

# Connecting to the Internet—Wrap Up

by Mark Goldstein

The *CyberSkeptic's Guide* has spent the last few issues featuring the various technology solutions for fast Web access. Here we'll summarize and compare your options (or lack of them). Unfortunately, only a fraction of the population can get one or more of them today, aside from satellite, which has ubiquitous coverage. Increasing deregulation of telecommunications markets and growing competitive pressures are leading to the urge to converge voice, video and data services onto a single pipe or delivery medium. Two factors are driving an accelerated deployment and availability of these services. They are the massive investment in long-haul fiber optic backbones and consumers' demand for better Internet performance.

## Your Mileage May Vary

It does seem that geography is destiny as the major metropolitan areas have more options and get the

cool, new stuff sooner. The local phone companies and their competitors are bound to that minuscule twisted-pair of copper wire to reach you. However, the poorly managed Integrated Services Digital Network (ISDN) rollout is giving way to many flavors of Digital Subscriber Line (xDSL).

Cable companies have upgraded their Hybrid Fiber Coax (HFC) metropolitan networks and brought fiber right to your neighborhood (or will soon!). Their cable modems are delivering up to 10Mbps data downloads and being quickly followed by the introduction of digital television and voice dial-tone services as well.

Wireless options abound, from slow cellular and the newer Personal Communication Systems (PCS) networks (that will evolve to higher-speed third-generation mobile data systems) to fixed wireless Internet access from single towers. And new



constellations of low earth orbit (LEO) satellites cover the entire world without regard to geography with broad-

band projects on the drawing board.

## But What Do You Really Need?

Most Internet users download much more than they upload and the mixed speeds of most services match the average surfing style quite well. Some applications such as videoconferencing or streaming media may require better upstream rates. If you are hosting your own Web server at a location, the total traffic load must be estimated and appropriate dedicated bandwidth contracted for. A summary of today's access alternatives follows.

Rest assured that if the bandwidth you need doesn't reach your

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## Comparing Internet Connections

	Dial-up Modem	ISDN	xDSL	Cable Modem	Terrestrial Wireless	Satellite Wireless
<b>Downstream Data Rate</b>	53 Kbps	128 Kbps	256 Kbps-7 Mbps	400 Kbps-3 Mbps	9.6 Kbps-1 Mbps	33.6 Kbps-400 Kbps
<b>Upstream Data Rate</b>	33.6 Kbps	128 Kbps	64 Kbps-1Mbps	128 Kbps-3 Mbps	33.6 Kbps via dial-up; to 256 Kbps wireless	33.6 Kbps via dial-up; faster wireless later
<b>Initial Cost</b>	<\$50	\$150-\$300	\$125-\$300	\$50-\$300	\$150-\$250	\$200-\$400
<b>Monthly Cost</b>	\$0-\$20	\$40-\$120	\$40-\$200	\$40-\$60	\$45-\$65	\$30-\$130
<b>Pros</b>	Easy & cheap. Widely available.	First digital service. Broad availability.	Low cost potential. Shares phone line with voice. Switched circuit dedicates connection. Developing G.Lite standard to accelerate 1 Mbps rate availability.	Low cost potential. Accelerating urban deployment. DOCSIS standard released.	Single antenna for large area. Quick to deploy with great regional coverage.	Works anywhere. Additional systems to be launched. Higher data rates pending.
<b>Cons</b>	Rates limited by phone quality. Ties up a phone line.	Setup can be problematic. Availability limited by distance from telco office.	Standardization pending. Availability limited by network upgrades & distance from telco office.	Limited availability to business. HFC upgrades still in progress.	Limited upstream data rates with telco return. Only available in some markets. Line of sight only.	Expensive interface hardware and service costs. No broadband until 2002.

# THE EFFICIENT SEARCHER

IT'S NOT TOO LATE! You can still get your computer ready for Y2K. Find free software to test your computer.

## What Is the Y2K Problem?

The year 2000 problem, commonly known as Y2K, is a date-related computing issue that can cause problems with three areas of your PC system (hardware, software or data). The year 2000 issue is caused by use of two digits to represent a four-digit calendar year or because the year 2000 is a special-case leap year or by programmers' use of dates (such as 9/9/99) for special meanings. Critical dates to test are 09/09/1999, 12/31/1999, 01/01/2000, 02/29/2000, 12/31/2000, 01/01/2001 and any dates of importance to your business.

## Do You Have A Problem?

The following free test programs all do a good job of testing your computer hardware.

**Accute Y2K Super Test**—(<http://www.accute.com/accuteyear2000/y2ktest95.html>)

**Ymark2000**—([http://www.nstl.com/html/nstl\\_ymark2000.html](http://www.nstl.com/html/nstl_ymark2000.html))

**Know2000**—(<http://www.know-2000.com/y2k/quickcheck.html>)

**Micro 2000**—(<http://www.micro2000.com>)

I highly recommend the Accute Y2K Super Test to be the best—easy to use, comprehensive and flexible. If you have problems, visit your vendors' sites for fixes and help. If you have a lot of issues, I recommend a good commercial program like Norton 2000.

## For the Mac

I'm afraid I have some bad news—you don't have a hardware problem.

## I'm Ready—Are You?

These programs address potential hardware problems. Visit vendor's sites for software fixes and test your own key data files. Good luck! 🍀

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location today, a bevy of competitive providers and technologies are working their ways through the trenches and across the skies to get it to you. 🍀

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## Getting Up to Speed

**CNET: Internet: Access & Bandwidth**—(<http://home.cnet.com/internet/0-3762.html?tag=st.cn.1fd2.dir.3762>) links to related articles on CNET and a wealth of external resource sites. Well-organized and presented.

**Network Computing's Technology Center**—(<http://www.networkcomputing.com/core/core.html>) divided into 9 main areas with Product Testing articles, How-To and Tutorials, Industry Issue analyses, and Opinion pieces.

**International Engineering Consortium (IEC) Web ProForum Tutorials**—([http://www.webproforum.com/wpf\\_all.html](http://www.webproforum.com/wpf_all.html)) with many dozens of related topics covered in both HTML and sometimes PDF format. They include self-tests, glossaries and misc. resources. Individual tutorials are sponsored by industry companies but not specific to their product-offerings.

**TechGuides**—(<http://www.techguide.com/index1.html>) has over 70 Technology Guides free and online, as well as topical forums one can participate in. Again, individual guides are sponsored by industry companies but not geared towards their specific products.

**ComputerWorld Technology QuickStudy**—(<http://www.computerworld.com/res/quickstudy.html>) provides access to the magazine's archive of weekly short tutorials on dozens of computer and telecommunications technologies. Complemented by Business QuickStudy (<http://www.computerworld.com/res/quickstudybiz.html>) about financial and business concepts and terms.



## NEW TO THE NET

### Merck Manual New Edition

<http://www.merck.com/pubs/mmanual>

The seventeenth edition of the Merck Manual of Diagnosis and Therapy is available free at the Merck and Company Web site. This 1999 centennial edition is searchable by keyword and includes links.

### Bid on Contracts at the DOD

<http://www.dodbusopps.com>

The Department of Defense has launched an easy-to-use Web site for individuals and businesses interested in bidding on contracts.

### World Bank Site More Useful

<http://www.worldbank.org/research/journals/index.htm>

The World Bank has recently added journal articles in fulltext to its Web site. Look at "The World Bank Research Observer," and "The World Bank Economic Review." Searchable by article, issue, author and keyword.

### MIT Theses Available

<http://theses.mit.edu>

MIT Libraries' Document Services department, along with MIT Information Systems, is conducting a trial of this site that offers fulltext of selected master's and doctoral theses from all M.I.T. departments. Search the database by keyword, use field searching or browse by author or year. Theses added in 1999 include an abstract and the fulltext in thumbnail pages. 🍀