/cultural changes will continue to affect the college (e.g., housing costs and limited supply, changes in job market, projected increase in Hispanic population and decrease in the number of local area school-age students). The college must constantly monitor and develop effective responses to these changes.

Learner Needs/Expectations:

The college is responsible for meeting the diverse educational needs and expectations of students. These needs include the availability of programs that are easily accessible and responsive to the unique needs of an increasingly diverse and demanding population. Students will increasingly seek educational opportunities that are perceived as being of high quality, likely to help them achieve their desired outcomes, convenient and responsive to their individual needs.

Knowledge Management:

One of the by-products of an information society is the escalation of information that is potentially available to students, faculty and staff. Strategies are needed to facilitate the organization and delivery of massive amounts of information and to make it manageable and useful to its intended audiences. In addition, strategies to

equip students with the skills needed to manage and use information must be integrated into the curriculum.

Accountability/Regulations:

The college will continue to be affected by changes in local, state and federal regulation and demands for increased accountability. The college must constantly monitor changes in regulations and ensure their proper implementation. In addition, the college will need to constantly evaluate the attainment of the outcomes for which it is being held accountable for achieving.

Employee Development:

In order to achieve its goals and objectives, the college will need to provide appropriate professional development opportunities to advance the knowledge and skills of its employees. An employee professional development program should be integrated into the fabric of the college.

8/30/01

LAB
COMPUTER PLATFORM PROPOSAL GUIDE

1. Programmatic Need
   A) Define need
   B) What software tools are available to address the need? on what platform?

2. Compatability/Application Support
   A) Software availability, future development and support
   B) Compatibilityof future interations of software
   C) Cross-compatibility in dual platform environment

3. Support
   A) Availability of additional support needs (easier to support one platform) for dual platforms.

4. Cost
   A) Hardware
   B) Software