Recent Internet Survey Results

Conducted by InformationWeek
Improved the Most from the Internet

- Business Structure
- Project Management
- Teamwork
- Internal Communication
- Interdepartmental Communication
Internet Benefits

- Increased Revenue
- Cost Savings
- Increased Productivity

0% 20% 40% 60% 80%

Non-IT  IT

Bar chart showing the benefits of the internet in terms of increased revenue, cost savings, and increased productivity.
Outsource Any Part of Internet/Intranet Project

- Yes
- No
Internet Caused Retraining or Redeploying Employees

Yes

N0
State of the Internet

Based on an IEEE Spectrum article dated October 1999
A Consensus Concern of the Panel

Amid the growing Internet successes--commercial acceptance, continued expansion, new applications--lie the seeds of technology-choking weeds that must be rooted out to prevent future crop failures.
In 1998 The Internet:

- Shifted from technology to policy.
- Shifted from research to commerce.
- Shifted from self-governance to national legislation.
- Prompted the end of telephony as it exists today.
- Prompted a concern that the next generation of technology was at risk because new found wealth and mushrooming demand for new applications was draining away potential researchers.
IEEE Panel

Vinton Cerf ("father of the Internet") MIC Vice President

Thomas DeFanti, University of Illinois CS professor

Donald Heath, President, Internet Society

Christian Huitema, Chief Scientist, Internet Architecture Research Lab of Telcordia Technologies Inc. (formerly Belcore)

Lawrence Landweber, CS professor, U. of Wisconsin

Craig Partridge, Chief Scientist, BBN Technologies

Glenn Ricart, CTO, Centerbeam, Santa Clara, Cal.

Pamela Samuelson, Professor of Law, Berkeley Center for Law and Technology
Telcos that had Internet facilities but not services joined the Internet club through acquisitions.

ICANN has been a difficult and complex struggle since it brought together many different views of many groups and constituencies whose interests and opinions are equally varied. That struggle continues.

Policies became as important, if not more important, than technology with respect to the Internet.

Intellectual property issues became more visible.
Internet Statistics

Users worldwide are 165 million

U.S. and Canada are 90 million
South and Central America are 5.8 million
Europe is 40 million
Asia and Pacific Rim are 27 million
Africa is 1 million
Middle East is .9 million

A brief debate ensued as to what that did or did not include.
There is a real debate doing on about copyright as to whether it is fair use to make a private copy of a song.

The recording industry says no, while most people seem to believe that all private-use copying is legal, even including exchanging private copies among friends.

Rio Player decision by 9th Circuit Court of Appeals decided that it was not a kind of recording device that was required to have an anti-copying chip in it.
There is a serious problem with people getting rich and retiring young, pulling out of academia with huge amounts of money.

It’s as if they all left on sabbatical and didn’t come back. The universities that had strong networking research programs ten years ago have been gutted.

It’s a problem not just in academia but in industry also.

The pool of talented people able to develop the Internet and keep it going is shrinking, not growing.
Recent Copyright law to adapt to a digital environment.

It establishes some safe harbors for on-line service providers (OSP) when they engage in routine transmissions of data for customers, for caching and for other functions.

It requires an OSP to take down material if informed that it infringes on someone’s copyright but repudiates a strict liability standard.

Europe is leaning towards outlawing caching.

Complex provisions that prohibit circumvention of technological protection systems that protect access to digital copyrighted work.

You need a lawyer at your side to run an OSP these days.
Law to protect the privacy of children.

Web sites were collecting information from kids by offering treats for knowing how many cars, TVs, etc. were in the household.

There is a set of rules to limit the appropriation of information from kids.
Don Heath

The environment for Internet research does exist today.

“It is being done by--you are going to hate this--companies like Amazon.com, Priceline.com, E-Trade, Yahoo, all those companies.” (Maybe at a different level, the application and up)

In 1998 and 1999 there was a tremendous transition from the business of the Internet to business on the Internet.

The Internet is out of synch with Moore’s law since it doubles every six to nine months.

We can’t wait for the next generation of technology just to get faster. We need new ideas every year to allow jumping ahead faster than the base technology is moving.
Craig Partridge

Everything that is going on today with the Internet is a result of research done 25 to 30 years ago.

We need to be doing things today that will result in the next Internet. There has got to be someone at a university or Bell Labs or somewhere thinking about things that will be the equivalent of today’s Web ten years from now.

If all the people that could do that are sucked into places that have to show 40% quarter-to-quarter revenue increases we are not going to have what we need ten years from now.

The sentiment I have heard lately is what we need to fix this problem is a good recession. (laughter)
Christian Huitema

Telecom executives, “read my lips, no new class 5 switches for telephone.”

“We have heard that data traffic now exceeds voice traffic and would love to see the actual figures.”

There is significant investment for Internet telephony networks with hundreds of thousands or even millions of lines.

We have also seen a significant investment in cable, particularly by AT&T.
Some Technical Issues

Is IPv6 it going to get implemented or some other advanced protocol?

Is the Internet Y2K compliant?

We will know fairly soon.

Will increased intelligence in desktop devices and switches should help to alleviate bandwidth problems.
The way courts are going, anyone who does business on the Internet anywhere in the world is subjected to all the laws of all the countries in the world.

A lot of countries have laws that say that jurisdiction is where the buyer is located.

This may not matter if the Internet company has no assets in that jurisdiction. The buyer gets a judgment and no way to collect.
As a society, we should remember that legal protection should not be too strong or it will inhibit innovation.

I worry about eating our intellectual seed corn.

Congress is considering legislation to protect the contents of databases. It would give database companies too much control over information and cut off many research uses of data and many value-added information products and services.

We also need to remember that information needs to be in the public domain. So we need some reasonable ability to share and use information and make private copies of copyrighted works from time to time.
The Internet has penetrated society so deeply and so fast that it is challenging our other social structures to evolve.

Regulatory agencies and governments are desperately trying to figure out how to put the genie back in the bottle.

In that regard, the next few years are probably going to be the worst.