

BYTE

Revealed! When the P6 Is Slower than the Pentium P. 24

Telephony's Killer App P. 215

CompuServe, AOL, Prodigy: Which Wins Web War? P. 229

THE MAGAZINE OF TECHNOLOGY INTEGRATION

20

- best** COMPUTERS
- top** PROGRAMS
- biggest** TECHNOLOGIES
- most influential** PEOPLE

plus!

Weirdest Error Messages
Worst Bugs
Amazing Hacker Feats
AND MORE...

YEARS

0 9 >
\$3.95 U.S.A. / \$4.95 IN CANADA
A Publication of the McGraw-Hill Companies, 0160-5260



Gateways to the Internet

America Online, CompuServe, and Prodigy offer Web browsers, FTP, and more, but these services aren't for everyone

GEORGE BOND

Access to the World Wide Web may seem an obvious component of any major on-line service, but the Big Three—America Online (or AOL), CompuServe, and Prodigy—are just now scrambling aboard the bandwagon. All three offer something you don't get from an ISP (Internet service provider): a single point of access for Web surfing, commercial database browsing, and on-line conference discussions. They also deliver single-source access to technical support and training.

The ISP Advantage

All these service providers—with the possible exception of Prodigy—tend to be more expensive than ISPs (see the text box "Convenience, but at What Price?" below). And the speed of phone connections to the Big Three is still mostly limited to 14.4 Kbps, a drawback when working with the on-line graphics of the Web.

Also, the three providers promise to upgrade their networks, but at the time of this writing only a few 28.8-Kbps connections were available. In contrast, many ISPs offer 28.8 Kbps routinely. But these shortcomings may be offset by the large number of POPs (points of presence, or local phone numbers) offered by the Big Three, as well as by the convenience of one-stop access to

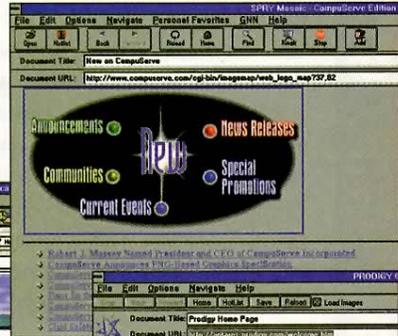
services and support.

Prodigy is the only major information provider currently with an actual Web service. At this writing, CompuServe and AOL were still in beta testing with their Web browsers (graphical front ends for navigating the Internet and viewing Internet Web pages) and Web services. However, users of these providers' services can walk the Web now by downloading the necessary software. Internet mail, FTP (the Internet's file transfer protocol), and Usenet news groups are already in place.

Web-Crawling with CompuServe

CompuServe uses the Spry Mosaic browser, TCP/IP stack, and dialer (the company purchased Spry to obtain the technology, as AOL did with InternetWorks and its browser). There are so many free sign-up

CompuServe's What's New page links users to popular new sites on the Internet.



Prodigy's Welcome screen is the first thing you see when you jump to the World Wide Web.

deals floating around that this initial expense will be nil, or close to it.

Once you're logged on to CompuServe, you use the command `go ppp` to get to the browser-downloading area. Then you either walk through menus to download the Windows version of the software or read instructions on how to connect via third-party Macintosh and OS/2 software. If you are using CompuServe's WinCim or

Convenience, but at What Price?

Using the Big Three commercial information providers can be expensive. Here's what it would cost to surf the Internet for 30 hours per month with each of them.

AOL (America Online). The first 5 hours are included in the \$9.95 monthly fee. You're then charged \$2.95 for each of the remaining 25 hours. Total: \$83.70.

CompuServe. An initial charge of \$9.95 includes unlimited use of basic services and 3 hours of Internet services (i.e., World Wide Web, FTP, telnet, and the Usenet news reader). An additional charge of \$15

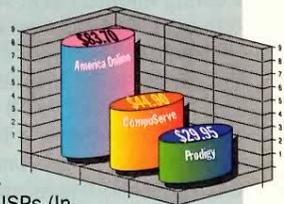
gets you an Internet Club membership with 17 more hours of connect time; each of the remaining 10 hours costs \$1.95. Total: \$44.90.

Prodigy. You get 30 hours of connect time under the 30/30 Plan. Total: \$29.95.

To be fair, these comparisons aren't strictly parallel; CompuServe also has a mail surcharge (10 cents for the first 7500 words and 2 cents for each additional 7500 words per message) if you exceed approximately 90 three-page, full-text messages a month. But time spent in mail is not counted toward connect

charges. The other services don't have a mail surcharge; they account for mail in their regular connect-time charges.

By comparison, ISPs (Internet service providers), companies that offer gateways to the Internet but rarely any local databases, have charges ranging from about \$20 to \$30 for 20 to 40 hours of access via 28.8-Kbps or slower modems, plus a dollar or two per hour for additional time.



Turning an Ugly Duckling into a Hollywood Swan

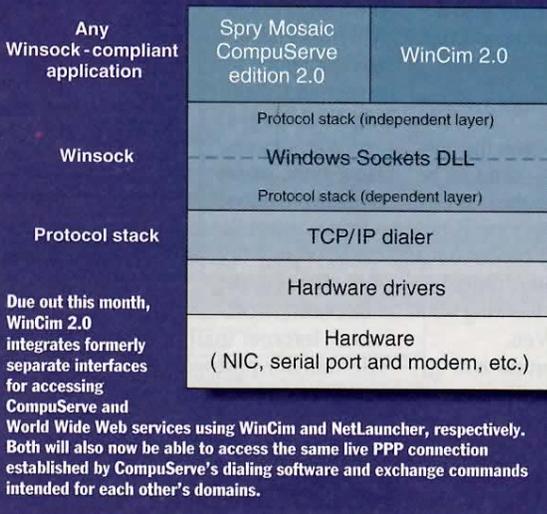
To seamlessly integrate the World Wide Web into its existing service, CompuServe faced two technical challenges: supporting the Internet protocols and getting the software front ends (i.e., the CompuServe access software and the Web browser) to talk to each other. Last spring, CompuServe delivered a downloadable Web browser, called NetLauncher, that could work from within a PPP (i.e., standard Internet) session established by the dialer built into the WinCim 1.4 interface. But if you'd already used WinCim to dial into CompuServe, you had to disconnect before dialing the PPP session.

The latest upgrade to CompuServe's Windows shell, WinCim 2.0, lets you dial a single phone number and toggle between any Web browser and the CompuServe interface in the same session. The improved integration is principally due to the Windows Sockets, or Winsock, DLL. Winsock presents a network-independent interface between Winsock-compliant applications. This interface sits on top of a network-dependent component that supports the specific networking protocol stack (usually, TCP/IP).

For the new version of WinCim, CompuServe programmers wrote a Winsock networking layer for both NetLauncher and WinCim. Both the Web browser and the CompuServe front end now hook into the Winsock API. This result is point-and-click access to both NetLauncher (or any other Winsock-compliant Web browser) and CompuServe.

CompuServe has also met the challenge of different software commands by adding translation algorithms to the mix. NetLauncher and WinCim can now talk each other's lingo. For instance, when a user types *go politics* in NetLauncher, it recognizes the command as being intended for a CompuServe Go page and passes the command in a message to WinCim.

Where Winsock Fits In



on one of the hot links on the screen, selecting a location from a hot list that you create, or typing in the URL of the site that you want to visit after you use the open URL command (by typing Ctrl-O or selecting Open URL... from the File menu).

The Spry stack and dialer are among the more robust that we've used, and CompuServe's version performed without a problem. During several weeks of use, our CompuServe setup behaved reliably on a Gateway P5-60 and an IBM ThinkPad 360C. The Spry browser also performed well, including properly handling home pages built with the Netscape extensions. Because these extensions aren't part of the current HTML (Hypertext Markup Language) standard, they can cause problems with the way in which some browsers display images.

The downside of CompuServe's Internet

access is its lack of integration. To browse the Web, you must call a specific phone number and use the Spry software. To peruse news groups, or to use FTP to download a file or use telnet (a remote terminal program), you must resort to a terminal emulator or one of CompuServe's custom software packages. CompuServe is working to address these issues; see the Technology Focus box at left.

On Target with AOL

Like CompuServe, AOL was still beta-testing its Web software during our review period. However, unlike CompuServe's software, AOL's is nicely integrated into the regular AOL package, as are the clients for FTP, news groups, and gopher (a database search engine).

You will need special software to browse the Web from AOL. The current distribution disk is version 2.0. You must load this version of the software to get AOL in the first place. To use the Web browser, you need the version 2.5 preview edition, available for downloading from AOL.

If you're working from a LAN that is linked to

a T1 connection to the Internet, you'll find a pleasant surprise: One of the setup items in the network-selection pull-down menu is TCP/IP. It worked for us with no fuss on NetWare networks. We were able to connect virtually instantly and run AOL at T1 speeds. AOL is rapidly adding 28.8-Kbps connections for high-speed modem access, but so far they are concentrated in major metropolitan areas.

The browser itself looks a bit different from most of its competitors; it's much more boxy and industrial looking. The usual menu bar and collection of buttons span the top of the screen, but the buttons are long, horizontal rectangles instead of the more common squarish ones (see the screen on page 229).

Walking the Web with AOL is a breeze. You simply click on hot-linked icons or text links to jump to another page, or you type in a URL just as you would with any

Navigator software, you simply point and click to download the browser.

You run a single executable to install the software. If you already have a TCP/IP stack installed, CompuServe's stack will rename your stack and install its own. Your existing Internet client software probably will work with the new stack.

If you've seen Spry's Mosaic browser elsewhere (in the Internet-in-a-Box package, for example), you'll immediately recognize CompuServe's: It has the familiar menu bar and line-of-control buttons along the top of the screen, two long boxes in which you enter URLs (uniform resource locators, which are simply Internet addresses), and the familiar Spry globe for indicating when data is being transferred.

The browser defaults to the CompuServe home page on connection. You have three choices for navigating the Web: Clicking

MS

With the Web to the busy World Wide Web, Microsoft (National comp Mosa Spry signif interes larges provid Mi ing bo to sup mous sites v ited— but M The Wind your c

browser c Internet c well integ able icons WAIS (W client, and

Prodigy Pl Prodigy, a skepticism petition. I best integ To be s like—wel cided look Presentati older stand

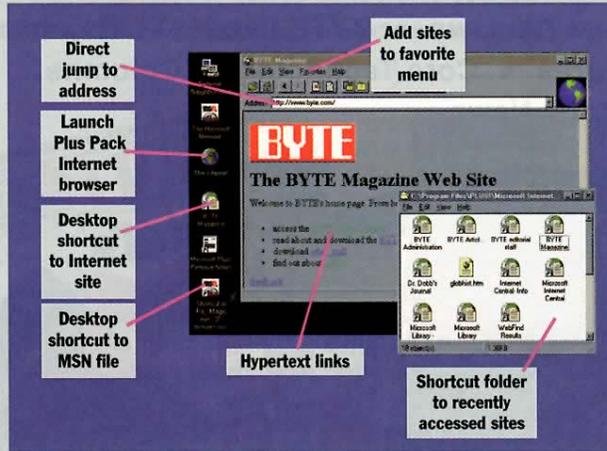
Product Information
America (monthl hourly c America Vienna, (800) 8 (703) 4 Circle 10
CompuS (monthl hourly c CompuS Columbi (800) 8-

MSN: Desktop Internet

With a vision of extending the Windows 95 desktop out to the world, Microsoft is busy building seamless World Wide Web access for the Microsoft Network, or MSN. Microsoft licensed the NCSA (National Center for Supercomputing Applications) Mosaic Web Browser from Spry International and, more significant, bought minority interest in UUNet, the world's largest ISP (Internet service provider).

Microsoft is now extending both, enhancing Mosaic to support the Windows desktop (e.g., drag and drop, right mouse-clicks, and so on) and branching UUNet into more sites worldwide. Currently, the Internet access points are limited—we had to call in to New York from New Hampshire—but Microsoft intends to open many additional lines shortly.

The enhanced browser, a component of the Microsoft Plus Windows 95 Companion Pack, accesses the Web through your own service provider, across the LAN (if you have a



LAN-based connection), or via MSN. The Plus Pack sticks an Internet icon on the Windows 95 desktop.

You click on this icon to launch the browser, starting off in a Microsoft Web page that serves as an opening menu. From there, you can take a tutorial, go surfing on your own, or search for specific subjects using the Lycos Internet catalog. Once you're out of Microsoft's page, you're navigating the Web just as you would expect, jumping across various sites by clicking on hyperlinks

or hopping directly to specific addresses.

From the menu bar, you can create a desktop shortcut to any site, build a list of favorite sites, or pull up a history window of recently accessed pages. You can drag and drop text or images to the desktop or to other applications. To capture an image to disk, you simply point at the image, click the right mouse button, and select Save As.

Where to Find

Microsoft Corp.
Redmond, WA
(206) 882-8080
fax: (206) 936-7329
www.microsoft.com

browser on a standard ISP. Using other Internet clients is just as easy. They are well integrated, also appearing as launchable icons. A news-group reader, a gopher/WAIS (Wide Area Information Service) client, and an FTP client are available.

Prodigy Plows Ahead

Prodigy, after a long, uphill battle against skepticism, has gained an edge on its competition. Its Internet access is easily the best integrated of the three services.

To be sure, most of Prodigy still looks like—well, Prodigy. Its screens have a decided look of NAPLPS (North American Presentation-Level Protocol Syntax), an older standard that features big characters,

crude graphics, and generally an old-days-in-cyberspace appearance. However, its Web browser propels Prodigy into the mid-1990s. With its high-resolution display of non-Prodigy pages, it provides a sharp contrast to the rest of Prodigy.

The browser itself is efficiently laid out: It has the usual menu bar at the very top, and buttons and URL boxes under the bar, with an activity indicator next to them. There's no special installation needed for the browser because it's part of the normal Prodigy installation.

Prodigy's browser is easy and intuitive to use. Just click on what you want, and you're there. How fast you get there is limited by the connection speed of your modem—in Prodigy's case, it's

14.4 Kbps, although 10 major cities were expected to get 22.8 Kbps by late July. That's better than 9600 bps, but it can lead to slow transfer times when you're dealing with graphics-intensive home pages. The Prodigy home page itself is skillfully designed to load fast: It has a modest-size graphic at the top and then, like the Com-

puServe home page, drops into a heavily text-oriented page.

Do We Have a Winner?

For general prowling around the Internet, we'd select AOL because of its good integration and high-speed modem (and T1) connections. Prodigy would run a close second, falling somewhat short because of its slower modem links and lack of a T1 connection. CompuServe brings up the rear. Without the upcoming improvements in WinCim, it's simply too much work having to switch back and forth from the main system to the Web browser.

The wild card is Microsoft Network, or MSN, Microsoft's fledgling network (see the text box "MSN: Desktop Internet" above). Built with Internet integration in mind, it should compete as an Internet gateway right out of the starting block. ■

George Bond is publisher of Sams.net, the Internet imprint of Macmillan Computer Publishing USA, and publisher of such titles as Teach Yourself Web Publishing with HTML in a Week and Internet Unleashed. In an earlier life, he cofounded BIX. You can contact him on the Internet at gbond@sams.mcp.com or on BIX as "gbond."

Product Information

America Online . . . \$9.95 (monthly fees, excluding hourly charges) American Online, Inc. Vienna, VA (800) 827-6364 (703) 448-8700 Circle 1033 on Inquiry Card.	(614) 529-1349 fax: (614) 529-1610 sales@cis.compuServe.com Circle 1034 on Inquiry Card.
CompuServe \$9.95 (monthly fees, excluding hourly charges) CompuServe, Inc. Columbus, OH (800) 848-8199	Prodigy \$9.95 (monthly fees, excluding hourly charges) Prodigy Services Co. White Plains, NY (800) 776-3449 (914) 448-8000 into99a@prodigy.com Circle 1035 on Inquiry Card.