

# The Gatekeeper

## Windows XP may spark ultimate battle to own the Net

By Joe Wilcox, Mike Ricciuti, Lara Wright and Jim Hu  
Staff Writers, CNET News.com  
October 17, 2001, 4:00 a.m. PT

**Despite its relatively benign appearance, Windows XP carries monumental significance for the high-technology industry and the Internet.**

The new operating system has some interesting features such as expanded instant messaging and online photo processing, but it is considered far from necessary for consumers and businesses. Its true impact will be felt as the first public step in a controversial strategy to transform Microsoft from a traditional software company into a global network of services ranging from communication to entertainment on a subscription basis.

If successful, Microsoft could challenge AOL Time Warner and other media giants for control of the Internet and entirely new industries--similar to the way it has dominated the software market, locking customers into Microsoft-sanctioned goods and services.

In this special report, CNET News.com examines the multifaceted strategy from legal, economic and practical perspectives, offering a different angle in each of the seven business days leading up to Windows XP's formal release Oct. 25.

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## Mission: Domination of the Internet

By Joe Wilcox  
Staff Writer, CNET News.com  
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**If there is any doubt about Microsoft's determination to expand its Internet strategy through Windows XP, consumers may be reminded of it no fewer than five times as soon as they try the new operating system.**

In the second through sixth attempts to connect to the Net, Windows XP will implore consumers to sign up for something called Passport--an identification technology that, in many ways, is a key to Microsoft's future.

"In regards to Windows XP prompting me to sign up for Passport, to be frank, I don't like that at all," said Darnell McGavock, a database administrator from Suwanee, Ga. "I don't need Microsoft prodding me to sign up."

Tactics of persistence are nothing new to Microsoft, but its pleas involving Passport represent a new urgency that pervades the software empire's headquarters in Redmond, Wash. As the PC market remains uncertain, Microsoft is embarking on an ambitious campaign to transform itself from a traditional software manufacturer into a services company that provides everything from communications and calendaring to one-stop online shopping and Net banking.

If Microsoft is successful, Windows XP will eventually resemble an online service like America Online, which runs on top of Windows and other operating systems. That would allow consumers to bypass AOL and other rivals altogether, essentially turning Windows into a one-

stop destination that combines AOL-like services with easy access to Microsoft desktop products such as Word and Excel.

By itself, Windows XP may draw only tepid demand from the marketplace. In a broader context, however, it is the first operating system to test key components of Microsoft's widely publicized .Net strategy to connect all its products and properties, as well as the basic technologies behind it: HailStorm, the overall software architecture for Microsoft services, and Passport, the mechanism designed to let consumers use all of them.

Through HailStorm, recently renamed .Net My Services, Microsoft envisions offering consumers and businesses a consistent set of information and services to any devices, whether they be personal computers, handheld devices or cellular phones--often at a cost to the receiver, the provider or both.

From an industry perspective, the move could trigger the long-anticipated direct confrontation between Microsoft and archrival AOL Time Warner for domination of the commercial Internet and its paying subscribers. As struggling Web companies are increasingly forced



“  
**HailStorm is about individual-oriented things, not consumer-oriented. It's about your profile.**”

—Bill Gates, Microsoft chairman, June 2001

## Fact sheet: XP's new features



Windows XP will come in two versions: Home and Professional. While they appear identical, the Professional version offers more sophisticated networking, better security and support for multiple processors. Here are some of the new features:

### Improved performance

XP derives its heritage from Windows NT/2000, which manages memory better than Windows 95, 98 or Me and runs multiple programs at the same time more easily. The new operating system is designed to be more resistant to the type of crashes that plagued older consumer Windows versions.

### Easier on the eyes

For those using LCD monitors—with either desktop or notebook PCs—ClearType technology offers substantially sharper text than any other Windows version and most other operating systems. Traditional CRT monitors gain no benefit from the technology, however.

### Whole family on the PC

Unlike earlier Windows versions, XP allows several people—each with a custom desktop—to be signed in simultaneously on the same computer. Switching

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to charge for content and services, Microsoft and AOL are considered to be among the few online leaders capable of providing the security and technology necessary to handle payment systems on an Internet-wide scale.

“What they want is to build direct relationships. Everybody’s got Windows, but Microsoft doesn’t enjoy that direct billing relationship AOL has with its customers,” said analyst Matt Rosoff of Directions on Microsoft, an independent research organization. “XP is sort of a step forward on that route.”

That, needless to say, is easier said than done. Windows XP faces a number of obstacles: The .Net initiative will require a massive technological infrastructure that’s daunting for even the world’s largest software company; the high-tech recession has hit the Internet services industry particularly hard; and controversial issues ranging from privacy to antitrust will only escalate as Microsoft extends its reach into nontraditional computing areas, such as music, photography and telephony.

Posing perhaps the most immediate concern of all is that consumer demand for the operating system remains uncertain.

In addition to seeing a questionable need to replace the Windows systems they use now, many consumers have grown suspicious of Microsoft’s intentions as its aggressive business practices have come to light during years of courtroom skirmishes. Windows XP tester Chris Child reflects a generation of savvy young consumers who are already wary of Microsoft’s actions.

“The integration of Passport into XP seems to be pointless,” said Child, a high school student from Atherton,

Calif. “I don’t know why Passport can’t just stay in Web sites where it belongs. The only explanation is that Microsoft wants to begin to integrate Passport into applications as well.”

Not everyone, of course, thinks this is a bad thing. Many people would welcome the convenience of a reasonably secure mechanism that would instantly find whomever and whatever they were looking for online while allowing them to use various sites and services with a single password entered only once.

Jim Allchin, group vice president in charge of Windows, said any service requiring “presence”—knowing who the person is—necessitates an authentication vehicle like Passport: “There’s got to be some central place where you can find it if you want to add the value in the system of having a point-to-point call or a conference call with somebody. You’ve got to find where they are.”

Such explanations, however, are of little comfort to people like McGavock. “Sure Passport is free today, but with Microsoft’s revenue slumping they will seek other methods to gain income,” he said. “So Microsoft will eventually need to squeeze the public for additional revenue. Then a Passport account will cost me money.”

In some ways, Passport is an apt metaphor for the way Microsoft has grown its business, by leading people from one of its products to another. Windows has long been used to sell related software applications, such as the Microsoft Office business package, which accounts for about half the company’s income.

Microsoft is “going to leverage their new operating system to promote their other

desktops takes a few seconds without disrupting activity. In a home with only one PC, mom can check her e-mail while the kids download MP3s.

#### **Fooling older software**

A feature called Compatibility Mode installs or runs programs in a way that fools them into thinking they are working with Windows 95, 98, Me or 2000. This is designed to prevent many older programs—and some recent versions of Windows 98 or Me—from choking with XP.

#### **Better and safer drivers**

XP enforces stricter guidelines for hardware makers writing device drivers, a move expected to improve stability. The system will also allow the use of older drivers when updates cause problems.

#### **Multi-tasking messenger**

XP’s instant messaging software, called Windows Messenger, features Internet phone and video calls along with file and application sharing. Microsoft expects this to be particularly popular with online gamers. But some of the video- and file-sharing features may not work with some corporate firewalls and home broadband routers.

#### **Letting the band play on**

By supporting digital music in its file system, XP allows any folder to display such information as song title, genre, length and artist. CDs can be played or burned directly from the file menu. But recording files in the MP3 format will cost as much as \$30 more for add-on products that support MP3.

#### **Connections made easy**

XP offers built-in support for IEEE 1394, or FireWire, technology, a

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**Microsoft will eventually need to squeeze the public for additional revenue. Then a Passport account will cost me money.”**

—Darnell McGavock, database administrator, Suwanee, Ga.

products and services. They've always done that," Rosoff said.

In this case, a primary instrument of that leverage may be something that has gotten relatively little attention in the hype surrounding the new operating system: a Web browser integrated in Windows XP called MSN Explorer. Although the company usually hopes to cross-promote many of its products through various technologies such as instant messaging, MSN Explorer in particular could become the gateway to hundreds of subscription services, building on basic dial-up Internet access available today.

The introduction of MSN Explorer will be subtle at first, putting the browser's icon next to the latest version of the standard browser, Internet Explorer 6, in the retail operating system's Start menu. Eventually, analysts envision a time when MSN Explorer could replace IE altogether.

MSN Explorer is more tightly tied to Microsoft's Web properties. Buttons for such services as "Money," "Shopping" and "Music" that sit horizontally across the top of the browser all lead to sites where Microsoft sells or brokers goods and services.

Still more important to the .Net strategy are buttons that run down the left side of the browser, linking to Microsoft services bearing such labels as "My Calendar," "My Stocks" and "My Photos," some of which can be used only with Passport accounts. These links are prime candidates for the first 14 .Net services Microsoft plans to offer with .Net My Services, with either gentle encouragement or relentless prodding.

"If you look at the .Net services Microsoft is going to introduce, MSN Explorer will be the front end for that," said Guernsey Research analyst Chris LeTocq. "These are the premium services Microsoft is going to make money from."

It is interesting to note that a similar strategy--bolstering the browser as a major conduit to other products and services--raised questions about Microsoft's business practices not long after the Justice Department filed its antitrust case against the company in 1997. At that time, Microsoft was planning to fully integrate its browser with the Windows operating system and to add something called "Active Channels" that would point to other sites and services run by Microsoft or its partners, which included such media stalwarts as Walt Disney and Dow Jones.

Microsoft eventually dropped the Active Channels concept and some of the exclusive partnerships behind it in the face of politicians and rivals who charged that the move would kill competition in the browser market, most notably from Netscape Communications, which is now owned by AOL Time Warner.

In the past, the company bundled its Microsoft Network software with Windows, hoping that consumers would turn to the proprietary service as their first stop online, rather than to AOL. It also planned to charge content companies for links to their sites. But that strategy failed early on, as many people shunned online services in favor of direct dial-up connections offered by Internet service providers such as EarthLink.

Microsoft's cross-promotional practices came under unprecedented scrutiny during its government trial, when a federal judge ruled that the bundling of Windows 95 and the Internet Explorer browser violated federal antitrust law. But while the case proceeds unresolved, Microsoft is tying its products together more closely than ever before with Windows XP and its larger initiatives.

"The integration across applications is pretty tight and pervasive," Gartner analyst Michael Silver said, adding that he believes Microsoft will eventually make more money on services than on its software alone. "It's the whole razor

means of connecting printers and other peripherals to PCs at speeds up to 480mbps. It also uses 1394 as a way to network PCs and transfer data from other devices, such as digital camcorders.

#### **A virtual darkroom**

Handling digital images will be much easier with XP than with earlier Windows versions. Microsoft also will provide digital images ordered over the Internet for an additional cost.

#### **Fast lanes to the home**

The new operating system offers several options for high-speed cable and DSL Internet connections, as well as for Net access shared by multiple PCs.

#### **Invisible means of support**

XP supports the wireless standard known as 802.11b, which lets computers connect to a network or the Internet without cables.

#### **Stronger security**

Both versions of XP have firewalls offering basic protection when connected to the Internet. Professional includes more sophisticated security, such as file encryption and restricted access.

—Joe Wilcox

“It's the whole razor and razor-blade model, and XP is going to be a pervasive platform for selling services.”

—Michael Silver, Gartner analyst

and razor-blade model, and XP is going to be a pervasive platform for selling services.”

### A hidden cost behind new features

Certainly, Windows XP will offer some compelling new features in their own right, such as a media player with DVD playback and CD-rewriting capability, and a new instant messenger with Internet and video-phone functions. But many of these offerings are linked to services that will work best or only with other Microsoft products and technologies.

The use of Windows Messenger, for instance, requires a Passport account. Windows Media Player directs consumers to Microsoft Web sites and includes “digital rights management” software that could allow the company to broker songs for major music labels. And Internet Explorer 6, which also is available for other versions of Windows, will automatically send Web surfers to an MSN search engine if a Web address cannot be located, rather than resorting to the standard “page not found” message.

Some features will drive customers to services provided by other companies, giving Microsoft an opportunity to collect a finder’s fee of sorts. For example, the Scanner and Camera Wizard offers consumers some services for additional costs, such as the printing of digital photos by another company that partners with Microsoft for that business. Similarly, Windows Media Player could promote online gaming subscriptions and services.

Nevertheless, while all these features are important to the Windows XP arsenal, analysts say they will play a secondary role to MSN Explorer in the bolstering of other Microsoft properties.

“They are a magnitude less significant to Microsoft,” LeToq said. “Services that they’re going to get you to haul your

credit card out for, they’re going to get you through MSN Explorer.”

In an interview with CNET News.com this summer, Microsoft Chairman Bill Gates adamantly defended his company’s right to evolve Windows with new features to meet market demand. “Our customers do want us to make Windows richer and more reliable,” he said. “So Microsoft’s commitment is to add features that customers want. If we can’t add any features, then what is Windows?”



A clock at Microsoft’s Redmond, Wash., campus counts down the days to Windows XP’s launch.

Gates questioned why AOL has not received as much criticism as Microsoft for bundling products and services. “Has AOL ever added any new features to their products?” he asked rhetorically. “They have dominant market share of all their stuff. They actually added features? Unbelievable! Who are these people adding features? What’s going on here? Well, what’s going on is that the PC industry is the most competitive industry that has ever been in terms of software availability and advances.”

### Evolving to avoid extinction

Although issues such as software bundling and integration have been at the center of Microsoft’s legal troubles, the company has more incentive to leverage and cross-promote its properties today than ever before. The twin blows of a sluggish economy and a saturated PC market have virtually stalled new computer sales, hurting Windows revenue in the process.

Even before the economic malaise that followed the Sept. 11 terrorist attacks in New York and Washington, PC shipments had already hit record lows--down 8.1 percent for the second quarter in the United States, according to market researcher IDC. As consumer confidence erodes further, IDC projects that PC sales in the United States will decline 15 percent in 2001 from last year.

Adding insult to injury, Microsoft has been one of its own worst enemies: Competition from previous Windows operating systems has slowed the sale of newer versions.

The last two major launches--Windows 2000 for businesses and Windows Me for consumers--fizzled. Less than 10 percent of the Windows 95, 98 and corporate NT desktop computers were upgraded to 2000 last year, according to Gartner. This year, businesses have finally started using Windows 2000, but systems administrators plan to hold off on XP for at least a year or to skip it altogether.

“**Services that they’re going to get you to haul your credit card out for, they’re going to get you through MSN Explorer.”**

—Chris LeToq,  
Guernsey Research analyst

Tony Dempsey, manager of technology for the American Association of the Colleges of Nursing, said he has "no interest in Windows XP right now." After ordering five new IBM ThinkPad notebooks, he said, "I had the choice of Windows 2000 or Windows XP--I chose Windows 2000."

Other Windows XP testers complained that the operating system's graphical appearance, which resembles that of MSN Explorer, looked like a cartoon. Some added that it made no sense to include two Web browsers with XP.

"One of the first things I did was delete it," Joshua Daniel Franklin, a network administrator for Iocc.com--an Internet service provider in Arkadelphia, Ark.--said about MSN Explorer. "They're competing with themselves in the browser market, just when Netscape's (browser) is starting to come out with some actually useful features."

Yet this kind of apparent contradiction is nothing new to Microsoft, which has long operated on the Darwinian assumption

that the fittest of products will survive--as long as they are part of the Windows family.

Gary Hein, an analyst at Burton Group, said Microsoft has never been shy to influence that evolutionary process where the consumer is concerned.

"It reminds me of the old story about how to boil a frog," he said. "If you throw a frog into a pot of boiling water, it will immediately jump out. But if you put a frog in a pot of warm water and slowly raise the temperature until the water boils, you have frog soup."

"Consumers aren't going to be thrown into a kettle of boiling water from the get-go, but rather enticed into an inviting, lukewarm bath, and then the temperature will be slowly raised over several release cycles." ■

*News.com's Mike Ricciuti contributed to this report.*

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## Strategy: Blueprint shrouded in mystery

By Mike Ricciuti  
Staff Writer, CNET News.com  
October 18, 2001, 4:00 a.m. PT

**Peter Osbourne had a simple idea: He and his team of 10 programmers at Dollar Rent A Car Systems created software code that made it possible for people to rent autos through the Web sites of Southwest Airlines and other partners.**

Little did he know that he had contributed to a marketing revolution that would reinvent the world's largest software company around a colossal technology campaign known as Microsoft.Net. Suddenly, the car project became a showcase for the burgeoning Web services initiative, with Osbourne as its poster child.

"Some writers ask me, 'So, what is .Net?' And I say, 'Hey, you're talking to the wrong guy,'" said the group manager of advanced technology at Dollar, still amazed at all the attention. "My interest is in looking for tools that will add value to me and make it easier for me to develop."

If the public has been unclear on the concept, that may be precisely what Microsoft had planned all along. Although it has a 25-year history of trumpeting grandiose initiatives, sometimes with dubious intentions and chameleon-like business plans, .Net may appear uniquely enigmatic. The company is targeting a new and rapidly evolving area: Web services. And, in light of the company's current legal problems, Microsoft's plans may appear so grand that a detailed announcement would be tantamount to a public dare to antitrust authorities.

With the release of Windows XP--the first major public step in its .Net initiative--the software leader is in the excruciatingly delicate position of pushing to market a crucial product featuring an integration plan that is being challenged as anti-competitive in the company's landmark

federal case. Some say the sheer scope of the .Net campaign will dwarf the concerns of previous legal challenges involving browsers and operating systems.

Microsoft.Net is a mammoth effort that begins with Windows XP and branches out to nearly all of Microsoft's products, services, Web sites and development efforts. It is an umbrella concept for how new software should be designed; a set of products for building that software; and an initial set of hosted services, called .Net My Services. Through that controversial strategy, Microsoft plans to offer a broad array of services, including online calendaring, contact-list management, document and image storage, credit card information, and personal identification data--all accessible from any conceivable digital device, anywhere on the planet.

"This whole thing is driven by the fact that Microsoft has hundreds of millions of Windows users out there, but Microsoft doesn't have a direct monthly billing relationship with those users," said Matt Rosoff, an analyst at Directions



“**We've been introducing Web services since day one...Where was Microsoft in all of this? This is classic revisionist history.**”

—Scott McNealy, Sun Microsystems CEO, February 2001

### Microsoft.Net: What is it?

The software giant's .Net Web services plan includes four key areas:

**1. Web services:** .Net My Services, formerly code-named HailStorm, includes the existing Passport online ID system and new services, such as calendar, profile, e-wallet, notifications and contact management, along with a service to meter use of those services, which Microsoft and partners will offer for a fee. Microsoft's goal: information available on any device, anyplace. Expected to debut next year.

**2. Programming model:** Called the .Net Framework, it expands the existing Win32 model to include Web services development and supports XML and SOAP. Intended to entice developers using Visual Basic and other Microsoft tools to build Web service applications on Microsoft's software.

**3. Web sites:** Microsoft will market Web services from itself and partners through its bCentral and MSN Web sites.

**4. .Net Enterprise Servers:** Largely a renaming of existing SQL Server, Exchange and other server software. Revamped versions tuned to .Net planned for release next year.

—Mike Ricciuti

on Microsoft. "That's their consumer strategy, in a nutshell."

Industry analysts and Microsoft customers are quick to point out that while .Net is surrounded by a thick layer of vapor, it is far more than the usual marketing hype. The foundation of the plan--essentially software integration using Extensible Markup Language (XML), a Web standard by which data is exchanged online--is based on real technology that works and that will become common among large companies' information-technology departments and, by extension, in consumers' daily lives.

Web services, in their simplest form, simply link servers over the Internet to exchange data and combine information in new ways. Microsoft is selling software so that companies can build these services. And, in conjunction with its other initiatives, the company is commercializing this concept in services that will soon be available to consumers and businesses, for a fee.

.Net includes links to Microsoft's online properties, such as MSN and bCentral, a small-business-focused Web site, and new tools and software that business customers can buy to create their own Web services. Ultimately, the plan will encompass Microsoft's all-important transition from dependence on one-time sales of software and upgrades to a more stable source of revenue based on recurring subscription fees--the central goal of .Net My Services, which is still in development and slated for introduction next year.

"The real growth potential here for Microsoft is .Net My Services. There

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**This whole thing is driven by the fact that Microsoft has hundreds of millions of Windows users out there, but Microsoft doesn't have a direct monthly billing relationship with those users."**

—Matt Rosoff, analyst, *Directions on Microsoft*

is more risk there, but with great risk comes great reward," said Gary Hein, an analyst with Burton Group who has spent the better part of this year studying .Net. "By weaving (.Net My Services) into Windows XP and the Microsoft-held Internet properties, you are building a subscriber base. That's the first step...It's a chicken-and-egg problem. No (partners) are going to sign up for these services unless there are users, and no users are going to sign up unless there is content."

Microsoft's grand plans are matched by equally large obstacles, ranging from antitrust questions and new competition to the need for privacy, security and reliability of its services on the wide-open, public Internet. Last month, the Consumer Federation of America, Consumers Union, Media Access Project and U.S. Public Interest Research Group sent a letter to federal and state prosecutors, contending that Microsoft's strategy of embedding its Internet services into Windows XP repeats violations cited earlier by a federal appeals court.

Christopher Payne--a Microsoft vice president who three years ago defected to Web retailer Amazon.com but has come back to help run .Net marketing--played down such antitrust concerns, saying the initiative is important to the development of the Internet, as well as to his company.

".Net is clearly a huge, huge initiative for the company, along with Windows and Office. It presents a ton of opportunity to improve the way the Web operates," Payne said. "We think we have a compelling vision on how the industry can move forward."

## Sun, Microsoft square off on Web services

Microsoft and Sun Microsystems, bitter enemies in most instances, agree on one thing: Web services represent the future of software development.

The two companies are building similar frameworks for developers in their .Net and Java 2 Enterprise Edition technologies for Web services.

"If you look at them side by side, they are head-to-head competitors," said Peter O'Kelly, an analyst at Giga Information Group.

Both rely on the same set of established standards, such as Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Web Services Description Language (WSDL), and Universal Description, Discovery and Integration (UDDI).

The key differences: Microsoft favors one operating system--Windows--and allows development through new and existing tools in multiple languages, including Visual Basic, C++, a new Java-like language it developed called C#, and Java itself. Sun allows development on multiple operating systems--including Windows, Unix, Linux and mainframe systems--using a single language, Java.

In addition, while .Net is a product and marketing strategy tightly controlled by Microsoft, J2EE is a software specification defined largely by Sun and implemented in products by its backers, including IBM, Oracle and BEA Systems.

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## “The consumer obviously doesn’t understand all aspects of .Net. Clearly, we have work to do.”

—Christopher Payne, a Microsoft vice president working on .Net marketing

Outside the Microsoft rank and file, however, that vision quickly becomes blurred. Customers say the confusion surrounding .Net has been rampant in its early stages.

“It is not easy to get your hands around,” said Bill Evjen, a Web developer and founder of the St. Louis .Net User Group, a 500-member organization that’s among the first of its kind. “.Net will be the most difficult for people to grasp because it is so big.”

Another developer and longtime Microsoft customer, who requested anonymity, blamed at least part of the confusion on the company: “The problem has been that the marketing guys have got ahold of it, and they have .Net labels on everything, like the enterprise servers. They have nothing to do with .Net.” Microsoft has relabeled many of its server software products, such as the SQL Server database and Exchange communications server, as “.Net Enterprise Servers.”

Others say confusion has arisen because .Net encompasses so many businesses and technologies.

“.Net is not as mysterious as some people think it is. It’s sort of like the story of the elephant and the blind man,” said Will Zachmann, an analyst with Meta Group. “It’s a conglomeration of lots of things that means different things to different people.”

Payne conceded that Microsoft probably contributed to the ambiguity by introducing the concept while sidestepping the more concrete aspects of product delivery to customers, analysts and the press. “The consumer obviously doesn’t understand all aspects of .Net. Clearly, we have work to do,” he said.

### A raft of rivals old and new

One group of technology veterans has no trouble defining the strategy: Microsoft’s competitors. To those as diverse as Sun Microsystems, AOL Time Warner, Oracle and IBM, the software empire is seeking to dominate the Internet just as completely as it has dominated desktop computing for two decades.

Microsoft already controls virtually all other segments of the personal computer software industry. The company owns more than 90 percent of the PC desktop operating system market, more than 90 percent of the PC business applications market, and more than 85 percent of the Web browser market, according to analyst estimates.

Now, in moving aggressively into Web services, “Microsoft is trying to redefine the playing field to make the existing players look as if they were not playing,” said Simon Phipps, chief technology evangelist at Sun. “And they have done a pretty good job of it.”

To drum up support for .Net, Microsoft has taken a textbook approach to spreading its gospel by starting with its most loyal constituency: software developers, such as Dollar’s Osbourne. Chairman Bill Gates told CNET News.com earlier this year that building demand for new products by seeding developer interest “is the Microsoft strategy. We have bet our future on that.”

Industry analysts agree that developers are key to .Net’s chances of success. “If Microsoft is successful in emulating the model they have followed in the past of getting developers out there using their tools to develop these services, they are well positioned. It’s a proven answer that

The reasons that businesses choose one development method over the other for building Web services are largely tied to the existing language skills on their staffs and to server software preferences. Given the grab-bag mix of technologies present within most companies, businesses will likely delve into both methods. “It will not be an either-or situation,” O’Kelly said.

Neither plan has fully matured. Much of Microsoft’s .Net technology—mainly new development tools and server software—has yet to ship in final form. That’s expected to happen in stages during the next year.

Although Sun and Java supporters are working to make Web services and XML development easier using J2EE, “there’s not a standard Web services architecture for J2EE,” said Randy Heffner, an analyst with Giga Information Group. To address that problem, a specification known as JSR 109 is being developed to define a programming model for Java Web services. A final draft of the specification is due in February.

—Mike Riccuiti

“Microsoft is trying to redefine the playing field to make the existing players look as if they were not playing.”

—Simon Phipps, chief technology evangelist, Sun Microsystems

has worked for them many, many times in the past," Hein said. He added that Microsoft has "a very strong developer network. Probably the best."

What makes at least part of Microsoft's development task easier is that some of the technologies that make up .Net have been around for years. They have been recombined with new programming methods and concepts under the .Net and Web services plans.

"This is revolutionary for Microsoft. I have watched a lot of Microsoft products come and go over the years, and this is the biggest jump in a generation," said Evjen, whose work with the St. Louis .Net User Group has spawned more than 100 such organizations worldwide. If the more than 4 million developers using Microsoft's Visual Basic tools can easily be encouraged to build Web services, that will promote the sale of more Microsoft software, contribute to the body of Web services available for .Net My Services that consumers will pay for, and ultimately fill the company's coffers.

As in the past, Microsoft may not have the best development tools, but they are the easiest to use. Many developers prefer Java tools, which they say are more difficult to use but also more flexible.

"Microsoft has the better tools today for building simple Web services," said Randy Heffner, an analyst with Giga Information Group.

Industry veterans who have witnessed Microsoft's methods of operation over the years say the .Net strategy will follow a familiar pattern, regardless of any early confusion it may encounter.

Meta Group's Zachmann recalls how the company entered the word-processing arena from an almost laughable underdog position in the early 1980s--when Corel's WordPerfect had roughly 80 percent of the business--and then methodically introduced version after version of Microsoft Word until it eventually dominated the market.

"Microsoft comes out with the first one, and you say that's interesting, pat them on the head, and send them back to Redmond. They come out with the next one, and you say, well, that's a big improvement, but I can't say that I would ever use that one myself. But they just kept at it and each time they do it, it gets a little better," Zachmann said. "They improve it; they pay attention. I see the same thing happening here with .Net." ■

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# The Gatekeeper

## Competition: Ultimate challenge to AOL

By Jim Hu  
Staff Writer, CNET News.com  
October 19, 2001, 4:00 a.m. PT

**At an America Online staff meeting in 1994, then-President Ted Leonsis wheeled out a wooden cutout of a bare-fanged Tyrannosaurus rex meant to symbolize the company's most menacing enemy: Microsoft.**

Leonsis' representation was both right and wrong. The software giant indeed presented a major threat at the time--the eve of the launch of its Microsoft Network--but its battle form would come to resemble a multiheaded Hydra more than a prehistoric monster. Rather than full-frontal assaults, Microsoft would attack from many directions simultaneously and regenerate appendages whenever they were severed.

"That's the way you win a war; you don't do it with monster battles unless you're sure you can win them," said Carl Howe, an analyst at Forrester Research. "You do it by finding weaknesses in the enemy's lines before you mount your big attack."

Although shorter-sighted thinkers initially viewed the companies as disparate media and software businesses, executives at AOL, now a division of AOL Time Warner, have long known that their counterparts ensconced in Redmond, Wash., had the same goal: to "own" the Internet user, absorbing his or her identity into a virtual world where cybercitizens travel, purchase, communicate and plan their daily lives. That concept became increasingly important as companies and Web sites began charging for content and services to survive.

AOL's route to this destination has involved drawing in consumers with dial-up Internet access, then guiding them through the rest of its features. Now Microsoft, with vaguely defined

.Net strategies that will launch with its Windows XP operating system, is pursuing a similar kind of recruitment and retention, with services offered for monthly subscriptions rather than through the traditional one-time purchase of its software either directly or via computers already loaded with its products.

Windows XP and .Net are "clearly an effort by Microsoft to emulate the subscription model that has been quite successful for AOL Time Warner in all of its component parts," said John Buckley, an AOL Time Warner spokesman. "But the question is--even with their monopoly--whether they'll be more successful in their effort than they have been previously. We have a significant advantage in this space."

Another question, though, is how long that upper hand can be held.

It is true that AOL is the clear leader in dial-up Internet service, with 31 million subscribers--a total more than four times greater than that of second-place MSN. But Microsoft has managed to make significant inroads with popular



**"I don't think it's the second coming; I think it's the third or fourth coming. It's a little surprising that they haven't hit the mark yet, but that doesn't mean they won't in the future."**

—Steve Case, then-AOL CEO,  
on Microsoft's launch of MSN, October 1999

**"It's nothing new for Microsoft to leverage off its monopoly into other businesses...It's also nothing new for Microsoft to desire to play in AOL's space"**

—John Buckley,  
AOL Time Warner spokesman

technologies such as instant messaging. Windows XP promises to escalate the competition with more services in communications, multimedia and other areas that will challenge AOL on several fronts.

Moreover, for all the controversy over Microsoft's technology monopolies, AOL has been cast in the unusual role of media bully to the software company. Ever since it blocked MSN Messenger subscribers from communicating with its own IM network, AOL has been accused of thwarting efforts to devise an industry standard that would allow all chat technologies to work together.

That domineering image apparently does not sit well with the public. A survey by research company Gartner released in August indicated that consumers distrust AOL more than they do Microsoft in the handling of personal and financial information. This kind of credibility gap could become a crucial factor in the next major confrontation between the

two online superpowers: the fight over so-called authentication technologies.

### Controlling identities

Far more significant than any single feature of Windows XP is the broader technological architecture it will begin to test--Microsoft's .Net My Services project, formerly known as HailStorm. The "foundation service" is designed to organize all manner of personal information, from calendars to credit card numbers, while easing such online transactions as banking and shopping.

A cornerstone of .Net My Services is an authentication key called Passport, a kind of universal identification tool. It allows people to sign in to multiple sites with the same password and store such personal information as credit card numbers for online purchases at stores that agree to use Microsoft's security technology.

"Passport represents a critical control point of the Internet of the future, the place where identity will be managed on the Internet," said David Smith, a Gartner analyst. "Identity leads to all kinds of information about people. It's the keys to the candy store."

AOL is combating Passport with a similar ID mechanism called Screen Name Service. Both companies are racing to sign up leading Web sites and companies to use their respective technologies.

Some analysts say Microsoft could benefit in this area from a hesitation among many content companies to partner with AOL Time Warner. Some companies fear the media conglomerate already has too much control of distribution and could dictate absolute terms.

"Now that AOL owns Time Warner and many properties in its various vertical genres, I think media companies are

far more likely to look for an agnostic distribution partner that's not invested in vertical content," said Mark Mooradian, an analyst at research firm Jupiter Media Metrix. "Microsoft can use to its advantage the fact that AOL is in every respect a media company and downplay their own 'medianess' to position themselves much more as a technology enabler and a software company."

### The content conundrum

In some ways, the campaign to strike content partnerships brings Microsoft full circle to its strategy to secure exclusive access to popular Web sites. Five years ago, the company struck deals with Walt Disney, Viacom's Paramount Pictures, Dow Jones and other media companies for content accessible only through its Internet Explorer browser or MSN, only to back away from many of those arrangements under antitrust scrutiny.

Microsoft also retreated from many high-profile experiments with its own content, including the Sidewalk chain of city guides, the Expedia travel site and various MSN sites such as MoneyCentral.

“**Identity leads to all kinds of information about people. It's the keys to the candy store.**”

—David Smith, Gartner analyst

Ironically, the move from content may end up helping Microsoft against AOL by returning the software company to its roots: the long-held philosophy of owning the underlying architecture needed to use applications, services and content, allowing the company to collect the equivalent of toll fees for access.

"Applications are Microsoft's greatest strength," Mooradian said. "When it started getting involved in Expedia and MoneyCentral and CarPoint, it realized that."

While AOL Time Warner hopes to attract and maintain subscribers with its family of publications and other properties, Microsoft is focusing on the convenience of its technologies. Microsoft says .Net My Services and Passport can be used through any device with access to the Web, whether it be a desktop PC or a cell phone, in direct competition with the "AOL Anywhere" initiative.

"Windows XP is an end point for .Net services," said Jim Cullinan, a Microsoft spokesman. "Windows XP is the first offering that will at the base level show a twinkle of what Web services might look like in the future."

That future, as defined by Microsoft, could bode ill for AOL's ability to expand its subscriber ranks. If Microsoft links all its software and services through .Net, it could gain a significant advantage over AOL's exposure to potential new customers.

### Discs vs. the desktop

AOL walked away from negotiations to package its service's software with Windows XP this summer, maintaining that the PC desktop offers only limited opportunity to acquire new subscribers. That means AOL must rely more heavily on alternative marketing strategies such as the mass-mailing of CDs--tactics whose success is anything but guaranteed, even with the vast cross-marketing power of the Time Warner division's magazines, books, music and TV programming.

For now, Microsoft and AOL are battling one deal at a time. Each company is trying to piece together its own version of the Internet based on its authentication

technology, presumably for a regular fee to subscribers.

In July, AOL invested \$100 million in Amazon.com, a deal that required the online retailer to use Screen Name as its e-wallet technology instead of Microsoft's Passport. The arrangement was considered a major coup for AOL because a partnership with the Web's largest retail company could plant a significant stake in the ground against Microsoft's advances.

The software giant has responded with its own high-profile partnership. This month, it struck a deal with Disney's ESPN.com that gives MSN exclusive rights to the sports site's content in exchange for a toolbar link on ESPN's home page to other Web services. ESPN will eventually incorporate Windows Media streaming technology and adopt Passport as one authentication option.

The arrangement is reminiscent of deals in years past that have drawn antitrust objections from competitors.

"It's nothing new for Microsoft to leverage off its monopoly into other businesses," AOL Time Warner's Buckley said. "It's at the heart of the antitrust problems they have and the core of the prosecution of Microsoft by antitrust regulators in the United States and Brussels and beyond. It's also nothing new for Microsoft to desire to play in AOL's space."

Yet AOL Time Warner faces antitrust questions of its own, a concern that Microsoft has raised repeatedly. During the federal government's review of the AOL-Time Warner merger last year, Microsoft pointed to its adversary's previous moves to keep other chat networks from working with AOL Instant Messenger.

Microsoft Chairman Bill Gates himself met William Kennard, then chairman of the Federal Communications Commission, to complain about AOL's dominance and the need for interoperability. Instant messaging will remain a major point of

conflict between the two companies after the launch of Windows XP, which will offer a new version of the technology that has audio, video and text collaboration features embedded in the operating system.

Still, AOL is well aware that two can play the antitrust game, and it is more than willing to turn the tables on Microsoft. Already, sources on Capitol Hill say AOL lobbyists have begun analyzing .Net and .Net My Services for possible competitive concerns.

In addition, some in the industry believe Microsoft might face a backlash in charging subscribers, developers and Web sites for use of .Net My Services--a possibility that could tip the scales in AOL's favor.

"Microsoft is kind of breaking the rules and saying, 'We're going to charge everybody for everything,'" Howe said. "AOL's opportunity is to use a pure media business model for their services, to do a pure subscription model for other services, and not to go do the charge-everyone-for-everything pass." ■

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## Skirmish points

Microsoft is preparing for the most significant upgrade of its operating system, Windows XP, which will drive the stakes deeper into America Online's turf. Here are a few areas of conflict between Microsoft and the AOL Time Warner division that will heat up after Windows XP's release:

	Microsoft	AOL
<b>Authentication and identification</b>	<p><b>Passport</b></p> <p>The sign-in engine works with Microsoft's collection of Web sites, including Hotmail and MSN. Windows XP users will be encouraged to create a Passport identity. The engine will become the nucleus for Microsoft's .Net My Services initiative.</p> <p><b>Partners:</b> More than 200 sites, including Starbucks, RadioShack, Blue Nile, 1-800-Flowers.com, Office Depot, Office Max, Victoria's Secret, Hilton.com and Expedia</p>	<p><b>Screen Name Service and Quick Checkout</b></p> <p>Screen Name lets AOL subscribers access their e-mail, calendar, stock portfolio and personalization features. Quick Checkout stores credit card information and shipping addresses to make online buying more convenient.</p> <p><b>Partners:</b> SchoolSports and TestU (Screen Name); more than 100 sites including 1-800-Flowers.com, Victoria's Secret and Avon (Quick Checkout)</p>
<b>Instant messaging</b>	<p><b>MSN Messenger and Windows Messenger</b></p> <p>The services transmit real-time text messages between people. Windows Messenger, which will be a feature in Windows XP, will combine instant messaging with video and audio conferencing and document collaboration. Microsoft plans to let other IM developers build on Windows Messenger's framework. MSN Messenger and Windows Messenger users will be able to communicate.</p> <p><b>Partners:</b> Yahoo, Excite@Home, AT&amp;T and Odigo</p>	<p><b>AOL Instant Messenger (AIM) and ICQ</b></p> <p>These services also send real-time text messages. AIM and ICQ still have the largest number of users, but signs show MSN Messenger catching up. AOL has come under regulatory scrutiny over alleged backpedaling on its promises to open its IM networks to unaffiliated providers. AOL said in August that it would test an interoperable protocol with IBM's Lotus division.</p> <p><b>Partners:</b> IBM, Terra Lycos, EarthLink, Apple Computer and United Online</p>
<b>Media partnerships</b>	<p>The company says it can provide software, technology and distribution through MSN for media companies looking to boost their online presence. Such media sites can help Microsoft spread other technologies, such as Windows Media and Passport. Microsoft also has played on the media industry's fears of partnering with AOL Time Warner.</p> <p><b>Partners:</b> AT&amp;T, Walt Disney, News Corp. and DirecTV</p>	<p>During the boom years, AOL was able to strike lucrative deals with media companies to distribute their content. Since it acquired Time Warner, most of AOL and its properties prominently feature its own editorial content, such as CNN and <i>Time</i> and <i>Fortune</i> magazines. It's questionable whether rival media companies will want to extend their contracts.</p> <p><b>Partners:</b> CBS News, <i>The New York Times</i> and CBS MarketWatch</p>
<b>Content and services</b>	<p><b>.Net My Services (formerly HailStorm)</b></p> <p>The first phase of Microsoft's .Net strategy, it will connect all Net-enabled devices to link various Web services together and charge people a monthly fee for access. It also will serve as a foundation for controlling online transactions.</p> <p><b>Partners:</b> None so far</p>	<p><b>AOL Anywhere</b></p> <p>The online giant's initiative to spread its popular e-mail, instant messaging services and content to subscribers on non-PC devices, such as cell phones, handheld computers and set-top boxes. AOL wants people to use its services no matter where they are.</p> <p><b>Partners:</b> None so far</p>

# The Gatekeeper

## Network: Reinventing the wheel in real time

By Mike Ricciuti and Robert Lemos  
Staff Writers, CNET News.com  
October 22, 2001, 4:00 a.m. PT

**Imagine this: With a single password typed only once, a businessman from Detroit gets real-time updates to his calendar, e-mail account, instant messenger, travel schedule and bank statement, accessible from any computer, handheld device or cellular phone, whether he is in Tokyo, London or a plane 10,000 feet over the North Pole.**

To provide that kind of service on a wide scale, a company would need to create and maintain a massive international infrastructure of server farms, distributed databases and secure networks updated automatically in real time, without a hitch. Which is exactly what Microsoft plans to do.

If its grand .Net plans succeed, Microsoft will have accomplished a feat no other company has attempted in the high-tech industry. In the process, it will have created the ultimate showcase for its products--much of the .Net My Services infrastructure will be built on Windows--constructed a new pipeline for profits, and finally established a reputation as a technology innovator--recognition that has long eluded Microsoft.

But the goals of its Web services strategy, aimed at consumers and businesses, are so ambitious that many question whether they are feasible even for the world's most powerful software company, especially considering that its record on software bugs and online security is anything but perfect.

"It's going to be quite a large investment in terms of hardware, software, manpower, etc., to run this thing," said Gary Hein, an analyst with Burton Group. "It's going to be a tough challenge, and they're taking a big risk with this."

In essence, the software leader has chosen to untangle a giant mess of incompatible devices, far-flung data stores and easily

forgotten passwords that stand in the way of a truly successful commercial Internet. The resulting system could leave Microsoft as the primary toll taker for the bulk of transactions made online--surpassing only a handful of companies that could even think about competing on this level, chiefly AOL Time Warner.

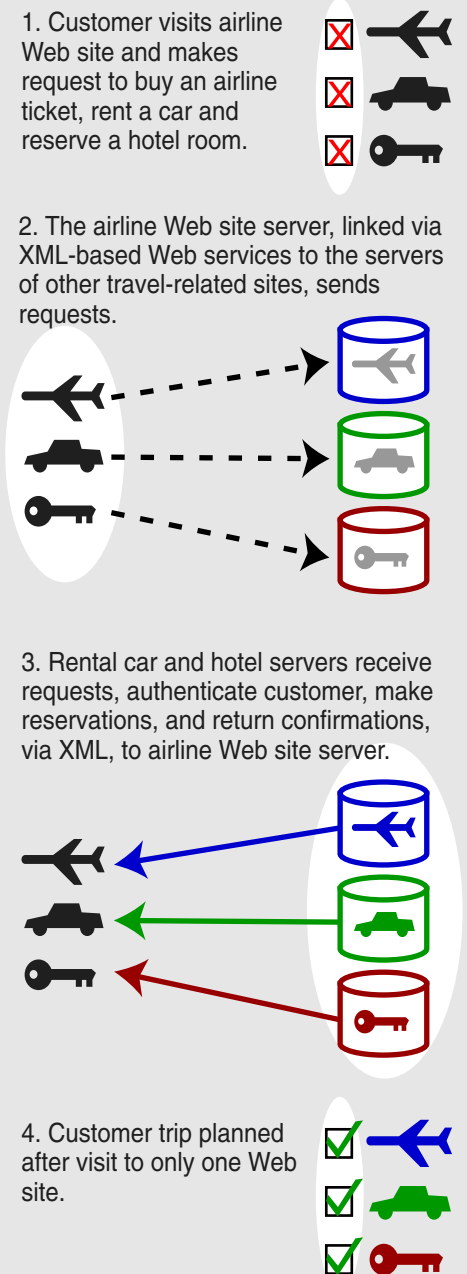
For Microsoft, the payoff could be huge. For example, according to Jupiter Media Metrix, more than 67 million unique visitors went to MSN and other commercial Web sites operated by Microsoft in the month of August. If only 5 percent of those visitors sign up for just one of the new .Net My Services at a cost of \$5 per month, Microsoft will have instantly created more than \$200 million in gross annual revenue.

Indeed, Microsoft's marketing spiel seems aimed squarely at AOL Time Warner's "AOL Anywhere" campaign. .Net My Services, as the program is formally known, will let customers "access data anytime, anywhere, from any devices," said Christopher Payne, a vice president at Microsoft.

What makes the software company's plan far more difficult, however, is the sheer breadth of services it envisions. Microsoft says customers who sign up for .Net My Services, expected to debut in full next year, can expect to eventually get one-step access to electronic documents, contact lists and calendars; instant alerts on stock changes, weather forecasts and flight delays; and automated transactions, such as

### How Web services work:

Web services, such as .Net My Services, work on servers to connect Net applications, devices and services. Consumers use the services by accessing Web sites for one-stop shopping through PCs, handhelds, cell phones and even cars.



online banking, ticket purchases and stock trades, from Microsoft and its partners.

## A huge job

That's an enormous task. The company needs to define and build core infrastructure, set standards of operation for partners participating in the plan, and--most importantly--erase any doubt that it can run a broad Internet operation without the outages or security lapses that have plagued its Hotmail e-mail service and Microsoft Network properties.

"Microsoft simply hasn't demonstrated that they can do something like this," said Rob Helm, editor in chief of Directions on Microsoft, which analyzes the company's business strategies. ".Net My Services" represents something of a culture shift for Microsoft. Rather than selling software licenses, they are now in the services business. That's a very different kind of business and a very wrenching shift. It's not clear the company as a whole has the expertise and the culture to pull this off."

Because Microsoft has not fully described how it will make .Net My Services available to consumers, no firm estimates on the cost of the infrastructure are available. The company will surely use its existing online properties, as well as its instant messenger backbone. But the Herculean demands of its plans are sure to tax even the largest software company on the planet, despite its roughly \$31 billion in cash and other assets.

Microsoft also is constructing multiple data centers to host the massive amount of information that will be housed under .Net My Services. The company will partner with hosting businesses as well. Microsoft did not disclose the location of those data centers or what they will cost to build. But Adam Sohn, Microsoft's product manager for .Net platform strategy, said design and construction are under way.

"We are very focused on running these services in scale, and the timing on when other partners will be involved is still being

worked out," he said. The company has tapped Eric Hautala, a longtime employee who once ran MSN, to oversee the creation of the .Net My Services infrastructure.

Clearly, Microsoft cannot build the massive network alone. It will tap current partners and experienced online retailers such as eBay to help host data, and it must hire a roster of other commercial Web site operators and hosting services to keep hundreds of servers in operation around the globe, updating information in real time.

In addition, the company must devote considerable resources to solving some thorny computer-science problems endemic to the Internet, such as security, privacy and the capacity to handle expanding services.

The issues are so difficult that Microsoft has yet to determine how the business side of the plan will work. Jim Allchin, the Microsoft vice president in charge of Windows XP and other key initiatives, said recently that the .Net My Services business plan is still in flux.

"I just don't think it's fleshed out yet," Allchin conceded in an August interview with CNET News.com. "On the business side, there's a lot of thought that needs to happen. A lot of thought."

At least one thing is certain: Microsoft plans to charge for access to .Net My Services. Individuals will be asked to pay a monthly or yearly rate for an account; some analysts are guessing there will be a base charge of \$25 to \$50 per year, plus additional fees based on how often the service is used and what functions are employed. Software developers and Web site operators, in turn,

will be charged a minimal fee for access to those customers, as Microsoft is banking on the big money to come from consumers and business customers.

Central to the plan is an identification mechanism called Passport, which grew out of the Microsoft Network online service and offers consumers a single-step log-on process that allows access to any participating Web site. Already, the company's Passport system processes more than 2 billion authentications each month for 165 million active accounts.

## The keys to the kingdom

Consumers register for a Passport account, which requires an e-mail address and a password, through Microsoft Network, Hotmail, Windows XP or a list of partner sites estimated at 60 and growing. After initially signing in to enter a Web site, an individual can gain access to other Passport-protected sites and services simply by clicking a link instead of logging in each time.

As an example of how .Net My Services might be used, Microsoft began a preview this month of a feature called .Net Alerts that uses the company's instant messenger to send bulletins on stock updates, auction bidding and other information to MSN subscribers. Microsoft has inked deals with eBay and 19 other undisclosed sites to offer this service to customers as well.

Although Passport's proprietary security software is not yet compatible with other single sign-on technologies, Microsoft said last month that it would open up the



**“Our job is to make sure we provide the best tools to develop and deploy Web services. And if we do that, we'll make business. If we don't do that, we're not going to make business.”**

—Steve Ballmer, Microsoft CEO, September 2000

authentication system by basing it on a network security standard called Kerberos.

To date, Microsoft has maintained a central database of Passport customer information at its headquarters in Redmond, Wash. As .Net My Services is introduced, Passport information will be replicated around the world through what the company terms a "federation" of partner sites that it hopes eventually will form an enormous marketplace for .Net My Services offerings.

Microsoft plans to establish agreements specifying privacy policies and operating principles for these partners, which will pay for exposure to individuals with Passport accounts. For example, partners such as telecommunications companies will be able to register Passport members or create secure links between proprietary networks and .Net My Services.

"While you obviously can't guarantee that the data hoster will always be up, you can make sure you have the right principles across this federated network," Payne said.

It is here where concerns are raised about the safety of doing business in this Microsoft-controlled marketplace. Many security experts and privacy advocates have questioned Microsoft's ability to keep its .Net My Services and Passport systems available, secure and free of bugs.

Any one-size-fits-all plan such as this is inherently dangerous, said William Malik,

“**I just don't think it's fleshed out yet. On the business side, there's a lot of thought that needs to happen. A lot of thought.**”

—Jim Allchin, Microsoft vice president in charge of Windows XP

vice president and research director for security at market research firm Gartner.

"The idea itself is really risky: Let's put all our eggs in one basket," he said. "Microsoft is waving an awfully big target out there and saying, 'Hit me if you can.' And history has shown that they have not come out on top in those battles."

Sohn said Microsoft is taking steps to gather expert opinion on how best to construct the .Net My Services infrastructure. "We will be very public on the principles behind this and will let others grade that. We'll be more open about this than we have been in the past" for Microsoft's other services.

### **A dubious track record**

It hasn't helped that a steady stream of technological problems has plagued the company and undermined confidence in the security of its software.

In 1999, Microsoft posted advisories warning of 60 software flaws that weakened the security of its products. That total jumped to 100 bugs found in 2000 and is forecast to fall between the two points this year.

In January, encryption technology provider VeriSign issued two digital certificates in Microsoft's name to an unknown person. The certificates could be used to sign programs and make the code appear to have originated from the software giant.

This summer, a single flaw that affected nearly every Web server using Microsoft software made much of the Internet vulnerable to the Code Red worm. Although Microsoft issued a patch a month before Code Red hit the Net, more than half a million system administrators did not apply it.

"The concern is that the quality of the output from Redmond has always been a problem," Malik said. "Typically, Microsoft takes three times to get it right. That's not going to work here."

“**It's not clear the company as a whole has the expertise and the culture to pull this off.**”

—Rob Helm, editor in chief, Directions on Microsoft

Add to the equation that home users have never been exceedingly conscious of security, and concerns about .Net My Services rise exponentially.

Microsoft is well aware that safety is key to making its plans work and says it is conducting several security audits of the proposed network.

"We are looking very hard at how the data travels through the network," Microsoft's Sohn said. "We are coming up with an architecture that we feel can be scaled and will be secure."

Many Web services developers are examining the same problems from their end, but no consensus is imminent.

"I love Web services, but that is the only thing that comes up when people ask about it," said Peter Osbourne, a technology manager at Dollar Rent A Car Systems and an early Web services developer. "It's not whether it can handle volume or throughput or any of that stuff. The question now is always security." ■

# The Gatekeeper

## Software: The end of forced upgrades?

By Joe Wilcox  
Staff Writer, CNET News.com  
October 23, 2001, 4:00 a.m. PT

**For years, software makers invented operating systems and applications that required more computing power, leading to a demand for new chips and other hardware--a cycle that has been likened to the automobile industry's infamous practice of "planned obsolescence."**

The release of Windows XP, however, may mark the formal end to that cycle as consumers and businesses find increasingly that the equipment they already own is good enough to run most of the software they need. With the U.S. personal-computer market largely saturated, Microsoft must depend on sales of Windows XP to customers upgrading from older Windows versions, instead of to those buying new PCs.

Businesses running Windows 2000 will find their existing systems adequate to run XP. Consumers with a minimum 600MHz Pentium III-based computer also should find their hardware adequate for running Windows XP, though older systems could require extensive upgrades or replacement.

"There isn't a motivation to go get the latest, greatest thing as there was back with Windows 95," IDC analyst Roger Kay said. "You have a lot of marginal systems--maybe they bought them two and a half years ago--with 64MB of memory, and it's not as clear a line

they need to get new hardware. So they don't."

This disruption of the historical software-hardware symbiosis will have vast ramifications for the entire computing industry, which has long been suspected of perpetuating artificial demand for its products.

Whether a conspiracy theory or just smart business, the thinking has gone something like this: Microsoft continually produced operating systems that required new processing power. Leading chipmaker Intel was careful not to release processors with excess power that surpassed the pace of Windows development. The resulting dual demand ensured more sales for PC makers, which in turn paid substantial sums for Pentium chips and Windows licenses.

But realities of the marketplace have disturbed the delicate balance of the Wintel duopoly's ecosystem, leaving the hardware, software and processor ends of the business to fend for themselves.



**What we learned is you can't just run out to the marketplace and expect people to accommodate it. That was a relatively tough lesson that we learned, but that was back five years ago. I don't intend to repeat that experiment again."**

—Craig Barrett, Intel CEO, September 2000

## Windows through time

### November 1985:

Microsoft releases Windows 1.0, a graphical shell that runs on MS-DOS. Typical system at the time:



IBM PC XT with a 4.77MHz processor, 640K of memory, and a 10MB to 20MB hard drive.

### October 1988:

David Cutler, formerly of Digital Equipment and now at Microsoft, begins work on Windows NT ("New Technology"). NT will take five years and \$150 million to complete.

### May 1990:

Amid much fanfare, Microsoft releases Windows 3.0. The first version to allow use of memory beyond 640K, Windows 3.0 requires an 80386 or higher processor, 2MB of memory, and 8MB of disk space.



### April 1992:

Windows 3.1 is released. It adds OLE support and new font technology. More than 1 million advance orders are placed worldwide. System requirements are the same as for Windows 3.0.

### October 1992:

Microsoft ships Windows for Workgroups 3.1, which integrates networking capabilities into Windows. It requires an 80386 or higher processor, 3MB of memory, and at least 14MB of disk space.

Continued on next page >

Intel, for instance, has pulled away from the cycle's traditional pace by making faster processors to compete with rival chipmaker Advanced Micro Devices. Microsoft, meanwhile, has publicly insisted that Windows XP will work with older chips and computers, mostly as a concession to the slow sales of new PCs.

Six years ago, when Microsoft released Windows 95, buying a new PC was practically a prerequisite for many consumers and businesses to make the upgrade. The memory and processor demands required to switch to Windows 95 from Windows 3.11 and DOS left few customers any choice but to replace their computers.

Architectural changes made by chip giant Intel--such as the move from 386 to 486 processors or, later, from the Pentium to Pentium II--also fed a relentless cycle of upgrades in the mid- to late 1990s.

"The covalence of events that drove people to a new hardware and OS in 1995 was entirely unique," Kay said. "In that instance, the operating system did make a difference, because it was the difference between having a true graphical user interface and not having a graphical user interface."

Around the time Intel introduced the Pentium MMX processor, Microsoft integrated the Internet Explorer browser with Windows, further increasing the need for processing muscle and memory. The move to Windows 95 and later 98 also required that the majority of software applications be rewritten for those new operating systems.

“**There isn't a motivation to go get the latest, greatest thing as there was back with Windows 95.**”

—Roger Kay, IDC analyst

Since then, however, the Windows graphical interface has remained largely the same. After Intel released the Pentium III, the chip's processing power pushed past the demands of software, which has yet to catch up.

"Windows stopped being substantially more demanding back in the Windows 98 time frame," said Peter Glaskowsky, an analyst with MDR/Instat.

Of course, the question of whether new hardware is needed will depend on such factors as the age of the existing PC and which Windows XP features will be used--and requirements can vary widely with functions like wireless networking, videoconferencing and CD burning.

Jim Allchin, Microsoft's group vice president in charge of Windows, maintains that any PC bought from Christmas 1999 on will be satisfactory to run XP. But industry analysts say Microsoft's hardware advice is overly optimistic, especially if customers want to use some of the more resource-intensive functions.

"The requirements of XP are such that people with older PCs with older components aren't going to be able to run it," ARS analyst Toni Duboise said. "The products I am seeing released with XP are fully loaded--we're talking about 256MB and 60GB hard drives. It's incredible how ramped up these machines are."

One reason for need of such resources is Windows XP's heritage, which derives from its business-oriented cousin, Windows 2000. That operating system and its predecessor, Windows NT, required much more memory than Windows 95, 98 or Me. The improved memory management of Windows 2000 required more processing power, as did additional security, networking and user-management features.

Many of those features will come with both versions of Windows XP--Home for consumers and Professional for businesses. Microsoft recommends

**August 1993:**

Windows NT 3.1--the first version of NT--is released. It requires an 80486 processor running at 33MHz, 16MB of memory and 110MB of disk space.

**August 1995:**

Windows 95 is released, replacing Windows for Workgroups 3.11 and MS-DOS as the mainstream desktop operating system. The first iteration of Microsoft's Internet Explorer browser also is shipped. Windows 95 requires an 80386DX or higher processor, 4MB of memory, and 35MB of disk space.



**December 1995:**

Microsoft announces it is ready to "embrace and extend" the Internet. Bill Gates says the Net will be part of everything the company does.

**November 1996:**

Microsoft launches Windows CE at Comdex in Las Vegas. CE includes a personal information manager, "pocket" versions of Word and Excel, and e-mail technology.

**June 1998:**

Windows 98, which includes Internet Explorer 4.0, is released. The OS includes support for FireWire and USB as well as DVD. It also supports Web-based updates. Windows 98 requires an 80486DX processor running at 66MHz or higher, 16MB of memory, and at least 195MB of disk space.

**May 1999:**

Windows 98 Second Edition is released. It integrates Internet Explorer 5.0.

Continued on next page >

128MB of RAM minimum, but Duboise said twice that amount may be more practical.

In addition, analysts question Microsoft's contention that a 300MHz Pentium chip can be used to run Windows XP. "That's not fast enough. Sure it will run, but that's about all," Glaskowsky said. Realistically, he added, "I would say a 600MHz to 800MHz Pentium III is probably the minimum standard for real people, particularly if people don't know what they're going to be using the system for."

Still, that is far below the top processor speeds of many new PCs on the market. People using 600MHz machines may be tempted to try Windows XP on their existing equipment, rather than buy expensive new PCs--if, that is, they think the new operating system is worth buying at all.

Kay notes that consumers and businesses have held back on all computer-related purchases in the slumping economy, especially since the terrorist attacks of Sept. 11. IDC predicts that desktop PC and notebook shipments will decline 18 percent in the United States during the fourth quarter from last year's levels. The consumer segment will see the steepest drop, a 31 percent plunge from the fourth quarter of 2000.

"That's a downright disaster," Kay said. "XP will warm the thin holiday fire, but otherwise it's going to be lean overall."

“**The products I am seeing released with XP are fully loaded—we're talking about 256MB and 60GB hard drives. It's incredible how ramped up these machines are.**”

—ARS analyst Toni Duboise

George Fiala, a direct-marketing executive from Brooklyn, N.Y., is one of those who believes that people can limp along with the hardware and software they are using now. "In these times I am sure that many people will stick with what they have," he said. "I used a 486 machine with Windows Me for the past two years, and while it was a pain to keep having to reboot, it did everything I needed."

Doug Shekoyan, a raisin farmer from Fresno, Calif., is one of many business owners who are interested in Windows XP but are waiting before taking the leap. Because he bought new Windows 98 PCs in 1999 "to get ready for the big Y2K problem, it will be another 12 to 18 months or so until I am ready to purchase new machines," he said.

And there are those who oppose Windows XP for philosophical reasons, objecting to the way Microsoft is using the operating system to shut out competition.

Don Fitzpatrick, president of InterNetwork Systems, is one such critic. The Brookfield, Wis.-based developer provides business-management software to smaller companies.

"Microsoft's tactic of merging non-operating system functions like a media player, a photo editor or a CD writer into XP may help them drive a competitor out of a market they want to enter," Fitzpatrick said. "However, the logic for embedding them in the operating system is questionable, and customers may be better served by separately installing best-of-breed third-party programs of their choice." ■

**February 2000:**

Windows 2000 Professional, Server and Advanced Server are released. They include Active Directory, Microsoft's directory services technology to compete with Novell Netware. They require a Pentium 133MHz or higher processor, 32MB of memory, and 650MB of disk space.



**June 2000:**

Windows Millennium Edition (based on the Windows 95/98 code base) is released, aimed at home users. Windows Me requires a Pentium 150MHz or higher processor, at least 32MB of memory, and at least 270MB of disk space.



**February 2001:**

Microsoft announces that Whistler will be called Windows XP.

**August 2001:**

Microsoft releases Windows XP to manufacturers. It requires a processor running at 300MHz or higher, 128MB of memory, and 1.5GB of disk space.

**Sept. 24, 2001:**

Compaq, Gateway, Dell and others begin shipping PCs with Windows XP.

**Oct. 25, 2001:**

Official launch date for Windows XP.

—Tom Schmidt, Mike Ricciuti

# The Gatekeeper

## Hardware: No free ride for PC makers

By Joe Wilcox  
Staff Writer, CNET News.com  
October 24, 2001, 4:00 a.m. PT

### Even with \$1 billion in marketing, Windows XP will be no panacea for beleaguered computer manufacturers.

Many corporations--by far the largest customers for PC makers--have little incentive to spend millions of dollars on the new operating system, having just bought new equipment in anticipation of the dreaded Year 2000 bug. Even if they are inclined to try Windows XP, the economic slowdown has put technology purchases on hold.

As a result, with computer shipments and profits at record lows, desperate PC companies are focusing on the volatile consumer market, hoping that such Windows XP features as improved streaming media, CD burning, online photo processing, wireless networking, and instant messaging with telephony and videoconferencing will inspire people to buy more powerful hardware that can handle these functions.

But it is unclear whether those features, while tempting for many, will provide enough incentive for consumers to dump their older systems for expensive new computers and peripheral devices such as cameras, printers, scanners and other equipment designed to take advantage of all Windows XP has to offer.

"I believe it is essential for home PCs to be delivered with as much pre-installed communication and media playback software as possible. Doing so ensures that novice users will be able to enjoy the full benefits of new technologies without having to deal with installation procedures," said Dave Hammond, a technology manager in Woodbury, N.Y. Yet he doesn't see those new features as a necessary catalyst for sales: "None would compel me to switch to XP."

In many ways, computer companies have fallen victim to the disruption of a long-running software-hardware upgrade cycle that has perpetuated the growth of both industries. For years, PC manufacturers and chipmakers have sold increasingly powerful equipment necessary to run new versions of resource-hungry Windows operating systems.

XP, however, may be the first operating system since Windows 95 that can work adequately with older PCs for the vast majority of consumers. Even Microsoft seems to have gone out of its way to stress this point, perhaps recognizing that corporations and consumers have grown tired of the seemingly endless need to buy new equipment.

"It's not exactly the easiest of times to be selling PCs," NPD Intellect analyst Stephen Baker said. "Microsoft is spending a lot of money to announce and generate demand for XP. Companies that want to take advantage of that are going to have to be aggressive, and that means doing things in new ways."

For example, taking a page from Apple Computer's marketing playbook, PC makers will put more emphasis on what consumers will be able to do with Windows systems rather than simply touting such raw performance resources as processor speeds, storage capacity and memory levels used for Web surfing, letter writing and other basic functions. Specifically, the message will underscore the entertainment value of a computer running Windows XP.

## Bundles of features

Some PC makers will offer a variety of peripherals and computer-component bundles specifically designed to harness new Windows XP features.

**Sony** will offer rebates when people buy digital cameras or camcorders with select Vaio consumer PCs:

- A Vaio PC RX550 desktop with a 1.5GHz Pentium 4 processor, 256MB of RAM and a 60GB hard drive, bundled with an HMD-A200 17-inch monitor and a DCR-TRV230 camcorder, for \$1,910 after \$220 in rebates.
- A Vaio FX390 notebook with a 1GHz Pentium III processor, 256MB of RAM, a 30GB hard drive, a combo DVD/CD-RW drive and a 15-inch display, bundled with a DSC-F707 digital camera and an NW-MS9 Walkman, for \$3,324 after \$175 in rebates.

**Gateway**, by contrast, has broken out specific bundles--including Country store training courses--that can be added to any Windows PC:

- The music option includes CD Stomper Pro CD Labeler software, 50 blank CD-R discs, MusicMatch Jukebox Plus software, and the "Using Your PC to Explore Digital Music Your Way" training course for \$60.
- Photo enhancement comes with MGI PhotoSuite 4 Platinum Edition software with Gateway Photo Center access, Kodak Premium Picture Paper, and the "Using Your PC to Explore Digital Photography Your Way" training course. Fuji's FinePix 2300 digital camera for \$350 or the Epson Perfection 1250 Scanner for \$200 is available with the kit.

**Hewlett-Packard**, like Gateway, is offering bundles that can be added to Windows XP PCs but is sweetening the deals with rebates:

- Customers get a \$150 rebate when buying an FX-series monitor or \$100 off other select monitors with any Windows XP PC.
- When buying with the PC select inkjet printers, all-in-one machines, a scanner, a digital camera or a photo printer, customers get a \$50 rebate.

—Joe Wilcox

## Plethora of peripherals

Three PC makers stand out from the pack in this marketing trend: Gateway, Hewlett-Packard and Sony.

HP is banking on a potential boom in the sale of such related equipment as printers, digital cameras, CD writers and recordable DVD drives, all of which could be offered in package deals with computers. The company hopes that consumers will tie these kinds of products together with Windows XP's new wireless networking features, creating a demand for equipment that combines entertainment with practical functions.

"By the time Windows XP ships we will also be introducing a new wireless home-networking product line," said Rob Wait, business manager for HP's Consumer Business Organization. "Windows XP is like the last element needed to be able to start to proliferate PCs in any room in the home."

That makes particularly good sense for HP and other PC makers that sell their own branded peripherals, analysts say.

"The focus will be on new things added to the operating system and new perceived advantages," Baker said. "HP has great brand recognition in printers and other peripherals that fit right into this kind of message."

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**"It's not exactly the easiest of times to be selling PCs. Companies...are going to have to be aggressive, and that means doing things in new ways."**

—Stephen Baker, NPD Intellect analyst



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**"We're constantly balancing potential with reality. It's a real chicken-and-egg thing."**

—Fujio Nishida, Sony Electronics president, July 2001

Gateway has taken that approach a significant step further with its nearly 300 "Gateway Country" stores. Already, the company organizes these retail outlets based on specific PC uses, such as digital music, moviemaking or home finance--all areas that will see improved performance and new features in Windows XP.

Following Apple's strategy, Gateway's retail outlets are broken into sections supporting its YourWare initiative, "where we've been focusing on PhotoWare, MusicWare, VideoWare, as an example. We've been trying to focus on an entire solution," said Mike Ritter, Gateway's vice president of product marketing.

The Poway, Calif.-based PC maker has adopted this strategy because it realizes that computers no longer fly off the shelf when Intel releases a new processor or Microsoft a new OS. More than ever, PCs must be sold--and for a specific purpose, Ritter emphasized. For this reason, Gateway will be tailoring its Windows XP advertising rather than taking a broader approach, as it has in the past.

"Gateway is in a much better position than HP because HP has traditionally been so bad in how it's bundled its hardware together," said Context analyst Jeremy Davies. "I am very impressed with the Gateway stores, with the different areas. You have your student area, home or tax expert area, and that kind of stuff. That's the way you do it: You give people solutions."

If Sony has a solution, it's entertainment. After all, the Tokyo conglomerate

made its name in consumer electronics, becoming synonymous with a postwar generation of Japanese-made TV sets, transistor radios and stereo systems. In fact, the reason Sony got into the computer business in the first place was to protect and expand its electronics franchise, not the other way around.

Many of Sony's digital products--cameras, camcorders or MP3 players--will work with Windows XP without the need for additional applications or software drivers. For instance, moviemaking or video editing using high-speed IEEE 1394 ports will be made easier with the new operating system.

But Sony has no plans for "hard bundles," as the company calls them. Chris Pollitt, marketing director for Sony's Vaio line of notebooks, said, "With cameras or camcorders that would be quite difficult."

Or, in Sony's case, expensive. The company's multimedia equipment, like all Sony products, is typically among the highest-priced on the market.

In some ways, Sony is positioned between Gateway and HP. Although it does not have Country-type stores dedicated to specific PC uses, Sony is tailoring special areas for its products at such retail chains as Best Buy and Circuit City. And like HP, Sony sells many peripheral devices under its brand that could be made to work best with Windows XP.

### If it's built, will they come?

Yet it remains to be seen whether consumers will rush to buy such devices simply because Windows XP has features that work with them. "In the case of XP, it's not likely you'll buy something and add things on later. There's not enough there to make you want to do that," Context's Davies said.

That would be bad news for all PC manufacturers, for they would have few other markets to target for their sales.

In the corporate arena, many businesses that might normally be counted on to buy new equipment are not likely to do so anytime soon. Those companies already running Windows 2000 will find that XP offers little significant change--in the worst cases providing not much more than additional memory.

"Windows 2000 was a major upgrade from Windows 95, 98 and NT," said Mark Romanowski, senior vice president with New York-based IT consultancy AMC. "When Windows 2000 came out last year there were major implications. Systems just would not function. You would have to scrap systems and buy new ones because the hardware upgrade price was just too high."

These businesses could move to XP with relative ease because they have already paved the way with the painful transition to Windows 2000, but they have scant justification for doing so. Even those

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**"In the case of XP, it's not likely you'll buy something and add things on later. There's not enough there to make you want to do that."**

—Jeremy Davies, Context analyst

businesses that are interested in XP are not expected to make the jump right away because they are still only partway through the anticipated life cycle of 2000.

"Those companies that have 2000 rollouts going on, they're going to continue," Gartner analyst David Smith said. "It wouldn't make sense for a company halfway through its 2000 upgrade to switch to XP. There's not a lot of difference between the two, from a corporate perspective."

George Fiala, a direct-marketing executive from Brooklyn, N.Y., said he has no reason to purchase new hardware or software after recently buying a new 1.4GHz Athlon PC with 512MB of RAM and a 40GB hard drive. "I will not be upgrading to XP," he said. "Windows 2000 is just fine for me."

None of this is lost on the major computer companies. Some say privately that refining their marketing strategies has been as much art as science.

Most troublesome is the overall economic situation, which has frozen spending on purchases across the board, from Fortune 500 companies to parents who might otherwise be looking to buy their children's first computer. Flagging consumer confidence has worsened since Sept. 11.

After the terrorist attacks in New York and Washington, many companies made major changes at the height of their marketing campaigns for the Oct. 25 official release of Windows XP. Sources familiar with Microsoft's marketing plan said the company scrambled to tone down its main New York launch event and to dump one suggested slogan: "Prepare to fly."

Still, even the recent tragedies have not stopped the \$1 billion juggernaut of direct advertising or co-marketing surrounding Windows XP by Microsoft and other

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**"It wouldn't make sense for a company halfway through its 2000 upgrade to switch to XP. There's not a lot of difference between the two, from a corporate perspective."**

—David Smith, Gartner analyst

interested parties. If anything, these uncertain times have spurred hardware and software makers to do whatever they can to survive.

Companies can no longer assume they can sell PCs "lined up by price and processor," Sony's Pollitt said. "That's the old way of doing business." ■

*News.com's Ian Fried contributed to this report.*

# The Gatekeeper

## Readers: It's not worth the trouble

By Lara Wright  
Staff Writer, CNET News.com  
October 25, 2001, 4:00 a.m. PT

**A new technology meant to prevent illegal copying of Microsoft's latest operating system is stopping many people from buying it, according to an informal survey of CNET News.com readers.**

Windows XP, to be released Oct. 25, touts improved security, resistance to crashing and a raft of new features. But it also comes with a technology called Product Activation that forces the customer to activate the product with Microsoft, something that many people are reluctant to do for privacy reasons.

After a person registers Windows XP over the phone or through Microsoft's Web site, the software giant locks the operating system to that person's PC hardware configuration. If the customer changes or upgrades as few as four components, Windows XP can be disabled until the customer contacts Microsoft for reactivation.

Microsoft also could use the anti-piracy technology to deactivate the operating system if a business customer were to fail to pay fees under a new licensing plan, under which customers must upgrade every two years.

"I have bought thousands of dollars worth of Microsoft products for myself and my business. However, as a developer, my computers are constantly being changed and upgraded, and this new licensing scheme will be too much of a hassle," wrote Don Fitzpatrick, president of Brookfield, Wis.-based InterNetwork Systems, which makes business software for small and medium-sized companies.

He was among more than two-thirds of the respondents who answered with a vehement "no" to this News.com question posted on the Web site over the past month: "Do you think Windows XP is worth buying?" Half of those who responded negatively cited the activation

feature and licensing changes as top reasons for skipping the upgrade.

In a survey conducted by market researcher Giga Information Group and Windows NT/2000 integrator Sunbelt Software, 36 percent of 4,550 technology professionals said they would consider alternative products to Microsoft's in light of the licensing changes.

Many News.com readers also complained about the hardware requirements, the price and the integration of some features, which they said amounted to unfair competition. These readers expressed little faith that the software would be secure, compatible with other programs or relatively bug-free, adding that the new operating system offered no compelling reason to switch from Windows 2000.

"We need stability, efficiency and economy," wrote reader J. Mark Egermeier, technical director of Answer Phone Telemessaging in Tulsa, Okla. "Microsoft offers increasing complexity and bloat along with a scary migration toward 'leased' software. We want an operating system, not a Swiss Army knife."



**“ Even though Microsoft tells you that you can default to other software, it's very hard to do. I still can't figure out how to get rid of Media Player starting whenever I put an audio CD in the drive.”**

—George Fiala, direct-marketing executive, Brooklyn, N.Y.

Windows XP did get positive reviews from some readers who said they have used the public test version of the operating system. Many of those readers said it is faster, crashes less often and is easier on the eyes than previous Windows systems.

"I have been using XP for the last couple of months. I have purposely tried to overwhelm the operating system and have failed. I'm amazed at the stability of the OS," wrote Tom Witwer, a business manager from Phoenix. "I've bounced between all my software packages, kept three or four programs running at once (never could before), and I've even played my graphics-intensive games and go right back to work afterward without a restart."

**“ Far be it from me to tell the richest, most successful company in the history of the earth what they're missing. But if they keep living in the present and mistake the present for the future, that's a problem.”**

—Larry Ellison, Oracle CEO, May 1999

Below are more comments from News.com readers:

### Activating Big Brother?

Neither I nor many of my colleagues will be upgrading to Windows XP, and for good reason. It's an unnecessary upgrade, with some whiz-bang features that are far from essential. Neither is it inexpensive, and the Product Activation leaves a Big Brother bad taste in my mouth.

—Andy Blair, geologist, Ottawa

eXtra Pathetic. The only value in XP is for Microsoft, who forces customers to register to protect itself. Where is the protection for customers? Where are features to fix Windows when it breaks? Instead, we get features to fix Microsoft's revenue stream. XP offers no value to me.

—Daniel Will-Harris, writer and designer, Marin County, Calif.

XP is more of a downgrade and not worth buying. Too many issues--spyware and incompatibilities being the most important. I don't need the eye candy or Micro\$oft controlling my PC.

—Juan Bravo, chief technical officer, New York

You have to call Microsoft each time XP needs to be installed and explain why you are reinstalling it. For people who have to format their hard drives frequently, this is ridiculous. They've taken anti-piracy practices a bit too far.

—Sharon Powlish, computer user, Bridgewater, N.J.

### Tired of pricey upgrades

I'm tired of Microsoft's frequent, expensive upgrades. I've never copied their OS to any of my five machines--each has a validly licensed copy, but I'm not shelling out so much money for so little anymore. I've been switching my kid's machines and my own to Linux.

—Alvin Rees, systems information security manager, South San Francisco, Calif.

As owning a Windows system becomes more expensive, my company is finding that new machines we get are FreeBSD (Mac/Intel) or perhaps Linux. Bringing a Windows system into an organization is like bringing in a hungry mouth that needs to be constantly fed with dollars a few times a year.

—Tom Ritchford, senior engineer, New York

Like every other Windows update in the last few years, it offers few new features and seems to tighten Microsoft's stranglehold on the technology industry. It seems silly to force us to keep upgrading every few months just because Microsoft needs to meet earnings expectations.

—Hal Widlansky, chief information officer, Los Angeles

### Good play for gamers?

If I could avoid buying Windows XP, I would. But as a gamer, Microsoft will ensure that I have no choice. How can I enjoy an XPerience that is constantly trying to advertise Microsoft and deceive me into signing up for services like Passport? I want control of my OS, not vice versa.

—Andy DePue, computer programmer, Greer, S.C.

I've been beta-testing XP Home and Professional Editions for over a year, and this is the best OS I have ever used, period. Its stability is outstanding; I have not had a single "blue screen of death" during my testing. I have been using the Home Edition RTM code (2600) as my primary OS for about the past month, and I find it far superior to WinMe and Win98SE, and its gaming compatibility far exceeds Win2000.

—Mark Sullivan, technical analyst, Chicago

### Right for some

It might be worth buying once but not several times if as a household you have several PCs. A license should be per household, not individual machines.

—Nick D. Millyard, Web site promoter, Lone Tree, Colo.

Windows XP is not worth buying if you have Windows 2000 deployed in your business, because it does not offer much more. But it is worth buying if you have Windows 95, 98, Me or NT 4 deployed in your business or home, because XP is more stable and offers better features. Although XP requires more PC resources, the features are worth getting the extra RAM and/or disk for.

—Yves Crevecoeur, assistant vice president of distributed system development, New York

### Bloated with features

Windows XP is, in a word, bloatware. XP is increasingly packed full of useless features, tricks and hidden settings. XP drags down performance of even the fastest new computers and is simply Windows 2000 with a face-lift. Serious users and businesses should stick with Windows 2000.

—Nick Leali, student and member of the Ohio State University Chemistry Computer Support group, Columbus, Ohio

I do not want to be an XP user because of the piracy protections and also because of what I assume to be lots of bloated code due to the built-in new programs--instant messenger, etc. Even though Microsoft tells you that you can default to other software, it's very hard to do. I still can't figure out how to get rid of Media Player starting whenever I put an audio CD in the drive.

—George Fiala, *direct-marketing executive, Brooklyn, N.Y.*

WinXP is too bloated with “features” that are totally worthless and uninstallable. I am beginning to wonder if Windows XP is an OS or just a bunch of “features” added to Win2K and put in a different-color box.

—Garth Honhart, *education applications engineer, Mountain View, Calif.*

### Passport to insecurity

Microsoft seems to have hard-coded Passport into XP and as a result is literally forcing anyone who uses the OS to use the Passport service for online commerce. I have huge issues with all of my vital information being stored on my computer as a file that anyone (with access) can snatch. For me my decision was reached after reading the information available on Gibson Research Center pertaining to XP and Passport security.

—Ryan A. Allen, *Web engineer, Sacramento, Calif.*

Though Microsoft claims the personal firewall will entirely cease malicious use of it, the company is providing unrestricted program access to raw sockets, so anyone with a basic knowledge of Windows programming can create a worm (using the security flaws that Microsoft is renowned for and that will inevitably show up in XP) to create XP-specific DDoS attacks. This essentially makes all of their rewrites from the Windows 95 TCP/IP stack for naught, since they have degraded the security of it by doing so.

—Ben Clarke, *technology development manager, Toronto*

I'm still using Windows 95. Why? Because the security holes are pretty well known and patched now. Hackers aren't really after Windows 95 anymore.

—Norma Marion, *executive, Zanesville, Ohio*

### Readers rave

I think my wife summed it up best when after looking at my monitor and seeing Windows XP running, she said, “Is that a Macintosh you are using?” I think WinXP has a fresh, clean interface, something that is very welcome in the Windows world--Mac users have had that monopoly long enough.

—Paul Colton, *venture capitalist, San Diego*

XP is a monumental step forward for home users. Now they have a reliable, easy-to-use, easy-to-do-things-on OS. The file system does not lose files. Parents can block kids from going to certain areas on the computer or deleting things. New features make it easier to do things, not the least of which is the new Start menu. Once in a while, a marketing slogan proves true: Windows XP is a great eXPerience.

—Ryan Wine, *student at Academy of Computer Careers, Turnersville, N.J.*

Win9x/Me is finally dead! Hallelujah! No more buggy, unstable home OSes. We are finally getting the “convergence” product that brings together the home OS and the office OS into a single, stable platform. Frankly, I am ecstatic at the prospect of seeing the Win9x/Me platform go away.

—Matt Smith, *network support tech, Lansing, Mich.*

I have been running Windows XP for about a year now (from beta 1 on). I think it is a great OS and a must for Windows 9x/Me users. All this complaining about Media Player, digital imaging and communications software integration is ridiculous. All this software was a part of Windows Me, and that didn't bring the competitors to their knees. Microsoft has included a basic set of programs and features based on consumer need.

—Eric Renken, *software engineer, Niles, Mich.*

Windows XP is the best release of an operating system. As a staunch supporter I thought nothing could top Windows 2000. Windows XP has proved me wrong by allowing more of my older software to work with its new compatibility mode. Stability is equal to that of Windows 2000.

—Robert Johnson, *technical support trainer, Almere, Netherlands* ■