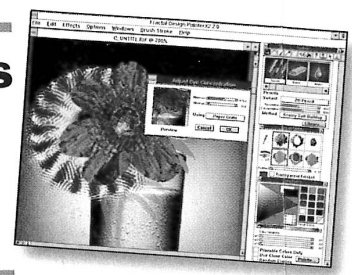# PC MAGAZINE

The Image Makers
6 Packages to Make Pictures Really Say What You Want

Good Things, Small Packages: PCMCIA Modems and Ethernet Adapters
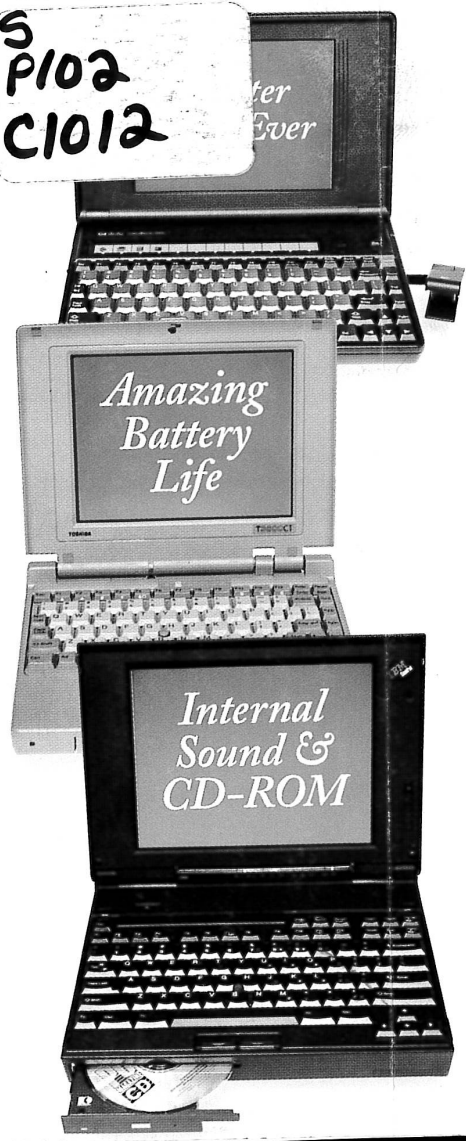
Michael Miller: Can Anyone Stop Microsoft? Should Anyone Try?

PC LABS TESTS 68 NOTEBOOKS

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PC Magazine Reviews

Except where noted: All PC Magazine reviews are of currently available products. Benchmark and performance tests are run on Compaq Deskpro 486/33M's.

Marvel-ous Temptations

Microsoft courts electronic publishers.

Whether it's creating a hardware standard like Plug and Play, getting staid financial institutions to pay attention to on-line finance, or getting developers to buy into "tough" efforts like OLE, Bill Gates and company have a distinct knack for making folks listen up.

Microsoft has built easy access to The Microsoft Network into Windows 95.

The next territory is the on-line world. It seems that Gates is already crafting a combination of "spin doctoring," vision, and perhaps a bit of strong-arming bound to make electronic publishers, or content providers, reconsider any on-line plans they've already made.

"Clearly, there's something missing from on-line services today. They're not exciting enough, different enough, fast enough, or easy enough," says Gates. Since only 10 percent of the Microsoft Windows users with modems (and only 4 percent of households) subscribe to on-line services, Gates sees a huge untapped market for a service that does things differently. So he rewrote the on-line business model to make The Microsoft Network—Microsoft's recently announced on-line service known until now as Marvel—attractive for on-line publishers.

What unique incentives will the network offer electronic publishers? Consumers. Since The Microsoft Network will be easily accessible from Windows 95, content providers will tap into a potentially huge subscriber base paying a monthly access fee as low as $4 or $5. And a bigger cut. "A key aspect of what we're doing differently is to allow content and service providers to create businesses on-line and to control the revenue possibilities," says George Meng, product manager for The Microsoft Network. The big difference is to de-emphasize revenue from connect-time charges, which on-line services rely on today. "We've talked to a lot of potential partners out there

who see very little opportunity with this model because it's not pricing for the content's value."

Instead, Microsoft is giving content providers flexibility in terms of how to make money, whether by charging subscription fees, offering on-line transactions, or selling advertising. An on-line magazine, for example, would be able to stick with the traditional magazine business model that draws on three revenue sources: advertising, subscriptions, and impulse buys at the newsstand.

Microsoft also plans to offer content
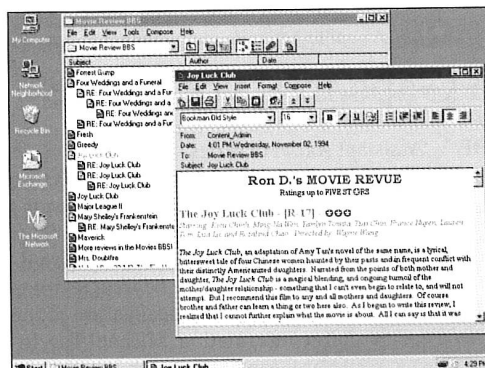
Content will be provided by Microsoft at first, but other content providers may profit from the new on-line business model.

providers the tools and infrastructure to create original electronic products that take advantage of the interactive format and prominently display their brands. Microsoft is working now on a comprehensive design
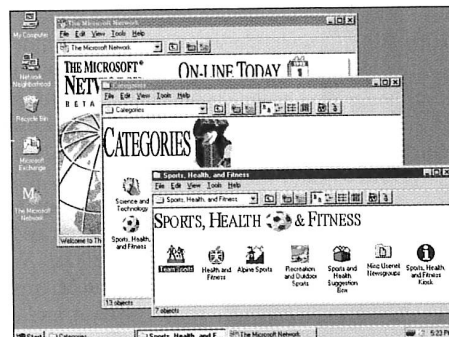
system that will incorporate Visual Basic and OLE. The goal is to allow people to use familiar tools like Microsoft Word or other word processors to create content.

Initially, Microsoft will provide much of the content on the network, including tech-support forums, private forums, chat lines, and bulletin boards. Down the road, you can expect personal finance components on The Microsoft Network, says Meng. Part of the plan is to enable users to connect directly from their applications to the network for support. Clicking on an icon from the Excel toolbar, for example, will take you right to the Excel tech-support forum. Microsoft aims to make it easy for other developers to design this type of shortcut connection into their Windows applications.

While Microsoft has not yet announced any content providers, it demonstrated model services from *USA Today* and Nickelodeon at the launch in November.

How are the other on-line services reacting? Steve Case of America Online calls the network less than competitive. Debra Young of CompuServe says, "Microsoft will have excellent distribution via Windows 95 and can afford to operate at a loss to gain market share. The jury is still out on how quickly Microsoft can build meaningful content. We need to ensure that the playing ground is level and fair, and I think all three of the on-line services are going to work toward that." And Brian EK of Prodigy says, "We have been contacted by the Justice Department and will be talking with them."—*Carol Levin and Sebastian Rupley*

Trends

Pipeline   *By Robin Raskin*

Headlines '95

Most of you have long since made your predictions and resolutions for 1995. Me, I've abandoned the Julian calendar in favor of the Comdex calendar. As soon as that mother of all computer trade shows is over—and I've had a chance to digest the gestalt of the thousands of products that create their own Las Vegas glitter for the week—I start writing next year's headlines in my mind. Here's what I think we'll see.

Boom Year for Mergers, Acquisitions, and Bankruptcies. If you thought that 1994 was the year of strange bedfellows, stay tuned. 1994's all-star cast featured Novell and WordPerfect, Intuit and Chipsoft and Microsoft, Altsys and Macromind, Sybase and Powersoft, Aldus and Adobe, Stac and Ocean Isle, ZEOS and Micron, and Tandy and AST. Longtime favorites like Hayes were hard hit by the skyrocketing costs of manufacturing. 1995 will bring more of the same. Companies will be sold; mergers and acquisitions will take place at a ferocious pace. At the end of the year, there will be far fewer players than at the beginning. The pattern is clear: Consolidation is the recipe for survival.

Closing the Books on Some Underdogs. Farewell noble underdogs, full of technical promise but a little long of tooth when it came to deliverables and market realities. We'll see Appware, OpenDoc, Taligent, and perhaps DEC Alpha relegated to the "whatever happened to" category. And to paraphrase Dorothy's line to the lion, "Of all the underdogs, I'll miss you most of all, OS/2." I believe that OS/2 is a terrific operating system for a niche group of nonnetworked power users.

Internet: Big-City Problems in Cyberspace. This is no longer a pleasant place where academics trade research papers, and it's no longer a place where you'll feel free to roam. Cyberspace will take on a real Wild West persona this year. There will be scams unheard of before, a nonexistent line between information and misinformation, and plenty of smart people who will lose their shirts trying to make a buck.

Other big Internet news: I've no doubt that you'll be able to browse and publish on the Internet using traditional word processing, spreadsheet, and database applications.

Phone Companies See Cash in Interactive Games. People will form groups of multiplayer communities in bigger numbers than ever before. You'll play DOOM over your phone lines, but the big question is whether the phone company will be allowed to get involved with "loser pays all" models of doing business.

ISDN Proliferates with Amazing Speed. Thanks to consumer pressure, the telephone companies have finally figured out ways to make ISDN widely available for a reasonable price. They predicted deployment by the end of the decade, but it's looking more like by the end of 1996.

Windows 95 Apps Get Off to a Slow Start. Microsoft Windows 95 will have a reasonably fast adoption rate, but Windows 95 apps will be a slower sell. The immediate advantage of Windows 95 apps is their support of long filenames, but that alone won't compel you to convert all your old 16-bit Windows apps.

The Microsoft Network Reaches 1-Million-User Mark in First Three Months. The price of entry is lower than that of any other service, and the content providers have been strong-armed into providing their best stuff. It's pretty, it's got smart agents, and the software connection comes built into the operating system.

Now for the headlines I'd like to see but probably won't:

Justice Dept. Recommends Microsoft and Intel Bust-Ups. As one analyst put it, "The DoJ is far too concerned with our GNP to try and stop Microsoft or Intel from dominating the scene." You can expect Intel to enter the PC-makers market as well.

Comdex '95 Held as a Virtual Trade Show. This is not a far-fetched idea at all. But it won't be the same until they can simulate the interminable cab lines, blistered feet, and seas of humanity.

Robin Raskin is the editor of PC Magazine.

Bridging Language Gaps in Cyberspace

WHILE 1995 MAY TURN OUT TO BE the year of the family PC, the United Nations' Year of the Family has already begun. In recognition, teenagers from Canada, France, Germany, Italy, Mexico, Spain, and the U.S. are participating in a cross-cultural technology project sponsored by the Global SchoolNet Foundation. The Family Write project connects kids around the world via e-mail. They'll use translation software to bridge the communication gap.

The assignment is to take oral histories of family members, write reports in their native languages, and exchange findings with pen pals around the world. To help get the project off the ground, Globalink, of Fairfax, Virginia, donated its expertise in language translation software and its Language Assistant software series.

The project represents a new direction for translation software at a time when it's simple to fetch on-line information from around the world via the Internet. Translation software is reaching beyond its roots in documentation to the localization of the sea of on-line information. Michael Tacelosky, CEO of Globalink, which bought out competitor Microtac last year, is now working to set a standard for language translation much as Creative Labs set the Sound Blaster standard for PC-based audio.

If Globalink succeeds, you'll be able to buy an e-mail package or word processor that's translation-enabled and then plug in a translator. The two will be integrated much as spell-checkers and word processors are today. Globalink is taking integration a step further by saving you the trouble of having to import and export a file from and to the translation program. Instead, if you receive an e-mail message in Russian, you can translate it from within the e-mail program.

While there's no questioning the need for improvements in translation algorithms, the technology continues to evolve. Developers are adding vocabulary, understanding collocation of words, and writing sophisticated rules that recognize the difference between "fired a clay pot" and "fired an employee."

Developers at Globalink have already defined the applications programming interface and expect to have a development kit ready for software vendors when Windows 95 ships. Companies interested in helping build the Global SchoolNet can contact Yvonne Andres at 619-931-5934.

—*Carol Levin*

Faxback Payback

WHILE THE INTERNET AND ON-LINE services hogged the headlines in 1994, fax-on-demand—PC/phone integration that automatically faxes documents to remote callers—is growing right along with electronic information delivery.

According to BIS Strategic Decisions, approximately 25,000 new fax-on-demand—or faxback—units will be put into place in 1995, up from approximately 15,000 new units put into place in 1994.

Hans Peter Reicken, president of FaxQuest, in Sunnyvale, California, which sells a four-line faxback solution for $2,195, says he doesn't even believe that electronic information delivery is faxback's most pressing competition. "We compete with the millions of people out there standing over fax machines and stuffing envelopes; these are just not efficient, money-saving solutions," he says. FaxBack Inc., of Beaverton, Oregon, provides $10,000 to $20,000 high-end faxback systems that support as many as 48 lines. According to the company, a single

Top Retail Software

Current ranking	Last issue	Product/company
1	1	**Headstart Turbo Tax Federal '94** *Intuit*
2	—	**OS/2 Warp, Version 3.0** *IBM Corp.*
3	—	**MS Excel 5.0 for Windows Upgrade** *Microsoft Corp.*
4	2	**MS-DOS 6.22 Upgrade** *Microsoft Corp.*
5	—	**Quattro Pro 6.0 for Windows Upgrade** *WordPerfect, the Novell Applications Group*
6	4	**MS Works 3.0 for Windows with Money 3.0 for Windows** *Microsoft Corp.*
7	—	**Uninstaller 2.0** *MicroHelp*
8	5	**Procomm Plus for Windows 2.0** *Datastorm Technologies*
9	9	**MS Office 4.2 for Windows Upgrade** *Microsoft Corp.*
10	—	**Quicken 4 for Windows Deluxe CD** *Intuit*

This list ranks PC business programs according to the total number of copies shipped to over 12,000 stores and resellers in the week ending November 12, 1994; the list cannot be interpreted as a picture of the entire software market. Sales information adapted from a compilation by Ingram Micro.

system is saving a division of Intel $6 per customer fulfillment on 2,000 fulfillment requests per month.

A word to the wise: Plan ahead for cost efficiency. The first choice to make is whether to go with a one-call or two-call system. A *one-call system* means that the caller

Source: BIS Strategic Decisions.
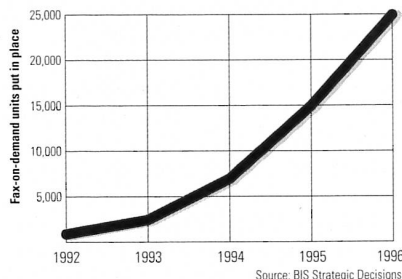
pays as a document is faxed out during the initial call. The more common *two-call system* means that the requested fax is put into a queue and sent out on a second call—so

the faxback provider pays. The most flexible faxback systems can reverse charges to a caller by switching from two-call mode to one-call mode, if, say, an international call comes in. It's also important to plan for expansion. Novell stores more than 10,000 documents and has recently upgraded from 12 inbound and outbound lines to 24.

Faxback technology has some growing to do as well. The software, for example, doesn't have document management smarts. The best software tracks changes and versions of archived documents, but don't expect elegance. Also, very few faxback solutions offer credit card verification, and even fewer allow for remote loading of documents.

Still, while electronic delivery of information continues to gain momentum every day, faxback's momentum is proof that you cannot count out hard copy. —*Sebastian Rupley*

CD-R: Born to Burn

YOUR NEXT PC MAY COME WITH A drive that not only plays CD-ROMs but also records them, thanks to several advances in recording technology made over the past year. Mastering CD-ROMs on your desktop is now more attractive for a range of applications, including multimedia presentations, desktop publishing, electronic prepress, graphic design, and archiving.

Refinements in laser technology, the drop in cost of CD—recordable (CD-R) drives, and the miniaturization of components are driving this trend, explains Rich Buchanan of Creative Labs. The first CD-R drives, introduced in 1989, cost around $25,000 and took 80 minutes to record. Today, prices on CD-R drives are dropping to under $2,000; recording takes about half an hour.

In the meanwhile, researchers continue to make improvements in the optical sensitivity of the organic dye—the actual recording medium on the disks. The laser in a CD-R drive melts the dye and embeds the information in a series of pits, a process known as "burning." Once the information is recorded, the

layer of organic dye is altered and cannot be changed; that's why you can only record once. The recorded disk can then be read by a standard CD player or CD-ROM drive.

Later this year, Creative Labs, which recently introduced its Digital Edge CD-R (an external drive) for under $2,000, expects to offer a quadruple-speed CD-R. A 4× drive takes about 18 minutes to record 74 minutes of digital audio or data to a 650MB disk; a 2× drive takes about 36 minutes.

On the software side, Corel has a new premastering program, Corel CD Creator, which simulates the completed CD-ROM on your hard disk before recording it to the

How a CD-R Drive Writes Data

A CD-R drive focuses a laser beam through the polycarbonate base onto the layer of organic dye, burning pits into the disk's surface. The pits alter the reflectiveness of the gold layer.

Source: Ricoh.
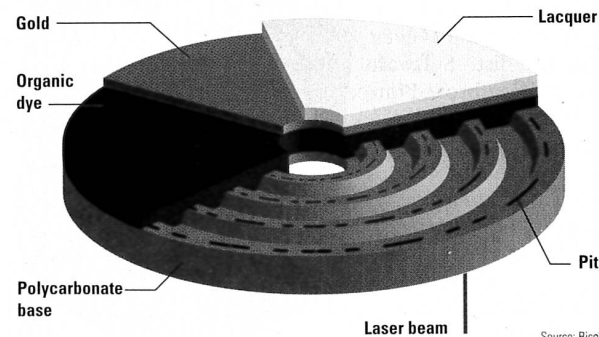
CD-R. Once Creative Labs solves some heat dissipation issues later this year, watch for half-height internal CD-ROM player/recorders in one.—*Carol Levin*

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