



# The Paper Modem

September 2004 Volume 4 Issue 8

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## The Internet at 35: Still evolving

Sunday, August 29, 2004  
Posted: 2:08 PM EDT (1808 GMT)

**NEW YORK (AP) --**  
**Thirty-five years after computer scientists at UCLA linked two bulky computers using a 15-foot gray cable, testing a new way to exchange data over networks, what would ultimately become the Internet remains a work in progress.**

University researchers are experimenting with ways to increase its capacity and speed. Programmers are trying to imbue Web pages with intelligence. And work is underway to re-engineer the network to reduce spam and security troubles.

All the while threats loom: Critics warn that commercial, legal and political pressures could hinder the types of innovations that made the Internet what it is today. Stephen Crocker and Vinton Cerf were among the graduate students who joined UCLA professor Len Kleinrock in an engineering lab on September 2, 1969, as bits of meaningless test data flowed silently between the two computers. By January, three other "nodes" joined the fledgling network.

Then came e-mail a few years later, a core communications protocol called TCP/IP in the late 1970s, the domain name system in the 1980s and the World Wide Web -- now the second most popular application behind e-mail -- in 1990. The Internet ex-

*(Continued on page 10)*



*Did you know that:*

*A "jiffy" is an actual unit of time for 1/100th of a second*



## Broadband over power lines gaining steam

By [Jennifer Mears](#)

*Network World, 08/23/04*

In Manassas, Va., residents and businesses have a third option for broadband Internet access, and it comes at a lower price and without the installation fee and long-term commitment of DSL and cable. What's more, it's delivered over electrical wires, meaning everyone soon will have access to high-speed Internet without availability limitations that plague other technologies.

"We've got a couple hundred users today that are using the BPL [broadband over power line] service, and we've got about 1,200 on a waiting list," says John Hewa, assistant director, electric utility, for the city. We think around the end of the year or the beginning of 2005, we'll have the service available anywhere in the city."

In January, Manassas, a city of about 36,000 people, turned an 18-month field trial into a commercial offering. It's one of four utilities - including Cynergy in Cincinnati, Pennsylvania Power & Light, and Central Virginia Coop - that have rolled out commercial BPL this year.

While 2004 didn't turn into quite the rush to embrace BPL services that industry observers predicted last year, there continues to be momentum around the technology. Providers say BPL throughput can range from 300K to 2M bit/sec, about the same as cable and DSL, but

that they can provide the service at a less-expensive rate.

Manassas, for example, offers its BPL for \$26.95 per month with no installation fee and no long-term contract. Hewa says cable service in Manassas could be as much as \$55 per month without a bundled package that includes cable television service, and DSL averages about \$30 per month. Cable, and DSL also **charge installation** fees and require long-term contracts, Hewa says.

The primary benefit of BPL, however, is that it can be delivered over existing infrastructure: any site with power outlets can be hooked up to a high-speed broadband connection. That has attracted the attention of high-level officials, including FCC Chairman Michael Powell and President George Bush, who has called for nationwide broadband access by 2007. For more of this article go to

<http://www.nwfusion.com/news/2004/082304specialfocus.html?net>

Read more on this subject:

<http://www.arrl.org/tis/info/HTML/plc/>

<http://www.pcworld.com/news/>

Submitted by: *G. Bulger*



*Did you know that:*

*Almonds are a member of the peach family.*

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## Microsoft Word

### TIP

#### Getting Rid of a Header or Footer in a Word Document

To prevent the header or footer from appearing on the first page of text (which usually is the title page) in your Word document, you need to use the Page Setup dialog box.

1. Choose View, Header and Footer.

This displays any headers or footers in your document and also the Header and Footer floating toolbar thing.

2. Click the Page Setup button on the Header and Footer toolbar.

The Page Setup dialog box opens.

3. Click the Layout tab.
4. Select the Different First Page check box; then click OK.
5. When you return to edit the headers and footers in your document, click the Show Previous button until you find the first header, titled First Page Header.

Leave that first header (or footer) blank.

This procedure places an empty header on the first page; the header appears on all the other pages as ordered. You can also use this option to place a different header on the first page - a graphic, for example .....

*Submitted by: Greg Wilson*

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#### August 11<sup>th</sup> Meeting—Feedback

A great start to another season following the summer break. Evelyn Mudryk, from Hennessey Information Systems, gave an excellent presentation entitled **WEB DESIGN FOR THE NOVICE**. Her comments were followed with great interest by the members and the questions flowed quickly. She left a Resource sheet to help with Web Page creation and we list it below for your information.

Software Used: Internet Explorer/ Notepad / Word 97 / Word 2003 / WordPerfect Ver.11 / Publisher 2003 / Front Page 2002

#### **Resources: Front Page templates from The Template**

**Store:**[www.thetemplatestore.com](http://www.thetemplatestore.com) / **IceMocha**

**FrontPage** :[www.icemocha.com](http://www.icemocha.com) / **Backgrounds, buttons, bullets.**

**Etc.:**[www.eosdev.com/ForYouFromEos.htm](http://www.eosdev.com/ForYouFromEos.htm) / **Web Crafting Tools**

:[www.accessfp.net/wdt.htm](http://www.accessfp.net/wdt.htm) /

:[www.microsoft.com](http://www.microsoft.com)—Browse to the Front-Page 2003 home page / **Basic web design information** :[www.pagetutor.com](http://www.pagetutor.com) / **Web Design Group – a good resource**

:[www.htmlhelp.com](http://www.htmlhelp.com) / **Samples of what NOT**

:[www.htmlhelp.com](http://www.htmlhelp.com) / **Samples of what NOT**

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*Did you know that:*

**A goldfish has a memory span of three seconds.**

(Continued from page 3)

**to do** :[www.webpagesthatsuck.com/daily sucker/](http://www.webpagesthatsuck.com/daily_sucker/)

Evelyn commented that most of these sites now charge for their information – but a few do

not and it's worth a try. We finished off with a generous round of applause for an excellent evening.

*Submitted by: Alan Forrest*



## Computer Games Teach Nutrition

WASHINGTON, August 16, 2004

The virtual baked beans were falling fast. The unopened can had to go somewhere, but where? Not the simulated freezer.

"This food wouldn't spoil in that location," the computer-generated voice said. "But the quality of food could be affected, or you might be using space in your freezer unnecessarily."

Another lesson learned from the Fantastic Food Challenge, a package of four computer games designed to teach people who get nutrition aid such as federal food stamps how to make better use of their food.

Because so many young adults played such games as kids, they ought to be able to learn more easily from them, too, said the project's director.

"We wanted to create a game that didn't just feel like you were learning something," said Brian Winn, an assistant professor of telecommunication, information studies and media at Michigan State University.

The player feels like a contestant in a mara-

thon of futuristic television game shows that also happen to give instruction about how to buy food at the lowest cost, store it properly and prepare healthy meals, Winn said.

One game is called Store It Safe. It involves placing baked beans, tortillas, frozen chicken and other virtual groceries into a cartoon-drawn freezer, cupboard or refrigerator.

In another game, a version of Concentration, players turn over blank cards that flash a food and a menu item made with that ingredient, then try to remember which card had the milk that matches the macaroni and cheese. The on-screen opponent is an sore-loser robot that blows steam out of its ears when it guesses wrong, but which gets better as the game becomes more difficult.

In the Great Meal Deal, players test their knowledge of the five food groups (milk, meat, fruit, vegetables and grains) by dragging randomly generated bananas, peanuts, apple-sauce and other items into the correct group.

Players in the Price Makes Sense have to use their math skills to figure out the best food deal; for instance, that six servings of eggs at \$1.20 is cheaper per serving than five servings of chicken at \$2.00.

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*Did you know that:*

A dragonfly has a life span of 24 hours.

## Google queries provide stolen credit cards

*Simple queries using the Google search engine can turn up a handful of sites that have posted credit card information to the Web.*  
CNET News.

The lists of financial information include hundreds of card holders' names, addresses and phone numbers as well as their credit-card data. Much of the credit-card data that appears in the lists found by Google may no longer be valid, but CNET called several people listed and verified that the credit cards numbers were authentic.

The query, the latest example of "[Google hacking](#)," highlights increasing concern that knowledgeable Web surfers can turn up sensitive information by mining the world's best-known search engine. "It seems like everyone has their own trick," said Chris Wysopal, vice president of research and development for digital security firm @Stake. "This is really searching for data that should be secret but has been exposed through either through mis-configuration or by someone who has stolen it."

There is no shortage of ways to search Google to find such data. Whole sites spell out how to search for financial information and describe software vulnerabilities and vulnerable configurations on Internet machines. Google is the tool of choice because its powerful search options, such as the ability to search for a range of numbers--useful in finding credit card data--is not present in other company's search engines. Google would not comment, citing the quiet period before the company's initial public offering. However, a company source did say

that the search firm has a tool for Web masters to remove pages from the archive, if they find that parts of their site violate laws or regulations. Moreover, the company has decided to allow anyone to request the removal from search results of any document that includes a Social Security or credit card number--a note to help@google.com with a link to the page will suffice, the source said.

Keith Ernst--a Durham, N.C., resident and, ironically, a worker at a financial antifraud company--found himself on the receiving end of a data leak earlier this year that resulted in his debit-card number being posted on such a list. Before Ernst canceled his card, the number had been used for a variety of charges. A foreign student had attempted to pay college tuition with the stolen number. "It was very unsettling to see those charges come up on your account," said Ernst, who normally works to prevent fraud from happening to others. "It was interesting, to say the least, to be on the other side of the issue." Ernst's information is now posted to an Arabic bulletin board with more than a hundred other people's financial records, at the beck and call of a simple search on Google.

His credit union refunded the charges and now he only uses credit cards to make Internet purchases, because fraudulent charges using a credit card are not immediately debited from his bank account. The FBI could not immediately comment on whether the agency was investigating the sites listing financial information. The sites seemed to be spread out over the globe: One had a Russian domain name, another was written in Arabic, and a third was based in the Netherlands.

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*Did you know that:*

Leonardo Da Vinci invented the scissors.

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### **Good guys can Google, too**

The rise of such Web sites has convinced @Stake's Wysopal that major credit issuers should start using Google as a security tool, searching for vulnerabilities and leaked information before other, potentially malicious, people find the data. "Shouldn't Visa be proactive and do these searches on a daily basis?" he asked. "The bad guys are doing it, so why aren't the good guys doing it and beating them to the punch?" The sentiments echoed statements made at the Black Hat Security Briefings in Las Vegas last week, where security researchers and hackers were surprised to learn the extent to which Google can pinpoint weakly secured servers and databases. Visa already has many sources to pinpoint fraud, said Rosetta Jones, a spokeswoman for the company. "When we run them against a database, it is very common to find that, in most cases, we have known that the credit card was stolen," she said. While the com-

pany may not use Google to track when sites containing credit-card information appear, it has moved to have many such sites taken down when tipped off to the situation. So far this year, Visa has had 20 sites pulled from the Web for trafficking in stolen credit cards.

With 4 billion Web pages on the Internet, Google is not able to police its archives very effectively, a source at the company said. The firm has legally positioned itself as an intermediary of content beyond its control, which releases it from being held responsible for any content the company archives or to which it links. That means consumers are left to carefully watch their information. Yet, the degree to which fraud has become more common makes consumers like Ernst fatalistic. "I am sure that the information is out there," the fraud-fighter said.

*Submitted by: Greg Wilson*

### **Get Multiple Addresses with Outlook Express**

A family can easily maintain separate e-mail identities all on one computer - each of them can set up an Identity in Outlook Express. Then each person can send and receive e-mail as if he or she had an individual computer.

To create a new identity, follow these steps:

1. Choose File, Identities, Add New Identity. The New Identity dialog box appears.
2. Type a name for your identity. The name of your new identity appears and the New Identity Added dialog box pops up, asking

whether you want to switch to your new identity.

3. Click Yes.

After you've set up an Identity, you choose that identity each time you use Outlook Express so you can send and receive the messages that belong to you.

You can delete an identity any time by choosing File, Identities, Manage Identities, selecting the identity you want to delete, and then clicking Remove.

If you want to get your mail after someone else has finished reading his or her own stuff, you

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*Did you know that:*

A shark is the only fish that can blink with both eyes.

(Continued from page 6)

need to switch identities:

1. Choose File, Switch Identity.

The Switch Identities dialog box appears.

2. Double-click the name of the identity that you want to use.

The Switch Identities dialog box closes, and



## What is PDF?

*Locker gnome*

**Q:** What is a PDF file? Someone sent me one the other day, and I have no idea how to open it. Also, if these files are so great, how do I create them?

**A:** With so many different file formats, applications, and operating systems, creating a file that can be viewed across all platforms in the way that was intended can be difficult. Adobe's PDF (Portable Document Format) standard provides a way for you to preserve your content in one file that can be viewed

everywhere. All of your formatting, fonts, and graphics will be in place for all to see. You'll notice these files scattered across the Web from time to time.

In order to view and print these files, you'll need a PDF reader. You can get Adobe's own [Adobe Reader](#) for free. With this software on your computer, you'll be ready to open PDF files.

If you'd like to create your very own PDF files, check out free software solutions such as [PrimoPDF](#) or [CutePDF](#).

*Submitted by: Greg Wilson*



## Computer Knowledge Virus Tutorial

I just came across this Computer Knowledge tutorial on computer viruses. They discuss what they are, give you some history, discuss protection from viruses, and mention some of the characteristics of a virus hoax. (it is important to recognize a hoax when it arrives in your

inbox)

Keep in mind that not everything that goes wrong with a computer is caused by a computer virus or worm.

Both hardware and software failure is still a leading cause of computer problems but virii get the most publicity.—go to:

<http://www.cknow.com/vtutor/>

*Submitted by: Greg Wilson*



*Did you know that:*

Peanuts are one of the ingredients of dynamite.



## Microsoft readies for More New SPOT Watch Services

By: Craig Newell  
[e-Week.com](http://e-Week.com)

Microsoft is continuing to flesh out the services it is offering via its Smart Personal Object Technology (SPOT) "smart" watches.

On Monday, Microsoft released a minor update to its MSN Direct service that delivers personalized content to watches over FM-radio frequencies.

The new services add NFL and college football to the list of sports users can track in the sports channel. At the same time, Microsoft added a service allowing users to select up to two watch faces from a regularly changing library.

The Monday update also added Google to the list of stocks that can be tracked via the MSN Direct stock channel.

Next on the docket for MSN Direct and SPOT will be a movie channel designed to display movie times for theatres selected by the user, according to sources.

And after unveiling movies, Microsoft is planning to add traffic-monitoring and dining information channels some time within the next few

months, sources added.

In May, Microsoft introduced several new MSN Direct services, including daily diversions, lottery, and horoscopes. Microsoft began offering sports information via MSN Direct in March. A Microsoft spokeswoman last week denied that Microsoft's next planned channel would be movies. On Tuesday, a SPOT spokesman declined to comment on the timetable or content for the next MSN Direct services.

Microsoft launched MSN Direct and the first SPOT smart watches during this year's Consumer Electronics Show in January. In July, Microsoft announced a new partner, Tissot, would be making SPOT-enabled watches. The original partners were Fossil and Suunto. Since its introduction, the MSN Direct service has encountered few technical problems, aside from minor service interruptions, including a day-long outage in February.

A subscription to the MSN Direct service is priced at \$59.00 a year, or \$9.95 a month. Subscription charges are in addition to the cost of the watches, which range from \$120 for some of the Fossil models, to \$725 for the Tissot High-T, which features a touch screen.

Discovering everything about activating your SPOT at: <http://direct.msn.com/>

Where to buy your SPOT watch  
<http://direct.msn.com/about/watches.aspx>

*Submitted by: Y. Bulger*



*Did you know that:*

There are only four words in the English language which end in "dous": tremendous, horrendous, stupendous, and hazardous

*(Continued from page 4)*

The program is being distributed to employees in Michigan's extension offices who teach food aid recipients how to be efficient shoppers. So far, they seem to like it better than the usual brochures and charts, said Gayle Coleman, the extension service's interim state program leader for family consumer science.

Food stamp users are not the only people who can benefit from these kinds of projects, said Melinda Johnson, a spokeswoman for the American Dietetic Association. But the poor may need the help more because they have fewer options, she said.

For example, people in every income level have to squeeze healthy meals into busy lives, although those who are better off do not feel the budget pinch when they buy prepared meals at the supermarket, Johnson said.

Researchers also have tried computer games to improve eating habits for about 1,600 fourth graders in Houston. They played a medieval-themed game called Squire's Quest, developed by researchers.

Kids win by getting promoted from squire to knight. But the real goal is to get them to eat more fruits and vegetables.

In the game, players advanced by learning such things as how to talk a parent into serving orange juice for breakfast and they gained negotiation skills by accepting pineapple juice if that was available instead, said Tom Baranowski, lead scientist in the game's development. "We do role-playing to encourage the kid to go home and ask Mom," he said.

*Submitted by: Y. Bulger*

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## What's up in September



September 8th — **Bob Goerzen** Presents **PowerPoint**

September 21st — **Don Bonner** of **NISA.net** Presents—  
**cPanel**



*Did you know that:*

*In the last 4,000 years, no new animals have been domesticated.*

*(Continued from page 1)*

panded beyond its initial military and educational domain into businesses and homes around the world.

Today, Crocker continues work on the Internet, designing better tools for collaboration. And as security chairman for the Internet's key oversight body, he is trying to defend the core addressing system from outside threats, including an attempt last year by a private search engine to grab Web surfers who mistype addresses.

He acknowledges the Internet he helped build is far from finished, and changes are in store to meet growing demands for multimedia. Network providers now make only "best efforts" at delivering data packets, and Crocker said better guarantees are needed to prevent the skips and stutters now common with video.

Cerf, now at MCI Inc., said he wished he could have designed the Internet with security built-in. Microsoft Corp., Yahoo Inc. and America Online Inc., among others, are currently trying to retrofit the network so e-mail senders can be authenticated -- a way to cut down on junk messages sent using spoofed addresses.

Among Cerf's other projects: a next-generation numbering system called IPv6 to accommodate the ever-growing armies of Internet-ready wireless devices, game consoles, even dog collars. Working with NASA, Cerf is also trying to extend the network into outer space to better communi-

cate with spacecraft.

But many features being developed today wouldn't have been possible at birth given the slower computing speeds and narrower Internet pipes, or bandwidth, Cerf said.

"With the tools we had then, we did as much as we could reasonably have done," he said.

While engineers tinker with the Internet's core framework, some university researchers looking for more speed are developing separate systems that parallel the Internet. That way, data-intensive applications like video conferencing, brain imaging and global climate research won't have to compete with e-mail and e-commerce.

Think information highway with an express lane.

Some applications are so data-intensive, they are "simply impractical to do on the current Internet," said Tracy Futhey, chairwoman of the National LambdaRail. The project offers for its members dedicated high-speed lines so data can "get from point A to point B and not have to contend with the other traffic."

LambdaRail recently completed its first optical connection from San Diego, California, to Seattle, Washington, to Pittsburgh, Pennsylvania, to Jacksonville, Florida.

Work on additional links is planned for next year.

*(Continued on page 11)*



*Did you know that:*

***Cats have over one hundred vocal sounds. Dogs only have about 10.***

*(Continued from page 10)*

Undersea explorer Robert Ballard has used another network, Internet2, to host live, interactive presentations with students and aquarium visitors from the wreck of the Titanic, which he found in 1985.

The Internet's bandwidth can carry only "lousy" video and "can't compete with looking out the window," Ballard said. But with Internet2, "high-definition zoom cameras can show them the eyelids."

Internet2, with speeds 100 times the typical broadband service at home, is now limited to selected universities, companies and institutions, but researchers expect any breakthroughs to ultimately migrate to the main Internet.

While Internet2 and LambdaRail seek to move data faster and faster, researchers with the World Wide Web Consortium are trying to make information smarter and smarter. Semantic Web is a next-generation Web designed to make more kinds of data easier for computers to locate and process.

Consider the separate teams of scientists who study genes, proteins and chemical pathways. With the Semantic Web, tags are added to information in databases describing gene and protein sequences. One group may use one scheme and another team something else; the Semantic Web could help link the two. Ultimately, software could be written to process the data and make inferences that previously required human intervention.

With the same principles, searching to buy an automobile in Massachusetts will also incorporate listings for cars in Boston.

Change doesn't come easily, however. For instance, the IPv6 numbering system was deemed an Internet standard about five years ago, but the vast majority of software and hardware today still runs on the older IPv4, which is rapidly running out of room.

And the Internet faces general resistance from old-world forces that want to preserve their current ways of doing things: Companies that value profit over greater good.

Copyright holders who want to protect their music and movies. Governments that seek to censor information or spy on its citizens. In early August, the Federal Communications Commission declared that Internet-based phone calls should be subject to the same type of law enforcement surveillance as cell and landline phones. That means Internet service providers would have to design their systems to permit police wire-taps.

Jonathan Zittrain, a professor with Harvard's Berkman Center for Internet and Society, fears a slippery slope. As these outside pressures meddle with the Net's open architecture, he said, there's less opportunity for experimentation and for innovations like the World Wide Web, born out of an unauthorized project at a Swiss nuclear research lab.

*Submitted by: Y. Bulger*



**The End .....**