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BEFORE THE

DEPARTMENT OF TRANSPORTATION

WASHINGTON, D.C.

In re	)	
	)	
Advance Notice of Proposed Rulemaking	)	**Docket No. OCT-97-2881** - 39
Computer Reservation System Regulations	)	
Notice No. 97-9	)	
	)	

COMMENTS OF INTERESTED PARTIES REGARDING THE IMPACT OF THE INTERNET ON THE COMPUTER RESERVATION SYSTEM REGULATIONS

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I. Introduction

Computer Reservation Systems ("CRSs") are the foundation for effective, efficient distribution of air transportation services in the United States. CRSs provide travel suppliers, such as airlines and hotels, travel agencies, corporations and consumers with real-time information including, flight schedules, fare information, on-time performance, aircraft type, meal service, as well as the enabling technology to facilitate the selection, sale, payment, processing and recording of air transportation transactions. Given the fundamental importance of the CRS to the air transportation market and the delivery of air transportation services to consumers, the U.S. Department of Transportation ("DOT") has enacted rules governing the activity and operation of CRS's, 14 C.F.R. Part 255 *et.seq.* (the "U.S. CRS Rules" or also referred to herein as "the Rules"). In large part, the DOT deemed regulations necessary to preserve the full benefits of automation to travel agents and consumers by forbidding certain practices by system owners that were perceived as harmful to competition. These practices included (i) withholding or manipulating key system functionality to favor the CRS owning airline over competitors, (ii) display bias -- the manipulation of the computer screen to unfairly favor the system owner over competitors, and (iii) restrictive distribution agreements with travel agencies.

As the DOT notes in its Advance Notice of Proposed Rule-Making ("ANPRM"), the explosive rise of the Internet as a viable distribution channel marks an extremely significant and fundamental change in the U.S. air transportation market and clearly affects the current Rules. In an effort to respond to all of the Internet related questions posed by the DOT in the ANPRM, this paper contains four primary sections: (i) the growth and importance of the Internet, (ii) obstacles to continued growth in the Internet travel market, (iii) the need to protect this new distribution channel for consumers, subscribers and air carriers by extending the Rules to the Internet, and (iv) proposed modifications and additions to the current Rules.

II. Growth of the Internet and the Impact on Travel Distribution

As the DOT acknowledges, the Internet has become a key distribution channel for traditional business markets, such as the $1.2 trillion market for retail goods, the $334 billion market for automobile sales, the $100 billion market for travel distribution and the $66 billion market for local advertising.[1] The dramatic rise in the use of the Internet has expanded a segment of the economy that in many ways owes its origins to computer reservation systems -- electronic commerce. Today, consumers can purchase virtually any goods or services via the Internet -- from home fixtures, appliances and garden tools, to cars, homes, securities, insurance and travel services.[2]

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[1] David Bank, *Microsoft Moves to Rule Online Sales*, Wall Street Journal (June 5, 1997).

[2] Thomas Easton, *Let Your Modem Do the Walking*, Forbes, at 170 (Nov. 17, 1997). (For examples, see htttp://www.homedepot.com; carpoint.msn.com; www.previewtravel.com.)

The travel distribution industry is highly dependent on technology, which may explain its rapid rise on the Internet. According to one recent report, nearly 14 million people or 9% of American travelers will use the Internet for trip planning or reservations in 1997: "That's about five times the number of people who used the Internet or online services for travel research or bookings in 1996 [and] [b]y the end of next year... 75 million adults, or 38% of the U.S. population, will consider using the Internet for those tasks."[3] In addition, consumer spending for travel services via the Internet, estimated at $275 million in 1996, is projected to increase to $8.9 billion in the next five years.[4]

A. The History of the Air Transportation Industry in Electronic Commerce

More than two decades ago, the first electronic travel reservations and information system (or CRS) was introduced into the U.S. air transportation industry. This new technology enabled travel agents and air carriers to take advantage of increased processing speed and information storage capacity of computers, and made it quicker and easier for consumers to check available flights and make airline reservations. Today, the U.S. market for CRSs is intensely competitive and includes the SABRE CRS (originally offered by American Airlines, Inc. and now owned and operated by The SABRE Group, Inc.[5]), Apollo/Galileo (the Apollo CRS began as United Airlines' internal reservation system and, in 1993, combined with the Galileo CRS[6]), Worldspan (owned in part by Delta Airlines, TWA, Northwest), and System One/Amadeus (owned, in part, by Continental Airlines). These CRSs offer immense databases of travel information and are some of the world's largest online transaction processing systems.

B. The Market for Air Travel Services via the Internet

Following the advent of commercial use of the Internet and the World Wide Web (the "Web"), many U.S. air transportation industry participants -- including airlines, CRSs and travel agencies -- recognized the Internet as an important new distribution channel for the electronic distribution of travel services. Today, many travel agencies and some of the CRSs offer travel services via the Internet. In June 1995, Internet Travel Network (www.itn.com), which is utilized by a number of travel agencies and is connected to several CRSs, was launched on the Internet, followed by sites from, among others, The SABRE Group (www.travelocity.com) and

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3 Laura Bly, *Internet Gaining on Travel Agents*, USA Today Online at http://www.usatoday.com/life/cyber/tech/ctb609.htm (Nov. 14, 1997) (citing a Travel Industry Association of America report released the week of Nov. 14, 1997).

4 Jupiter Communications, *Online Travel Market: Five Year Outlook*, at 56 (April 1997).

5 As a result of an Initial Public Offering in October 1996, The SABRE Group, Inc. owns and operates the SABRE CRS.

6 As a result of a recent Initial Public Offering, Galileo International, Inc. owns and operates this CRS.

American Express Interactive Travel Services (www.americanexpress.com/travel). At these Internet travel sites, consumers can make obtain flight schedule and fare information, make reservations and purchase tickets on a wide range of carriers. At these sites, consumers also have access to a wide variety of related travel information, including information on hotels, rental cars, weather and local entertainment information.

Air carriers also offer consumer direct flight and fare information over the Internet.[7] These Web sites offer consumers the ability to check prices and reserve and purchase tickets directly with the airline offering or sponsoring the Web site. Increasingly, air carriers utilize these sites to offer consumers substantially discounted fares. These individual airline sites can be compared to the airlines' city ticket offices in that consumers access or enter these sites expecting to obtain "biased" information focused on the carrier that owns and operates the Web site.

A number of other travel sites are offered on the Internet and have no direct connection with an air carrier. Examples of these non-airline affiliated Web sites include Microsoft's Expedia (www.expedia.com), America Online's Preview Travel (www.previewtravel.com), and TravelWeb (www.travelweb.com). Each one of these non-airline affiliated sites is connected to an airline-owned CRS as the "booking engine" or primary source of carrier related fare and schedule information, and offers flight information on a wide range of carriers.[8]

An overview of the Internet travel sites reveals that there are basically two categories of sites. One category includes the Internet travel sites linked to a CRS that offer the ability to book flights on more than one carrier (referred to in a recent Jupiter Report as "Mega-Sites"[9] and in this paper as "Comprehensive Travel Sites"). The second category consists of the Internet sites offered by individual carriers, which are clearly branded or sponsored by a single airline. Comprehensive Travel Sites are the largest segment of Internet or online air travel services and accounted for almost 80% of consumer online travel sales last year.[10] These sites are expected to retain 70% or more of the Internet travel market through 2002.[11] Thus, Internet travel products such as Microsoft's Expedia, America Online's Preview Travel and SABRE's Travelocity are expected to be the leaders in consumer travel via the Internet -- which will almost certainly remain a leading segment of Internet based consumer commerce for some time to come.

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7 Examples of such sites include Delta Airlines' site at www.delta-air.com, American Airlines' site at www.americanair.com, and Southwest Airlines' site at www.southwest.com. Essentially all U.S. carriers offer or are planning to offer such sites.

8 *Microsoft Expedia Travel Services Debuts on the Web*, Microsoft Press Release at http://www.microsoft.com/corpinfo/press/1996/Oct96/EXEDPR.htm (Oct. 22, 1996).

9 Jupiter, *supra*, at 13.

10 Jupiter, *supra*, at 50.

11 *Id.*

B. Characteristics/Descriptions of Internet Travel Sites

Internet air travel sites use graphical user interface software that guides the computer user through a series of questions about the flight, hotel or car to be reserved, reformulates and communicates the request to the CRS, and presents available options to the user. Competing sites sell advertising on various screens or displays used in the booking process, and design the screens or displays to make the reservation and booking process as quick and easy as possible.

Internet air travel sites are extremely competitive and this competition has led to the development of a number of innovative features, products and improvements to the overall benefit of consumers. For example, Internet Travel Network, a Comprehensive Travel Site, offers features that allow users to choose among flights based on price, find out about the best frequent flyer plans, review the weather forecast for a particular destination and receive specific directions for navigating between any two specific points.

III. Barriers to Growth in the Internet Travel Market

The rapid growth in the Internet travel market can be attributed, in part, to the diverse features and products offered by the Comprehensive Travel Sites. These sites provide information and services to consumers on a non-discriminatory basis, regardless of the booking engine used by the site, or the type of hardware or the specific brand of client software or Internet browser used by the customer to access the site. The technology that has made this universal communication between computers possible relies upon the set of shared, open, non-proprietary protocols on which the Internet or World Wide Web is constructed.[12]

If one company controls, or attempts to control, such important enabling technology, and uses that control to impair consumer choice, the growth and viability of emerging Internet markets, such as travel, will be threatened. In addition, to the extent one company is in the position to dominate essential technology relied upon by the various participants in the distribution of air transportation via the Internet (travel agencies, CRSs, air carriers), *and* is intent on dominating the Internet travel market, certain anti-competitive, predatory and unfair tactics from the past -- such as manipulation of system features and screen bias -- could return to the marketplace.

A. Control of Essential Technology

In the new electronic marketplace, the PC, TV or other consumer electronics device that

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[12] Personal computer ("PC") users now accessing online services on the Web (such as online travel products) do so by launching a Web browser program (such as Microsoft's Internet Explorer or Netscape's Navigator), or the versions of these and other browsers which come bundled with the software provided by online service providers ("OSPs") such as America Online, Compuserve, or The Microsoft Network. The browser program then uses one of the open protocols (HTTP) to transmit a request to "see" or access a particular Web page to a Web server (software which stores pages and displays them in response to such commands).

is Internet enabled, will be the means through which consumers and users access information and purchase goods and services, including air transportation services. All of those computing devices require an "operating system" to run the hardware, and perform basic computing functions, such as sending output to the computer's printer.[13] Internet travel sites, such as Expedia, American Express Interactive, and Preview Travel, much like software applications such as word processing programs, spreadsheet programs and presentation software, interact or work with the operating system. To be successful, these "applications" must interact efficiently and seamlessly with the underlying operating system to enable users to perform the selected functions, such as making a reservation, choosing a seat assignment or conveying a credit card number. If the online travel site or other application is denied certain key information relating to the operating system, such as application programming interfaces ("API's") that enable the application or site to run effectively with the operating system, the Internet site provider or applications provider could be artificially restricted from fully and fairly competing in the market. Under this scenario, the dominant provider of the operating system could unfairly manipulate or bias the system -- tactics employed by dominant CRS's in the late 1970's and early 1980's -- to favor certain applications over others.[14]

Microsoft Corporation is the dominant provider of personal computer operating systems in the U.S.[15] Microsoft is also the dominant provider of productivity application software, such as word processing software, spreadsheets and presentation software.[16] Microsoft has made no secret of its intention to dominate the market for Internet and online travel distribution and, if history is any indication, may use the same tactics used by the dominant CRS's -- manipulation of essential technology, withholding key technical interfaces from competitors, and biasing the screen to favor its own product.

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[13] As described by the Department of Justice in its Proposed Final Judgment and Competitive Impact Statement: United States of America vs. Microsoft Corporation, 59 Fed. Reg. No. 160 (August 19, 1994) (the "Consent Decree"), "operating systems function as the 'central nervous system' of the PC [and] PC operating system software is designed to work with specific microprocessors, the integrated circuits that function as the 'brain' of the computer."

[14] For example, from November 1981 to February 1982, American's SABRE deleted from its display Continental Airlines' "supersaver" fares in 65 markets. Similarly, United refused for 18 months to allow Frontier Airlines, a direct competitor in many markets, "cohost" status in Apollo. This action resulted in Frontier having inferior displays on Apollo. Similar action was taken by United with respect to other carriers for lesser periods of time. See, 1985 Report of the Department of Justice to Congress on the Airline Computer Reservation System Industry, December 20, 1985, p. 12, footnote 15.

[15] *See, e.g.*, Jessica Twentyman, *OS/2--Blind Loyalty to a Lost Cause?*, Computergram International (March 20, 1997) ("According to market analysts Dataquest Inc., Microsoft Corp. controls around 90% of the personal computer operating system market with its Windows 3.1, Windows 95 and Windows NT products"). As a result of this monopoly, Microsoft controls the display that most users see on the computer screen when using their computers--the "desktop."

[16] David Kirkpatrick, *He Wants All Your Business -- And He is Starting to Get It*, Fortune, May 26, 1997, p. 61.

B. Control of the Computer Screen

Before the Internet revolution, almost all consumer software applications (that is, interactive programs that enable users to perform specific tasks) were "desktop" applications -- they resided on the user's personal computer.[17] With the growth of the Internet, however, users now can access applications over the Internet virtually as easily as they can programs located on their own computer. Indeed, from the user's perspective, both online and desktop applications are accessed in the same way: through graphical displays on the user's screen. If Microsoft succeeds in maintaining its 90% share of personal computer desktops through the transition to Web enabled desktops, it will be uniquely situated to monopolize online travel, as well as the other major commercial online applications.[18]

Online applications have important similarities to, and differences from, desktop applications. Both the similarities and the differences have contributed to the explosive growth of these products. On the one hand, online applications can be called up directly from the desktop; and, once they appear on the user's screen, they can be used in virtually the same way as desktop applications. If one considers how a consumer might use a Web "search engine," for example -- an online application that searches the Web for specified information -- the user might initiate access by entering a simple one-line command (e.g., "www.altavista.com"). If the user is already online, the requested search engine will appear on the screen, and the consumer can interact with it in the same way she or he would a desktop application. Tasks can be initiated at the consumer's request using the keyboard and mouse (a search for "travel"); information can printed out at the consumer's printer; and associated files can be saved to the consumer's desktop.

On the other hand, while online applications have the advantage of being familiar in the way that they are used, they expand dramatically upon desktop applications in the range of information and services that they provide. There are two principal reasons for this difference. First, because online applications are network-based, they can draw upon large and multiple databases in a way that far exceeds the capabilities of any PC. And second, again because of the network connection, it is possible to have information continuously updated and delivered to the consumer's desktop. These dynamic capabilities distinguish online applications fundamentally from static desktop applications.

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[17] With the exception of proprietary online services, most network-based applications were for business use. Examples that might be familiar to readers include legal research databases (e.g., Westlaw and Lexis-Nexis) and airline computer-reservation systems.

[18] Microsoft's ability to exploit its desktop monopoly (or "Windows monopoly") as a means of dominating online applications does not appear to be confined to PCs. Non-PC devices, such as Web-enabled televisions, smart cards will require an operating system as well as Web-enabled interface software. Microsoft's goal in this arena appears to be to prevent non-PC markets from coalescing around an open, non-Microsoft interface, both by directly acquiring leading players in such markets (such as WebTV) and establishing "Windows" as the standard interface.

The consumer's desktop--whether located at work or at home--is the space in which the consumer accesses, views, and manipulates online applications. That space is currently monopolized by Microsoft. Through its control of its proprietary operating system monopoly, Microsoft can potentially manipulate the system to unfairly favor its own applications, and even control how well its competitors' online products perform. In addition, by employing screen bias, Microsoft could direct users to its own products and services.

Even without monopoly control of the personal computer desktop, Microsoft's enormous commitment of resources, marketing capabilities, and strong brand name likely would make it an effective competitor in Internet travel (as well as any other Internet application market which it might choose to enter). But Microsoft, with its operating system monopoly and control of the user's desktop, threatens to extend its monopoly into the Internet -- and Microsoft has clearly targeted Internet and online travel as a market it intends to dominate.[19]

C. Control of the Internet Travel Market

The potential for one company -- Microsoft -- to monopolize the nascent Internet travel market through anti-competitive, unfair and predatory actions is not remote. In fact, issues relating to Microsoft's business practices and growing dominance in the emerging Internet marketplace are currently under consideration in a number of forums.[20]

On October 20, 1997, the Department of Justice ("DOJ") initiated contempt proceedings against Microsoft for allegedly violating the terms and conditions of the Consent Decree between the DOJ and Microsoft entered in August 1995.[21] At a press conference announcing the contempt proceedings, U.S. Attorney General Janet Reno stated: "Microsoft is unlawfully taking advantage of its Windows monopoly to protect and extend that monopoly and to undermine consumer choice." Assistant Attorney General Joel Klein stated that Microsoft was engaged in "product forcing" [in this specific action, forcing PC manufacturers and consumers to take the Microsoft version of the browser in order to get the Windows 95 operating system] and that "Microsoft and only Microsoft is able to do that because it alone has a monopoly on the

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[19] See Elizabeth Wasserman, *Microsoft Puts Muscle Into Making Money Online*, San Jose Mercury News at http://www.sjmercury.com/business/msn091597.htm (Sept. 15, 1997) ("Microsoft has several built-in advantages. The firm already practically monopolizes several key points along the 'Internet delivery chain,' including desktop and server operating systems and applications. Also key are its recent investments in Net appliance company WebTV and cable television's Comcast Corp. and the ongoing penetration of the company's Internet Explorer browser -- all of which may serve as ways to route consumers to Microsoft online products as well.")

[20] Attached as Exhibit 1 is a compilation of recent articles and editorials regarding Microsoft's focus on the Internet and the various investigations of Microsoft by the U.S. Department of Justice.

[21] The DOJ's initial memorandum in support of its contempt action can be found at http://www.usdoj.gov/atr/cases3/micros2/1237.htm, and the DOJ's Reply Brief can be found at http://www.usdoj.gov/atr/cases3/micros2/1277.htm

underlying operating system software." Mr. Klein added that "it's a very serious abuse that we're talking about here... because browsers take computing beyond the desktop where Microsoft rules, and into the world of the Internet where no one is dominant." Mr. Klein also added that: "although we've decided to act on this specific matter today, I want to emphasize we are continuing our ongoing investigation into several Microsoft practices."[22]

On November 4, 1997, Senator Orrin Hatch, Chairman of the Senate Judiciary Committee at a hearing entitled "Competition, Innovation, and Public Policy in the Digital Age" stated: "I have not made any secret of the fact I have serious concerns about Microsoft's recent efforts to exercise its monopoly power."[23]

At the same hearing, panelist Paul Ruden, Senior Vice President Legal & Industry Affairs, American Society of Travel Agents, speaking on behalf of more than 16,000 travel agency and agency-related members, offered the following testimony on current developments in electronic commerce, the need for open architecture and standards on the Internet, and the dangers of system bias:[24]

> "We have a strong interest in maintaining the most efficient, open access and open architecture in the proliferation of search engines and browser services that help people navigate the Internet — and in particular in seeing that services do not bias the system by routing consumers to destinations pre-determined by the service provider."
>
> "The risk that must concern this committee, and the Congress as a whole, is that Internet service providers seek increasingly to 'bias' the system, writing into the systems they offer the public electronic steering mechanisms, if you will, that tend to deliver Internet users to destinations of system-makers' choosing, rather than the place the consumer wants to go."

Mr. Ruden also commented on the immediacy of the problem, and the unique experience of the travel industry in recognizing and resolving these problems:

> "The time to deal with this problem is now, given the fast forward speed at which the electronic market moves. Nor do we really have to speculate what 'electronic gatekeepers' will do with unlimited power to control, shape, or steer consumer access...

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[22] As recorded on CNN-TV, October 20, 1997 at 1:00 p.m., transcript by Video Monitoring Services of America. A transcript is attached hereto as Exhibit 2.

[23] Mark Helm, "Hatch Sounds Microsoft Internet Warning; Tells Senate Panel Company Seeks to Monopolize Access," *San Francisco Examiner*, November 5, 1997

[24] Attached as Exhibit 3 are complete copies of the statement of Senator Orrin Hatch, the testimony of Paul Ruden of ASTA and Ed Black of Computers & Communications Industry Association at the Senate Hearing.

we in the travel industry have been down that road before."

"Look at the history of airline-owned CRS systems — replete with efforts to manipulate systems to suppress rival's fare discounts, to demand special fees for posting flight information from upstart airlines, even to game the system's flight-scoring program to ensure first screen first line billing for preferred flights — and we can see how a tool presumed to expand consumer choice generated pressure — and created opportunities — to use technology to restrict choice, and limit consumer information."

Aside from the dangers of system manipulation or architectural bias, Mr. Ruden also commented on the subject of screen or display bias:[25]

"The CRS companies biased their flight data screens to prefer their owner-airlines and others in special commercial arrangements with them... According to industry estimates, 53% of all airline tickets sold are for flights listed on the first line of offerings. And 93% of all flights sold are listed on the first screen. The ability to bias that screen therefore gave the CRS's owners and their commercial partners a very valuable advantage in competition with airlines not so favored."

Finally, Mr. Ruden warned that the DOT's rules that effectively ended such anti-competitive, predatory and unfair practices in the air transportation market, may be circumvented through the rise of the Internet:

"Should we really worry that the past will once again be prologue? Consider that certain software industry official actively involved in offering electronic travel services are speaking even now about the electronic ... market as an opportunity to win a share of the 'vig' — street slang for [a bookie's take of a bet]. That kind of talk should concern all of us -- industries active in the Internet and increasingly dependent on it as a commercial vehicle, as well as policy makers and public officials, charged with protecting consumer freedoms and individual choice. Competition must be the order of the day on the [Internet]."

Mr. Ruden's warning appears to be well founded, as earlier this year, Microsoft announced that it intended to use its control of the Internet Explorer 4.0 screen display to bias users in favor of its own online applications. According to press reports, Microsoft informed representatives of PC makers, content providers and others at a briefing in May 1997 that it

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[25] The DOT and DOJ are well-versed on the anti-competitive effects of screen bias, namely that information displayed on the first line or first screen has tremendous influence on user preferences. *See, e.g.*, Department of Transportation, Computer Reservation System (CRS) Regulations; Notice of Proposed Rulemaking, Federal Register 12586, at 12592 (March 26, 1991) ("Each of the vendors biased its displays so that its own flights would appear either first in the display or as high in the display as possible, since travel agents were most likely to book a flight from the first screen of the display and likely to book the first flight shown" citing Civil Aeronautics Board, "Report to Congress on Airline Computer Reservation Systems at 39).

"plans to define 11 of the 12 preset channels to ship on Internet Explorer 4.0."[26] As one report summarized:

> Microsoft . . . plans to preconfigure nearly all the premium channels on its upcoming Web browser. The move is likely to meet stiff resistance from many OEMs and Solution Providers, who already are crying foul. . . . "This channel stuff is very significant. If Active Desktop [in Internet Explorer 4.0] stays as it is, then we'll get MSNBC, Microsoft Travel [Expedia] and Microsoft Home Banking preloaded on every machine," said one source familiar with the strategy. "Microsoft is setting the defaults while ignoring the consumer preferences." . . . Potentially, any Web site provider could become a channel provider, but Microsoft appears to be pushing the revenue-generating content it owns or controls to the forefront. . . . "Whatever channels we ship with [IE 4.0] are part of the browser. Those channels to us are features of the product." [Kevin] Unangst [product manager for Internet Explorer] said.[27]

Although it has since backed away from so obvious a display of the market power it derives from its desktop monopoly (currently the only Microsoft products listed in the twelve premium channels are MSNBC and MSN — the Microsoft proprietary online network), none of the "channel agreements" have been reported as long-term arrangements, and there is nothing but self-restraint and such competition as exists for alternative platforms that would preclude Microsoft from filling each slot with its own services. In regard to travel, Microsoft has used little restraint, as Expedia is the only Comprehensive Travel Site listed on the first travel screen. Based on the findings of the DOT and DOJ in prior CRS rule-makings, control of preferential screen slots or channels leads to substantial incremental revenues, and such revenues can further subsidize anti-competitive acts by the dominant entity, such as predatory pricing or supracompetitive pricing -- increasing rivals' costs relative to their own and thereby decreasing competition.[28]

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[26] Stuart Glascock & Michael Kanellos, *Microsoft Presets Browser Links*, Computer Reseller News (May 20, 1997) <http://techweb.com/crn/sections/news/736pg5a.htm>. These channels might be thought of as similar to "today's screen savers," but more like "a TV channel, with changing content and ads." *Id.* Unlike screen savers, the channels will apparently be capable of coexisting on the user's screen when the user is working in an application such as word processing.

[27] *Id.*

[28] In the context of the airline-owned CRS systems, the incremental revenues CRS owners were able to capture by biasing their CRS screen displays to favor their own flights came to provide their major source of revenue. Potential entrants without the ability to generate such revenues were thereby priced out of the market, since they could not charge CRS users (travel agents) enough to earn to make entry viable. See *The Antitrust Implications of Computer Reservations Systems (CRS's)*, 51 Journal of Air Law & Commerce 157, 174 (1985).

If Microsoft is successful in its apparent desire to utilize its dominant operating system monopoly and desktop position to, in essence, force users to access the Internet via Microsoft's designated portal or device -- Internet Explorer -- Microsoft will be in the position to: (i) manipulate the underlying operating system, which is a closed and proprietary system, to favor its Internet travel site and discriminate against competing sites, and (ii) direct consumers to its Internet travel site by employing screen bias. As a result, the promise of the Internet travel market could be substantially diminished or eliminated as one Internet travel site (Expedia) is able to dominate the market.

Any Comprehensive Travel Site not subject to the DOT's Rules, including the prohibitions against system manipulation and screen bias, could engage in a number of different actions that could negatively affect the distribution of air transportation services via the Internet -- which, again, today is a nascent distribution channel but experiencing rapid growth. For example, a Comprehensive Travel Site could sell "bias" to any particular carrier or group of carriers, or otherwise encourage the "booking engine" CRS to manipulate the system to favor certain air carriers. These practices would harm smaller carriers unable to meet the "price," and consumers who would have no reason to suspect the sites were biased. If indeed the Internet distribution channel grows at the rate anticipated by many industry experts, system or feature manipulation and screen bias could again emerge to distort the distribution of air transportation services in the U.S.

As a result, users -- including consumers, travel agency subscribers and corporations — would potentially lose the access they have today via the Internet to unbiased air carrier information over the new channel of the Internet. In addition, as the Comprehensive Travel Sites were, in effect, co-opted by larger carriers, the smaller, independent sites might be forced out of the market, and the remaining sites would have little, if any, competitive pressure to continue to innovate their products — to the further detriment of consumers.

As the DOT considers the issue of the applicability of the Rules to the Internet, it must weigh the potential harm of permitting the reintroduction of system and display bias into the air travel industry against the vast benefits of maintaining and preserving competition in the new and rapidly expanding distribution medium of the Internet. The DOT has the authority to extend the Rules to govern the conduct of Comprehensive Travel Sites and should modify the existing Rules to expressly govern such sites and providers, and should adopt other protections necessary to ensure that control over proprietary operating systems is not used to distort the market for air travel distribution.

IV. The DOT Has the Statutory Authority to Extend the CRS Rules to Comprehensive Travel Sites

The Congressional declaration of policy objectives, contained at 49 U.S.C. Section 40,101, has always been recognized by the DOT and the courts as the ultimate guide to the scope of the DOT's powers. The CAB cited the directive to "prevent[] unfair, deceptive, predatory or anti-competitive practices in air transportation," 49 U.S.C. § 40,101(a)(9), as the legislative

authority for the CRS Rules in 1984.[29] Therefore, if the DOT determines that the practices of certain Comprehensive Travel Sites with respect to air travel reservations are likely to give rise to unfair, deceptive or anti-competitive practices in air transportation, then the DOT can and should assert jurisdiction to issue appropriate rules aimed at curbing such practices.

A. The DOT has Regulatory Authority Under Section 411

The principal statutory authority for the existing CRS Rules, 14 C.F.R. Part 255, is Section 411(a) of the Federal Aviation Act of 1958, as amended and restated, currently codified as 49 U.S.C. Section 41,712 ("Section 411"). Section 411 authorizes the Department to "investigate and decide whether an air carrier, foreign air carrier, or ticket agent has been or is engaged in an unfair or deceptive practice or an unfair method of competition in air transportation or the sale of air transportation."

The relevant wording of Section 411 is nearly-identical to the corresponding wording of Section 5 of the Federal Trade Commission ("FTC") Act, 15 U.S.C. Section 45 ("[u]nfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are declared unlawful"), and its legislative history indicates that was the intent of Congress.[30] The authority under Section 411 "to investigate and decide" is supplemented by the extremely broad authority to issue regulations that the DOT "considers necessary to carry out" the Air Commerce and Safety provisions (49 U.S.C. chapters 401 through 465) of the law. 49 U.S.C. Section 40,113(a).[31] The Department's statutory authority to issue the existing CRS rules under the authority of the cited provisions was upheld in United Air Lines, Inc. v. CAB, 766 F.2d 1107 (7th Cir. 1985).

B. The Boundaries of Section 411 Authority

In light of its statutory authority to adopt regulations to prevent anti-competitive, unfair or deceptive practices "in air transportation or the sale of air transportation," the DOT may regulate entities that sell air transportation via the Internet. This regulatory authority would seem most appropriately directed at Comprehensive Travel Sites, which are marketed as extensive, unbiased sources of travel information. Such sites can be viewed as either: (i) the functional equivalent of a non-airline owned or affiliated CRS or "system," or, (ii) a ticket agent or "subscriber" that

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[29] See, 49 Fed. Reg. 32,540 (Aug. 15, 1984).

[30] Section 411 was first enacted as part of the Civil Aeronautics Act of 1938, re-enacted in 1958 in the Federal Aviation Act, and re-enacted again in 1984 in the Civil Aeronautics Board ("CAB") Sunset Act, P.L. 98-443. The House Report for the CAB Sunset legislation states that "[t]he authority now held by CAB (under Section 411) duplicates authority which the Federal Trade Commission has to protect consumers in other industries under Section 5 of the Federal Trade Commission Act." House Report No. 98-793 at 4.

[31] The same House Report cited above contains a lengthy, approving discussion of the DOT's rule-making under the authority of this section to carry out provisions of Section 411. House Report, *supra*, at 4.

holds itself out as a neutral source of information about, or tickets for, the air transportation industry and that uses a CRS or system. In either event, Comprehensive Travel Sites should be subject to the DOT's jurisdiction under Section 411.

1. The DOT Should Regulate Comprehensive Travel Sites as "Systems"

Comprehensive Travel Sites are the functional equivalent of CRSs or "systems" under the current Rules. Simply because they are not owned by an air carrier does not render such travel sites outside the jurisdiction of the DOT or the reach of the Rules. Although in the past the DOT expressly chose *on policy grounds* to exclude non-carrier CRSs from the existing regulations, both the DOT and DOJ have always assumed that adequate statutory authority existed to regulate non-carrier CRSs. In its 1984 Notice of Proposed Rulemaking, the Civil Aeronautics Board ("CAB") stated, "[w]e have tentatively decided not to regulate non-carrier systems at this time."[32] The clear implication is that the CAB had the authority, but chose not to exercise it. The Board explained its decision by the fact that at the time there was only one non-airline affiliated CRS in existence -- Tymshare's Mars Plus -- and, in the Board's view, "its operation [did] not pose serious risks to air transportation competition or consumer interests."

In the same 1984 Notice, the Board also stated that it was "limiting the applicability of the rule based on the type of user," making it applicable only to systems used by ticket agents. But again, the explanation for the decision was purely policy-based, and in no way suggested that the Board might have lacked statutory authority to expand the rule's reach, had it found the policy imperatives to do so compelling.

The explanation accompanying the final rule, 49 Fed. Reg. 32,540 (Aug. 15, 1984), contains a reference to the DOJ's position that the "bias rules should apply to non-airline systems." Accordingly, the DOJ also believed that the DOT had sufficient authority for expanding the rules' applicability to cover non-carrier CRS's (and it also believed that there were good policy reasons for doing so.) In 1984, the Board, citing purely policy grounds -- and not a lack of jurisdiction -- elected not to regulate non-carrier CRSs.

In 1992, the DOT again considered and elected, purely on policy grounds, not to apply the CRS rules to non-carrier CRSs and to CRSs that are used not by ticket agents, but by travelers directly. With regard to the latter issue, the DOT explained that it "found that home computers accounted for a very small proportion of all airline bookings" and that there was "no proof that vendors have used home computer systems in a way prejudicial to airline competition."[33]

Today, the policy reasons to limit the applicability of the Rules to only carrier-affiliated CRSs or "systems" have vanished. Internet travel sites and electronic commerce are

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[32] 49 Fed. Reg. 11,644 (March 27, 1984).

[33] 57 Fed. Reg. 43,780 (Sept. 22, 1992).

experiencing tremendous growth. As noted by Bill Gates, Chairman and CEO of Microsoft just last week, currently, about 40% of U.S. homes have PC's and that number is expected to increase to 66% within a few years.[34] In addition, almost every home in the U.S. has at least one television. With the development of products such as Microsoft's WebTV, consumers can easily access the Internet via the television at relatively low cost (the set-top box costs about $99.00 with a rebate and the monthly Internet access is about $20.00). With the tremendous growth of the Internet, and the expansion of travel services to the Internet, current policy considerations dictate that the DOT update its current Rules to ensure that the rapidly growing segment of users are protected from anti-competitive, unfair or deceptive practices in the sale of air transportation.

2. Alternatively, the DOT Has Jurisdiction to Regulate Comprehensive Travel Sites as Ticket Agents

If the DOT determines it should not extend the Rules to cover Comprehensive Travel Sites as "systems," it can clearly regulate the operators of such sites as "subscribers" or "ticket agents" under the existing Rules. A "ticket agent" is defined as "a person (except an air carrier, a foreign air carrier, or an employee of an air carrier or foreign air carrier) that as a principal or agent sells, offers for sale, negotiates for, or holds itself out as selling, providing, or arranging for, air transportation."[35]

Section 411, as quoted above, confers the DOT with equal authority to "investigate" both air carriers and ticket agents. This authority similarly applies to rule-making with respect to ticket agents. Given that the definition of a ticket agent excludes air carriers but clearly *includes* all persons arranging for air transportation (presumably directly with the traveler), neither the lack of carrier ownership nor the fact that the service is provided directly to travelers should restrict the DOT's jurisdiction to regulate non-biased Internet travel providers as ticket agents.

V. Proposed Modifications/Additions to Existing Rules

The existing Rules should be modified and clarified in light of the new distribution channel of the Internet. As a threshold matter, the Rules should reflect increasing consumer reliance on the emerging Comprehensive Travel Sites and expressly mandate that such sites are subject to the DOT's jurisdiction and the U.S. CRS Rules. Such Internet travel sites are the functional equivalent of "systems" under the current Rules and should be subject to the same regulations. In addition, because such "systems" are no longer marketed exclusively to travel agency "subscribers," but are marketed directly at consumers, the Rules should be updated to expressly protect consumers, as well as traditional "subscribers."

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[34] Cal Mankowski, Reuters News Service, http://www.hoovers.com/cgi-bin/brand_aol_mlist.cgi?co_name_microsoft (Dec. 3, 1997).

[35] 49 U.S.C. 40,102(a)(40).

The Rules should also be updated so that they not only take account of all of the primary participants in the marketing and distribution of air transportation services in the U.S. but also the essential technology and devices relied upon by those participants, lest they be unfairly manipulated and biased to favor the owners or operators of such technology in the marketing, distribution and sale of air transportation services in the U.S. Accordingly, given the omnipresence of certain hardware that enables consumers to make air travel reservations over the Internet and the corresponding operating system of such hardware devices, the Rules should be updated to include definitions of this essential technology and expressly prohibit the manipulation of this technology to obviate consumer choice in any form.

A. The Rules Should be Updated to Protect Consumers and Govern Comprehensive Travel Sites on the Internet

The Internet distribution channel is as vulnerable to manipulation or bias as the traditional distribution channel between the CRS and the travel agency subscriber. Indeed, given the direct link created by the Internet between air carriers, CRSs or other travel distributors and consumers, this new medium may ultimately prove to be more expansive than the traditional distribution model. As a result, the Rules should be updated to reflect the fact that Comprehensive Travel Sites, regardless of whether they are affiliated with an airline, are the functional equivalent of a traditional "system" and should be governed by the Rules, and the Rules should be updated to expressly protect consumers.

To protect consumers, the definition of "system" should be modified as follows:

> "System means a computerized reservations system offered by a carrier or its affiliates, to subscribers *or consumers* in the United States that contains information about schedules, fares, rules or availability of carriers and provides subscribers *or consumers* with the ability to make reservations and to issue *or receive* tickets, if it charges a fee for such system services.

To extend coverage of the Rules to Comprehensive Travel Sites, the Rules should include a definition of such sites consistent with that set forth in this paper, and the Rules should expressly provide that the obligations and responsibilities of "systems" should extend to Comprehensive Travel Sites, as the functional equivalent of systems.

B. The Rules Should be Updated to Identify Essential Technology in the Marketing, Distribution and Sale of Air Transportation Services in the U.S.

1. New Definition: "Travel Information or Ticket Access Device"

A definition of "Travel Information or Ticket Access Device" is necessary to reflect the essential devices or hardware relied upon by consumers and subscribers to access the "system" through traditional means or through the new medium of the Internet. The proposed definition is as follows:

"Travel Information or Ticket Access Device" means any appliance, equipment, tool, computer or hardware apparatus that provides a Display or Integrated Display of a System and contains an Operating System, including, but not limited to a personal computers, hand-held computing devices, televisions, and network computers."

2. New Definition: "Operating System"

The personal computer operating system now plays an essential role in the distribution and marketing of air transportation services in the U.S. Subscribers necessarily rely on the operating system in accessing information directly from a carrier or system, and consumers rely on the operating system in accessing air travel information from an Internet travel site.

As noted above, Comprehensive Travel Sites, such as Expedia, Travelocity and Preview Travel, similar to software applications programs such as word processing programs and spreadsheet programs, work with the operating system. These "applications," so long as they interact efficiently and seamlessly with the underlying operating system, enable users to perform a broad range of functions, such as selecting and purchasing air travel through a computer, television or other travel information or ticket access device. If the Internet travel site or other application is denied certain key information relating to the operating system, such as application programming interfaces ("API's") that enable the application or site to run effectively with the operating system, the Internet site provider or applications provider could be artificially restricted from fully and fairly competing in the market.

Microsoft, as the dominant (90% market share) provider of PC operating systems in the U.S., and as one of the leading Internet travel sites (Expedia), occupies a position similar to that of the early CRSs in the air transportation industry. Given its dominant position, Microsoft can ensure that its Internet travel site or application receives vital API's before any competing sites, and create the artificial perception in the market that the Microsoft product is "better" than competing Internet travel sites. This, in turn, could lead to the demise of competing sites, some of which might offer superior products. As a result, consumers would ultimately suffer as innovation slowed or even stopped in the Internet travel market, and prices increased as competition is eliminated.

Given the potential harm to consumers and the Internet market for air transportation services posed by manipulation of the operating system, the Rules should include the definition of "Operating System" set forth below.

"Operating System" refers to the software or other enabling technology that controls the operation of a Travel Information or Ticket Access Device by, among other things, managing the interaction between the device's or computer's microprocessor, memory and attached equipment or tools such as keyboards, display screens, disk drives, and printers. Examples of an Operating System include MS-DOS, Windows 95, Windows NT, Windows CE, OS/2."

vendor to ensure that any third party providing services on its behalf respects the relevant [c]ode provisions."

Similar to the EC Report, and the proposed revisions set forth above, the current Canadian CRS rules are designed to protect consumers and regulate the online travel products of Comprehensive Travel Sites and the owners and operators of such sites, regardless of airline ownership. The Canadian CRS rules define "system" as a "computer reservation system that is offered by a system vendor to subscribers and consumers." The Canadian CRS Rules further provide that: (i) "all displays in a system that include information about the schedules, fares, rules or availability of participating carriers and that are provided to subscribers and consumers meet the requirements of [the Rules]," and (ii) [that all] "displays are comprehensive, neutral and non-discriminatory."

Given the universal nature of the Internet, the U.S., Canada and EC should offer consistent guidance and protection on the applicability of the respective CRS rules to the Internet. The modifications and revisions provided above are consistent with the existing rules in force in Canada and the EC, and the DOT should carefully consider these provisions in its current rulemaking.

In conjunction with adding a definition for "Operating System," certain express prohibitions against manipulation of the operating system by any air carrier, system or subscriber should be provided. These prohibitions are set forth below.

> "*Any person or entity that supplies the Operating System to any Travel Information or Ticket Access Device, shall have a duty to: (i) disclose all application programming interfaces ("API's") necessary for any system, subscriber or carrier to integrate competing Internet or online travel services with the Operating System, (ii) provide Operating System enhancements to any system, system owner, subscriber or carrier on a non-discriminatory and timely basis, (iii) provide API's on a non-discriminatory and timely basis for any software (whether sold separately or as a component of the Operating System) that provides a means of access through or over a network to computerized content or files, (iv) with respect to the Operating System, or any software (whether sold separately or as a component of the Operating System) that provides a means of access through or over a network to computerized content or files, display all system, system owner, subscriber and carrier services on a non-discriminatory basis to that of its competing services, (v) refrain from any action that directly or indirectly impedes the ability of any carrier to sell its services to any subscriber or consumer.*

C. <u>The Proposed Revisions are Consistent with the Canadian and European Commission CRS Rules</u>

Given that the medium of the Internet is truly a worldwide distribution channel, the DOT should consider the relevant provisions of the European Commission ("EC") and Canadian computer reservation systems rules as instructive on the impact of the Internet on the U.S. CRS Rules.

The current EC CRS Code (the "Code") defines "system vendor" as "any entity and its affiliates which is or are responsible for the operation or marketing of a CRS," and defines a CRS as "a computerized reservation system containing information about, *inter alia*, air carriers' schedules, availability, fares... to the extent that some or all of these services are made available to subscribers." The Code also defines a "subscriber," as "a person or an undertaking, other than a participating carrier, using the distribution facilities for air transport products of a CRS under contract or other arrangement with a system vendor." Accordingly, the current Code appears to regulate Comprehensive Travel Sites offered to consumers via the Internet, regardless of airline ownership or affiliation.

The EC, in further support of regulation of Comprehensive Travel Sites, in early July 1997, published the report of DGVII in that certain Proposal for a Council Regulation (EC) Amending Council Regulation (EEC) No. 2299/89 On a Code of Conduct for Computerised Reservation Systems (referred to herein as the "EC Report" or the "Report"). The Report expressly advocates "inclusion of information systems within the scope of the [c]ode" and that sites offering information on multiple carriers "should come under the responsibility of a system

Respectfully submitted,

Darryl Jenkins, President
Aviation Foundation

Hugh M. Tietjen, Director of Airline Practice
J.D. Power And Associates

Robert F. Ripley, Assoc. Professor of Aviation Management
Auburn University

Roger Stough, Director
Transportation Research Program and
The Center for Regional Analysis
George Mason University

Ed Perkins, Editor
Consumer Reports Travel Letter
***SEE ATTACHED LETTER

Consumer Reports TRAVEL LETTER

301 JUNIPERO SERRA BLVD, SUITE 200 • SAN FRANCISCO CA 94127 • 415-239-6001 • FAX 415-239-4271

4 December 1997

Mr Darryl Jenkins, President
The Aviation Foundation
3712 Madison Lane
Falls Church VA 22041

Dear Mr Jenkins:

I support your call for extension of CRS Rules against biased displays to Internet fare systems. While third-party "umbrella" sites use airline-sponsored CRS for fare searches—and those systems are regulated against bias—there are presently no safeguards that prevent third-party sites from overlaying CRS-generated data with biases of their own. This is a significant loophole, and one that I am pleased you have recognized.

Deceptive advertising by third-party sources , in general, is emerging as a vexing problem in consumer protection. I've already encountered it in the context of deceptive cruise claims, issued as third-party promotions distributed by airline frequent flyer programs. The Internet is potentially rife with opportunities for third-party abuse.

The problem of Internet airfare displays warrants immediate attention. As I've tested the various airfare-search sites, I have not yet detected any obvious biases. But the potential is certainly there. Erecting safeguards before any consumers are actually hurt strikes me as a far better approach, for both consumers and the industry, than waiting until problems develop.

If I can provide any additional support, please let me know.

Cordially

Ed Perkins
Editor

THE WALL STREET JOURNAL.

THURSDAY, JUNE 5, 1997

Microsoft Moves to Rule On-Line Sales

By DAVID BANK
Staff Reporter of THE WALL STREET JOURNAL

BILL GATES PROMOTES the idea that information technology is ushering in a new form of efficient, "friction-free capitalism" that will reshape industries by eliminating the middleman.

But he rarely acknowledges that Microsoft Corp. is preparing to become a new middleman, taking a cut of the action in return for bringing together buyers and sellers on the World Wide Web.

The centerpiece of Microsoft's move to dominate electronic commerce is Side-

CORPORATE FOCUS

walk, a series of local arts, entertainment and recreation guides that Microsoft launched on the Web last month for New York and in April for Seattle, to be followed by sites for eight other cities by year end. The company has hired editors and reporters to tailor each Sidewalk site to local tastes. New York Sidewalk, for example, contains subway directions for all its events, and Seattle Sidewalk allows users to search for restaurants using such local criteria as "boat accessible."

But Sidewalk is just part of a much larger plan. According to a detailed Microsoft strategy memo and interviews with key executives, Microsoft wants to make each Sidewalk site a port of entry into an array of commercial sites that already includes Expedia for travel services, Carpoint for automobile sales, Cinemania for movies and Music Central for compact disks. Microsoft will soon add real-estate listings, classified advertising and consumer guides that combine Yellow Page-style listings with product reviews and promotions. (Microsoft's on-line financial services are in a separate division.)

The targets of these on-line services are vast. According to the memo, prepared in December as part of a three-year planning process, Microsoft plans to win a major share not only of the $66 billion local advertising market but also of sales and distribution charges in the markets for airline tickets ($100 billion), automobile sales ($334 billion) and retail goods ($1.2 trillion).

"We think there's a pot of gold here," says Pete Higgins, group vice president in charge of Microsoft's Interactive Media Group. "As we get to the turn of the century and beyond, we see this being a multibillion-dollar business."

Like other information publishers, Microsoft hopes to win on-line advertising. But the memo provides the first details of a more far-reaching goal, a stream of transaction fees to supplement revenue from maturing software-upgrade sales.

Nathan Myrhvold, Microsoft's chief technology officer, confirms that Microsoft hopes to get a "vig," or vigorish, on every transaction over the Internet that uses Microsoft's technology, though he says in some cases Microsoft's share could come from a one-time software licensing fee. (Vigorish is a slang term used by bookmakers that means, roughly, the profit made for bringing bettors together.)

To win such fees, the memo says, Microsoft will offer consumers both electronic information and the means to act on it. "We are challenging old and established businesses like newspapers, travel agencies, automobile dealers, entertainment guides, travel guides, Yellow Page directories, magazines and over time many other areas," as well as other on-line services, the Microsoft memo says. "We must devise ways of working with them or winning away their customers and revenue streams."

Already, Expedia, which books airline, hotel and car-rental reservations, is selling more than $1 million of tickets and travel services each week and is one of the three largest on-line travel agencies.

Traditional retailers, particularly in travel, autos and financial services, are already feeling pressure from a variety of electronic competitors, which are able to cut sales and distribution costs by half or more. Analysts estimate about 15% of new-car buyers do their research on-line and as many as 2% make their purchases from dealers they find on the Net. On-line travel is expected to grow from $827 million, or 0.4% of total travel revenue, this year to $8.9 billion, or 8.2% of the total, in 2002, according to Jupiter Communications, a New York market-research firm.

But while others are looking at the same opportunity, Microsoft, with its presence on nearly every personal computer and $9 billion in cash, appears to be several steps ahead in its ability to integrate its offerings, enlist partners and undercut competitors both on- and off-line.

Microsoft's advantages include a vast repository of information and the ability, with a single log-on, to call up a user's

Interactive Services

Sidewalk	These entertainment and activity guides, now in place for New York and Seattle and coming soon for eight more cities, will serve as the local 'port of entry' into many of Microsoft's Web-based services.
Expedia	One of the three largest on-line travel services, Expedia includes features to find the cheapest fares and notify travelers of special deals. A companion magazine, Mungo Park, specializes in adventure travel.
CarPoint	Prospective car buyers can get details on any make and model, read reviews and find out dealer invoice prices. Purchases can be made from 60,000 local dealers through Microsoft's partner, Auto-By-Tel.
Microsoft investor	Investors can track their stock and mutual-fund portfolios, receive e-mail updates of significant market changes and place trades.
CineMania On-line	The on-line version of Microsoft's popular CD-ROM contains reviews of thousands of movies and local movie times.
Music Central On-line	The on-line music store includes music clips, concert coverage, interviews and reviews.

profile of personal preferences, whether the user is choosing a restaurant in Manhattan using Sidewalk or booking a trip to Paris using Expedia. The release of a new version of Microsoft's Web browser, Internet Explorer, this summer will further boost the visibility of the sites by placing them on the main screen of many PCs.

Other high-tech executives are sounding the alarm. In a thinly veiled reference during a speech to analysts, Louis Gerstner, chairman of International Business Machines Corp., chided unnamed technology companies "that have decided they want to be in the newspaper business and the travel business and the banking business."

Mr. Gates plays down the potential for conflict. Speaking to a convention of newspaper publishers in Chicago on April 29, he advised them not to get "overly paranoid," assuring them his company was a partner not a predator. "We're not doing local news, we're not doing classifieds," he said. Nonetheless, Mr. Higgins confirmed in a subsequent interview that Microsoft is indeed exploring selling classified advertising and has hired local reporters and editors for its Sidewalk sites.

In any case, newspapers are girding for battle. Mr. Gates is "absolutely interested in newspapers' franchise in local areas," says Fred Tuccillo, director of new media at Newsday, a unit of Times Mirror Corp. that is going head to head with Sidewalk in the New York area.

But newspapers aren't writing big checks for their on-line efforts, and Microsoft is spending more than $200 million this year for what it calls "interactive service media."

Expedia illustrates how Microsoft is reshaping the economics of the markets it's entering. Last year the company established itself as a travel agency and negotiated deals with major airlines to sell tickets for about half the standard travel-agency commission rate, says John Neilson, who wrote the December memo and is vice president of Microsoft's Interactive Service Media division.

Microsoft's on-line competitors decry the lowball pricing. "They really have drained the pool," says Ken Orton, president of Preview Travel Inc., another major on-line travel agency. "They went out intentionally to buy significant market share by reducing the amount of revenues their competitors could generate."

Partners worry about competition, too. Microsoft enlisted Auto-By-Tel Corp. for its Carpoint site to let buyers complete purchases from new-car dealers. Auto-By-Tel agreed to pay Microsoft to feed Carpoint users into an extensive network of auto dealers, who provide consumers with no-haggle offers. Auto-By-Tel takes a monthly membership fee from the dealers of between $500 and $1,500.

Now, Microsoft is replicating such a dealer network on its own, says Mr. Neilson. Last month, Peter Ellis, Auto-By-Tel's president and chief executive, moved to end the partnership. "What seemed to be mutually beneficial 14 months ago now appears to be less so," Mr. Ellis wrote in a letter to Mr. Neilson.

Similarly, Christos Cotsakos, president and chief executive officer of E*Trade Group Inc., predicts Microsoft, now a partner, will eventually become a competitor. E*Trade pays Microsoft to bring customers to its on-line stock brokerage service through Microsoft's Investor Web site but keeps most of the $14.95 fee on each trade. Mr. Cotsakos figures Microsoft will want to collect those fees itself. "They learn, they assimilate, they copy," says Mr. Cotsakos. "Once they get done with all the other blips on the radar screen, you become the blip."

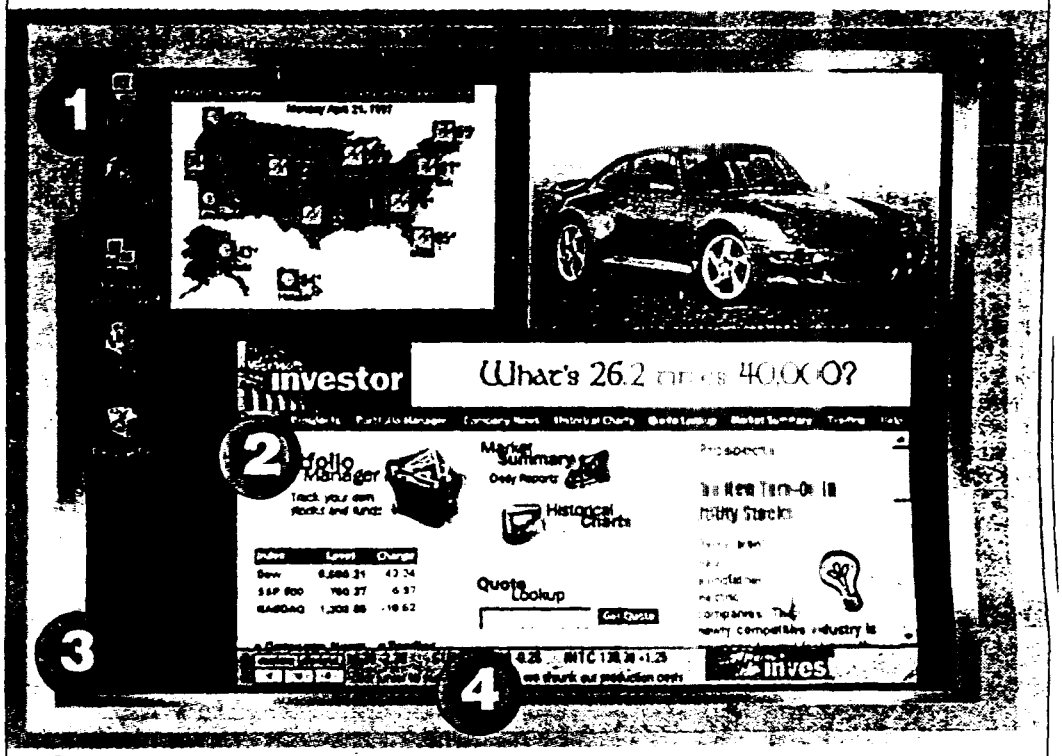
This summer, Microsoft will introduce national used-car classified listings, a pilot project for a larger effort in classified advertising. Next year, Sidewalk will offer local "consumer guides" and possibly real-estate listings. The internal memo makes clear that Microsoft has no intention of letting up:

"If we get our vision right and execute better than anyone else, we will radically change the way individuals make decisions in their lives. We will also radically change the way marketers of all types sell to their customers. We must be aggressive."

USA TODAY
Money
THURSDAY, JULY 24, 1997

Windows 98 grabs the Web

The tight integration of Microsoft's Windows 98 operating sys[illegible] et rankles some critics who complain it gives the software giant an unfair adv[illegible] pe Communications.



1 **Icons.** Click once to activate desktop icons. A hand, as on the Web, not an arrow, becomes the cursor when you hover over items on your hard drive or the Web.

2 **Active desktop.** One or more live Web sites can play in the background, letting you get updates of stock prices, news briefs, other data. Companies might use the desktop to update employees on health and savings plans, other news.

3 **Start button.** Easier to customize, this signature feature includes a Find option that links you to a search engine. You can quickly open Web sites from a Favorites menu.

4 **Task bar.** The bar, which tells you what programs are running, now can be used to call up Web sites and run mini-programs, called Active X controls, which might display weather information or sports scores.

5 Channel bar. Users can keep lists of Internet channels, basically Web sites integrated with Windows 98, onscreen. Click and the Web site opens.

COVER STORY

Microsoft targets Internet market

By James Kim
USA TODAY

Netscape banks on forthcoming Communicator to hold its own

SEATTLE — Microsoft's new version of its Windows 95 software sends a daunting message to the technology industry: The software giant is hellbent on preventing the rise of the Internet from letting competitors erode its power.

The software, called Windows 98, marks a milestone in Microsoft's drive to imbue its flagship product with features that let people better use the Internet, which has unleashed a tidal wave of technological advances. Previous versions of the Windows operating system, which controls basic personal computer functions such as displaying files, offered better ways to access data stored on stand-alone PCs. But Windows 98 — previewed for analysts and media Wednesday — goes beyond, acting as a portal to information whether stored on a PC, corporate network, on-line service or the Internet. When product manager Rob Bennett demonstrated Windows 98's capabilities to Bill Gates, Microsoft's CEO said that it fulfilled his goal — and mantra — of putting "Information at Your Fingertips."

But the new Windows, available early next year, also puts pressure on a key competitor. Netscape Communications already is desperately fighting off Microsoft in the market for browser software, the chief navigation tool for the Internet. And it is reviving accusations that Microsoft is using Windows to gain an unfair advantage in cyberspace.

At stake is nothing less than leadership on the Internet. The market for Internet-based software will hit $107 billion in 2000 from $54 billion this year, estimates Zona Research. The company that controls the gate-

Please see COVER STORY, next page ▶

way to the Internet and corporate networks holds sway over the way companies display Web content and run Web programs.

Microsoft tightly controls such technologies in the PC software industry. ıt a vocal group of anti-Microsoft companies — led by Netscape, Sun Microsystems and Oracle Development — has pushed the Internet as a way to crack Microsoft's dominance.

Instead of running standard PC programs and accessing data on standalone PCs, many envision an era in which people rely on networks and the Internet to run programs and access data. In that view, the critical access software isn't Windows, but rather software from Netscape, such as its Communicator 4.0, released earlier this year. After all, the Communicator's precursor, the Navigator, popularized the Internet's World Wide Web and remains the No. 1 program people use to access the Web.

But with Windows 98, Microsoft is really flexing its muscles and striking back," says David Coursey, editor of on-line newsletter *Coursey.com*. "Microsoft *must* own the desktop PC. It will be absolutely relentless."

Fruits of labor

Gates' strategy is to make Windows the most natural way to view Web pages and run Web programs without having to launch a separate browser program. Key to this goal: Integrating Internet Explorer 4.0 browser, due out this year, with Windows 98.

The effort already has borne fruit. Microsoft has improved its IE software and gives it away. Netscape still charges $59 for its Communicator 4.0 (standard version), though many people don't pay and corporate discounts

About Windows 98

RAM: 8 to 16 MB minimum
Hard drive: 40 to 50 MB for standard installation
Microprocessor: Recommended Pentium and above
Price: Undetermined, but analysts estimate $129.

COVER STORY

available. Still, Dataquest found Microsoft's share of the browser market rose to 31% at the end of March from 20% the year earlier. Netscape's market share dipped to from 73%.

Web-enabled Windows

With Windows 98, Microsoft aims to steal more market share by going beyond simply including Internet Explorer 4.0. Windows 98 tightly integrates the two products in ways designed to make accessing information on the Web or any other network as easy as accessing files on a PC's hard drive.

Turn on the PC, and the new Windows has the look of a Web browser. You can navigate through files by simply single-clicking on highlighted items, pointed out by a hand (Web-style) not an arrow (PC-style). Or you can simply type in a Web address in the "task bar" at the bottom of the Windows 98 main screen, or click on items on a new "channel bar," which will quickly open a Web site. You can even make a live Web page the background to your main Windows 98 screen.

Clearly, Microsoft's decision to weave Web features directly into Windows guarantees it wide distribution. Windows 95 already is sold on roughly 95% of all PCs sold in stores. And PC makers undoubtedly will offer Windows 98 on new PCs soon after it is released. By the 1998 holiday season, experts expect few PCs on store shelves without Windows 98, though corporations and owners of PCs with Windows 95 might adopt it more slowly.

Critics like Netscape lawyer Gary Reback say that Microsoft again is using its near-monopoly on PC operating system software unfairly. They charge that:

▶ The current test version of Windows 98 favors the IE. Even if you specify Netscape software as your browser of choice, it defaults to IE in some cases — such as when you click an item on the channel bar.

▶ If Windows 98 and its successors become the dominant way people access Web sites, Microsoft's power over Web content developers will match its power over PC software makers. Software makers today must harness their programs to Windows, using so-called Application Programming Interfaces (APIs) that let them build certain features into their programs, such as uniform ways of storing and retrieving program files.

Reback fears that someday Web content developers will have little choice but to similarly marry their Web sites to Windows, through a programming technology called Active X, though Microsoft has pledged to share Active X information freely.

▶ Windows 98 might favor Microsoft Web sites, offering ways that will allow them to run faster or better than non-Microsoft Web sites. In the early '90s, rivals charged that earlier Windows versions contained hidden APIs that Microsoft made available only to its own developers, for use in its Word word processor and Excel spreadsheet.

Microsoft vice president Rich Tong says exhaustive research has convinced Microsoft that customers want Web features in Windows. "That's really what it's about. They want tight integration." Still, Reback criticizes the Justice Department for not taking a more active stance against Microsoft's Windows 98 plans. And four U.S. senators — including Republican Ted Stevens of Alaska and Democrat Barbara Boxer of California — have asked the Federal Trade Commission to take a critical look at Microsoft's activities.

Returning fire

Netscape is building new Internet features into its Communicator product, too. And while Microsoft has momentum, Netscape will not soon concede. "We're coming right back at them," says Marc Andreessen, Netscape senior vice president. He says a new version of Communicator, due later this year, will be superior to Windows 98, and he doubts that many more customers will defect to Microsoft. "We have lots of stuff in store."

Netscape is banking on loyalty, like that of Roger Walters, vice president of consulting firm Booz Allen & Hamilton. "Netscape is the corporate standard here. There is no pressing need to change."

But many analysts think Windows can't-miss distribution advantage will be too much to overcome long-term. "A lot of people expect a switch in the (browser) market — that Microsoft will become dominant and that Netscape will begin to fade," says Rob Enderle, analyst at Giga Information. They note that Microsoft came from behind in the early 1990s to crush competitors in the word processor and spreadsheet markets. Netscape officials stress that even if their browser market share slips further, they'll get the majority of their future revenue from software for server computers, which host networks.

But few think of Windows 98 as simply a Netscape browser killer. Many PC and PC parts makers welcome the new software. It will make it easier to install PC devices, such as digital video disc players. It will make it easier for companies to manage PC networks. And it likely will foster a new consumer product. Windows 98 will let people connect a TV add-on card (expected to cost $50 to $100) that will let a PC run TV programming from cable and satellite companies. Compaq and Gateway 2000 already offer large-screen PCs designed for such usage.

The bottom line "is that Microsoft is raising the technology bar significantly," says Gordon Eubanks, CEO of software company Symantec. "The truth is that if Microsoft makes the PC better for customers, then that's a win for all concerned. You have to be pre-

San Francisco Chronicle
NORTHERN CALIFORNIA'S LARGEST NEWSPAPER
SATURDAY, JULY 12, 1997

Microsoft Bids to Rule Web Access

Windows will steer users to its browser

By Jonathan Marshall and Jon Swartz
Chronicle Staff Writers

In what rivals say is an audacious bid to dominate Internet commerce, Microsoft Corp.'s upcoming version of its Windows operating system will discourage Web surfers from using any browser except its own.

The goal, they say, is to give Microsoft a lock on Internet commerce by dominating the route consumers take to reach Web sites.

The issue has outraged several national legislators.

"When the operating system controls your browser, which controls access to the Internet and eventually all of your online transactions, then one company has a chilling, dramatic impact on American consumers," said Earl Comstock, legislative director for Senator Ted Stevens, R-Alaska. Microsoft "wants to own everything."

The next version of Windows, code-named Memphis, will come packaged and tightly integrated with Internet Explorer 4.0, the next version of Microsoft's Web browser. Both will hit the market later this year.

A browser is software that finds and displays Web pages.

A prototype of Internet Explorer 4.0 tested by The Chronicle shows how Microsoft will make life difficult for Windows users who want to use Navigator — the dominant Web browser from Mountain View-based Netscape Communications Corp. — instead of Explorer.

New versions of Windows will come loaded with Explorer as the "default" browser, which means users will automatically travel to

MICROSOFT: *Page A14 Col. 1*

Microsoft Bid to Control Internet Criticized

From Page 1

Web sites via Explorer unless they request another browser.

If the user loads Navigator instead, a box pops into the middle of the screen with the message, "Netscape is no longer registered to handle Internet Shortcuts. Would you like to register Navigator as your default browser?"

If the user checks yes, Navigator will come up. But it will not work with any of the shortcuts Microsoft has built into the new version of Windows. All of the shortcuts steer users back to Internet Explorer.

For example: In current versions of Windows, people who want to hop onto the Internet first have to get out of the program they're using and load the browser by clicking on an icon on the desktop.

With the new Windows, users can jump directly to a specific Web site — from whatever program they're using — by simply typing the Web address in a box on the toolbar at the bottom of the screen.

But users who take this shortcut will be transported to the site through Explorer, even if they've chosen a different Web browser as their default.

As another shortcut, Windows also will display a group of buttons on the right side of the screen, called channels. These will let Internet surfers download favorite Web sites automatically. But clicking on these buttons brings up those sites through Explorer, even if Navigator is the default.

"It's as if I want to get the San Francisco Chronicle, but every day the Examiner shows up in my driveway because they control the trucks," said Gary Reback, a prominent Palo Alto attorney who has represented Netscape in the past.

Jonathan Roberts, director of marketing for Windows at Microsoft, said users of Windows will benefit from having a Web browser — in this case, Internet Explorer — built right into the operating system. As a result, they will enjoy a "seamless experience" while navigating between desktop and Internet applications, he said.

Roberts predicted that Windows will swallow up the browser market as it has many other software utilities. "I don't think the browser will be an independent application five years from now," he said.

Microsoft owns the desktop market for operating systems, but Netscape has 70 percent of the browser market.

Explorer's share has soared in just the last year, though, to 30 percent from 5 percent. Microsoft has gained ground by improving Explorer's features and by giving the browser away. Navigator costs $50.

Netscape chief executive Jim Barksdale said Microsoft "is using its lock on the operating system market to create tight links to its browser in order to own all the 'eyeballs' and content business on the Internet."

Some independent analysts voice similar concerns. In a recent column, John Blackford, editor of Computer Shopper, warned that Microsoft's "pull-out-all-the-stops assault on Netscape" looked more like an effort "to quash a competitor rather than to deliver better products or more choice to users."

"Government action may be the best hope of change," he added.

At least four U.S. senators, including Barbara Boxer, D-Calif., have written the Federal Trade Commission recently to urge closer scrutiny of Microsoft's alleged "anticompetitive behavior."

Staffers for Boxer and Stevens said the legislators will ask the FTC to investigate Microsoft's Windows-Explorer link.

"The browser issue is certainly among the anticompetitive problems that our California companies have raised," said David Sandretti, a spokesman for Boxer.

Microsoft officials have spoken publicly about their plan to control electronic commerce on the Internet, to garner not just advertising dollars but fees for transactions involving purchases of a wide variety of goods and services.

Already the company is selling airline, hotel and car-rental reservations, cars, music compact discs and other goods and services on its own Web sites.

By controlling the browser market, attorney Reback charged, Microsoft "can control where your eyes go in Internet commerce." For example, it can configure Internet Explorer's Channel buttons to favor certain Web sites that pay Microsoft or that Microsoft owns.

Reback compared the Windows-Explorer link to the reservations systems developed by United Air Lines and American Airlines.

The Sabre system was configured to give preference to American flights when an agent called up a particular route; the Apollo system displayed United flights more prominently.

In the 1980s, these two systems accounted for 70 percent of all tickets sold through computer reservation systems.

According to the Justice Department, the airlines manipulated listings to their own advantage. In 1981, for instance, American bumped down its display information on flights by New York Air between Detroit and New York, forcing its smaller rival out of that market.

The Justice Department concluded that such conduct was anticompetitive and ordered changes in the reservation systems.

Critics claim that the Justice Department and FTC have been less vigorous in pursuing Microsoft. "Like anywhere else, Capitol Hill is starstruck by celebrity," said Senate aide Comstock. "A lot of legislators would rather have their photo taken with a guy worth (more than) $30 billion than investigate him."

BUSINESS

A Bit of Bill in Every Box

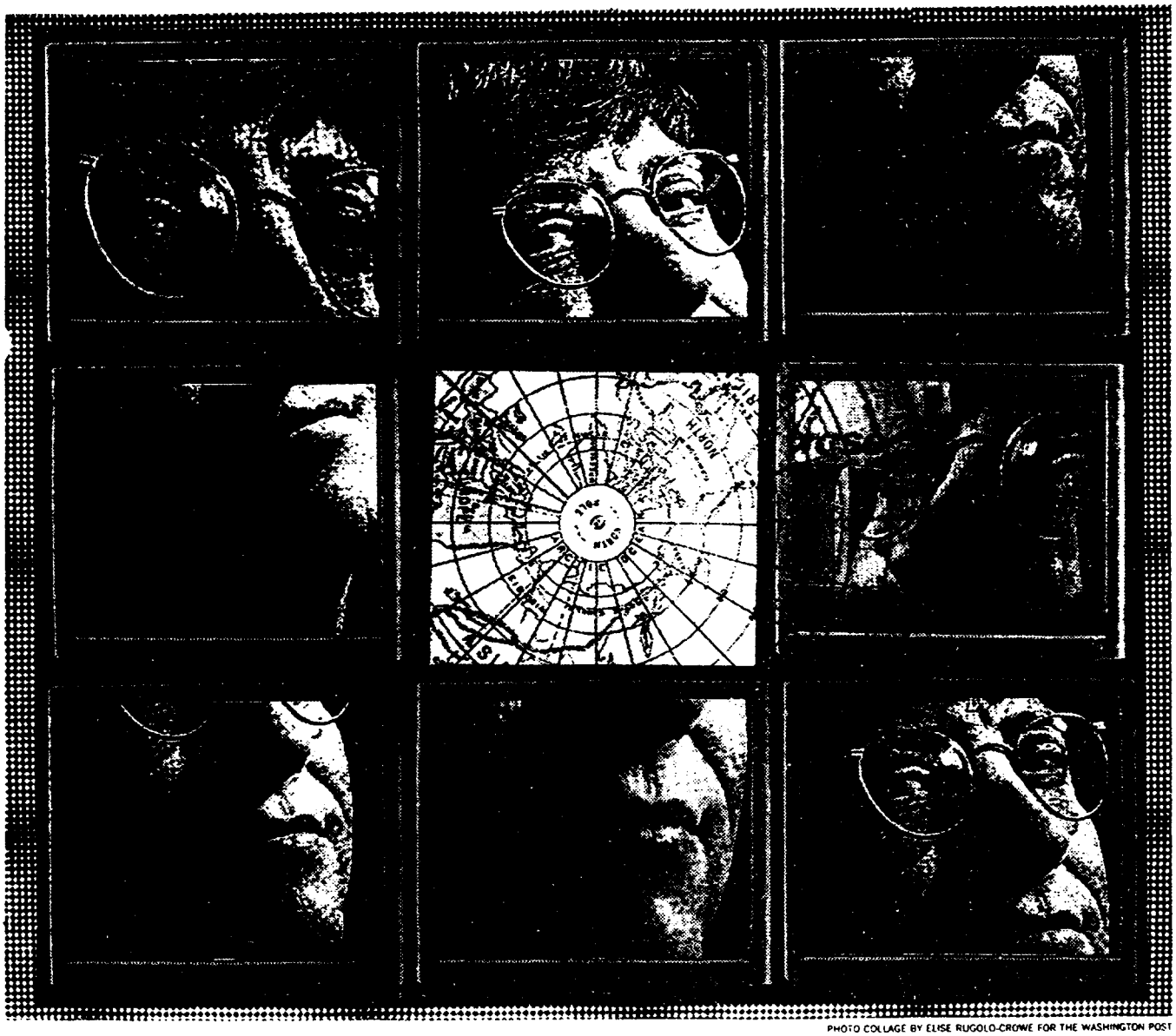


PHOTO COLLAGE BY ELISE RUGOLO-CROWE FOR THE WASHINGTON POST

Gates's Vision of Microsoft's Software Future Moves From PCs to TV, Phones

By Elizabeth Corcoran
Washington Post Staff Writer

Bill Gates wants to be inside your television.

His reason is simple and echoes the lessons he learned 20 years ago at the onset of the personal computer revolution. He is headed where the money is. Gates understands the fundamental rule of the information age: Those who build the core technologies reap the profits. In the days of the California gold rush, the money was in providing the picks and shovels. With computers, it has been in turning out the software that controls the basic functions of the machines.

The personal computer wars are over. Gates's Microsoft Corp. has won. Nothing more clearly signaled the end of the ideological clash between Microsoft and Apple Computer Inc. than the events of last week, when the Redmond, Wash., software giant pledged to invest $150 million in the ailing Cupertino, Calif., computer maker and continue making software for its Macintosh machines.

So Gates is racing toward the next frontier, one that could have an even wider impact than his work on the PC.

He is working to be as important in the future of "smart TV" as he and Microsoft are in today's PC. If he succeeds, Microsoft will confirm its position as one of the most dominant corporations on the American landscape; it also will have enormous influence on what home entertainment will look like for the next generation.

Over the past two decades, Microsoft has risen from a start-up to a high-technology giant with a stock market value almost four times that of General Motors Corp. Its Windows operating system software, which controls the basic functions of a computer, is as essential to computing as a steering wheel is to a car. Better than 70 percent of the PCs in U.S. corporations use Microsoft Office, a "suite" of word processing and spreadsheet programs, and Microsoft is gaining ground in "back office" software that runs corporate networks.

So with all that, why bother with television?

Because over the past two years, consumers' enthusiasm for buying new PCs has begun to wane. People who already own PCs are buying more, sometimes replacing an old machine, sometimes buying a second or even third machine. But the growth in the overall number of people buying a computer for the first time is slowing.

About 40 percent of U.S. households have personal computers and "it doesn't look like the needle will move up dramatically" in the immediate future, Greg Maffei, Microsoft's chief financial officer, told a recent gathering of journalists and financial analysts.

Despite the best efforts of Microsoft and others, most consumers still find computers hard to use and expensive. There are, however, other electronics boxes that Americans buy for their homes in great numbers—televisions and telephones.

As these instruments are rendered smart—packed with computer chips that can store commands and data—they will need software. So will powerful machines that cable

See MICROSOFT, H6, Col. 1

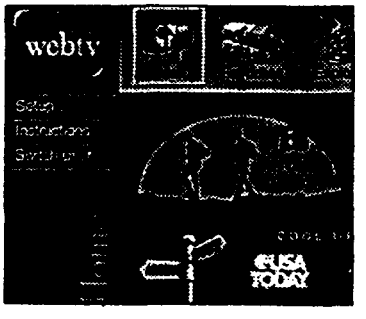
The Washington Post

Microsoft Turns Its Attention to 'Smart' TVs, Phones

MICROSOFT, From H1

nd broadcast companies use to send entertainment to consumers. And the companies will use software to create "e movies and programs and games. ast as in the early days of the PC, licrosoft wants to create that software.

At a recent meeting with financial analysts, Gates said that he is always nprised when the press debates hether Microsoft will become a media d. He stays focused on technology. center of gravity is [being] a ıware company," he said.



Bill Gates's Microsoft is buying WebTV Networks for $425 million.

Windows CE could be the software for a next generation of cable boxes as well. By agreeing to invest $1 billion in Comcast, Gates accomplished two goals. First he boosted the cable industry out of its stock market doldrums. Cynthia Brumfield, a senior analyst with Paul Kagan Associates Inc., said the aggregate market value of the 11 cable companies the research group tracks most closely has risen about 10 percent since Gates announced his investment.

For the past couple of years, Microsoft engineers have been developing a streamlined operating system called Windows CE that can run on a variety of devices, including hand-held personal organizers and TV set-top boxes.

And within the past five months, Gates has spent more than $1.5 billion to acquire stakes in companies that are trying to lay the foundation for the next generation of entertainment technology. Among the deals:

- In April, Microsoft said it would spend $425 million to buy WebTV Networks of Palo Alto, Calif., which sells a box that lets consumers use their television to browse the Internet and send electronic mail. Justice Department antitrust officials cleared the deal on Aug. 1.
- In June, Microsoft said it would invest $1 billion to buy a 11.5 percent stake in cable television operator Comcast Corp. of Philadelphia.
- In early July, Microsoft took a 10 percent position—worth about $30 million, analysts estimate—in Progressive Networks of Seattle, the leading developer of technology for sending audio and video signals across the Internet.
- In late July, Microsoft took a minority stake and board seat on start-up company Navitel Communications Inc. of Menlo Park, Calif. Navitel has been developing software and hardware that marries telephone and Internet technology.
- Last week, Microsoft said it had bought VXtreme, a small Sunnyvale, Calif., company that, much like Progressive Networks, makes technology for broadcasting video over the Internet.

A 'Web Lifestyle'

Gates is betting those building blocks will give Microsoft's software a strong shot at becoming the basis for what he calls a "Web lifestyle," in which people turn day in and day out to the Internet for advice, information and shopping.

To do that, a consumer needs a personal computer. WebTV may change that. The company was founded in 1995 by engineers from Apple with the goal of creating a low-cost device that could nicely display information from the Internet on TV screens. (The Washington Post Co. was an early investor in WebTV and holds less than a 5 percent share.)

The product made its debut last Christmas. Just as PCs plug into a telephone outlet to reach the Internet, so do WebTV boxes. But rather than running conventional Web-browsing software, WebTV engineers wrote their own software that makes using the equipment almost as simple as using cable television. "We really think we can reach just about every home," said Steve Perlman, chief executive and co-founder of WebTV.

In late July, Perlman reported that there were 115,000 subscribers, "more than double [the number] in April." Though that is a small number in the context of the Internet, they are an alluring group. More than a quarter are over the age of 50. Sixty-five percent don't own a personal computer. They are intrigued by the information they can find on the Internet—and are relieved that WebTV isn't steeped in the techno-clutter that computers are. There is no computer mouse, for example. Instead, WebTV relies on a remote control much like a television's, and a wireless keyboard.

If the WebTV concept is to succeed, it will need to click with such people as Stuart Gordon, special counsel to the Washington area law firm Duane, Morris and Heckscher. Gordon hates the computer in his office. On its monitor, he has taped a crayon drawing by his granddaughter, Madeleine. He has draped a T-shirt across the keyboard. He has no patience for learning to navigate computer icons or to double click with a mouse. There is, however, a piece of electronic gear that Gordon loves: his television. For that, he's willing to pay up: He owns one of Sony's most lavish models, a 61-inch set.

The WebTV Test

At the request of The Washington Post, Gordon recently tried out a WebTV. "I knew when I saw the remote control I was going to be in better shape," he said. After several hours of using it, Gordon was cautiously upbeat. "The computer in my office [represents] work—this is play," he said.

That's precisely what Perlman and his colleagues had in mind. Even Perlman doesn't use WebTV when he's trying to do work. But he does use it at the end of the day to tune into news and entertainment. WebTV "is more about replacing the television," he said. "What the TV does today is just a subset of what the Internet will do in the future. We won't call it the Internet. It will just be digital TV."

With the acquisition of WebTV finalized, Microsoft plans to move its Windows CE software into the device. Beginning last year, a few makers of hand-held personal organizers, such as Casio Inc., NEC Corp. and Philips Electronics NV, began selling devices that use Windows CE. Microsoft also is licensing the software to many other manufacturers, who may use it in devices as varied as home alarm systems and television sets. "There's no reason why you can't use Windows CE to run a thermostat," said John Browne, who heads the effort at Microsoft.

That boost helps those companies win the confidence and funds that they need to build networks that can deliver the Internet to consumers' homes. "There's no doubt that we're at the beginning of a long-term trend where the cable TV set-top will serve many communications functions in the home," Brumfield said.

Getting Industry's Attention

Gates's investment also bought Microsoft the ear of the industry as it chooses the technology for its next generation of set-top boxes. Richard Green, president of Cable Television Labs Inc., (or CableLabs), the cable industry's Louisville, Colo., research consortium, said that the group is looking at competing designs from the likes of Microsoft and Navio, a joint-venture of Netscape Communications Corp. and Oracle Corp. The industry hopes to settle on a choice soon—some analysts believe it will as early as this fall.

Although Green would not pick a favorite, "Microsoft is putting substantial effort and resources into its design," he said. Within 18 to 24 months, consumers may see the first products based on the design winner, Green suggested.

Microsoft's other deals—with Progressive Networks, VXtreme and Navitel—are intended to help supply some of the underlying technology that will make the Internet more consumer-friendly. Progressive Networks, for example, has been the market leader in transmitting audio signals and more recently video signals over the Internet.

For PCs to receive video signals, the data must be massaged to make the picture look less jerky. Allen Weiner, an analyst with the San Jose research firm Dataquest Inc., said that by working more closely together, Microsoft will get first dibs on intriguing technology, and Progressive Networks will get help wooing customers. VXtreme's work adds balance to the mix as well.

The deal with Navitel is a bit different. Navitel, barely a year old, had developed a promising design for a telephone with a small video screen that could receive e-mail and selected information from the Web. Now, Navitel plans to work harder on its software, which is based on Windows CE.

"We expect to be able to produce software that will run on millions of appliances," said Jeff Spirer, Navitel's chief operating officer. "And we feel strongly that Windows CE will be the platform of choice" for Navitel and others to work with.

With these investments in hand, Gates is well on his way to making Microsoft's software a mainstay in homes throughout America—with or without the PC.

"The business model stated by Gates more than a decade ago . . . was 'Windows everywhere,'" said Rick Doherty, an industry analyst who directs the Envisioneering Group in Seaford, N.Y. "The vision hasn't changed much."

All that's changed, Doherty said, is that Windows will show up on a lot more than computers.

THE MICROSOFT TOUCH

Cable stocks surged immediately after Microsoft said it would invest $1 billion in cable TV operator Comcast, and have since remained high.

Comcast CEO Ralph Roberts, left, Microsoft CEO Bill Gates, center, and Comcast President Brian L. Roberts at the announcement of Microsoft's investment in the cable TV company.

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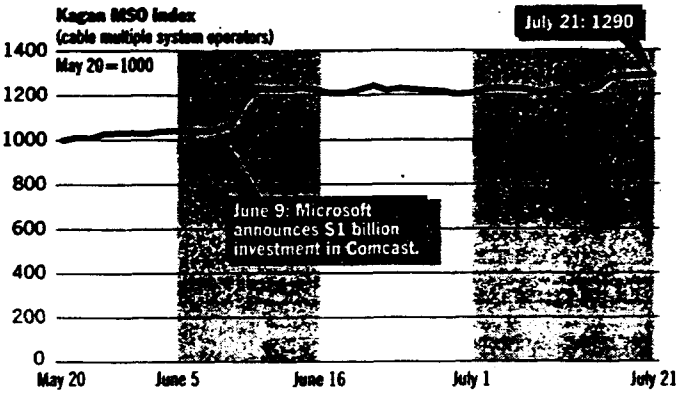
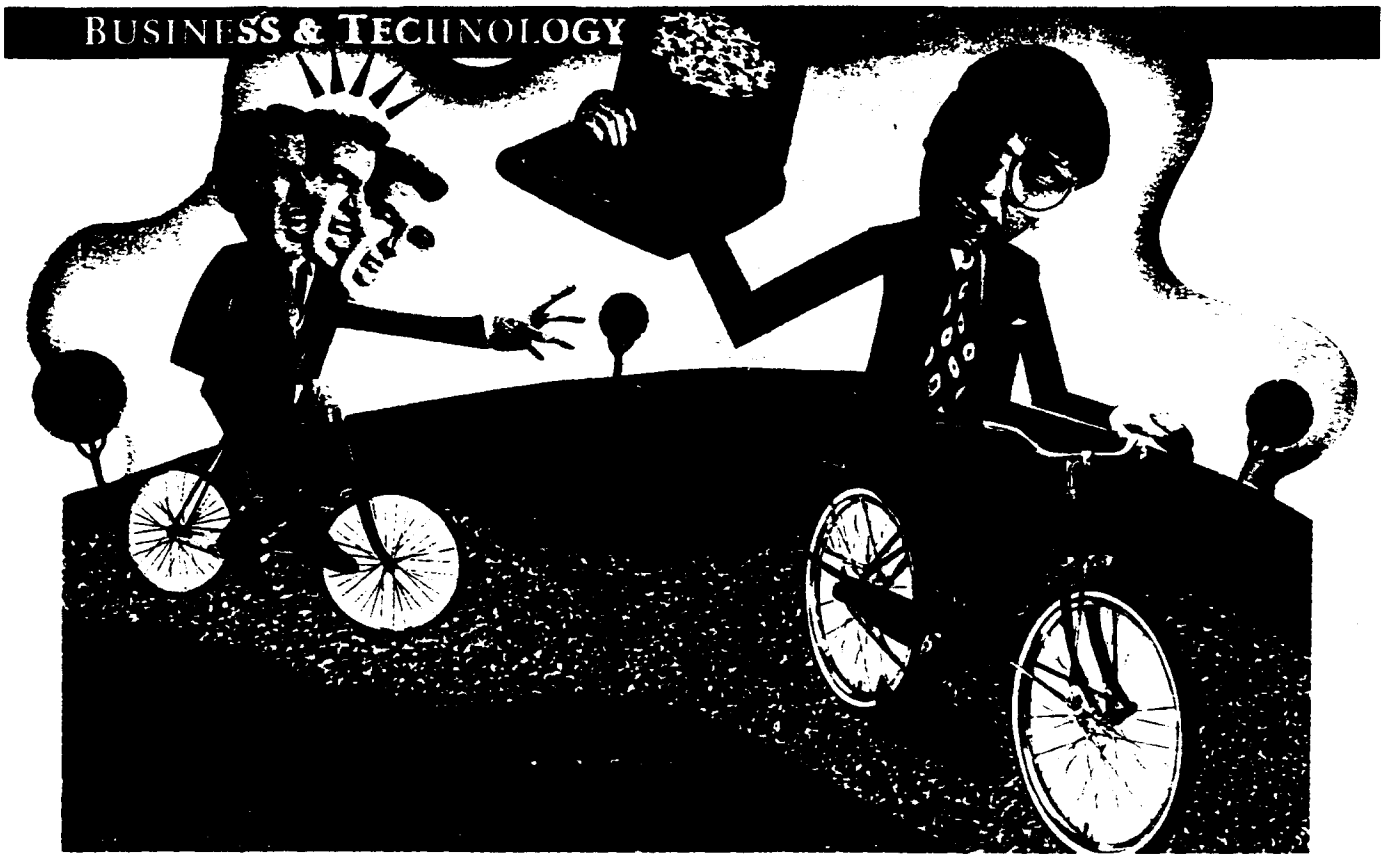


SOURCE: Paul Kagan Associates

THE WASHINGTON POST



All technology is local

Online information services take aim at newspapers

BY DAN MCGRAW

Does Microsoft CEO Bill Gates, the nation's richest man, care where you order your pizza? Amazingly enough, the answer is "Yes." He's also interested in where you might go to see a movie, buy a used car, or play golf on Saturday afternoon.

Though the Internet may be famous for its global reach, the new focus of online technology is local. The biggest names in information technology—including not just Microsoft but also America Online, Yahoo!, and several Baby Bell phone companies—are trotting out local information services, hoping to cash in on the most basic consumer decisions.

The reason is simple: Consumers make 80 percent of their purchases within 20 miles of their homes. Local advertising is a $66 billion annual business, and companies like Microsoft want to use the Internet to siphon off part of that bounty. The implications for local newspapers and television and radio stations may be profound.

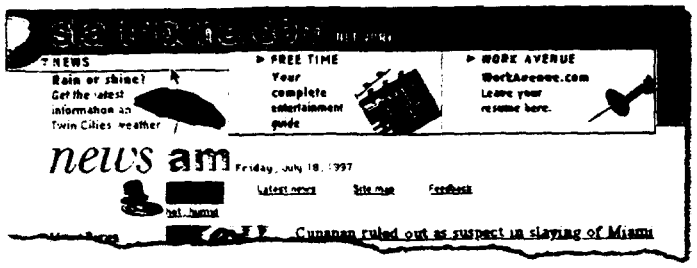
Sidewalk sales. Microsoft has invested heavily in its Sidewalk Web sites. Already up and running with information about New York, Seattle, and Boston, Sidewalk is geared toward local residents rather than tourists, offering listings of concerts, restaurants, local park programs, movies, and even the latest traffic information. Sidewalk can provide a ton of information, because the service doesn't have a newspaper's problem of limited pages or a broadcaster's problem of limited airtime. For example, the movie listings on Sidewalk provide show times, ticket prices, and comprehensive reviews, plus a guide to restaurants near the theaters (often including menus and seating charts). Eventually, customers will be able to purchase tickets online.

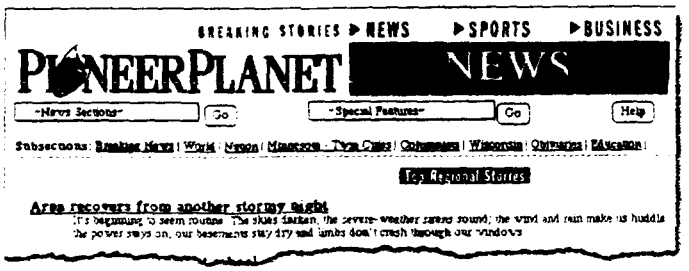
Consumers make 80 percent of their purchases within 20 miles of home.

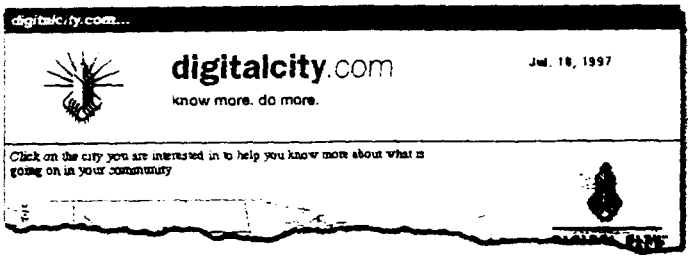
Unlike print and broadcast media, Sidewalk and its rivals also offer personalized service, based on principles like those of Pointcast and other customizable Web searchers. Say you're interested in Bruce Willis action movies, Italian restaurants, heavy-metal music, and running events. Whenever Sidewalk has new information on any of these subjects—an upcoming Metallica concert, for example—you will be E-mailed with the details.

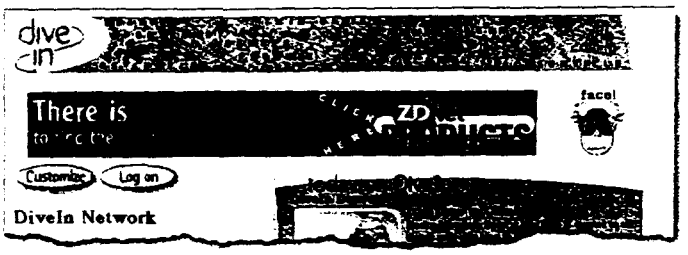
Microsoft recently launched its fourth Sidewalk site, in Minneapolis-St. Paul. By year's end, an additional five sites will be set up across the country. At the very least, Microsoft expects the sites to generate lo-

ILLUSTRATIONS BY AARON THOMAS ROTH FOR U.S.N.&WR









The biggest names in information technology—*including* Microsoft, America Online, and Yahoo!—are trotting out local information services.

cal advertising revenue and indirectly to support its core software business. In the future, Microsoft is betting that Sidewalk will generate a steady stream of transaction fees for, say, a pizza pie ordered online. "Gates understands that once he has your trust, he owns your decision," says Greg Wester, director of research for the Yankee Group.

The obvious question is whether there is enough local advertising to support all these online information sites. The answer is probably "No." Indeed, few expect any of these services to be very profitable in the near term. But as more and more households connect to the Internet (only about 16 percent have the capability now, but analysts expect 43 percent of U.S. households to have some Internet capability by 2000), both media companies and advertisers feel they have no choice but to go online.

It's by no means certain that online presence will lead to online sales. "None of this technology is proven with consumers," says Charles Wilson, director of interactive media for Martin Williams Advertising in Minneapolis. "Why look for a movie listing online when you can just call the theater?"

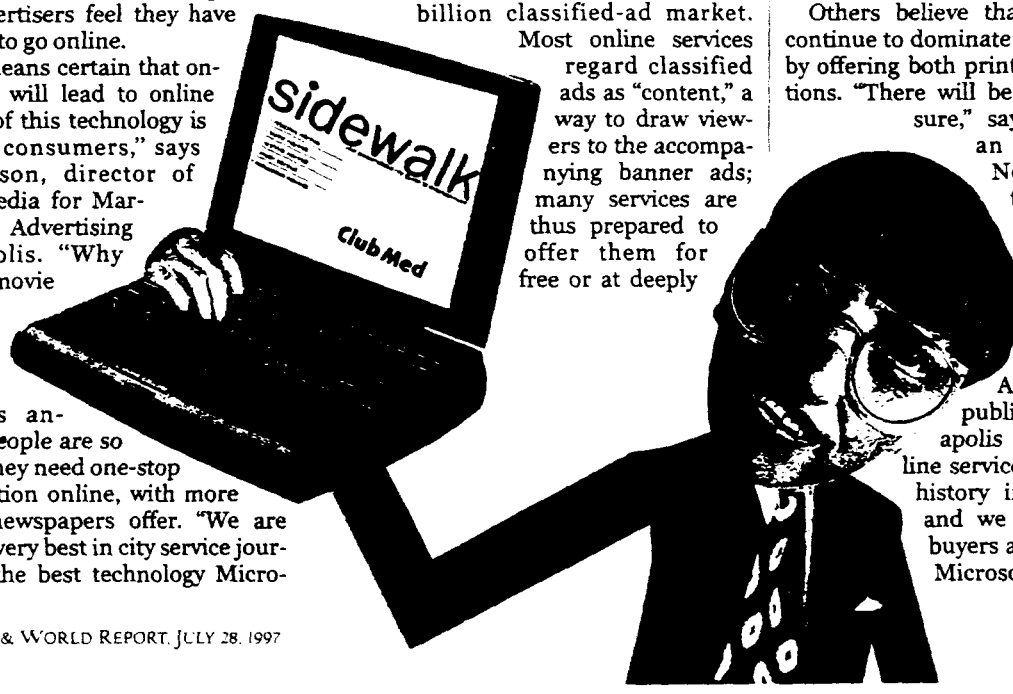
Microsoft's answer is that people are so harried that they need one-stop local information online, with more detail than newspapers offer. "We are marrying the very best in city service journalism with the best technology Microsoft has to offer," says Frank Schott, general manager of Sidewalk. "We see this as freeing up consumers whose time is very precious."

So far, Sidewalk has limited its advertising to local and national banner ads, rotating billboard-type ads that ring the edge of the computer screen. Sidewalk's Schott contends that Microsoft has no interest in lucrative classified ads, but most analysts dispute that assertion, arguing that Microsoft already uses national auto classified ads in its CarPoint Internet auto sales unit. "For them to say they aren't interested in the classified-ad market is baloney with a capital 'B,'" says Bill Bass, a media analyst with Massachusetts-based Forrester Research.

Paper trail. Bass believes Microsoft and others will clobber newspapers in the $15 billion classified-ad market. Most online services regard classified ads as "content," a way to draw viewers to the accompanying banner ads; many services are thus prepared to offer them for free or at deeply discounted prices. The thinking for online services is that auto classified ads, for example, would draw enough consumers that an auto repair or car insurance company would want to advertise in that space. Newspapers, on the other hand, rely on classified ads for about a third of their revenues. Already, organizations like the National Board of Realtors are selling their listings to online services rather than paying newspapers to run them.

Forrester's Bass projects that local papers will lose $1.5 billion worth of local ads to online services by 2001, and an additional $3.6 billion through price reductions from the increased competition. That translates into a 10 percent loss in ad revenues, dropping the paper's net profitability from an average of 17 percent to 9 percent.

Others believe that newspapers will continue to dominate the local ad market by offering both print and electronic options. "There will be price pressure for sure," says Randy Bennett, an analyst for the Newspaper Association of America, "but the impact won't be significant because newspapers will have their own online presence." Adds Bob Schafer, publisher of the Minneapolis *Star Tribune*'s online service: "We have a great history in this community, and we know how to put buyers and sellers together. Microsoft is still figuring



out where they want to go today."

Where Microsoft and the other local online players go depends on where the technology goes. If the WebTV platform gains favor, the penetration of local Internet services into homes could jump very quickly. Gates seems to be betting on the TV platform, which could provide Internet access to the 60 percent of U.S. homes that now have cable. Microsoft plans to purchase WebTV and recently invested $1 billion in Comcast, the nation's fourth-largest cable company. But if the Net continues to be PC based, the growth of local online services may come much slower.

Either way, the battle for the local consumer market is likely to be brutal, fought market by market, with just a few services left standing. If Microsoft wins, Gates will be getting his slice before the pizza you order is delivered to your door. ■

For more information, see U.S. News Online at http://www.usnews.com

ALT.COM.WORRIED

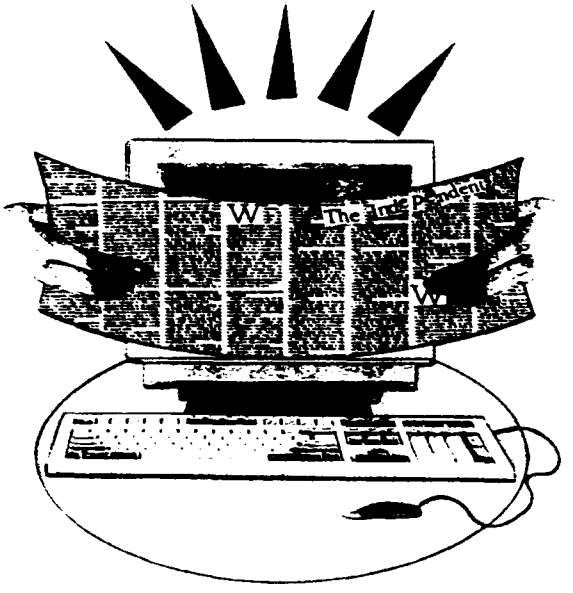
Will Microsoft squash the alternative press?

The newspaper business, as everyone knows, hasn't been setting any growth records in recent years. But there is one sector of the industry that's thriving: alternative weeklies, those free, sometimes countercultural tabloids featuring thorough arts and entertainment coverage and investigative reporting. Alas, this blissful situation could be threatened by (surprise!) Microsoft.

Since 1990, the number of alternative newspapers has gone from 68 to 111, and total revenues have doubled. Circulation has shot up from 3 million to nearly 6.4 million. National advertising—once the domain of a select few alternatives—has soared: In just two years, the Alternative Weekly Network, one of the two national advertising groups that represent 95 papers, has seen its sales rocket from about $250,000 to $6.3 million.

Ah, sweet youth. In business terms, the greatest strength of the alternative press is its youthful readership. Many advertisers see the alts as a better vehicle for reaching the 18-to-49-year-old consumer than the dailies, which continue to suffer from readership declines, particularly among 20-somethings.

Alternative-press founders still rail against the establishment dailies, but they have begun to act like the successes they have become. *Phoenix New Times*, created by a University of Arizona antiwar collective, is now part of New Times Inc., an alternative-newspaper chain with seven publications. The granddaddy of all alternatives, the *Village Voice*, is now owned by Leonard Stern, the same guy who brings you Hartz pet products; and, like New Times, Stern Publishing has started new papers and bought others. Even the 17,000-circulation *Bloomington* (Ind.) *Voice* has become the flagship in a chain, using money from a conservative insurance company to acquire two other alternatives. It plans to buy five more papers by next year.



Local advertising is a $66 billion annual business in America.

Yet, as the alternative press moves into the consolidation phase of the capitalist cycle, some editors and publishers have begun casting concerned glances at Microsoft's Sidewalk. Billed as the definitive online source for local arts and entertainment listings, Sidewalk aims to wean consumers off print. Some alt-press veterans, like *Austin Chronicle* Editor Louis Black, aren't particularly worried: "The main reason people pick up the weeklies is for an editorial sensibility," he says, "and Microsoft's Sidewalk is like having a press, ink, and paper—all data, no attitude."

But most publishers, like Alternative Media Inc.'s Ron Williams, who owns the weeklies in Detroit and Orlando, Fla., fret about Microsoft CEO Bill Gates's deep pockets. While a number of alternative publishers have begun paying reporters (gasp!) salaries that are competitive with those of the dailies (the award-winning New Times group is a good example), "Gates has more than enough money to buy people's staffs out from under them," says Williams.

The real concern is what Microsoft could do with online classifieds. While most publishers don't believe readers will abandon them for Microsoft on account of entertainment listings, they understand the appeal of good classified search engines that spare readers from having to thumb through pages of small type. As a result, papers are working to establish strong online classified services (a workshop was devoted to the subject at a recent Association of Alternative Newsweeklies convention).

The alternatives aren't alone in worrying about Sidewalk. The *Washington Post* has approached D.C.'s alt-press weekly, *Washington City Paper*, about forming an online alliance against Microsoft—an offer *City Paper* declined. Microsoft may be a threat, but not enough of one for the alternatives to work with dailies, which New Times Executive Editor Michael Lacey calls "pigs." Spoken like a true alternative-press man.

-Jason Vest

revenue streams. And the Web, where analysts predict that some $35 billion in goods and services will be sold by 2000, is a potential gold mine.

Microsoft is already eking some revenues out of its Web operations, though it's still chump change compared with its $9 billion in fiscal '97 revenues. Expedia, for example, is on track to book $100 million in travel transactions this year, in which Microsoft takes a commission. And Microsoft's other Web sites have drawn $2.9 million in advertising revenues in 1997's first quarter, according to Jupiter Communications Co. Jupiter analyst Peter Storck says that could hit $20 million this year. Further out, things look better: Forrester estimates that, all told, Microsoft's online businesses will drum up revenues of $2 billion in 2001.

Can Microsoft pull this off? To be sure, there is no guarantee that its revised media strategy is on target. In many cases, Microsoft is playing catch-up. Pasadena-based CitySearch Inc. has outdistanced Sidewalk with its nine local information sites and four more on tap. Intuit Inc. has used its lead in personal finance software to get a jump on an insurance Web site, which opened its doors in June, and a mortgage site planned for October. Microsoft's real estate site, by contrast, is not expected until early 1998. And America Online Inc., with some 8 million members, is bigger and growing faster than MSN. Says James V. Kinsey, AOL founder and director: "AOL has been interactive for 15 years, and they haven't. We know that business better than they do."

There are other challenges, too. It's not yet proven that Microsoft has the expertise to create compelling, specialized Web sites. Emerging electronic-commerce markets, such as financial services, are still as alien to Microsoft as application-programming interfaces are to a Citibank branch manager.

But time and again, Microsoft has proven its mettle when it comes to learning from its mistakes. The company's online trials and errors make a valuable case study for others, too. So what has the software giant learned? No. 1: Stick to your knitting. Microsoft's strength is software, not entertainment. What's more, some forms of entertainment don't work well on the Net yet, such as Web soaps, which are unwieldy, with blocks and blocks of type, and trivia and game shows. Says Higgins: "So far, the Internet isn't a place for truly mindless entertainment."

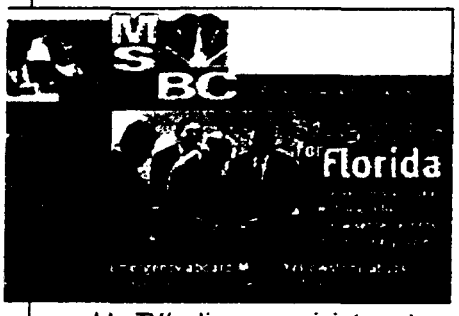
Microsoft also found what media companies have known for some time: No matter how good your programs are, you won't have a hit without a big audience. Instead of relying on MSN or its own Web sites to attract viewers, Microsoft is inking deals with popular Web destinations to have them offer Microsoft-branded content. The company's fare is carried on the @Home Internet-cable service and will be available on CNET's new Snap! Online Web site, scheduled for September. Microsoft would even consider a similar arrangement with archrival AOL.

And, lastly, Microsoft has discovered that developing fun Web fare is serious business. Nowhere was that more obvious than with Microsoft Network. When MSN was relaunched from a proprietary online service into a Web supersite last November, it came with 25 original programs—most of them cre-

MICROSOFT'S INTERNET PROGRAMMING

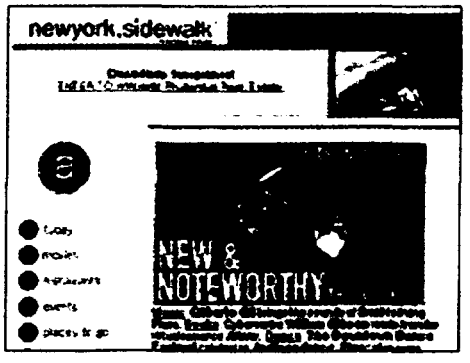
So far, Microsoft's Net offerings have had mixed success

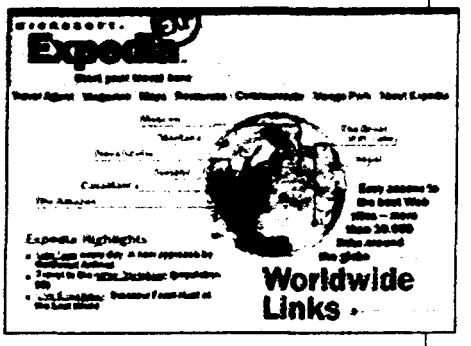
MSN The Microsoft Network debuted in 1995 and was relaunched as a Web-based online service last November. But with 2.3 million subscribers, MSN remains a distant second to America Online, and its Microsoft-made entertainment has drawn catcalls. Now, Microsoft is turning to partners such as Disney for content.



MSNBC Microsoft handles the Web site of this $400 million cable-TV/online-news joint venture with NBC. A redesign of the year-old site debuted on Aug. 18. Thanks to its 1.25 million visitors per month and the estimated $20 million Microsoft will spend on it this year, the MSNBC site has pulled even with CNN's and *USA Today's*.

SIDEWALK Microsoft will spend $100 million this year expanding its local arts-and-entertainment guides, to 10 by yearend. Sidewalk relies on Microsoft database software to let visitors search for events or restaurants. And ads are pouring in: The Seattle and New York Sidewalk sites have 500-plus local advertisers each.





EXPEDIA This online travel agency has emerged as Microsoft's first Web slam-dunk. Launched last October, Expedia is expected to book $100 million in airline tickets this year. Microsoft is licensing Expedia's core technology to American Express and airlines such as Continental and Northwest.

INVESTOR In June, Microsoft began charging a $9.95 subscription fee for "premium" financial information on this investment-advice site. So far, response has been slow. Forrester Research estimates that only 10,000 have signed up.

INTERNET GAMING ZONE Last spring, Microsoft launched this game site, which already has some 350,000 registered members. With such success, Microsoft is considering charging a subscription fee for premium play starting in October.

SOURCE: FORRESTER RESEARCH, BUSINESS WEEK

ated in-house. But they didn't click with viewers. At the end of their 13-week season, 40% of the shows were canceled. And even though MSN's subscriber list has grown from 1.6 million last November to 2.3 million today, analysts say most use it simply to get onto the Net. For MSN's new season, kicking off in October, virtually all of its 16 new shows are being produced by partners.

NEW MEDIA MAN
Higgins' unit will expand Microsoft's entertainment guide from 4 cities to 10 and add real estate and bill-paying sites

Instead, Microsoft is setting its new-media guns on electronic commerce. Gates sees a huge opportunity to bring together buyers and sellers—and command a fee for the service. Microsoft's car-buying site, CarPoint, for example, fits the vision to a tee. Originally established a year ago as an editorial guide to car shopping, the site was relaunched in July as a high-octane E-commerce site that now logs up to 30,000 visitors a day. Viewers can read reviews of cars, calculate how much they can afford to spend, and solicit bids from up to three auto dealers near their homes.

Microsoft gets paid a $1,000 monthly fee by each participating dealer—an approach copied from former partner Auto-By-Tel. And that's not all. In the first week of September, CarPoint will launch a used-car listing—marking its first foray into classified ads. Microsoft "gets it" with Expedia, CarPoint, and other transaction-based sites, says Forrester's Bass.

OUTCRY. These businesses have huge potential. Newspaper classifieds alone brought in $15 billion last year. Of course, the further Microsoft gets into markets already claimed by other industries, the more conflicts it faces. Edward Canale, director of marketing for the Sacramento *Bee* newspaper, believes that with Sidewalk and CarPoint, "Bill Gates wants to skim the cream off the newspapers' business without paying for real journalism."

This reaction sends off alarm bells in Microsoft's Redmond (Wash.) headquarters. "The big concern is that newspapers write negative articles about Microsoft and that creates a bad feeling," says John Neilson, vice-president for Microsoft's interactive-media services unit. So, for now, Microsoft is treading softly—and not just in the newspaper sphere, where, analysts say, it backed off more aggressive plans for classified ads after the industry protested. Mindful of the uproar that Gates caused when he called banks "dinosaurs" three years ago, Microsoft seeks to ally with others as much as possible.

But even when Microsoft goes the partnership route, it sometimes steps on toes. Peter Ellis, president of Auto-By-Tel, the leading auto-sales service on the Web, complains that Microsoft was "picking our brains" during the year and a half that the two companies collaborated. They decided to split in May after disagreeing on strategy, and Microsoft now handles its own transactions. "When they call you up, you think it's great, but in reality, the dance will soon turn into a nightmare," says Ellis.

Microsoft's reputation for roughing up partners doesn't scare Countrywide Home Loans Inc., the nation's largest independent home lender. Cameron King, Countrywide's executive vice-president for electronic commerce, is working with Microsoft to offer online lending on the software giant's upcoming real estate site. "It's ludicrous for me to think that Microsoft would be able to duplicate the decades of knowledge and infrastructure that make up an industry," says King. At the same time, he has already cut a similar deal on a real estate site to be launched in October by rival Intuit.

LIFESTYLE SUITES. Microsoft may have one more ace up its sleeve in its new-media bid. The combination of its Web sites—from investing in stocks to buying cars, airline tickets, and finding out what cultural events are in town that night—creates a "suite" of Web sites that are linked and can cross-promote one another. That's much like Microsoft's supernova hit, the Office productivity suite. Others see the merit in that approach, too. "They can package a network with a whole bunch of demographics in one media buy," says Jupiter analyst Storck. "That's what advertisers are begging for."

That could be a powerful combo. Add in Microsoft's upcoming Windows 98, which will feature some of these sites as readily accessible "channels," and the software giant may be even better positioned in new media. Microsoft came up short as an entertainment content creator. "At its heart, this is a geeky company," concedes Richard Barton, who heads Expedia. But in the end, if software is what really matters in Web media, being geeky could turn out to be a really cool thing.

By Steve Hamm in Redmond, Wash., with Amy Cortese in New York, and Cathy Yang in Washington, D. C.

LESSONS FROM CYBERSPACE

After throwing hundreds of millions of dollars into developing Net content, Microsoft has learned a thing or two. You can, too.

SOFTWARE MATTERS Microsoft thought content would be king in cyberspace. Not yet. So it is returning to its roots, developing huge databases of travel and entertainment information to help you do things such as search for the best airfare and then book the flight.

LOCATION, LOCATION Microsoft's reach used to be limited to the audience that it could pull into Microsoft Network and its Web sites. But building a mass audience is critical, so the company is cutting distribution deals with popular destinations such as CNET's upcoming Snap! Online site.

ENTERTAINMENT IS TOUGH Don't look for a counterpart to *Seinfeld* on the Web—at least from Microsoft. Efforts such as *How Long*, a trivia show, are gathering dust in the Microsoft archives. What works? Practical stuff such as MSN's One Click Away, a guide to help you navigate the Web.

BANNER ADS DON'T CUT IT To supplement banner ads, Microsoft is meshing ads with information and transactions. For example, advertising buttons on the Investor site link to stock-trading services such as E*Trade. In exchange, Microsoft gets premium ad rates.

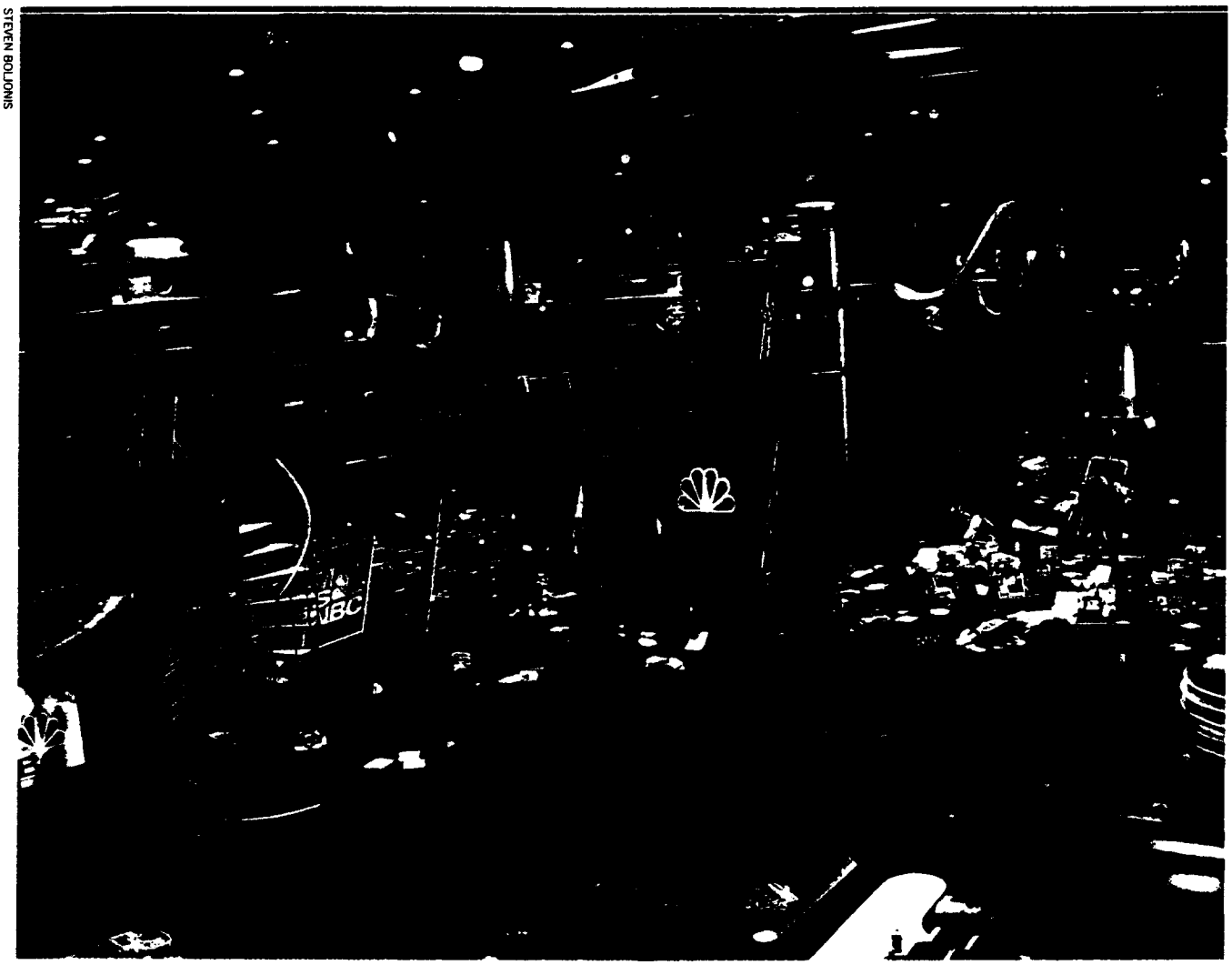
REX RYSTEDT

Bill Gates doesn't just want your computer. He also wants a piece of your entertainment dollar and a commission on a lot of the things you buy.

He wants your eyeballs

By Damon Darlin

STEVEN BOLIONIS



SIDE BY SIDE with the sandals-and-blue-jeans-wearing software types in Redmond, Wash. these days are some 300 people from an older trade, journalism. They help man MSNBC, Microsoft's joint venture with General Electric's NBC, to provide news over the Internet and via cable. Other scribes are sprinkled through the rest of Microsoft's expanding Internet empire, the Microsoft Network. They write material that MSN hopes will attract cyberbrowsers to *Sidewalk* or to other MSN media efforts, including Microsoft Investor and Expedia, its on-line travel agency.

If any media mavens still think Bill Gates isn't after their lunch, they had better wake up. No, he doesn't necessarily want to own a newspaper, but he's after some of the time and attention that people spend reading them, and he's after some of those advertising dollars that keep the presses rolling.

It's easy to scoff at Bill Gates' media efforts. Microsoft has stumbled a few times in this unfamiliar business. The software needed to reach MSN, a proprietary network akin to America Online or CompuServe, takes about an hour to load onto your hard drive and then gobbles up more precious storage than does Microsoft's large Office suite of programs, more than 50 megabytes. The

E-mail service is unreliable and has been out of operation for several days at a time. Gates created a media buzz by picking former *New Republic* editor Michael Kinsley to start *Slate*, an on-line opinion magazine. But the buzz hasn't translated into much of a paying audience. *Slate* has about 45,000 regulars who get the on-line version free. Kinsley is trying to sell a print version for $70 a year.

Entertainment? Hollywood can hardly contain its glee. MSN's entertainment programming—a dismal soap opera about life in suburban New York and a boring cartoon show—is weak. In March Microsoft canceled half its entertainment programs, admitting that few people watched them. It fired many of its temporary contract employees working on the shows. Its current lineup includes a show on UFOs and another giving guitar lessons. "If you are going for pure entertainment, it's not there yet," concedes John Neilson, Microsoft's vice president of the interactive service media division.

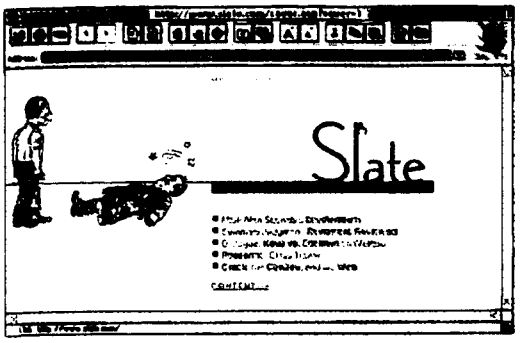
No threat, clearly, to TV. Newspapers, more directly threatened by Microsoft's city guides, have fought back with Web sites of their own and with on-line real estate and classified advertising.

So snicker if you will at Gates' media flops, but don't relax, yet. The man and the company don't give up when they want something, and they want to capture a major share of the eyeballs of America. With $9 billion in Microsoft cash, and a cash flow of $2 billion, they will hardly miss the cost.

Gates likes to emphasize that his is a patient company as well as a wealthy one. Its early versions of Word, the word processing software, and spreadsheet-creator Excel were hardly world-beaters, but money and patience made them so. Today those products dominate the market with about 90% market share. Netscape Communications' Internet browser was the overwhelming favorite of Web surfers, but Microsoft's copycat, Explorer, has already whittled off nearly 30% of that early lead.

Sometimes Microsoft sounds ambivalent about media. Running MSN is Laura Jennings, 35, vice pres-

MSNBC's studio in Secaucus, N.J.
The cable network serves as a funnel pushing viewers toward the Internet and Microsoft cash registers.



Few readers pay for it, but Slate got MSN attention.

ident of MSN and the marketer who helped lead Office suite to dominance over Lotus Development Corp.'s office suite product. She denies that MSN wants to invade other people's turf, pointing out that MSN works with the *Village Voice*, the *Seattle Times* and other publications for its *Sidewalk* city guides.

If we had to bet, we'd say that Bill Gates and his crew are being a bit disingenuous when they say they want the existing media as partners. Microsoft's history suggests it is a company that takes in partners to learn from them before competing with them.

This much is clear: Microsoft rejects the better-mousetrap theory of marketing. It does not believe that by building a better Web site you will get the bigger share of the business. "That's not happening," Laura Jennings notes. "The idea that people know what they want is wrong. They need to be pulled through the Web."

To pull them, Jennings counts on Microsoft's software. What software can do that ordinary print and broadcast media can't is figure out what the customer wants and who he or she is.

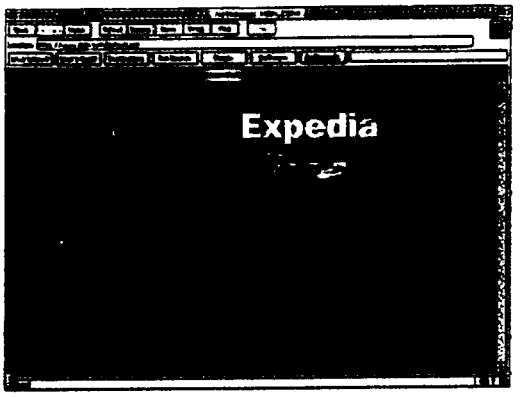
An example: You like jazz. You go to MSN on your computer and visit the Rifff music site. Your computer remembers that you like jazz, so when, later, you tune into the news, a promotion flashes telling you about the new *Sidewalk* city guide for New Orleans. (It's coming soon.) Get it—New Orleans—jazz. There may be a flash on your screen, a notice that Mungo Park, the Microsoft on-line travel magazine, has an article on New Orleans jazz.

Hey, why not book a flight and a hotel room through Microsoft's Expedia travel agency site?

Cars? Show an interest in cars and the software will identify you as a prospect for car ads and car sites. If Microsoft delivers a prospect to a seller, there's a commission in it. Investing? Maybe you'd like to open an account with Charles Schwab. Click here for an application.

What Microsoft can do, so can Netscape, but Microsoft has this advantage: Whereas Netscape can identify you for other people's sites, Microsoft can often steer you to a Microsoft site. Think of this in retailing terms. Don't most merchants prefer to sell you a house brand rather than someone else's brand?

The cable television news service, MSNBC, which is expected to reach 35 million subscribers this year, will direct many people into the MSNBC Internet site with constant cross promotion.

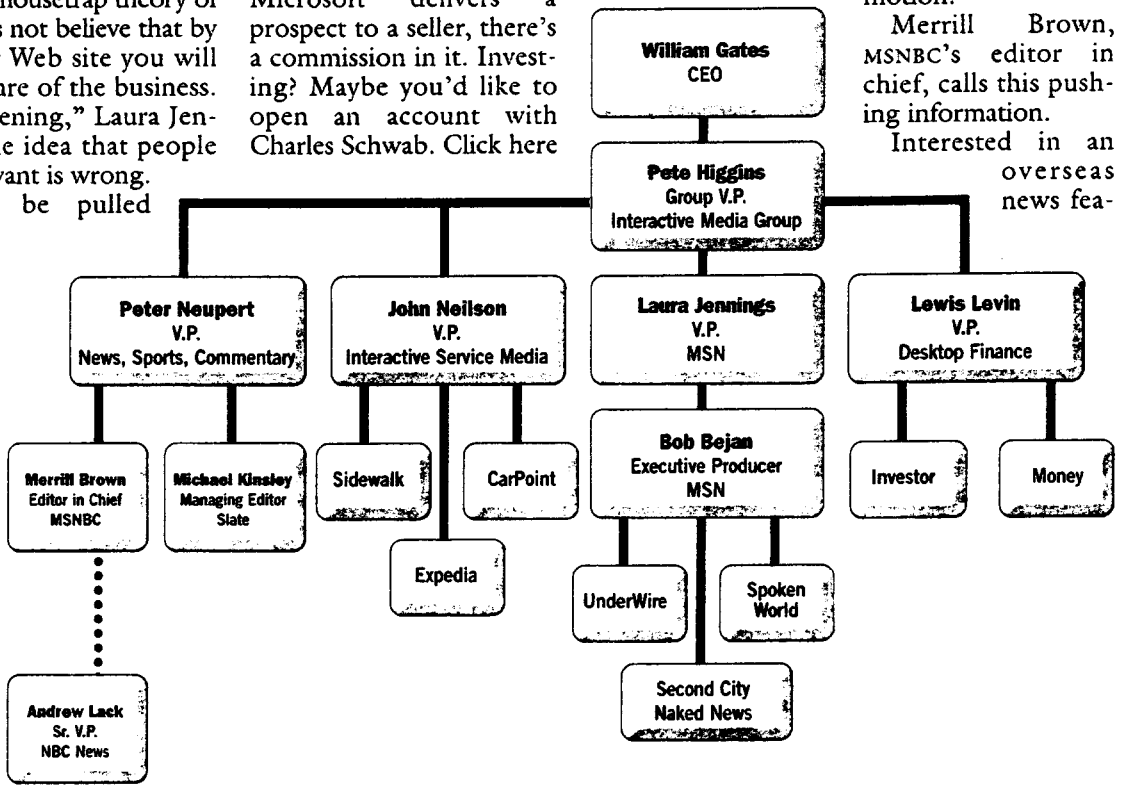


Microsoft sells $1 million in travel bookings.

Merrill Brown, MSNBC's editor in chief, calls this pushing information.

Interested in an overseas news fea-

MSN's Web



Battle-hardened software marketers—not Hollywood softies—control MSN. NBC News has a say only in MSNBC's operations.

Cherry picking

MONEY TALKS. Merrill Brown, editor in chief of MSNBC, has lured about 100 journalists from news organizations to his outfit. Microsoft's Investor, *Sidewalk* and *CarPoint* have hired about the same number. Microsoft just hired Bryan Miller, the former *New York Times* restaurant critic, as a consultant for its New York *Sidewalk* site. A less experienced but visible recruit is Karenna Gore, Al Gore's daughter, an editorial assistant on *Slate*, the on-line magazine.

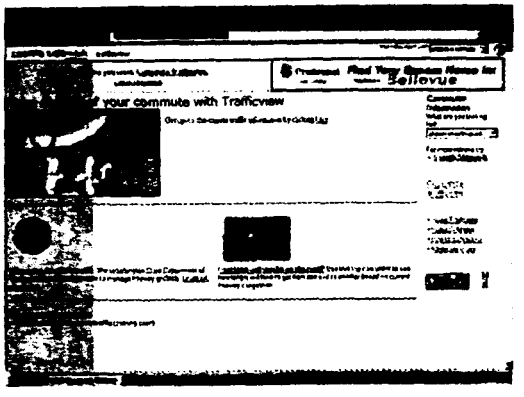
The *San Jose Mercury-News* alone has lost seven editors. When Microsoft offered *Los Angeles Times* business columnist Jon Markman a job, his employer offered him a 25% raise, to $120,000. When disgruntled staffers got wind, they sent a petition to the *Times'* editors complaining about the counteroffer. By then, Markman had already packed his bags and left.

Startups are always a lure, but Microsoft money can be irresistible. A starting salary for an experienced editor is about $80,000, and the cost of living in Seattle is half that of Manhattan and 13% less than that of Los Angeles.

Ah—and don't forget those Microsoft stock options. –D.D.

ture on Thailand? After you click on the gateway at the MSNBC site, up pops a message suggesting you also try *Mungo Park*, a linked site that includes offbeat travel stories by famous writers. In a recent installment, Tama Janowitz, chronicler of Manhattan mores, searched for whales in a kayak.

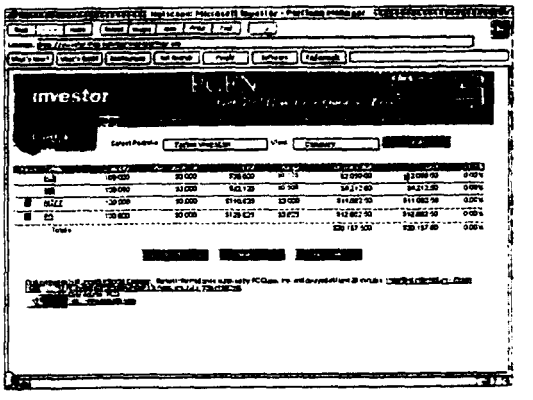
What better prospect for a travel service than a consumer who browses for travel articles? If it lands a customer for the hotel or airline, Microsoft gets a 5% to 10% commission. Open since October, Expedia travel service makes $1 million in bookings for its 350,000 customers each week. That's about 7% of the $705 million in tickets selling on-line.



Sidewalk focuses a camera on a crowded bridge.

Cross promotions steer viewers into *CarPoint*, packed with articles and pictures of cars. MSNBC business news leads viewers to Investor, which will track your portfolio and, for an extra $10 a month, give you access to analysts' opinions and other market research. That site in turn directs viewers to on-line brokers. "We get them when they are ready to buy," says Microsoft's Neilson. "What better time is there than that?"

Considering all this, is there any doubt that Microsoft is after a big chunk of the money the travel industry spends on advertising or what the travel agents take in?



Investor links viewers to brokers; Microsoft gets a fee.

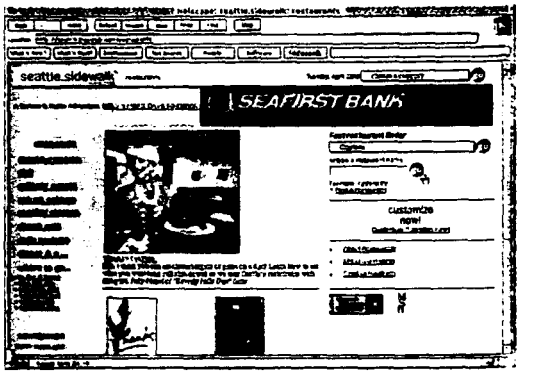
Microsoft plans on-line *Sidewalk* guides to restaurants and cultural events for about ten major cities including San Francisco, Boston and Sydney, Australia, site of the next Summer Olympic games.

Seattle's site was the first one opened. Here you can find the latest No Doubt concert schedule or peruse the menu for Garage, a hip eatery in an old downtown Seattle parking structure.

The Seattle *Sidewalk* site has nifty little features like a camera aimed at the usually jammed Floating Bridge across Seattle's Lake Washington, and a little program that calculates how long it will take to get from one freeway exit to another based on current congestion. It also has ads from restaurants and local businesses, like futon shops.

At the World Economic Forum in Davos, Switzerland in January, Bill Gates said that MSN "could eventually account for at least $2 billion in annual revenue." That didn't sound very threatening, given that television alone got $37.8 billion in revenues last year, the newspaper industry $36.3 billion and radio $11.3 billion. But note the "at least." Anyone who thinks Bill Gates will be satisfied with $2 billion in advertising revenues hasn't studied the man.

Sidewalk: Restaurant guide and weekend section.



Making Microsoft Safe for Capitalism

By James Gleick

Copyright © 1995 James Gleick. First published in The New York Times Magazine, 5 November 1995

Before he installed Windows 95, John Dodge connected to the Internet using software from a Microsoft competitor, CompuServe's Internet in a Box. Not anymore -- Windows 95 silently disabled a key piece of his setup and made it too difficult for him to reinstall it.

Dodge is no novice. He is senior executive editor of the trade journal PC Week and so had access to the highest-level support engineers. But life is short and even software professionals learn to take the path of least resistance -- in this case, the path leading to Microsoft. He has become a regular user of the new Microsoft Network, though he has trouble with its Internet features.

Still, he believes Microsoft executives when they deny trying to gain market share by sabotaging competitors' software. He just wonders whether Microsoft "has a full appreciation of its actions in the market place."

There is reason to believe that Microsoft does.

Microsoft vs. the World

The Government's lawyers are engaged in the third major phase of an investigation that may prove to be the most important, and the most difficult, in the century-old history of antitrust law. Its target is a scrappy, young, fast-moving company with a mere 18,000 employees -- a fraction of the size of I.B.M. and A.T.&T., the last great subjects of antitrust action. Microsoft does not control a manufacturing industry (as I.B.M. did), a natural resource (as Standard Oil did) or a regulated public utility (as A.T.&T. did). Microsoft's strategic monopolies -- for it does possess and covet monopolies, despite vehement denials from its lawyers -- are in a peculiarly subtle and abstract commodity: the standards and architectures that control the design of modern software.

In a historical eye blink, as the technologies of computing have

. . .

POSTSCRIPT

This article was written in the early fall of 1995, just as Windows 95 was entering the marketplace. It suggested Windows 95 was a device more in spirit than in fact, designed by the new Microsoft to quash competition from Internet-based software. The Microsoft Network has continued to struggle and reinvent itself. The Department of Justice -- its finding upheld by Federal Judge Stanley Sporkin during the budget negotiations -- began inquiries into Internet-enabling modem device bundled in the operating system, among other issues. It has also asked questions about Microsoft's actions in the battle against Netscape in browser software, where browsers are concerned. I believe Microsoft has already won. But the open versions Netscape is now making available to Microsoft.

The Internet is unknown to shape and reshape Microsoft's strategy. The company has reorganized itself, redirected

come to pervade the world's economic life, Microsoft has turned 20 years old. When Ronald Reagan became President, Bill Gates's new company was an unincorporated partnership with accounts kept in handwritten ledgers. Apple was a big new personal-computer company, worth $3 billion; I.B.M., the mainframe giant, was cobbling together its first personal computer out of parts from outside suppliers. By 1990, just a decade later, Microsoft had become the world's richest software company, though it had no leading product in any important category but operating systems. Today nearly half of the world's total P.C. software revenue goes directly to Microsoft.

"I personally believe that Microsoft is the most powerful economic force in the United States in the second half of the 20th century," says Eric Schmidt, chief technology officer of Sun Microsystems -- a minicomputer and networking company whose business used to be remote from Microsoft's but now finds itself under direct competitive pressure. Some of Microsoft's control over computing, at all levels, is obvious. Much, however, is invisible. Even longtime insiders are just beginning to understand the nature of that power: how Microsoft acquired it, preserves it and exercises it.

"The question of what to do about Microsoft is going to be a central public policy issue for the next 20 years," says Mitchell Kapor, the founder and former C.E.O. of Lotus Development Corporation -- once the leading P.C. software company. "Policy makers don't understand the real character of Microsoft yet -- the sheer will-to-power that Microsoft has."

The vast majority of the world's personal computers -- estimates range from 80 percent to more than 90 percent -- run on Microsoft software from the instant they are turned on. Yet, pervasive as P.C.'s are now, Microsoft has made clear that they are only the beginning. The company is working toward wallet computers that carry digital signatures, money and theater or airplane tickets; toward new generations of fax machines, telephones with screens, and car navigation systems; toward Microsoft-run interactive television boxes, office networks and wireless networks, and, most potently, toward an aggressive Microsoft role in the Internet itself.

By making connections among all these levels of modern computing, and by exerting control over the architectures that govern those connections, Microsoft is in the process of transforming the very structure of the world's computer businesses. "Microsoft is imposing a new verticality on the industry," says Gary Reback, a Silicon Valley technology

lawyer who represented a group of anonymous Microsoft rivals in the antitrust proceedings. "Bill's been able to exploit the market far better than anybody else has, and I think that's because he intuitively under stands what enormous power he has and how to exploit that power."

It is a software company with the broadest possible understanding of *software*: not just computer code but books, news services, music, movies, paintings, maps and directories of people and businesses. It believes that you will buy all these on line, and it intends to deliver them. With its new Microsoft Network, providing both an on-line service and Internet access, it is focusing on electronic financial-transaction processing -- which is to say, all electronic commerce; which is to say, at least in some visions of the future, pretty much *all commerce*. "Basically what Microsoft is trying to do is tax every bit transition in the whole world," says a senior executive of a competing software company. "When a bit flips, they will charge you."

Its profit margins are staggering by the standards of manufacturing companies -- it salts away about a quarter of every dollar that comes in, compared with about 3 cents for Apple. It sits on an enormous reserve of cash. Among modern corporations it has been an unparalleled generator of personal wealth. Never mind that its founder and chairman may on any given day be the world's richest person; the third-richest Microsoft executive, Steve Ballmer, owns close to $3 billion in Microsoft stock, and 2,000 or more of its employees have be come quick millionaires, creating a remarkable new class structure in Seattle's social and political life. In a less-charged era, Gates and Ballmer both occasionally joked about their goal of world domination. Now they are more careful. Microsoft's people are taught to avoid using the word *dominate* in public discussion of the company's role in any part of the software business; the preferred word is *lead*.

"There are many, many articles that say Microsoft is about to fail," Gates tells me in a hasty interview on the eve of a vacation in China. (Only later does it occur to me that he must have Satan's own clipping service.) "Those two extremes are silly beyond belief. We won't fail tomorrow, and we don't have a guaranteed future. That's just logical."

It has become an article of faith -- with considerable help from Microsoft -- that no credible threat exists to its monopoly in operating systems for personal computers or its rising dominance in all P.C. software. This summer, during the

orchestrated build-up for Windows 95, Wall Street found that Microsoft is the company that drives the American financial markets as only I.B.M. and General Motors could in previous eras. The closing months of 1995 see competitors and potential competitors -- I.B.M., Apple, Lotus Development, WordPerfect, Novell -- fading back from Microsoft's businesses or bracing fatalistically for the next onslaught.

Gates is back now from his vacation: a personal trip, but he did find time to meet formally with President Jiang Zemin, and Beijing announced -- no Antitrust Division there -- that it was declaring Windows to be the country's official software standard. Days later, Gates revealed that he had bought the world's greatest storehouse of historical photographs, the Bettmann Archive, adding to his already unchallenged collection of visual images. Two more markets cornered, it seems. The Government must ask now, as the computer business is asking, whether a dangerous threshold has been crossed -- whether a single force has taken control of the most tempestuous, inventive, unpredictable industry of our time.

More: Cult of Bill

Making Microsoft Safe for Capitalism

By James Gleick

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[continued from part one]

Cult of Bill

By now it's well known that where other companies have offices, Microsoft has a huge and verdant campus -- low-slung steel-and-glass buildings set amid stands of evergreen trees in a Seattle suburb, with softball fields and basketball courts and an artificial pond called Lake Bill. Most employees still have private offices, and soft drinks are still free, but the campus has lately taken on an air of relative maturity. It's full; a new set of buildings are on the rise across the freeway. A soccer field was torn up this summer to make way for the extravaganza of the Windows 95 launch.

Everywhere, though, is a sense of the forceful influence of the company's 40-year-old leader, who at One Microsoft Way is always referred to simply as "Bill." *Bill's so smart*, says a character in Douglas Coupland's new novel, "Microserfs" (another Microsoft first: popular fiction inspired by its wondrous corporate culture). *Bill is wise. Bill is kind. Bill is benevolent. Bill, Be My Friend . . . Please!* A heightened casualness does strain the voices of Microsoft middle executives when they drop mention of "face time" with Bill.

Sometimes people at Microsoft say that they are a mere surfboard and Bill is the man who rides it. The company went through a series of short-lived presidents before finally realizing that a president in the presence of Bill was an impossibility; now there is just an Office of the President, occupied by a group of vice presidents. "One of the things that makes us work today is the incredible brain capacity, memory capacity that Bill has," says the most senior of them, Ballmer, striding energetically around a tiny conference room.

Microsoft wears the personality of its leader like a wet suit. Gates's mind-set might be described as a blend of ruthless competitiveness and planned

paranoia. He chooses to be scared; he wants his company to be scared. At the moment it is the explosive rise of Internet that scares him most. At similar critical moments in history -- "discontinuities," as he accurately puts it -- he has watched most of his competitors stumble and fail, beginning with I.B.M. He goads his employees with fear of failure. It may help that Microsoft is the company that the rest of the industry loves to hate. Accusations that Microsoft's people lie, cheat and steal information are as much a part of the company's lore as its cadre of millionaires with FYIFV (". . . I'm fully vested") buttons. Microsoft knows it has clout, and it uses what it has: to pressure small competitors, trade-show operators, journalists, retailers (shelf space for non-Microsoft software will be at a premium this Christmas) and everyone else.

"Can you name anybody that's happy about being in the same industry with Microsoft?" Mitchell Kapor asks.

Microsoft lives according to a "thin ethics," as he sees it: "Anything not a direct lie or clearly illegal is O.K. to do and should be done if it advances Microsoft's tribal cause. This licenses the worst sorts of manipulations, lies, tortured self-justification and so on." Microsoft is hardly alone, of course; plenty of its competitors would play as rough, if they only could. Others in the industry suggest that Microsoft's small-company scrappiness has kept it from facing the issue of corporate ethics: behavior that people will forgive, or at least understand, in a start-up looks considerably less attractive when David grows into Goliath.

Microsoft stumbles, but less often than its competitors; and when its competitors make mistakes, Microsoft has historically managed to take advantage. It has cultivated an aura of inevitability. It has failed so far to overcome some rivals, but it has never lost an important franchise once gained. And if Microsoft people are now openly contemptuous of the Government's multiphase investigation of its trade practices, it is Gates who sets the tone. This spring, when the second phase ended with Microsoft's dropping a proposed acquisition of the financial-software maker Intuit, Gates said sarcastically, "In the future we may wait a week or two before we decide to do something like this again."

None of the above appears in the entry on **Gates, William Henry, III (1955-)**, in the world's best-selling multimedia encyclopedia: "Much of Gates' success rests on his ability to translate technical visions into market strategy, and to blend creativity with technical acumen. . . ." There is a picture, too, with a sound clip: "Microsoft was founded based on my vision of a personal computer on every desk and in every home. We've never wavered from that vision."

Needless to say, that's not the Encyclopaedia Britannica, now struggling for its life. The leading encyclopedia in the multimedia world is Microsoft's own Encarta -- a glossy retread of the old Funk & Wagnalls, updated with pictures and audio bits. Microsoft is rapidly accumulating best-selling entries in every reference category: general desk reference; movie guides; music guides;

cooking and wine guides. Most of these were licensed or bought outright, but Microsoft's consumer division is gearing up to produce more and more of its own material for CD-ROM's and on-line information products. Its new Digital Cartography Lab alone employs 15 highly trained cartographers and geographers, working on a new generation of digital maps. (Hammond, Rand McNally -- are you ready?) Over at the Microsoft Network, a fledgling news staff produces a sort of electronic front page every day.

And by the way, the unabridged version of that famous Gates motto is: "a computer on every desk and in every home, *all running Microsoft software*."

Microsoft vs. the Internet

Not only is the new Microsoft Network software automatically set up for every Windows 95 user; its icons -- "MSN" and "The Internet" -- are an astonishingly persistent feature of the "desktop" that stares at you from your screen.

"Does anyone know how to get rid of the Internet Explorer icon so that I can put my Netscape Navigator icon in its place??" asks a Windows 95 user on the Microsoft Network. Over on CompuServe, a user says. "I want the MSN icon to go away, but I don't seem to be able to delete it. How do I get rid of the thing?"

That's what Steve Case wants to know, as president of America Online, the most popular commercial on-line service and one of the companies with the most to lose. "The tens of millions of existing computer owners who are expected to upgrade to Windows 95 won't be offered choices built into their operating system other than MSN," he says. "The operating system for 85 percent of all personal computers is about to become an exclusionary marketing and distribution tool."

He has sent the same message to the Department of Justice. He argues that the operating system is to a computer what the dial tone is to a telephone: the thing you have to use to go anywhere at all. Just as the Antitrust Division eventually prevented A.T.&T. from using its local-telephone monopolies to perpetuate a monopoly in long-distance service, so it should prevent Microsoft from leveraging its operating-system monopoly into the new territory of Internet and on-line services.

The Internet has forced Microsoft to make a late change in its on-line strategy. As little as three years ago, when MSN was a vigorously leaked secret code -- named Marvel, the on-line landscape comprised thousands of hobbyist bulletin boards and just three giant commercial services: America Online, CompuServe and Prodigy. The Internet, meanwhile, was obscure, academic and seemingly irrelevant to any vision of electronic commerce. Marvel was designed as an America Online-CompuServe-Prodigy killer: a private service that would host proprietary content from newspapers, television networks, Microsoft's own consumer-product sources and a wide range of businesses with information

and products to sell.

Microsoft was not the only company caught by surprise when the Internet burst into public view, and it was one of the quickest to begin a recovery. It took the unusual step of buying a minority stake in an Internet access company and building a nationwide network that customers will be able to use for dialing into the Internet -- paying, of course, by the month or by the hour. Gates insists that Microsoft will remain strictly a software company -- "We're not in the connectivity business; we're not in the business of owning wires" -- but by last year it was clear to Microsoft, as well as the big on-line services, that Internet access was essential. And Microsoft determined to provide it by means of a single button on the Windows 95 desktop.

But that button is only the beginning of Microsoft's strategy. In a confidential memo to 14 senior executives last year, Gates described the rise of electronic communication as a "sea change" and warned that in one category, the sharing of documents among groups of co-workers, "embarrassingly we find ourselves some what behind one of our old rivals" -- Lotus.

It is a revealing document, with a mixture of goading and exhortation. of futuristic vision and rock-hard attention to Microsoft's singular economics. Nothing matters more than persuading users to pay for upgrades to their software. In mature product categories like word processing, he notes accurately, users will not upgrade or switch products merely for the sake of a few extra features, but they will if the new software takes advantage of a sea change. "It takes even more guts," he wrote, "to bet on the Sea Change when you are the market leader but it is the only way to position yourself for massive upgrades."

Every software division at Microsoft is now redesigning its products to take advantage of a world in which every computer can talk to every other. The next version of Microsoft's CD-ROM encyclopedia can be updated live through the connection to MSN or the Internet. For word processors, integration with the Internet means thinking not in terms of personal documents at home or even work-group documents on your private office network, but in terms of browsing, searching and publishing on line. For spreadsheets, it means viewing and manipulating data that comes across private and public networks, interchangeably. "Excel must blow away the competition," Gates urged in the memo. "The basic point, however, is that users' expectation of what Office applications will do is changing and three to four years from now anyone forced to use the software we have today would find it completely inadequate for dealing with the electronic world."

Nathan Myhrvold, one of Microsoft's chief strategists, sums up the attitude now driving every company division: "The Internet is an example of a revolutionary shift that, if we forgot about it, would eventually kill us. The notion that you would do a task on the desktop with desktop software in a few years that didn't involve the Internet is just ludicrous."

Microsoft has already tightly integrated its Internet access into the new

Windows 95 environment. Addresses for all kinds of Internet resources can be dragged onto the desktop, where they appear as colorful icons of their own; dragged again into E-mail messages to be shared with friends; and clicked on to begin an automatic dialing process. The Microsoft Network as an on-line service has its problems -- performance is sluggish and the content thin -- but as new computers stream into the marketplace with Windows 95 already installed, millions of newcomers will find their way to the Internet by clicking that Microsoft icon.

Hence the extra annoyance of its competitors over the little matter of Windows 95's disabling their users' existing Internet access. Many users who had installed the widely popular Netscape browser and then tried Microsoft's Internet Explorer discovered that Netscape would no longer work. The same problem affected users CompuServe's Internet in a Box software.

"Windows 95 includes a process that disables your Internet account," says David Pool, a top CompuServe executive. "And that's just the tip of the iceberg of the inappropriate things Microsoft does from a networking standpoint. It's a clear extrapolation of their operating system monopoly into the network application market."

Microsoft is characteristically unrepentant. "This guy makes me laugh," says Brad Silverberg, head of the personal operating systems division. In the Microsoft version of events, Windows 95 does not "disable" anything. It just happens that some companies' applications cease functioning -- they "use nonstandard components" and "need special configuration." Those companies violated Microsoft's published guidelines, he says; they have realized their error and are preparing new versions of the software to repair the problem.

The truth is not quite so innocent. Most Internet dial-up software written for Windows relies on a piece of software called winsock. Everyone's winsock is supposed to be more or less interchangeable with everyone else's, but differences do exist. Many vendors put their winsock into the Windows directory of the user's computer -- a friendly practice, since it is then available to other software that might need it, but a risky one, too. If Windows 95 sees a non-Microsoft winsock, it carefully and explicitly replaces it.

"It's not like we blow it away and it's gone forever," Silverberg says, beaming with sincerity. "I think we do a very honest and responsible thing. It's admirable, really."

He acknowledges that the specifications for using the operating system's new dialer were slow in coming but says they are now available to all who want them. And for that matter, he asserts, if Microsoft chose to keep such specifications private, to give a competitive advantage to its many software departments, that would be the company's privilege. It does own the operating system, after all.

More: For Its Own Good

Making Microsoft Safe for Capitalism

By James Gleick

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[continued from part two]

More Windows, Bigger Windows

It is conventional at Microsoft to say that success comes from making good products. Microsoft does devote extraordinary resources to improving its technologies. It has effectively stressed "usability" and crisp design. It has recently created a 100-person research laboratory that resembles a leaner and harder-driving version of A.T.&T.'s Bell Laboratories and I.B.M.'s Thomas J. Watson Laboratory. But at least to date, the quality of its products has been incidental to Microsoft's triumphs over its competitors.

Even Windows 95 shows more awkwardness and instability than the personal operating systems that have long been available from Apple, I.B.M. and Next. It adopts virtues of all those systems, but many users will still struggle with obscure techniques for allocating memory to their old DOS programs, or find that they regularly crash the entire system. "In many ways this is an edifice built of baling wire, chewing gum and prayer," wrote Stephen Manes in assessing Windows 95 for The New York Times.

It is conventional in the industry to say that Microsoft cannot make great products. It has no spark of genius; it does not know how to innovate; it lets bugs live forever; it eradicates all traces of personality from its software. This view, too, misses the point. Microsoft knows that the technologically perfect product is rarely the same as the winning product. Time and again its strategy has been to enter a market fast with an inferior product to establish a foothold, create a standard and grab market share.

Designing the ideal laboratory operating system and competing in the real world are two problems that have little to do with each other. Apple has had the benefit of a closed battlefield; it could design its software for a limited set of hardware that it controlled. That was a huge advantage for developers and,

ultimately, a fatal disadvantage in the marketplace. I.B.M. created in OS/2 an operating system clearly superior to Windows 3.1 in most important respects; yet it failed to persuade the hundreds of crucial manufacturers of P.C. hardware and the thousands of independent software developers to fall in line with compatible products. Windows 95, despite its "32-bit" fanfare, contains so much vestigial 16-bit code that it makes Intel's new Pentium Pro processor look bad. But that ugly old code means that users who make the switch will not have to throw out their old software too quickly. Microsoft's genius has been in navigating -- and controlling -- the fantastically complex ecology of the computer business.

Microsoft's launch of Windows 95 in August, kicking off a planned $150 million marketing blitz, will live in history as a pinnacle of public-relations showmanship in a public-relations-driven year. When thousands of onlookers and journalists gathered under the big top on the Microsoft campus or watched nearby on giant screens, the subliminal message was, We can buy anything: Jay Leno (emcee and vaudeville partner for Gates), The Times of London (an entire day's run of a once-great newspaper), the Empire State Building (colored lights usually reserved for national holidays). The press made fun, but it was taken in, too, giving weeks of extensive coverage to what amounted in essence to a product introduction -- and an upgrade, at that.

Three months later, Windows 95 boxes are stacked high on store shelves, and Microsoft refuses to re lease sales figures. Anecdotally, it is clear that millions of high-end users have bought the upgrade but that millions of corporate customers have chosen to delay the inevitable headache, particularly when most existing hardware lacks the speed and memory to run it well. It doesn't matter. In the long run virtually every desktop computer will run Windows 95 and its successors. New computers shipping now have Windows 95 preinstalled by default. Applications developers have either stopped developing for DOS and Windows 3.1 or soon will.

Windows has long since stretched the definition of operating system past the breaking point. The original DOS was little more than a thin (and clumsy) layer of hooks that applications could use for reading and writing data to memory, screen and disks. Windows 95 not only provides a rich environment for controlling many programs at once; it also offers, built in, a word processor, communications software, a fax program, an assortment of games, screen savers, a telephone dialer, a paint program, back-up software and a host of other housekeeping utilities and, of course, Internet software. By historical standards, you get a remarkable bargain.

Some companies used to live by selling such things. Every time Microsoft adds a new feature to the operating system, ripples flow through the software business. When it added a built-in backup program, it instantly destroyed what had been a modest, competitive market in backup utilities; the only customers left were those with highly specialized back up requirements. And when Microsoft asks to license your technology, you may not always find it easy to say no.

One company that tried was Stac Electronics, which had developed software that used a compression technology to effectively expand the capacity of users' disks. Microsoft wanted to build Stac's technology into the operating system and negotiated in its usual scorched-earth style, demanding a worldwide license for a one-time flat payment and threatening to move ahead with or without Stac's license. Stac refused, Microsoft acted on its threat and unlike most small companies that brush up against Microsoft, Stac sued. A jury, finding that Microsoft had stolen Stac's property, awarded $120 million for patent infringement. Microsoft then swallowed its pride and acquired the technology by settling with Stac, buying a 15 percent stake in the company. Stac now exists as a happy Microsoft partner and the disk-compression business is no more. There are pilot fish that manage to swim with sharks, and there are fish that get swallowed.

A new cycle is beginning: with Windows 95 out, new groups of software companies are struggling to rethink their place in the market. Fax software companies are one example; and if Microsoft has its way, Internet software companies may become an other. The Netscape Navigator leads the market now, but after all, Microsoft's Internet Explorer is almost as good, and it's free.

So the operating system has become, from the consumer's point of view, a useful pack age of software. From a different point of view, however -- the point of view of the essential underlying structure of modern computing -- the operating system Microsoft owns has become something else altogether: a collection of standards.

Walk Softly, Carry a Big API

The age of mass production could not begin until the world agreed on standards for the dimensions of nuts and bolts. The tire and automobile industries coexist be cause there are standards for wheel sizes. Standards development acts as a catalyst in economic development; the Internet itself emerged when, from the grass roots, open and free standards were created to allow different types of computer networks to talk with one another. All these standards were set by Government or international organizations or by industry consortia. No one must pay a royalty or license fee to manufacture a Class 3 fax machine or a keyboard with keys arranged QWERTY-style.

From the point of view of standards, no form of machinery rivals software for the complexity of its interlocking parts -- the number of jigsaw-puzzle interfaces between one element and an other. In understanding the two-decade history of Microsoft's increasing control over the computer software industry, nothing matters more than its strategic management of these points of interconnection: the creation, marketing and then manipulation of standards.

Let's say you are an expert at a small company in the infant field of speech recognition, creating technology to turn the spoken word into stored text. You probably got an invitation from Microsoft during the past year to attend a series of meetings. You and your competitors, under Microsoft's guidance, helped create a standard set of hooks into the operating system, a so-called

"application program interface," or API. No single company in the field had the clout to produce an API that the others would agree on, so there was danger of conflicting standards. But Microsoft did have the clout.

The result: Microsoft, in cooperation with virtually the entire speech-software industry, will release early next year a "Microsoft Speech Software Development Kit," containing "all the necessary tools." Problem solved. Incidentally, in the course of the meetings, Microsoft received and filed away an enormous body of intelligence on the speech-software state of the art and even the specific product plans of your company. That's a risk you had to take.

"I think it's a good thing," says Bathsheba Malsheen, general manager of technology at Centigram Communications, one of the speech-software companies. "To integrate voice and speech into applications is a costly problem." These standards are open, in the sense that they are publicly available.

But in the long run, who actually owns them? "I guess they really are the property of Microsoft," Malsheen says.

Microsoft has a mail standard, called simply MAPI (mail application program interface). It has a new telephone standard, for letting software interact with telephone equipment: TAPI. It is belatedly but feverishly working on a proprietary on-line multimedia document-publishing standard code-named Blackbird. Microsoft abhors industry-wide standards-setting: its pattern, with increasing consistency, has been to refuse to cooperate with any standards procedures but its own.

"At one time it may have been, hey, the gang's all here and let's have a consortium blah blah blah," says Ballmer derisively. "You can't have things that thrive and get moved forward aggressively if it takes a consortium."

Money on the Internet will require standards. Visa International and Mastercard International managed to set aside their rivalry long enough this summer to announce that they were creating a joint standard for processing credit-card charges across the Internet. Every major player in electronic commerce needs such a standard; until money can flow across the public net work in securely encrypted form, on-line shopping malls and information services re main more experimental than real. Then, a few weeks ago, the alliance broke apart.

Mastercard, along with Netscape and I.B.M., charged that the standard, created by Microsoft and published as an "open" set of specifications, was actually proprietary, designed to give Microsoft a powerful advantage, perhaps enabling it to take a slice of every transaction. Microsoft responds that the specifications are freely available; its own Windows implementation of those specifications, however, is proprietary and available for those who wish to pay for a license, possibly on a per-transaction basis. It has become a familiar scenario: Microsoft claims an architecture is public and open; its competitors say the crucial details are reserved to Microsoft alone.

Microsoft is by no means the only company that seeks to exploit private standards. Netscape itself is playing a dangerous game with the standards that gave rise to the World Wide Web: creating proprietary "extensions" that work only with its own software and hoping that its market dominance will be enough to make them stick. The history of I.B.M.'s downfall in the P.C. industry is a history of failed attempts to impose standards by fiat. I.B.M. took its clout for granted. Microsoft gives top priority to its standards-setting; it "evangelizes" its standards, using every possible form of persuasion to bring the industry in line.

Ultimately, only one kind of company can play the standards game risk-free: a company with a monopoly. The risk for everyone else is that the company that owns the standard can change it without warning, can give its own programmers special advantage and can freeze innovation elsewhere.

"We've lost this notion of a public standard as good," says Alex Morrow, general manager of architecture and technology at Lotus. "Instead we have this new thing, a quasi-open private standard that's controlled by one company. That's where innovation is going to suffer."

The ultimate standard -- the ensemble of standards -- is of course the operating system itself: the power spot in the digital ecology. The case against Microsoft, in the eyes of its rivals, comes down to one central issue: leverage, using the operating-system as a fulcrum to gain power in new markets.

The market in big desktop applications is a much-disputed case in point. Not long ago, WordPerfect led the word processor market with a much-loved product and a toll-free customer support service (something Gates has never authorized at Microsoft); Lotus 1-2-3 dominated the spreadsheet market, and Borland International's Paradox led the P.C. database market. In 1991, Mike Maples, a senior Microsoft executive, described the company's goals in the aggressive style that its top executives used to favor: "If someone thinks we're not after Lotus and after WordPerfect and after Borland, they're confused. . . . My job is to get a fair share of the software applications market, and to me that's 100 percent."

For all three companies, the fatal "sea change" was the transition from DOS to Windows, particularly Windows 3.0, the first widely popular version. Microsoft notes with considerable justice that its rivals made a strategic blunder in not releasing Windows versions of the software more quickly. Microsoft's applications group and its system group were able to "fly in formation," as Ballmer puts it (zooming his hands cheerfully through the air). Microsoft critics have said that flying in formation included sharing technical information that gave Microsoft's own programmers an advantage over outsiders trying to write fast and well-integrated Windows software, and there is some truth to that. But there is also no question that WordPerfect, Lotus and Borland were late by choice -- in part because, caught up in the Catch-22 of the operating-system wars, they knew that their Windows versions would help Microsoft by cementing the establishment of Windows.

The flow of inside information will remain a critical issue for the antitrust investigators. In the 1980's, Microsoft executives often spoke of a "Chinese wall" between the systems group, responsible for DOS and Windows, and the applications group, responsible for the programs that ran in those operating environments. Ballmer himself once said there was "a very clean separation" -- "It's like the separation of church and state." Competitors were dubious, knowing that all neurons at Microsoft led to Bill Gates; these days Microsoft executives take a different tack. They deny that the concept of a Chinese wall ever existed. They admit that their own developers sometimes get an edge in knowing how to take advantage of new Windows features before the knowledge spreads to competitors, but they insist that the knowledge does spread sooner or later -- because it is in their interest to make sure that everyone writes for Windows -- and they say that's as level as the playing field needs to be.

The final blow to the applications market came with the emergence of "office suites" -- packages of word processors, spreadsheets and data bases bundled together. Again, Microsoft saw the opportunity first and made sure that its package was more tightly integrated than its competitors' could be. It announced a new standard, called OLE (for "object linking and embedding"), that allowed, say, a word processor document to display and even work with a spreadsheet. Again competitors charged, and continue to charge, that Microsoft manipulates the OLE specifications to its advantage-changing them to suit its applications programs. Almost as an afterthought, Microsoft also added its not well regarded Powerpoint presentation-graphics software to the package, effectively cutting the price to zero and transforming that business over night. Though *transforming* may not be the perfect word. "Microsoft didn't transform the market, but strangled it," says Karl Wong, director and principal analyst at Dataquest, a research company.

Today, Microsoft says it "leads" the market in office suites. Yes, indeed: its market share is estimated at 90 percent, closer to Mike Maples' target than he could have dreamed four years ago.

For Its Own Good

The essence of antitrust is an American view that the public has an interest in preventing excessive concentration of economic power. In the 1960's, two companies appeared to have such power, in the two industries with the greatest grip on the future, computing and telecommunications. The investigations of those companies, through several Presidencies, formed an era in antitrust law that ended abruptly on a single day: Jan. 8, 1982. The Justice Department dropped its long-running case against a jubilant I.B.M. but announced at the same time that A.T.&T. had, with bitter reluctance, agreed to a historic break-up.

Today, I.B.M. has lost sway over every business it participated in. It allowed the P.C. industry to emerge at its feet, and it turned itself from a paragon of financial reliability into a company that for several years was losing money at a

frightening rate. It has become a stagnant noncompetitor, looking for ways -- its only hope -- to break itself up into smaller business units.

At A.T.&T., meanwhile, it is now an article of faith that the court-imposed break-up was a brilliant turning point in the company's fortunes. It was the event that freed it from its own hamstrung indolence and enabled it to compete in new arenas. A.T.&T. is continuing what the Government began, breaking itself up into smaller and, it hopes, more agile companies.

Monopolies become their own worst enemies -- particularly in businesses that live or die by technological innovation. They get soft. They make poor research choices. They bleed both profit and invention. They poison the marketplace that created them. In the rarest cases, like A.T.&T.'s, an outside force can save a monopoly from itself, but Government interference is always frightening and never popular.

It's certainly unpopular with many politicians -- witness the "pinch me" statement, a comment by Senator Bob Dole that Microsoft rushed into its legal briefs and news releases: "Let us understand what is going on here. A company develops a new product, a product consumers want. But now the Government steps in and is in effect attempting to dictate the terms on which that product can be marketed and sold. Pinch me, but I thought we were still in America."

Microsoft's lawyers encourage an ideological view of United States v. Microsoft, employing not just "free-market capitalism" arguments but also a quaint form of red-baiting, assailing would-be "commissars of software," and insisting: "Such thinking should have disappeared with the Berlin Wall. Fortunately for American consumers, we do not have a centrally planned economy."

"It's like a throwback to the 1950's," says Case at America Online: `What's good for General Motors is good for America.'"

For her part, Anne K. Bingaman, assistant attorney general in charge of the Antitrust Division, bridles at suggestions that the political climate could affect the investigation -- and also at a widespread industry view that, in the end, the high-technology business will prove too fast-moving and too technical for the non-nerd lawyers in Washington to keep up.

"We have a much better handle on the industry than people realize," Bingaman says. "The group of people that work on these matters have long and deep experience. We keep up. We understand it. We have sources."

Bingaman is proud of achieving the consent decree in phase one, in which Microsoft agreed to end a set of licensing practices without admitting any wrongdoing or suffering any penalty. The most blatant was an arrangement in which P.C. manufacturers paid Microsoft the same royalty for shipping a computer without DOS as with DOS -- meaning that, if you were one of the few people who bought a non-Microsoft operating system, you paid its manufacturer and then you paid Microsoft on top of that, a huge disincentive.

Microsoft was "locking up the market with practices which every computer manufacturer despised and which the competitors despised," Bingaman said in July 1994. "To get these low prices you had to sell your soul and never leave Microsoft." And she also said: "I hope consumers, within a short period of time, will have more choice of operating systems."

It has not happened. The practices Microsoft agreed to forgo had already served their purpose. Gates was right when he summed up the effect of the consent decree in one word: "Nothing."

And each month brings new issues, all variations on the same theme: Microsoft's use of not-quite-public standards as a sword and a goad. The Microsoft Network shipped with every copy of Windows 95 before the Government's lawyers could decide whether to act. Now they must consider the new Microsoft-Visa agreement on standards for financial-transaction processing -- open standards, according to Microsoft; closed standards, according to Mastercard and Netscape -- and as of this month Visa has already shipped its Windows software implementing the standards. "We are not giving away our implementations of those specifications, just as we don't give away Windows or any other software product that we make," says Craig Mundie, senior vice president of Microsoft's consumer systems division. Microsoft is well along in the creation of proprietary software to handle every stage of the process, from customer to merchant to bank.

Meanwhile, the stores are filling with third-party software boxes displaying the official Windows 95 logo. To get Microsoft's permission, the manufacturers had to demonstrate not only that their software runs under Windows 95, but also under the more advanced version of the operating system, Windows NT -- a version that so far, despite all Microsoft's evangelizing, does not have the support of many popular applications. That logo is a powerful lever, applying power from one product line to another, and it deserves the Justice Department's attention.

So does Microsoft's new campaign on behalf of not-yet-available on-line development tools, like the one code-named Blackbird, for companies that want to publish news, design games, build shopping malls or deliver entertainment over the Internet. Designers of competing tool sets -- Netscape and Sun -- see Microsoft's as attempts to gain control of another key choke point in the pathways of electronic commerce.

So does an odd bit of language in Microsoft's contracts with the computer makers who bundle Windows 95 with their hardware: a forced promise not to sue Microsoft or anyone else for patent infringement. It happens that Microsoft is building up a strategic portfolio of software patents, both home-grown and licensed.

And so, of course, does the intimate connection between Windows 95 and Microsoft-brand Internet access: the bundling of the Microsoft Network software; the persistence of the desktop buttons; paradoxically, all the features that make on-line access easiest for new customers. As Microsoft vehemently

points out, every other big on-line service manages to gets its software into your mailbox and bundled with your new computer. Still, the Antitrust Division should, if nothing else, see a natural analogy with the bias A.T.&T. created for itself be fore the days of equal access. Customers *could* use M.C.I. -- but only by dialing a slightly inconvenient code.

Microsoft retorts angrily to all the telephone analogies by noting that A.T.&T. was a Government-regulated monopoly. The folks at One Microsoft Way are merely . . . successful. They are big. If they are linking together pieces of the hardware-software-network chain, they are doing it in a way that has lowered prices, added value and made life easier for consumers. It is not their fault if the economics of scale in the software business, combined with tactics that press antitrust law to its limits, brings them huge benefits.

Is Windows an open standard? Yes -- when and only when that suits Microsoft. "We could say, hey, we're not publishing any A.P.I.'s to our operating system," Ballmer says. "Or we could pick five guys and tell them what's in this operating system -- we're not going to tell other people."

And that is where the Government should draw its line.

There was a moment in history, just a few years ago, when any number of operating systems, real and imagined, could have emerged to run the world's personal computers. That moment is past. The Microsoft architectures have established them selves so deeply in every segment of the computer business that they cannot be displaced, not even by Microsoft. Those standards are an essential facility -- to use antitrust jargon -- like the 60-hertz AC current that flows to every American household. To date they have remained mostly open and mostly public, because that served Microsoft's business interest. Now the Government could, and should, declare a public interest in open standards in computing.

The Department of Justice does not need to break Microsoft apart. It need only -- a far-reaching step in itself -- require Microsoft to make its operating system, and the web of standards surrounding it, truly and permanently open. Other companies should be allowed to clone it if they could; Microsoft should be restricted from taking internal advantage of new changes until they were published to the rest of the market.

For that matter, Microsoft should open its standards voluntarily. It will not, but it should: end the painful cognitive dissonance that comes from proselytizing for open standards and then threatening to close them at will.

"It's not like everyone and their brother is going to go out there and beat them," says Eric Schmidt at Sun. "They'd probably have 95 percent of the market any way. Then all the arguments about their behavior would stop. If they really did open interfaces, it would change the dynamics of the industry in a positive way." It would be for their own good, he says: "They could get back to work and try to build great products and compete."

Gates is right about one thing: Microsoft's future is no more assured than was I.B.M.'s. The Internet does pose a threat -- a new set of open standards that, so far, Microsoft cannot control. And Microsoft's own power poses a threat, too -- the threat that comes with the self-fulfilling destiny of any monopolist. Microsoft could fail to drive consumers to new waves of upgrades; it could stagnate financially even as it retains its grip on the neck of the market. "The company in some sense is a captive of its own history of voraciousness," as a former Microsoft executive says. It is a captive of shareholders who have come to expect nothing less than Microsoft-style profit margins and growth rates. It is a captive, to its own horror, of lowest-common-denominator design, the inevitable consequence of serving a market of 100 million.

The rest of the industry is captive, too. No company has Microsoft's power to place bets; few companies can afford to chance a new approach in a product category near the ever-advancing boundary of Microsoft's Windows package. No quantity can be harder to perceive and harder to measure than innovation that never occurs -- the absent pioneers, the fading of vitality in a still-comfortable industry.

No monopolist wants to be relieved of its burden. To Microsoft, it would be nothing short of theft. They own that operating system -- they sweated, invested and fought for it. If they can put a computer on every desk and in every home, all running Microsoft software -- and all connecting to the Internet -- consumers should be grateful.

"You click a button and it's so easy!" Silverberg says, grinning again. "How could there be anything wrong with that?"

Back to James Gleick's home page

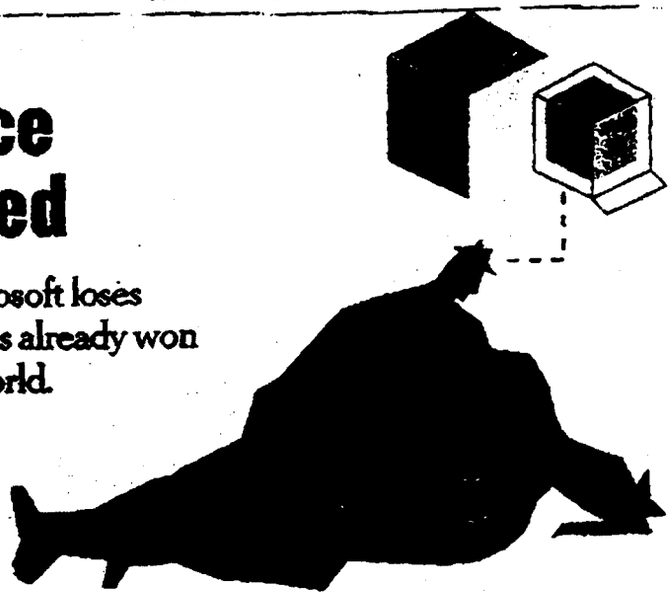
New York Times Magazine

JAMES GLEICK

FAST FORWARD

Justice Delayed

Even if Microsoft loses in court, it has already won in the real world.



SAY YOU ALREADY USE MICROsoft's Internet Explorer 4.0. As far as the Justice Department's Antitrust Division is concerned, you represent captured territory. The latest round of United States v. Microsoft is not about you.

Anyway, you're investigating the features of this new program (according to the Government) or this new integrated feature of the operating system (according to Microsoft's lawyers), and you come across the Profile Assistant. This handy item, it seems, will save you many repetitious keystrokes by automatically filling in all those World Wide Web forms you keep running across. But for the life of you, you can't make it work. So you gird your loins and call product support.

A little while later, a Microsoft support representative is explaining that if you want to use the Profile Assistant, you must first install Microsoft's E-mail software, Outlook Express. This seems implausible, you say, trying not to whine. You already have different E-mail software. The Profile Assistant is a feature of the Internet Explorer — what does it have to do with E-mail?

Really you. Outlook Express is "integrated" with Internet Explorer, he explains. Microsoft assumes that people install Outlook Express along with Internet Explorer because it is "integrated." You are starting to wonder whether the word is hanging on a plaque over his desk. A few days later, a more senior Microsoft representative explains that you do not actually have to use this E-mail program. You just have to install it. It is integrated.

This is the march of progress, as it works for Microsoft: use any one product and feel the gentle pressure to use another. For that matter, just use some of the products of Microsoft's "content partners" — try to visit Time Warner's Entertaindom site with Netscape's browser, and you are told: "You're almost there! You must first download Microsoft Explorer 4.0."

As the lawyers get ready for a hearing in Federal Court next month, their rhetoric has been focusing on the word "integrated" in the 1994 agreement between Microsoft and the Antitrust Division. That agreement — so toothless that Bill Gates publicly boasted it meant "nothing" to his company — included a clause saying that Microsoft would not require companies that license one product to buy another product as part of the deal. That would violate the law anyway — it would be "tying," in the antitrust sense. But the clause also contained this parenthesis: "provided, however, that this provision in and of itself shall not be construed to prohibit Microsoft from developing integrated products."

So Microsoft claims that Windows 95 is an integrated product and Internet Explorer merely a piece of it. Its official line: "Internet Explorer is an integrated feature of our Windows 95 operating system and has been for more than two years."

That's so transparently untrue that you have to wonder what the company is up to. Millions of people bought Windows 95 two years ago without Internet Explorer, and some of them later bought Internet Explorer separately, as part of a Microsoft Plus disk. Even now, Microsoft lists it in its line of "Products," along with Excel and Barney Goes to the Circus. It's a product separately available for the Macintosh and Unix operating systems. It walks like a product and swims like a product and quacks like a product.

On this narrow ground, Microsoft ought to lose the battle. Yet this is the ground Microsoft has chosen. What's going on?

The integration of software is at the heart of how Microsoft makes money and defeats its competitors. Consider, for a second, the economics of Widget World. It's tough designing widgets. It can cost $10 million to get a brand-new widget from conception to manufacturing. The great thing about widgets, though, is that they cost virtually nothing to build and distribute.

So if it's a specialty widget, with a potential market of 1,000 customers, you'll have to charge $10,000 a widget just to recover development costs. But if you can reach a mass audience of 100,000 users, you can lower the price to $100. Quite a difference!

Now suppose that you are General Widgets and you can command a sure market of 10 million. Now you break even if you charge a mere dollar. Charge $2 a widget, and the profits will roll in. Pity your poor competitors, though, with their $100 widgets. Who would pay that much, when you're practically giving the product away?

In the real world, where Microsoft is General Widgets, no one can command 10 million buyers — not for a product that you can choose to buy or not buy. That is where "integrated features" come in. If a widget is an integrated feature and Microsoft obliges every computer manufacturer to ship it, then the market is automatically there.

It looks like a bargain for consumers, too. But in reality, those who don't want a particular widget are paying for it anyway, subsidizing those who do. Microsoft can even tell consumers that individual pieces are "free," though of course the company folds the cost into the price of the operating system — a tax it levies on the sale of every computer.

No matter how the courts rule on the latest case against Microsoft, it is too late where Internet Explorer is concerned. This is the battle that should have been fought in 1995. Microsoft knows that in the next version, Windows 98, Internet Explorer really will be an integrated feature, at least to the programmers and the marketers.

An operating system used to be a well-defined thing: the code that handled communication between applications, like calculators and word processors, and the computer's devices — screen, keyboard, printers, memory, storage. Microsoft even agreed to define it this way in the 1994 agreement. But out here in the real world, it has turned the operating system into a giant Rube Goldberg contraption, with many interlocking parts, including more and more functions that used to be applications sold by competitors.

So, want some software to browse the court's decision on line? Want software for Internet conferencing? Creating Web pages? Reading newsgroups? Sending E-mail? You may as well use Microsoft's. You'll already have bought them. ■

Why Bill Gates Is Wrong

By JAMES F. RILL

A popular bit of legal wisdom counsels that "if the facts are against you, argue the law, and if the law is against you, argue the facts." With neither the facts nor the law on their side, Microsoft defenders are trying to muddy the water in response to charges that the software giant violated the antitrust consent decree it concluded with the U.S. Justice Department in 1995.

Microsoft CEO Bill Gates, writing on this page last week, falsely framed the issue: Should the government or software companies decide what innovations are available to computer users? he asked. That's an easy question to answer, but it has no bearing either on the present dispute or on the broader question of Microsoft's possible abuse of its market dominance. Indeed, Mr. Gates's question is merely a diversion from the real issue: Should Microsoft obey the law?

'No' to the Microsoft Way

Consumers may like Microsoft products. But ask them whether the dominant software company should be able to stop computer manufacturers from dealing with competing software providers, or whether the dominant company should be allowed to compel manufacturers to configure the computer desktop in a way that perpetuates that dominance, and they would say no to the Microsoft way. Or ask customers whether a corporation should be able to intimidate potential witnesses in an important government investigation through the use of nondisclosure agreements that require computer makers to inform Microsoft before they talk to the government.

Bill Gates

In the 1995 consent decree, Microsoft agreed that it would not require computer manufacturers to accept other Microsoft products in order to put the Windows operating system on their machines. But Microsoft did precisely that by requiring computer makers to accept its Web browser, Internet Explorer, in order to obtain a license to Windows. Presented with that choice, and with the reality that trying to market a personal computer without Windows is a recipe for failure, computer manufacturers had no choice but to go along.

Microsoft is lamely insisting that Internet Explorer and Windows are a single "integrated" product. In fact, they are sold separately in every computer store in America. As Walter Mossberg recently wrote in The Wall Street Journal's Personal Technology column, what Microsoft has done is not integration. "It's like buying a bottle of shampoo with a bottle of conditioner taped to it."

Requiring a manufacturer to buy Internet Explorer in order to get access to Windows violates the court order to which Microsoft consented.

That's the nub of the Justice Department's case. Whether or not Microsoft eventually tries to integrate its browser and Windows at a later date, for now these are distinct products. Requiring a manufacturer to buy one product in order to get access to the other violates the court order to which Microsoft consented.

Moreover, other complaints about Microsoft, if true, raise far more serious competitive issues and are properly part of a broader investigation now underway at the Justice Department. Confronted by the rapid rise of the Internet and the possibility that it could threaten Microsoft's near-monopoly on the PC operating-system market, Microsoft has taken aggressive action to defend its market position. The company's determination to maintain market share is admirable—but that does not give it license to ignore the law.

There have been serious accusations that Microsoft's defense tactics have crossed the legal line. There is at least some evidence that the attractiveness of competing products, especially from Netscape and Sun Microsystems, has led Microsoft to engage in anticompetitive exclusionary conduct.

Microsoft has reportedly threatened a variety of retaliatory steps, most significantly cutting off supplies of Windows, against computer manufacturers that purchase or promote competitors' products. In addition, Microsoft has, according to news accounts, entered into exclusive contracts with Internet service providers, such as America Online, that account for a substantial portion of the distribution channel for Web browsers; and acquired the dominant provider of TV Internet service—steps that effectively bar competitors from distributing their products.

While Microsoft is entitled to market share it wins in open competition, it may not rig the competition by keeping competitors off the field.

Microsoft's defenders argue that antitrust law is out of step with emerging technology that is evolving too rapidly for the deliberate pace of legal review. But every technology has its time in the fast lane. That is no excuse to suspend the law.

Indeed, more than 40 years ago, a case involving the technological wonder of its day—radio—gave us the precedent that applies to Microsoft's behavior today. Microsoft's tactics are merely a latter-day version of the illegal exclusionary behavior by the Lorain (Ohio) Journal more than four decades ago.

In that case, a newspaper sought to protect its monopoly of the dominant advertising medium by refusing to carry ads placed by businesses that were also advertising on radio. While radio offered a partial substitute for print advertising, an advertiser forced to choose would have little alternative but to opt for the most pervasive medium—the pages of the Lorain Journal. Like Microsoft, the Lorain Journal was a determined defender of its market position, but the U.S. Supreme Court required it to abide by the law and provide open access to its advertising space.

The Lorain Journal sought to use its market power to prevent customers from dealing with its competitors. Today Microsoft may similarly be refusing to deal with computer manufacturers that do business with its competitors. Reported agreements, including exclusive dealing, that have foreclosed Netscape from distributing its product are no more legal than they were 40 years ago.

To date, the broadest allegations against Microsoft are just that—charges, not proven misconduct. But there is sufficient evidence and also sufficient threat to consumer interests to warrant government investigation.

Bookmaker's Cut

The illegal maintenance of Microsoft's operating-system monopoly can only mean higher prices and reduced innovation for operating systems. More importantly, abuse of the operating-system monopoly could give Microsoft control over Internet access and enable it to exact a consumer toll on every electronic transaction.

This newspaper reported a few months ago that Microsoft acknowledges it plans to charge a "vig"—slang for a bookmaker's cut—on every transaction over the Internet that uses Microsoft's technology. Given the potential significance of the electronic marketplace for the American economy, the Justice Department not only has reason to investigate Microsoft's behavior, it has an obligation to do so. For stepping up to this challenge, the department deserves our applause.

Mr. Rill was assistant attorney general in the Antitrust Division of the U.S. Department of Justice from 1989 to 1992. He is now a lawyer in Washington who represents software companies that compete with Microsoft.

WSJ.com **Journal Link:** To join a discussion of the Justice Department's action against Microsoft, see The Wall Street Journal Interactive Edition at http://wsj.com

WASHINGTON EDITION

Los Angeles Times AK 11/24/97

PERSPECTIVE ON THE INTERNET

Microsoft Must Obey the Law

One company cannot be allowed to dictate how, where or even if consumers access the online marketplace.

By BOB DOLE

The court action recently brought by the antitrust division of the Department of Justice against Microsoft has triggered a great deal of thought and debate about the future of the Internet, electronic commerce and the role of government in both.

Even as a member of a generation that grew up listening to the radio, I find myself captivated by this controversy.

Like most Republicans, I am someone whose instincts lead me away from government regulation and toward the magic of the marketplace. In fact, it has been suggested that I am pro-Microsoft because in 1995 I questioned the Justice Department's actions regarding the Microsoft Network. I thought it unfair that the Justice Department subpoenaed proprietary information from the company concerning "all strategic plans prepared by or for Microsoft . . . and any documents provided [to Microsoft] concerning predictions as to the future of computers and computer technology."

I still question the breadth of that government request. But as I review what is at stake today—nearly total domination of one of the primary means of commerce for the coming century—I can only come to the conclusion that no one company should be allowed to dominate the Internet.

Microsoft should not be hindered unnecessarily in legitimate competition by government overregulation, but it cannot be allowed to use its current dominance in personal computer operating system software to preclude competition. The speed with which Internet and electronic commerce markets develop creates an increased responsibility for antitrust enforcement officials to move rapidly to prevent anti-competitive practices. While I have always opposed unwarranted government intervention in the marketplace, I think the Justice Department is doing the right thing by taking swift action to force Microsoft to comply with the law.

During a discussion on the future of commerce and technology in the 1996 campaign, a reporter asked me whether Microsoft was too powerful. I answered that the Internet could and would improve the lives of Americans, and that government should do whatever is necessary to ensure that we have vigorous competition in this area, adding that "the sophistication and speed of our [antitrust] enforcement must match that of the technology."

Let me elaborate. Microsoft realizes that its PC operating system monopoly is threatened by the innovation allowed by the Internet. Innovation—the development of new technology—is, perhaps, the greatest contributor to enhancing productivity and improving our standard of living. It has been amply demonstrated that small high-tech firms contribute a disproportionately large share of employment, sales, export growth and innovation. There cannot be innovation without competition, and there will not be competition if potential competitors are blocked at every turn.

Microsoft's goal appears to be to extend the monopoly it has enjoyed in the PC operating system marketplace to the Internet as a whole and to control the direction of innovation. This goal was most clearly laid out in an internal Microsoft memo detailed in the Wall Street Journal earlier this year.

"Nathan Myrhvold, Microsoft's chief technology officer, confirms that Microsoft hopes to get a 'vig,' or vigorish, on every transaction over the Internet that uses Microsoft's technology, though he says in some cases Microsoft's share could come from a one-time software licensing fee. (Vigorish is a slang term used by bookmakers that means, roughly, the profit made for bringing two bettors together.)"

You don't need to be Bill Gates (whom, incidentally, I've met and like) to see the profits that can be made by gaining monopoly control of the next major means of commerce. It is fairly easy, for example, to envision the entire securities industry moving to the Internet—initiating millions of online transactions worth billions of dollars each year. If almost everyone must pass through a Microsoft toll booth to use the Internet, it is not unreasonable to believe that Microsoft will impose its "vig" on most activity on the Internet.

No one—not Microsoft, another company or the government—should be allowed to deprive Americans of real choices in how they spend their money. This is particularly true of the Internet, which is rapidly becoming one of the world's most significant sources of information and has the potential to become a major means by which commerce is conducted.

This case, despite the company's protests, is not about one man, Gates, or one company, Microsoft. It is about a fundamental principle of our economic system: open and free competition. When a dominant company artificially dictates how, where and even if consumers have choice in the online marketplace, it is time for the government to step in and enforce the antitrust laws.

Bob Dole was Senate majority leader and the Republican Party's 1996 presidential nominee. His law firm represents a number of computer software companies.

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Transcript

DATE October 20, 1997
TIME 1:01 PM (ET)
NETWORK CNN-TV
PROGRAM News Conference

Lou Waters, anchor:

Attorney General Janet Reno is addressing an antitrust matter at the Justice Department. We're coming in a little bit late. The word 'Microsoft' has been mentioned. Let's listen to what it's all about.

Janet Reno (Attorney General, United States): Microsoft is unlawfully taking advantage of its Windows monopoly to protect and extend that monopoly and to undermine consumer choice. The Department of Justice will not tolerate that kind of conduct. We have asked the court thus for the following: to stop Microsoft from requiring PC manufacturers to accept Internet Explorer as a condition of receiving Windows 95; to require Microsoft to notify consumers of PC's that have Windows 95 that they are not required to use Internet Explorer, that they are free to use any compatible Internet browser, and to give consumers simple instructions about how to remove the Internet Explorer icon from their PC desktop if they choose; to impose a one-million-dollar-a-day fine on Microsoft if it continues to violate the court order; and to strike down broad portions of nondisclosure agreements that may deter companies with which Microsoft does business from coming forward voluntarily to provide information about Microsoft to the department.

This point is so important. Anyone should feel free to come talk to the department without Microsoft's knowledge, and without any fear of reprisal whatsoever. We will not let Microsoft or anyone else infringe on that fundamental right. This administration has taken great efforts to encourage and spur technological innovation, promote competition and make sure that consumers have the ability to choose among competing products. Today's action shows that we won't tolerate any coercion by dominant companies in any way that distorts competition.

Joel Klein, the assistant attorney general of the antitrust division, will now say a few words.

Joel Klein (Assistant Attorney General, Antitrust Division): Thank you, Madam Attorney General, and thank

you for your leadership and support in this matter, as in so many other matters.

Good afternoon. I'd like to start by emphasizing that today's action is not only about enforcing a court order, it's also about vindicating a very important principle in antitrust. What Microsoft is doing here is requiring PC manufacturers, and through them, consumers in America, to take the Microsoft version of the browser in order to get Windows 95.

Now, Microsoft and only Microsoft is able to do that because it alone has a monopoly on the underlying operating system software. This kind of product forcing is an abuse of monopoly power and we will seek to put an end to it.

In fact, it's a very serious abuse that we're talking about here. Browsers are potentially the kind of product that could erode Microsoft's operating system monopoly, 'cause browsers take computing beyond the desktop where Microsoft rules, and into the world of the Internet where no one is dominant.

So it's not surprising that Microsoft understood and perceived this threat immediately. In the words of Microsoft's chairman and CEO Bill Gates, he said to his executive committee, and I'm quoting, "Netscape is a new competitor. Their browser is dominant, allowing them to determine which network extensions will catch on. They are pursuing a multiplatform strategy in order to commoditize, to commoditize the underlying operating system."

Now, that was put a little more bluntly and succinctly by a Microsoft vice president who said, and I quote, "This is not about browsers. Our competitors are trying to create an alternative platform to Windows," close quote.

In response to this threat, Microsoft began aggressively marketing its own browser, instructing its marketing people that they should, quote, 'Worry about the browser share as much as Bill Gates does, because we will lose the Internet platform battle if we do not have a significant user-installed base. The industry would simply ignore our standards. At your level -that is, at the manager level- if you let customers deploy Netscape Navigator, you lose the leadership on the desktop.'

As a general matter of course, we think a strong competitive response is a good thing. But while trying to play catch-up here, Microsoft went over the line when it chose to use its monopoly power in Windows to coerce computer manufacturers to also take its browser. And let me emphasize, so far as we're concerned, Microsoft is free to compete and compete aggressively, but not unlawfully.

We're not taking sides in a browser war, nor are we seeking to determine the extent to which browsers will displace the existing operating system. Consumers, America's consumers, should decide those matters. But they shouldn't be required to do so in an environment where only one competitor is taking unfair advantage of an

existing monopoly.

There are two other points that I'd like to mention briefly. First, although we've decided to act on this specific matter today, I want to emphasize we are continuing our ongoing investigation into several Microsoft practices. This has been and will remain a very active, thorough and wide-ranging inquiry, and I know that you will respect the fact that because it's an ongoing matter, I will not be able to comment further about it at this time.

Second, I want to follow up briefly on one of the aspects of the relief that the attorney general mentioned. As she said, Microsoft has required nondisclosure agreements that would appear to prevent companies that are doing business with Microsoft from disclosing information even to the government. Indeed, some of these agreements actually provide that if subpoenaed by the government or by a court, you have to notify Microsoft before complying with the subpoena.

Microsoft has subsequently assured us that it won't interpret these agreements to apply to information given to the Department of Justice, and we have so informed witnesses during our investigation. But since we have no way of knowing whether these agreements have deterred people from voluntarily coming forward with information, and we've heard that this might be the case, we want to clear the air once and for all.

And so we're asking the court to order Microsoft to tell everyone who has signed or who in the future will sign a nondisclosure agreement that it doesn't apply to the government, period. We won't allow anyone to interfere with the people's right to provide information to their government.

That will complete our prepared remarks. In view of the attorney general's other commitments, I understand that she will now have to leave. Thank you again, Madam Attorney General. I would be happy to take your questions now.

Reporter #1: What about the price of the Microsoft- the Internet Explorer? There have been complaints from Netscape that Microsoft's giving away of the Explorer for free was damaging to Netscape. Are you- this is not included- the...

Klein: It's not included in this time (sic). As I said, we have an ongoing investigation.

Reporter #2: To put into context the one-million-dollar-per-day fine, how large is that? Is that unprecedented? Is that typical or do we have...

Klein: No, no. That is, for us, unprecedented, I believe, and certainly far larger than ordinary fines. It, of course, would only apply were the court to order

Microsoft to comply and it continued its violation.

Reporter #3: What prompted you to act now, as far as continuing other aspects of the investigation? What prompted you to deal with this specific piece right now?

Klein: I think several things did. I think we concluded our work with respect to this. The consent decree violation, we felt, had been clearly established and we were ready to proceed. There are other events that are going on in the industry right now, and we thought it was important that people understood that the basic principle we are seeking to enforce today we will seek to protect and enforce.

But that is not to say that there are other matters which are currently under investigation which might not in the future lead to other actions. I don't want to prejudice that or anticipate it at this time. Yes.

Reporter #4: Doesn't the basic problem still remain: The fact that Microsoft has the monopoly on the operating system and they can continue, whether legally or not, to sort of pressure computer makers to go along, to take their browser?

Klein: Well, if we're vindicated on this, they won't be able to pressure them into taking the browser as a condition to getting the underlying operating system software, which is where they have the monopoly. That's the exact purpose of our action today.

Reporter #5: What about Microsoft...

Waters: Assistant Attorney General Joel Klein tying up loose ends after an announcement by the Attorney General Janet Reno that Microsoft has been found in violation of a 1995 court order by requiring distribution of its Internet browser by forcing users of Windows 95 to also use the browser, known as Explorer. Failure to comply with the court order will mean a one-million-dollar-a-day fine to Microsoft.

Allan Dodds Frank, with our financial unit, has been listening to all this in New York. Allan, perhaps you can break it down into terms we can understand.

Alan Dodds Frank reporting:

Well, Lou, for starters, short of a criminal action, this is about as tough as the government can get with Microsoft. As we heard, the Assistant Attorney General Joel Klein say, a million-dollar-a-day fine is a pretty big number. I would also suspect that a collective cheer went up in Silicon Valley among all of Microsoft's competitors in various fields.

What's happened is Microsoft has offered to millions

of customers their free Internet browser, and some people say that their operating system, Windows, makes it preferential. In other words, it's much easier to use that than competitors such as Netscape. That's the heart of what the government is going after. They're saying that Microsoft is using its position as the preeminent operating system company to force people to have fewer choices. That's the key legal issue here.

Now, as you may know, Microsoft has more than eighty percent -some people estimate as high as ninety percent of the entire personal computer operating system market, so they have a big leg up on anybody else if their system operates in a way to steer customers back to them.

It's also well-known that Bill Gates believes the Internet is the future, and has been trying to figure out how to install Microsoft as, in effect, a gatekeeper and maybe even somehow figure out how to charge for every transaction that goes over the Internet, whether it's using it to buy stock or anything- you know, clothes, whatever use the Internet has, he'd like to be in the middle just like a turnpike toll-taker.

Waters: So what happens now, Allan? The assistant attorney general said this is a serious abuse of monopoly power. What must Microsoft do immediately to avoid this million-dollar-a-day fine?

Frank: Well, no doubt Microsoft's lawyers will rush to court and try to convince a judge that this is not merited. Microsoft is up against the government saying it's violated a consent decree. And ordinarily, judges look at the terms of the previous agreement and it's fairly clear whether it's been violated or not.

Dobbs: Okay. If you'd just stay with us a for a minute, we're going to check in with Greg Lefevre, who is our San Francisco bureau chief, and mighty darn close to Silicon Valley where you say those cheers may be going up today. Greg.

Greg Lefevre (CNN Bureau Chief, San Francisco): Well, I have to say, Lou, that what we're hearing out here in the West is a big collective 'duh.' People have known for years that Microsoft was a very strong competitor, and for many companies out here perhaps too much of a competitor.

What the government has done here is probably much too late to reverse a trend that began years ago when Microsoft decided it was going to market its operating system freely and widely to anyone that wanted to use it. The only significant operating system that competed with Microsoft was Apple's and Apple kept its very close of hand, the Mac OS. And, of course, now we know that Apple is in deep trouble as the only significant alternate operating system to Microsoft.

Microsoft's business practices are expansive and

very, very controlled. What Microsoft has done is insist to any of the companies that want to write on its software, be it browsers or any other thing, that it receive approval from Microsoft. When you receive approval from Microsoft you give up a lot of the secrets to that software. And what we have found in this industry is that a lot of companies who, quote, "partner" with Microsoft, wind up being absorbed by Microsoft who find many of their key features taken into the Microsoft programming, and that, of course, includes browsers.

Nobody here on the West Coast, I think, really has any illusions that this is going to break up the absolute, or near absolute, monopoly that Microsoft has either on browsers or on operating systems. Lou.

Dobbs: All right. Greg Lefevre. And we also have with us from Washington, Greta Van Susteren our legal analyst. Greta, the government says in very strong terms we're not gonna tolerate this. What happens next?

Greta Van Susteren (Legal Analyst): That's exactly right. What they don't- is they don't want an economic bully. They claim Microsoft is an economic bully that has violated a 1995 order. But just saying that isn't enough. They've actually gotta go to court and they've gotta prove that Microsoft violated this order. If they do successfully prove that Microsoft violated the order, the judge then must decide what to do. The government says one million dollars a day, that's what they want. But the judge will make the ultimate decision.

Dobbs: All right. Greta Van Susteren in Washington.

Allan Dodds Frank, some final thoughts about Microsoft and how the stocks may ride today?

Frank: Lou. The stock- Microsoft is already down a couple of points just on this breaking news. It probably will be an interesting afternoon in the technology sector, plus and minus depending on which side of the fence you're on with Microsoft.

A couple of quick points. The assistant attorney general noted the probe continues. There are other areas of dispute. One is about Java software programing language which is a big deal; and about how you use your television with the Internet. So we'll have to stay tuned on those issues to see what happens. And finally, there's the suggestion that Microsoft, by requiring nondisclosure has indeed, to use Greta's words, been bullying its suppliers. So we'll have to watch all of those fronts. But it's clearly a very serious action for the company.

Dobbs: All right. Allan Dodds Frank in New York, Greg Lefevre in San Francisco, Greta Van Susteren in Washington.

Again, the attorney general of the United States said Microsoft violated a 1995 court order by requiring

distribution of its Internet browser by forcing users of Windows to also use the Internet browser known as Explorer.

This is a huge story in many ways and CNN will be spending a lot of time on it in the days and weeks ahead. And we will continue on with "CNN Today" in just a moment after a break.

# # #

Written Testimony Presented by Paul M. Ruden, Senior Vice President
Legal & Industry Affairs
American Society of Travel Agents
Alexandria, VA

Before the Senate Committee on the Judiciary
"Competition, Innovation, and Public Policy in the Digital Age"

Tuesday, November 4, 1997

Mr. Chairman, Committee Members:

The American Society of Travel Agents (ASTA) appreciates this opportunity to testify before the Senate Judiciary Committee on competition, innovation, and public policy in the Information Age. As Senior Vice President of ASTA, I have the privilege of representing more than 16,000 travel agency and agency-related members. While our membership includes retail businesses of all sizes, more than 95 percent of them are small, 10-employee-or-less, family owned agencies, located in every major and most minor markets across the United States. ASTA's membership also includes retail and wholesale travel sellers, and allied firms, in 170 countries around the world. Indeed, ASTA's growing international membership indicates the global evolution in our industry, erasing many of the traditional boundaries and barriers that have defined how the travel business has operated in the past. Our industry as a whole is comprised of about 22,500 firms with almost 34,000 physical locations.

Yet the range of our membership shouldn't obscure the fact that we are very much a collection of small businesses doing big business. According to airline industry data, for instance, 69 percent of all travel agencies sell $1 million or less each year in airline tickets, and 95 percent sell less than $5 million in air travel. That figure makes it all the more significant that travel agencies collectively sell more than $110 billion a year in travel services of all kinds -- commanding about 80 percent of all domestic airline bookings, and upwards of 90 percent of all bookings on international flights. As a dynamic industry, travel agencies have been active participants in the electronic evolution -- one facet of the larger information revolution that is redefining so many aspects of our lives. As participants in one of the most competitive marketplaces in the U.S. today, ASTA members are continually involved in the quest for new ways and new tools to help them serve the traveling public. As such, travel agencies are no strangers to electronic commerce. In fact, among the companies ASTA represents are some of the original pioneers of the Information Super Highway. What that gives us is a unique perspective to comment on the power of electronic distribution, based on 20 years of experience in Computer Reservation Services (CRS).

We call attention to ASTA's long involvement in electronic commerce to underscore that ASTA's members are by no means afraid of using the Internet as a tool. To the contrary, we rely on efficient Internet access as an important pipeline to a growing number of customers. For that reason, we have a strong interest in maintaining the most efficient, open access and open architecture in the proliferation of search engines and browser services that help people navigate the Internet -- and in particular in seeing that services do not bias the system by routing consumers to destinations pre-determined by the service provider. Consumers should not have to run a gauntlet of electronic gatekeepers to arrive at their desired destination -- nor should they be electronic captives bundled off to Internet sites that search engines and service providers have "chosen" for them.

Yet the danger of bias is precisely what concerns us about a number of present developments that will affect the way all of us employ the Internet to connect with the customers who seek our

commercial services. Open access and a level electronic playing field is by no means assured – which is why policymakers must monitor any industry developments that impede access, and take appropriate steps to preserve the consumer choice at the heart of a truly open system of electronic commerce.

Nothing we envision in this policy role, Mr. Chairman, is incompatible with the workings of a free market in electronic commerce, any more than government safeguards in other industries which aim at preserving choice and competition are incompatible with allowing the market to work. The risk that must concern this committee, and the Congress as a whole, is that Internet service providers seek increasingly to "bias" the system, writing into the systems they offer the public electronic steering mechanisms, if you will, that tend to deliver Internet users to destinations of the system-makers' choosing, rather than the place the consumer wants to go. Of course, this is not to say that Internet users cannot discover ways to hop an electronic cab across town to a different address on the Information Superhighway – just that the added inconvenience for some "electronic travelers" and the simple inability of others will result in consumers having less of the very choice they came to the Internet to obtain.

Imagine if, every time we picked up our telephone, we had to listen to a jingle chosen by the telephone company before we got a dial tone, or if every time we turned on our television, it switched to a channel pre-set by the television manufacturer. Everyone would see in an instant what the TV and telephone providers were up to – and no one would stand for it. The same sense of outrage ought to greet any attempt by Internet access providers to steer Internet users to sites they didn't explicitly ask to see.

Mr. Chairman, we at ASTA believe that the time to deal with this problem is now, given the fast-forward speed at which the electronic market moves. Nor do we really have to speculate what "electronic gatekeepers" will do with unlimited power to control, shape, or steer consumer access. Even at this early point in the Information Age, we in the travel industry has been down that road before.

Look at the history of airline-owned CRS systems – replete with efforts to manipulate systems to suppress rival's fare discounts, to demand special fees for posting flight information from upstart airlines, even to game the system's flight-scoring program to ensure first screen, first line billing for preferred flights – and we can see how a tool presumed to expand consumer choice generated pressure – and created opportunities – to use technology to restrict choice, and limit consumer information.

The CRS companies biased their flight data screens to prefer their owner-airlines and others in special commercial arrangements with them. Since the first flight data screen to appear was the result of the Passenger's expressed preferences and his agent's advice about the flights most likely to meet his needs, most bookings occurred off the first screen. According to industry estimates, 53 percent of all airline tickets sold are for flights listed on the first line of offerings. And 93 percent of all flights sold are listed on the first screen. The ability to bias that screen therefore gave the CRS's owners and their commercial partners a very valuable advantage in competition with airlines not so favored.

With ASTA's and others' urging, the Department of Transportation adopted comprehensive regulations banning CRS screen bias. Should we really worry that the past will once again be prologue? Consider that certain software industry officials actively involved in offering electronic travel services are speaking even now about the electronic ticketing market as an opportunity to win a share of the "vig" - street slang for what bookmakers call the take off the top that comes with each bet gamblers place. That kind of talk should concern all of us -- industries active in the Internet and increasingly dependent on it as a commercial vehicle, as well as policy makers and public officials, charged with protecting consumer freedoms and individual choice. Competition must be the order of the day on the road to the Internet.

Across our industry today, travel agencies of all sizes are getting on-line with their own booking engines, marketing programs and customer communications services. Give us the opportunity to compete, and we'll do well. What we're looking for is no special advantage, just an equal chance.

In that spirit and on behalf of all members of ASTA, I urge this Committee to make its policy mandate the promotion of the broadest possible access and widest possible range of consumer choice. And I ask that as you formulate policy, you are guided by three key principles:

1. Dominance in operating systems must not carry with it a license to limit access to the electronic marketplace. Such control would serve only to narrow consumer options in a way that is fundamentally incompatible with the freedom of choice inherent in the Internet.

2. Anyone who controls technical standards essential to the workings of the electronic marketplace must make them completely, equally and simultaneously available to all.

3. Increased utilization of the electronic marketplace must not lead to decreased rights of privacy.

In advocating these principles, it is not the aim of ASTA to take sides in the debate, or to assess which system is better than any of its competitors. Indeed, the principles we propose amount to "rules of the road" that will preserve the workings of the electronic marketplace. ASTA is convinced that the market itself will make such determinations, through the millions of individual choices consumers make each day. That, in fact, is precisely our point consumers must be free to choose, in the fullest sense, with no artificially imposed constraints, and no electronically induced biases that fence them off from the full range of choice the Internet offers.

We also urge this committee not simply to see the importance of the current debate -- but to see past the controversy of the moment to the large issues at stake. This debate and discussion should not end when the "Battle of the Browsers" is over. The war against bias is going to be an ongoing challenge in the Information Age -- a challenge where each new technological advance reopens opportunities to hardwire unfair advantage into the system. We are all going to have to be vigilant in preserving open access for all, in an environment where the landscape is changed almost daily by new generations of innovation.

We at ASTA are ready to live by the principles we propose. We believe any customer query for airline and travel information should produce a menu of options -- rather than resulting in the

customer being routed to a proprietary system by the Internet service provider. Only if we banish bias can the system truly serve the consumer.

What ASTA proposes is not only what we as an industry can live with, but what we believe all consumers must have, in order to make full use of the freedoms promised by the revolution in electronic commerce. What remains is for policymakers to put in place the safeguards that will secure an open system to provide all users full access to the information they seek.

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Testimony of

Edward J. Black,
President and CEO

Computer & Communications Industry Association

before the

Committee on the Judiciary

United States Senate

regarding

Competiton in the Digital Age

November 4, 1997

Mr. Chairman, Members of the Committee, I appreciate the opportunity to testify before you today on behalf of the Computer & Communications Industry Association (CCIA) on a subject of great importance to the economy of the country. These hearings are particularly timely given the power of the forces at play and the speed with which new technologies are being developed that stand to change completely the way information is created, transmitted and sold. The dynamic growth in the high-tech industry has been a core component of the health of our economy, and at its foundation is the steady influx of a wide array of new dynamic firms and the resulting competition and innovation. CCIA is very concerned that those foundation strengths are now at risk. Our standard of living and the structure of our society will depend, to a great extent, on the way in which these new technology markets develop and the decisions made about them by government officials.

CCIA's Role In Promoting Competition

When founded 25 years ago CCIA defined, as part of its mission, the well-being of the industry and the user community. We have been committed to the proposition that our industry flourishes best when our customers have wide-ranging and meaningful choices, from real competitors based upon factors such as quality, price, service, innovation and reliability. In order for that to be possible we have sought truly level playing fields which freely allow existing players and new entrants fair opportunities for participation. This has meant a commitment to open standards, open interoperable systems, open markets at home and abroad, and including the government marketplace, and of course open competition. We have been involved in the major antitrust actions in our industry, including those involving AT&T & IBM. Most companies naturally seek advantage and at various times even special insider arrangements, and that is to be expected. But in the long term far-sighted companies appreciate the value of a truly level and fair playing field.

CCIA is an international association of computer and communications companies, as represented by their most senior executives. Small, medium, or large in size, CCIA's members include equipment manufacturers, software developers, telecommunications and on-line service providers, re-sellers, systems integrators, third-party vendors and other related business ventures. Our member companies employ well over a half-million workers and generate annual revenues exceeding $200 billion.

Through my testimony, I hope to provide a sense of the state of competition in the industry today, the importance of competition for innovation, the important role antitrust action has had for our industry, and some thoughts on the future of the information age. Finally, I will suggest that in certain critical areas, antitrust, intellectual property and standards setting, policies need to be

geared toward helping to guarantee that all segments of the computer and software industry are as competitive as possible.

The State of Competition in the Industry

Taking a look at the history of computing provides important insight into both where the industry is and where it is going. Not long ago, the computer industry was dominated by a number of large, vertically-integrated companies. These firms, such as IBM, Control Data and DEC, sold mainframe and, later, minicomputers based on proprietary technology. Because the equipment would not work with products made by other companies, customers essentially were forced to rely on a single firm for all of their service and technology solutions. As a result, a few of these early dominant firms were able to define the rules of the computer industry and earn impressive profits.

Three things happened to change this system, however. First corporate customers began to demand open solutions that would enable them to mix and match computer systems. Second, restraints on monopolistic practices by market leader IBM signaled to both venture capitalists and key talented individuals that they could start new firms and not be stifled by "big blue." Third, by the early 80s, individuals began to demand cheaper computing solutions that were appropriate for small business and personal use. These demands gave birth to a market for personal computers. This created the new market based on the client-server computing model. This market has been quite competitive. The same cannot be said about the PC market, however. An early, strategic error on the part of the old-line firms contributed directly to the competitive situation of today in the PC market.

Rather than produce the technologies on which this new personal computer industry would be based, the old-line firms contracted this work out and focused instead on maintaining control over the boxes to house the technology. By failing to see the strategic value of operating system software and microprocessors, the old firms unwittingly ceded control of the personal computer market to the companies that owned the underlying intellectual property, namely, Microsoft and Intel. Their established business partners (principally, IBM) in effect transferred market power to Microsoft and Intel, enabling them to establish their core, proprietary technologies as industry standards. Microsoft supplied the operating system software and Intel, the microprocessor horsepower to make the software work. In essence, Microsoft gained control of the "railroad tracks" -- the operating system -- that virtually all PCs run on.

History of tying and bundling

Bundling and tying arrangements strike at the very heart of the computer industry. In the early days of our industry, it was common for manufacturers

to "bundle" a variety of products into a package to sell to computer users. It was also common for manufacturers to give away software related to their hardware products, including the operating system software that contains the basic instructions that tell the machine how to operate. This meant, in essence, that users had only one source of computer products once they had committed to a basic system.

As computing demands grew in the 60s, it became apparent -- to computer users, to industry innovators, and to antitrust authorities -- that this practice of bundling had stifling effects on competition, on product innovation, and on the cost of data processing. The "lock-in" effect, whereby consumers, once committed to a basic system, find themselves unable to switch readily to another system, a result of what is called a "network externality.

These externalities operate in two ways. First, as discussed above, after investing a substantial sum of money in the "primary" good, such as the operating software, and all of the "after market" goods designed to be compatible with that software, the user is unlikely to switch systems even if the cost of the accessories is higher than those for other systems or if the system itself is inferior in quality. In order to switch, the user would have to abandon sunk investments in software and employee training, and give up the benefits, or positive network externalities, of operating a uniform computing platform. Once a user has bought a particular operating system and begins purchasing the associated software and peripherals that are compatible with that system, it is unlikely to abandon that investment solely because of the high cost or slow rate of advancement of the system's various components.

Users in these situations will switch primary systems only in response to sharp increases in price of their current systems or dramatic improvements in quality of the new products. Moreover, this dynamic suggests that the "lock-in" will remain effective through successive purchases of the primary product; each time, the user will fear the substantial costs associated with a switch to a new system and will return to an upgraded, fully compatible version of the old. If a manufacturer, through sales terms or proprietary secrets, is able to restrict supply of peripherals and other accessories so that all of these items must be purchased from it alone, the quality and pace of innovation associated with those parts inevitably will decrease.

New Opportunities And Dangers

Recognition of the dangers posed by these externalities came quickly. In the 70s, under pressure from the antitrust enforcers and the courts, the industry leaders unbundled their products, so that consumers would be free to buy competitive components of hardware and software in assembling their computer systems. This led to the development by independent innovators of

compatible products that could interconnect and function along with the base of already-installed systems.

The result of this unbundling was the most rapid and dynamic period of growth in the history of any industry with a competitive marketplace. New products and applications flowered, and the Silicon Valley was born.

As the unbundling of software led to major independent software breakthroughs, the need became evident to afford some protection to software to prevent blatant copying, and Congress extended copyright protection to software in 1976. One consequence of this action was that the large computer manufacturers were able to affix a copyright to their operating system software. Some of them seized this opportunity to begin an aggressive program of tying arrangements, designed to kill off competition from vendors of compatible products. These programs took the form of new licensing, whereby the manufacturer licensed the user to use the now-proprietary operating system only in connection with hardware provided by the manufacturer. Users had little choice but to succumb to these conditions, since it was not economically feasible to scrap their installed systems in order to switch to a new vendor that did not impose such ties.

The threat to computer users, and to the growth of the industry, from such restraints was obvious. The makers of compatible products sued. One result was the Data General case, in which the Ninth Circuit in 1984 ruled that such ties were prohibited by traditional antitrust doctrine. Data General applied settled antitrust law -- based on Supreme Court precedent in Paramount, Loews, Fortner and other cases -- to protect competition by requiring a copyright holder in a tying case to bear the burden of showing that it does not possess power to dominate a relevant market by virtue of its ability to exclude compatible products through the exercise of overreaching claims of copyright.

Data General merely confirmed the fundamental understanding of the rules around which much of our industry has developed. In the 80s and early 90s far fewer innovators would have had the courage to start new ventures to develop computer products that were faster or offered better performance if industry's giants could foreclose their customers from buying those products through blatant new tying or bundling conditions. Yet, that is precisely the world which is once more on the horizon.

Network Effects

To understand how a single company could gain control of the "railroad tracks," it is helpful to look at the economic concept of "network effects." This concept is based on the premise that the more people who use a particular product or system, the more valuable it becomes. Take the traditional telephone system as an example. Each new user added to the system makes the

entire system more valuable to consumers. The same holds true for computers.

The value of an operating system to a consumer is directly related to two factors: the availability of a variety of high-quality applications that run on that system, and the number of users who use that operating system and thus are able to share information and work with the system without additional training. Independent software vendors, in turn, tend to develop applications for operating systems with a large installed base of users, and consumers gravitate towards operating systems with a large base of applications.

In other words, the more attractive a system becomes, the less likely it is that new users will select another. Thus, initial success frequently becomes self-perpetuating, long after any merit-based justification has vanished.

As more and more users began using the Microsoft operating system, that system became increasingly valuable to applications' writers. In turn, applications' writers wanted to make certain their programs worked with the Microsoft operating system. The network effect forced writers to develop applications for the Microsoft standard. As a result, consumers today have come to depend on the Microsoft operating system because most applications are written for it.

The Microsoft standard, due to IBM's sponsorship, became established so fast that competing operating systems -- from the beginning and thereafter -- lacked the installed base necessary to motivate software firms to invest the time and money necessary to develop compatible applications. Consumers did the rational thing and, for the most part, committed themselves to Microsoft-based products. Computer manufacturers, for the most part, did the same thing and pledged their allegiance to the Microsoft standard. While the personal computer industry may appear to be horizontal -- many companies make and sell PCs -- the reality of the market is much different. The PC industry is dominated by the two companies that own the intellectual property that have become the industry standards. Hence the phrase, "a Win-tel machine."

In the case of Microsoft, the company has used a number of anti-competitive practices to gain and solidify its current position, according to the Justice Department. Once in control of the operating system market, Microsoft was able to leverage this dominance to gain an increasing amount of control over the market for applications, such as word processing and spread sheets. In-house applications programmers and industry allies had the advantage of easy access to critical pieces of technical information necessary to develop programs compatible with the Microsoft operating system. Application writers who failed to play by the rules set by Microsoft often could be given incomplete or inaccurate information. Manufacturers have had little choice but to fall in line, since the vast majority of applications - the products consumers were trained to

use for productive activities -- were written to comply with the Microsoft operating system.

The ability of a single company to control the PC operating and applications markets (essentially the entire PC market), has very important implications for the future of the computer industry as a whole. It is this market, with its millions of users, that gives a firm the necessary economies of scale to dominate related markets. Indeed, Microsoft already has set its sights on bigger challenges and new markets. It developed a new operating system, NT, designed to take on the UNIX market (a market that is devoted to scientific engineering and complicated corporate needs). Microsoft attempted to buy dominance in the emerging electronic banking market, but the Justice Department intervened. The company also is hard at work developing technology to dominate the multimedia and entertainment industries. And of great concern is its attempt to gain control over the Internet and the World Wide Web -- the fastest growing and most exciting new markets.

The Future Of Competition

Since the Internet is considered to be the backbone of the "information highway," it presents a particularly interesting case study as we discuss the future of competition.

Unlike the proprietary systems owned by individual companies, the Internet is based on a set of open standards that no one owns. All of the key technical protocols on which the Internet is based derive from a public-private sector standards-setting process dedicated to maximizing the number of individuals and firms able to use the Internet. As a result, there has been enormous growth in the Internet. Indeed, it is an example of positive network effects. As more and more users have gained access to the Internet, it has become more valuable. Based on open systems, any firm can develop applications and uses for the Internet and participate in the information revolution.

Moreover, as telecommunications reform brings down the cost of bandwidth and as advances in software technology continue, millions of users will be able to afford the super fast lines that make being part of cyberspace a reality. And, since the network effects are huge, the firm of firms that develop the operating system software that becomes the "railroad tracks" for cyberspace, could become the new industry leader (or Leaders) in the information age.

Together, these two technologies could shift the competitive distribution of power away from the desktop -- or away from the dominant PC operating system -- and transfer it to the network itself. Network-centric computing could do this by releasing consumers from the confines of their PCs and enabling them to access a near limitless number of applications and services for a fraction of their current cost. Indeed, it is possible that the PCs of the future

could be simple, low-cost machines used primarily to access the treasures of the network.

The possibility that the marketplace -- or the innovation of the open network-centric firms -- could re balance the competitive dynamics of the personal computer industry is exciting and comforting. Just about every technology firm and technology thinker would like to see innovation and competitive forces work properly in high-tech markets. And these forces, or market trends just might do it.

But the opposite also could occur. The firms that dominate the PC market -- the most important point of contact for consumers to the network -- might still be able to use their market power to achieve their goals of controlling on-line commerce and entertainment. By bundling the next generation operating system with access to the Internet, and by placing its proprietary software in the set-top boxes or the new navigators of cyberspace, these firms could well effectively dominate the information age the way they have the PC markets.

Antitrust oversight and enforcement

It is in the broad public interest to ensure that markets work properly and that competition based on innovation is vibrant. We thus urge the Committee to continue to monitor the state of competition in the computer industry, and to urge relevant agencies to prosecute plainly anti-competitive attempts by dominant firms to extend their power from existing markets to new or emerging markets through some means other than competition on the merits.

One of the most prominent and oft-repeated allegations in the course of the government's investigation of Microsoft was that the company used its monopoly power in the market for PC operating systems software to gain an unfair competitive advantage (an advantage not won through efficiency) in the PC applications markets. According to the allegations, because all PC applications had to be compatible with Microsoft's MS-DOS and Windows in order to be commercially viable, the company was able to leverage its position and control access to critical information necessary to develop compatible products. As a result, Microsoft's own applications' programmers has a competitive advantage. While the Justice Department's original consent decree agreement with Microsoft did not address this leveraging issue, concerns raised about monopoly power leveraging were at the root of the Department's subsequent investigation of the bundling of Microsoft Network (MSN) and Internat Explorer with Windows 95. They also were an aspect of the Department's challenge of Microsoft's acquisition of Intuit.

In the antitrust lexicon, the monopoly leveraging doctrine deals with the unilateral use of a company's monopoly power in one relevant market to gain an un-merited competitive advantage in a second relevant market. Monopoly

leveraging has been recognized by some courts as an independent violation of Section 2 of the Sherman Act, even where the "competitive advantage" gained falls short of monopoly or near-monopoly power in the second market.

The nature of the monopoly leveraging issue in the Windows 95 context, for example, is whether Microsoft may be using its monopoly position in the market for PC operating system software to gain an un-merited, non-efficiency based advantage in the market for on-line services and Internet access by packaging Microsoft Network MSN and Internet Explorer with Windows 95. Moreover, specifically targeting the networked corporate market where it traditionally has not faired well, Microsoft leveraged the desire of applications writers to use the "Windows 95 compatible" seal on packaging to force them to write the same programs for NT. No NT application; no use of the seal on Windows 95 products.

Experience shows us that leveraging conduct by dominant firms in the computer industry presents a clear threat to consumers. We further urge the Committee to use greater flexibility under Section 5 of the FTC Act to reach activity that may not fall strictly within the parameters of a monopoly-related claim under Section 2 of the Sherman Act. For example, proof of "monopoly power" in one relevant market is necessary to establish a claim of "monopoly leveraging" under Section 2. However, because of the broader enabling language of Section 5 of the FTC Act, the Commission does not need to establish that a firm has a monopoly-level market share before attacking that firm's unilateral anti-competitive behavior. In fact, while market shares of 70 percent often are necessary to establish monopoly power in a Section 2 case, much smaller market shares are sufficient to establish "market power" in other antitrust contexts. Thus, the FTC in our view can and should attack anti-competitive "market power" leveraging that falls short of strict "monopoly leveraging", at least where injury to consumers is clear from a firm's conduct.

Finally, in addition to the monopoly leveraging approach, the FTC should not hesitate to involve the antitrust doctrine of a "monopolist's refusal to deal" whenever a firm that dominates a market segment refuses competitors access to an element essential to effective competition. Apart from its narrow application in the so-called "essential facilities" context, this doctrine has been applied by courts in a wide variety of circumstances where a dominant firm evidenced a purpose to create or maintain a monopoly and harm to competition or consumers was the result of its refusal to cooperate with another company. This doctrine may provide a useful tool to the Commission, for example, in policing the open standard environment upon which the Internet was founded.

Proper balancing of intellectual property policies

Balanced intellectual property protection is another essential facet to maintain a competitive environment in the U.S. high-tech sectors. There is a fundamental intersection between competition policy and intellectual property policy that often is overlooked. Some, wrongly view these two – competition law and intellectual property law – as very distinct and potentially competing forces. In fact, the relationship between the two is far more complex and quite complementary. The idea that antitrust law exists to ensure and promote competition, while the intellectual property laws exist only to protect the work of authors and inventors, provides only half the picture. When we consider the historical and constitutional roots of our intellectual property laws, there is critical, pro-competition aspect inherent in these laws that is often overlooked.

The Constitution empowers Congress to pass laws "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive right to their respective Writing and Discoveries (U.S. Constitution, Article 1, Section 8, clause)." It is the clause in the Constitution that is the basis for intellectual property laws – making the underlying purpose of these laws "to promote the progress of science and the useful arts." Thus, separate from antitrust or other legal doctrines, there is a pro-innovation, pro-competition goal intrinsic to our intellectual property system.

Since 1790, Congress and the Courts, through statute and case law, have worked to maintain this balance between promoting innovation and protecting the rights of authors and inventors. That is why there are limitations on monopolies granted by both patents and copyrights.

In the computer software context, the courts have managed to maintain this balance by careful application of traditional copyright principles to the relatively new medium. These principles, as applied in court cases over recent years, such as Computer Associates v. Altai, Gates v. Bando and Sega v. Accolade, and most recently, in the First Circuit's decision in Lotus v. Borland, provide some guidelines to the boundaries of copyright protection for computer software. (The most significant guidance provided by these cases is that interface specifications should not be protectable under copyright and that reverse analysis should be considered a fair use when it is performed for legitimate reasons.

We are leery of attempts to shift the balance of intellectual property law toward the protection of rights, without providing the proper counterbalances to ensure that additional protection does not hamper the promotion of innovation.

Clearly, looking at the history of the industry, there are examples of established proprietary interests attempting to limit competition by exercising intellectual

property rights. And, this is likely to continue as the industry evolves and dominant vendors work to maintain their current positions. One way for them to attempt this would be to pursue additional intellectual property protection beyond what they are currently granted. Given the clear, negative effects on competition in the industry, this is a movement the Administration and Congress should be skeptical of.

Already, companies rarely shy from bringing patent or copyright infringement actions against plucky competitors. The recent changes in patent misuse doctrine make it harder for start-ups to challenge these claims. Elimination of antitrust as the sole, viable, remaining defense would have the perverse effect of stimulating additional IP litigation as companies feel free of the danger of an adverse antitrust finding against them.

A sound standards setting process

Preserving and expanding the availability of an open process to created interface standards is critical to the success and health of the Nation's technical and communications infrastructure. The Internet emerged when users defined what was needed and created standards based on open specifications. These were then implemented to make heterogeneous systems possible. Similarly, the entire computer and communications industry has grown because there were standards -- open and freely created -- in place.

This idea of open and free interface standards in not new. It has been the basis for our growth as a Nation. Take the railroad gauge as an example. It merely says that there is a distance of four feet, eight and a half inches between rails. It doesn't add details that don't have to standardized, and try to specify how to lay rails, make rails or how to run a rail car. But, with the open interface specification, anyone could build a rail car, or a railroad or ship merchandise. Standards based on mutual agreement, not on one company's power, are the catalyst for economic development. They allow the greatest amount of innovation and the greatest amount of competition -- both of which are necessary for the computer industry.

The current technology standards process -- both formal and informal -- also is an open one. It is based upon participation by users, providers and government. The formal process, as exemplified by the International Organization for Standardization (ISO) and the American National Standards Institute ANSI), is changing to meet the needs of the market by accepting specifications from consortia, and consortia are moving to accept specifications created by collaborative groups of companies. There is a recurring theme through all of this activity -- the groups create open interface specifications and standards and let the market accept or reject the implementations of the providers.

Both Vice President Gore and the Administration have recognized the importance of interoperability to the development, growth and ultimate success of the National Information Infrastructure. This is a particularly important point in the context of standards settings. If the public-private standards setting process is to work (that is, produce an end-product that is in the national best interest), then it must be a process that not merely acknowledges the importance of interoperability. It must be a process that actively encourages interoperability achieved through open interface standards. We must not rush to lay the tracks for the information highway, rather we must let the open standards-setting process run its course.

Conclusion

To sum up, the technical battles and policy decisions that are made over the next few years have the potential to not only shape the structure of the information age, but to affect the structure of our society. We have a national interest in making sure that this future is based on the most vigorous and fair competition possible. Only by making sure that our markets are competitive at home will we be able to create the competitive environment necessary for our high technology firms to compete in the international marketplace. The countries that maintain their competitive edge in technology will be in a position to expand their economies and take appropriate advantage of the information age. Innovation and competition are essential.

Witness List

Hearing before the
Senate Committee on the Judiciary
on
"Competition, Innovation, and Public Policy in the Digital Age."
Tuesday, November 4, 1997
10:30 a.m. in SH216

Internet Demonstration
Association for Interactive Media
Washington, D.C.

Panel I

Dr. Robert E. Kahn
President & Treasurer
Corporation for National Research Initiatives
Reston, Virginia

Ms. Kathie Sawyer
Practical Web Solutions &
Paperwork Solutions, Inc.
Westford, Vermont

Mr. Paul Ruden
Senior Vice President
Legal & Industry Affairs
American Society of Travel Agents
Alexandria, Virginia

Mr. Ed Black
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United States Senate • Senator Orrin Hatch, Chairman

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Statement of Senator Orrin Hatch

Senate Judiciary Committee

Hearing on Competition, Innovation, and Public Policy in the Digital Age

Good morning. I would like to welcome you all to today's hearing on "Competition, Innovation and Public Policy in the Digital Age." This hearing is the first step in what I expect to be an ongoing examination of the critical issues policymakers and regulators will face as technological advances transform our new economy into the "digital age." I expect this examination, which will include subsequent hearings and other information gathering, will progress to focus on a number of more specific areas, including internet access and the so-called "browser wars," standard setting, interoperability and closed versus open systems, the convergence of technologies, and other topics.

Given recent developments, I think we cannot ignore a topic that clearly is of interest to many of us here today: namely, Microsoft and the pending Justice Department action against it. I have not made any secret of the fact that I have serious concerns about Microsoft's recent efforts to exercise its monopoly power, and that I plan to continue to examine the company's practices. The government certainly should **not** use antitrust law to pick winners and losers in the marketplace, but it **should** use them to ensure that it is the **consumers** who get to pick the winners and losers, based on the merits of competing products. I might add that the difficulty the government has had in getting witnesses to go on the record speaks volumes about the nature of competition in the software industry.

Having said that, and recognizing that any examination of competitive issues in hi-tech industries cannot help but include some discussion of the dominant software company, I would like to emphasize that this hearing is **not** a hearing on Microsoft. This Committee may well hold such hearings down the road. Today's hearing, however, is meant to explore a broad set of issues emerging in our new economy.

I believe it is critically important for the Judiciary Committee to obtain a full appreciation for the scope and significance of what is happening in our economy's high-technology sectors, and in particular the fundamental changes that are being wrought by the phenomonon we know as the internet. The technological revolution we are presently witnessing is, many believe, of historic significance, and will dramatically impact the way we conduct our lives and businesses in the years ahead. The rapid pace of this change makes it all the more critical that policymakers, including the members of this committee, look to the future and begin to appreciate what the world is going to look like in the next millennium so

that we can effectuate sound public policy and oversight for our new economy.

I believe it is critical for the Judiciary Committee in particular to explore the nature and dynamics of high-tech markets so that we are equipped to assess how the antitrust and intellectual property laws should be applied to such markets. Recent scholarship and experiences in so-called network industries, such as the telecommunications industry, suggest that unique market dynamics may confront antitrust and competitive analysis in technology-driven marketplaces.

While I expect further exploration will be necessary to fully grasp the implications of these changes, it is my hope for the Committee to take a productive first step this morning by exploring the past, present and predicted growth of high-technology generally, and the internet specifically, and considering how the increasingly important role of technology and the internet in our new economy might impact antitrust, intellectual property, and competition policy and enforcement.

I look forward to hearing from today's distinguished panelists.

To start our hearing, the Association for Interactive Media will present a demonstration on the role of the Internet in today's society, and tomorrow's.