



The Internet Business Guide

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Frequently Asked Questions

The market place of the future. Your business solution today.

What is the Internet?

The Internet is a network of networks. Unlike other public telecommunications networks, it is not managed by a single corporation, government. The Internet is a worldwide network of computer networks unlike any other public agency, or any other entity. Rather, it is a cooperative interconnection of many such single entity networks.

Why should I use the Internet?

There are five important reasons why the Internet is having such an impact on business worldwide:

1. The Internet enables companies to interact with any other business using the Internet anywhere else in the world.
2. The Internet is everywhere: currently, there are more than 30 million users of the Internet; and that figure is growing at a rate of 10 percent per month.
3. Because of its inherent high-bandwidth capacity, the Internet can accommodate the many diverse forms of your company communications with suppliers, business partners, and customers—from simple text to graphic images and audio and video clips to virtual 3D environments.
4. Having been originally designed for use by the U.S. Department of Defense in the event of a nuclear attack, the Internet is highly robust.
5. Finally, when compared with alternative networking and communication technologies, Internet access costs are surprisingly modest.

How is everybody connected?

Some service providers rely exclusively on government-funded networks to reach the rest of the Internet, and only permit non-commercial traffic. Alternatively, commercial service providers build their own networks by leasing dedicated phone lines and/or virtual circuits from phone companies, and attach no content restrictions to the use of their networks. Most of the service providers connect to one or more other service providers, thereby extending the reach of their networks.

What can I expect from the Internet in the future?

With new customers connecting their local area and wide area networks to the Internet, and service providers continually increasing the number of networks to which they have direct connections, the Internet is currently undergoing a phase of exponential connectivity growth. This expanding user base is bringing with it new applications that are increasingly making the Internet an indispensable business and personal communications tool.

Winning With The Internet

The Age of Hypercompetition

In virtually every industry, competition has reached a new level of intensity. Mere survival requires that a business perform at unprecedented levels of effectiveness. The pressures include:

- Shrinking Product Lifecycles - Increasingly, a difference of a few months in getting to market can have a major impact on market share and profitability. This is as true of services as it is of tangible products.
- Unceasing Cost Pressures - The need to improve productivity continues unabated - and increasingly, the productivity of knowledge workers, as well as production and clerical workers, is critical.
- Demand For Quality and Customer Service. Customers expect responsive, individualized support.
- Changing Marketplace - Mass marketing is no longer enough. Pinpoint marketing tactics - reaching the right segments with the right messages - are increasingly essential.
- Structural changes new models are emerging for the way in which organizations and people work together. These include virtual corporations, collaborative product development, and integrated supply chain management.

Business use of the Internet can make a major contribution in every one of these critical areas.

While each of the above issues requires a multifaceted strategy, a common thread is the need to enable communications - between enterprises as well as within your own company. Computer-communications networks must thus be a key component of the overall solution. Although such networks have been in common business use for almost two decades, the Internet is taking the business impact of network technology to a new plateau.

What's All The Fuss About This "Electronic Superhighway"?

Although the Internet is often referred to as an "electronic highway," a better analogy is with the U.S. railroad system. Just as no single organization runs the Internet, no single organization runs the national rail network. The "national rail net" is, in fact, simply the aggregate of many different individual railroads, exchanging rolling stock at agreed-upon locations according to predefined rules. A shipper can send a car on a journey of several thousand miles, across the facilities of several different railroads. Similarly, two Internet users can do business without concern for the technical compatibility of their respective Internet network providers. Certain "locations," such as the Commercial Internet Exchange (CIX), are agreed-upon points or the exchange of traffic.

As track gauges and other aspects of railroading became standardized during the mid-19th century, the nature of the railroad industry changed dramatically. It evolved from a group of local businesses serving local Markets to a truly national industry. The creation of a national marketplace and economy, and a century of economic growth, were the result.

Similarly, the emergence of the Internet standards are transforming networking from a niche technology, useful for certain specific applications, to the normal way of doing business. This will result in tremendous opportunities for those companies that astutely exploit the potential - and major risks for those that do not.

Internet - The New Information Infrastructure

There are at least six reasons why the Internet is having such a dramatic impact on the scope of business networking applications. These are:

Universality - Any business using the Internet can interact with any other business using the Internet. This is by no means true of earlier networking technologies, with their maze of conflicting standards. It was as if you could only ship goods to those companies doing business with the same railroad as yourself, or as if the phone system had only allowed you to call other people whose telephones were the same color as yours!

Reach - The Internet is everywhere: large cities and small towns throughout the U.S. and more than 70 countries throughout the world.

Performance - Unlike many other public networks, the Internet is inherently a high-bandwidth network. This means that it can handle visual images, audio clips, CAD models, and other large electronic objects. It provides its users with a high-function, multi-media window on the world, in addition to handling everyday networking tasks such as electronic mail.

Reliability - The design concepts for the Internet came out of U.S. Department of Defense work, with a principal goal being to create a network which could continue to function under wartime conditions. Hence, Internet technology can be highly robust, although - as we shall see - there are significant differences in the extent to which particular Internet providers actually implement this robustness.

Cost - Compared with alternative networking technologies, Internet costs are surprisingly modest.

Momentum - There are already an estimated twenty-five million users of the Internet, and the number is growing rapidly. Business use is increasing at an even more dramatic rate.

The above are the generic characteristics of the Internet. Cost, performance, and reliability differ significantly from provider to provider (just as individual railroads differ in their on-time delivery characteristics). Internet providers also differ significantly in their levels of customer support and their provision of specific business-oriented capabilities.

Internet Evolution

The Internet was originally a government-funded network with restricted access. Beginning in 1987, it began the evolution to commercial status, and today's Internet providers are primarily for-profit businesses.

The use of the Internet was initially for scientific and academic research. As the Internet began to transition to commercial status, it also became a vehicle for business research. The Internet now provides access to literally thousands of information sources on topics ranging from economic indicators to government regulations. But in the early '90s, the use of the Internet still required a high level of technical expertise, and did not represent a viable option for main-line business activities.

Recent innovations have made the Internet fully accessible to non-technical individuals, and are unleashing a new wave of business applications, as discussed in the next section.

Bringing Internet's Power To Your Business

As the earlier discussion demonstrates, there is tremendous power that the Internet can bring to your business. Exploiting this power requires certain investments in technology and expertise - investments which are quite modest in relationship to the benefits.

There are basically three ways of utilizing the Internet. These are not mutually exclusive, and some companies will require all three.

Individual Use

An individual personal computer may be connected to the Internet via normal dial-up telephone lines. To obtain full Internet capability, appropriate software needs to be installed on the PC. Several software packages are available which provide a Graphical User interface (GUI), thereby making Internet resources as easy to use as possible. The functions that such packages provide typically include:

- electronic mail
- file transfer (FTP)
- access to the World Wide Web (see below)
- ability to log on to remote computer systems (Telnet)
- access to other Internet information resources



Network Connection

If your company has an internal network, you should consider establishing a direct network connection to an Internet provider. With such a connection, you can make the Internet available to all of the users on your network (or to an appropriate subset of users). There are several advantages of a network connection over multiple dial-up connections, including:

- instant connection without waiting for dial time
- faster movement of large electronic objects (such as graphics)
- usually, a lower overall cost
- a convenient way to connect together the multiple "island" networks that often exist to support individual offices or business units within a corporation

Establishing a network connection usually (though not always) calls for a leased phone line and appropriate equipment to connect it to the internal network. It also usually requires that local "servers" (specialized computer hardware and software) be provided for e-mail gateways and other functions. When connecting the Internet to an internal network, security considerations become particularly important. A network connection will cost more than an individual dial-up connection, but this cost will usually be spread over multiple users. It will also require a higher level of technical expertise for ongoing support.

Web Presence

For marketing and customer support applications, a presence on the World Wide Web is usually essential. In establishing such a presence, there are two basic issues that must be addressed:

1. Organizing the information content. This involves questions like:
 - What information do you want to make available?*
 - How should it be structured for best usability?*
 - What graphics are appropriate?*

Once these questions are answered, the information is “marked up” and can become “live” on the Internet. Some companies may want to do the above tasks internally. Most, however, will benefit from the use of outside expertise. Creating an effective Web presence requires a combination of marketing, graphics, information design, and technical skills.

2. Have your information “hosted” by a company specializing in such services. This relieves you from hardware, software, and operational considerations. It may also offer improved performance to customers who are accessing your server. (This is particularly true if the server hosting is performed by your Internet access provider in their own facility, so that a very-high-bandwidth link to the backbone can be provided.) Using a hosting service also eliminates any security concerns associated with connecting a Web server on your own network to the Internet.

Summary

The three fundamental ways of utilizing the Internet. A large company may well require all three:

1. Individual dial-up connections for remote offices and traveling salespeople
2. Leased connection for internal corporate networks
3. A Web presence, perhaps hosted by the Internet provider, as a high-performance means of disseminating information.

What About Security?

Since the Internet is a public network, concerns are often raised about security. In brief, your Internet usage can be made as secure as required. There are several tools available to protect your information and your systems against compromise, intrusion, or misuse:

Firewalls are systems that control the flow of traffic between the Internet and your internal networks and systems. They are usually packaged as turnkey hardware/software packages, and are set up to enforce the specific security policies that you desire.

Encryption allows information to transit the Internet while being protected from interception by eavesdroppers. The two basic approaches to encryption are security policies and procedures which should be an integral part of any corporate Internet security strategy.

As noted above, your Internet usage can be as secure as required. It is important to put in place the appropriate tools and procedures to protect your information assets. It is also important, however, not to overreact and incur unnecessary costs and difficulties. For individual Internet connections used for normal business purposes, security is often not a problem. The same is usually true of those Web servers which are distinct from internal networks and are intended for public access. Each business needs to assess its own security issues and establish the appropriate tools and procedures.

Training

Unless you are already familiar with using the Internet, training will be important to you. There are generally two types of courses available:

Basic Internet Training - These courses typically provide an introduction to the Internet, and include an overview of Internet tools available to its users. They also describe how to navigate the Internet, and define the sometimes arcane jargon associated with it.

Advanced Internet Training - This course is designed more for a System Administrator than an individual user and is more technical in nature. It covers the details of how Internet protocols and services actually operate.



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Using the Internet for Competitiveness

Marketing

Marketing a product or service encompasses advertising, distribution of “collateral” product or company information inside and outside sales, and dealer distributor sales support. All of these activities can be greatly enhanced through use of the Internet. Although media attention has focused on the Internet’s potential for consumer marketing which is indeed substantial - the Internet is equally powerful in business-to-business marketing.

An Internet capability known as the **World Wide Web** (WWW or the Web) is superbly well adapted to the marketing realm. Information made available via the Web can be rich and multi-sensory; it can include not only plain text; but also colors, multiple fonts, high-quality graphics, sound, and even video clips. Even more important, the information can be made accessible in ways that tailor it to each user of the information.

Some examples of Internet marketing applications include:

An industrial-products manufacturer uses the Internet to provide comprehensive information on its products (plastic resins). The information includes not only product characteristics, but also suggestions on how the product may be used. Thus, this company is using its Internet presence to help its customers and prospects find new ways to use its products - increasing sales volume as well as adding value in the customers’ eyes.

A venture capital firm uses the Internet to support its business development activities. Information made available includes profiles of the partners, past investments and the company’s investment philosophy.

Several law firms have developed an Internet presence focused on their particular specialties. Articles by partners and selected research information are made available. Here, the Internet provides a low-key and highly professional way to promote the firm’s expertise.

A record company is using the Internet to make information available about its albums, artists, tour schedules, etc. - along with 30-second sound bites! The company views the Internet as an integral part of its strategy for building long-term customer relationships.

A jewelry manufacturer is using the Internet to help recruit local distributors for its products.

A consumer electronics company plans to use the Internet to provide product and sales information to its nationwide dealer channel.

Use of the Internet for marketing offers many advantages;

Information - product descriptions, prices, etc. - can be provided to customers and dealers in its most current form. Unlike other forms of collateral, updating existing Web information requires no new design, layouts, or production; therefore, there is no time lag.

At the same time, the costs of information production and distribution can be greatly reduced. For less than the cost of a single advertisement, your company can likely have a continuous presence on the World Wide Web for a year or more.

A high degree of interaction can be built into the information. Customers and prospects can see as much detail as they need on the specific subjects that are relevant to them. The way in which customers use information can be measured. You can learn what subjects are of most interest to your customers and use the knowledge to fine-tune your marketing strategy and materials

Qualified prospects may be directed to your company by any one of a host of Internet resources. A number of electronic directories exist which index the publicly-available Web servers by their area of focus and their geography. These directories can (electronically) point prospects in your direction.

Order processing costs can be dramatically reduced in cases where the actual ordering of goods and services can be accomplished electronically.

Product Support

Maintaining a high degree of customer satisfaction is a key success factor in all industries. The product support and customer service functions are increasingly recognized as critical. But it is not enough to simply provide superlative support; this support must be provided in a cost-effective manner. The Internet can greatly reduce the load on support hot-lines while increasing customer satisfaction. For example:

Customers can often solve their own problems when the right information is made available in the right form. The Web can be used to provide information on solutions to common product problems and answers to frequently-asked questions. The information can be categorized in multiple ways, allowing customers to easily find the answers they need. This approach greatly reduces customer service staffing requirements.

When a customer support person does need to be contacted, the Internet can help cut down on cost and frustration. Electronic mail offers a solution to telephone tag - and the Internet can integrate your e-mail systems with those of your customers. Electronic forms capabilities can go beyond e-mail and insure that a customer is prompted for the specific information needed to address the problem most efficiently.

Companies frequently establish an Internet presence which combines marketing and product support aspects. One large electronics company, for example, provides its customers with an integrated Internet resource which encompasses:

- Product information
- Dealer names and locations
- Product support services
- Educational offerings
- and even a map showing how to get to corporate headquarters!



In summary, product support is a rich arena for Internet applications.

Advantages of using the Internet in this role include;

Reduced hot-line expenses, combined with improved customer responsiveness as customers are able to solve a broader spectrum of problems themselves.

Lower printing and distribution costs for product support information (manuals, technical bulletins etc)

More effective use of repair personnel - less flipping through files and manuals trying to find the right information.

Less wasted time and frustration from telephone tag.

Collaborative Product Development

As product lifecycles shrink, speed-to-market becomes ever more crucial. Corporations are increasingly working closely with their suppliers during the product planning and design phases, and the Internet can greatly aid in tightening this linkage:

Design Information - such as CAD models can be exchanged electronically with suppliers. Reductions of as much as 4:1 in lead-time have been obtained through such electronic exchange. The Internet's ability to transfer large files rapidly and economically makes this kind of information exchange truly practical.

Project Status Information - can be shared via electronic mail and bulletin-board-like capabilities.

The Internet is emerging as an integral component of the new era of "agile manufacturing" - an era characterized by speed, flexibility, and new ways of working together among companies.

Electronic Commerce / EDI

A tremendous volume of paper documents - purchase orders, invoices, bills of lading - flows between corporations. This paper often has as its source the computer of one trading partner, and as its destination the computer of the other partner.

The process of creating the paper, mailing or faxing it, and re-keying the information at the other end is clearly quite wasteful. Over the last decade, Electronic Data Interchange (EDI) has emerged as an enabler of direct computer-to-computer communication for standard business transactions. EDI has had considerable success, with over 30,000 U.S. corporations currently involved. It has, however, reached only a small proportion of its true potential.

Internet EDI provides the basis for a comprehensive electronic commerce solution.

Information Gathering & Business Research

This was the earliest Internet business application, and is still one of the most popular. For virtually every industry and every business function, a tremendous range of information is available. Some examples:

- Securities and Exchange Commission (SEC) filings
- Government Requests for Bids
- Economic and Demographic Data
- Industry Standards and Specifications
- Total Quality Management (TQM) Information
- Agricultural Information/Outlook
- International Trade Information
- Patent and Trademark Information

The information flow is not one-way; there are thousands of on-line discussion groups devoted to particular topics. These can be invaluable for making contacts as well as gathering information. One manufacturing company, for example, was attempting to determine if there was a market for its products in Europe. Through the use of Internet discussion groups, it was able not only to answer the question in the affirmative but also to establish contacts with people who wanted to buy their products.



New and Differentiated Services

The Internet can create entirely new business opportunities, and can add differentiation and value to existing products and services. Many examples of this are already visible, and vastly more are possible. A few examples:

- A law firm is using the Internet to expand its practice - incorporation - throughout the United States.
- Several commercial printers are allowing customers to submit final artwork via the Internet rather than through courier delivery.
- Publishers of all types of information are beginning to create electronic as well as paper versions of their publications.
- Many advertising agencies are already developing a market focused on the presentation of information via the Internet.

Business Communications

In addition to the above specific applications, the Internet is a great facilitator of general, day-to-day business communications. Examples:

E-mail can assist in keeping the lines of communication open between companies and among people at all levels. Ongoing relationships are facilitated, and problems can be resolved before they become critical. Contract negotiations are facilitated when the Internet is used for the exchange of draft language. Unlike a fax, the information can be easily edited by both parties.

The management of special projects - conferences, trade shows, etc. - is greatly facilitated by the Internet. Up-to-the minute schedule information, for example, can be made instantly available to all involved parties.

Summary

The Internet is relevant to companies of all sizes and in virtually every industry. Moreover, there are specific, high value Internet applications in just about all business functions. While media coverage has tended to focus on "futures," a broad spectrum of Internet applications is entirely feasible now; leading companies are using these applications to:

- Reduce costs
- Shorten product cycle times
- Market more effectively
- Enable new ways of doing business

