

Information Technology in the News

A NEW PROTOCOL HELPS RESEARCHERS SHARE LARGE DATA SETS

■ Scientists might soon be able to exchange large sets of data over high-speed research networks more easily with the help of an Internet protocol now being developed at the University of Illinois at Chicago. The data-space-transfer protocol moves large data sets over research networks quickly enough to sustain a computation running on Linux and Windows NT systems at the other end, says Robert Grossman, director of the university's Laboratory for Advanced Computing. The protocol divides the data and transmits it over multiple open network connections at the same time. Using the protocol eliminates the need for scientists to develop complex relational databases and allows them to post data in a simple format called a flat file, says Ted Hanss of the Internet2 consortium. The new protocol could eventually become a standard for scientists publishing data on the Web, Grossman says. (*Chronicle of Higher Education Online*)

IN THE UNITED STATES, DIGITAL HAVES OUTNUMBER HAVE-NOTS

■ The Internet continues to integrate itself into the day-to-day routines of Americans, according to the results of a random telephone survey of 65,000 Internet users by Nielsen NetRatings. U.S. home Internet penetration reached 52 percent in July—the first time more than half of all Americans had home Web access. Home-access rates jumped 35 percent from July 1999 to July 2000, from 106.3 million home users to 144 million users. Likewise, the time Internet users spend online is going up. The average Internet

user spent 9 hours and 41 minutes online this July compared with 7 hours and 39 minutes last July, an increase of 26 percent. Internet users are also looking at fewer Web sites, meaning that larger sites are successfully leveraging their brand to hold users' attention. Cheaper Web access is enabling Americans to go online in ever-increasing numbers, says NetRatings' Sean Kaldor. (*Washington Post*)

HIGH-SPEED NET LINKS BENEFIT URBAN RICH

■ Broadband Internet links are reaching affluent, urban areas more quickly than poor and rural regions, according to a Federal Communications Commission study. The report indicates that 90 percent of the wealthiest zip codes have high-speed links, compared with 42 percent of poor neighborhoods and 19 percent of rural areas. The findings fuel the ongoing controversy over the digital divide and deregulation of the telecom industry. Over the last year, legislators have been debating whether to change the 1996 Telecommunications Act, which prevents Baby Bells from entering the long-distance market before they open up local markets. Advocates argue that deregulation would allow these companies to bring high-speed DSL access to rural areas sooner. However, opponents contend that deregulation would allow Baby Bells to move into the long-distance market without opening local networks to competitors. In addition to revealing the inequities in high-speed access, the report shows a 375 percent increase in the number of households with broadband service, bringing the number to 1.8 million households. (*Financial Times*)

e-publishing

EASY-ON-THE-EYES TYPEFACE CLEARS SCREEN FOR BETTER CONTENT

Several companies are looking to speed the adoption of e-books by developing technology that makes digital text easier to read. Microsoft, for example, created ClearType for its Microsoft Reader Software. Microsoft Reader typeface is nondescript so as not to distract readers and can be adjusted to different sizes. In addition, books downloaded with Microsoft Reader do not offer features, such as toolbars or digital clocks, that compete with the text for the reader's attention. However, the software does offer tools aimed at improving the reading experience, such as a dictionary and highlighter. Meanwhile, e-publishing software leader Adobe offers Adobe Acrobat Reader, which provides a portable document format that is known for its ability to maintain a book's original design. Other companies targeting the e-book market, such as Lightning Source, are offering print-on-demand technology that can quickly generate a single copy of a text. (*USA Today*)

"THE GRID" IS NEXT WAVE OF COMPUTING, LABS HOPE

■ Scientists at the CERN laboratory near Geneva, Switzerland, where the World Wide Web was created in 1989, are now working on the next level of computer interconnection—"the Grid." As with the Web, the CERN scientists are building the

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E-BOOKS EMERGE

Sales of electronic books may be slow, but high-profile activity such as the Web publishing of the Stephen King story "Riding the Bullet" is boosting consumer awareness. Reference books such as encyclopedias are most likely to shift to an electronic format, predicts Tim Ingoldsby, American Institute of Physics director of business development. Dedicated reading devices are relatively easy to use and can download a high volume of material, but only a small number are available. The Open eBook Forum is working on standardizing e-publishing and addressing concerns about e-book piracy. Other tools in development include digital textbooks and a digital library service that allows customers to "borrow" e-books. Print-on-demand services can offer readers hardcover and paperback books printed from digital titles. (*Chemical & Engineering News*)

Grid to meet the data-processing needs of a specific project, in this case the data that will result from the Large Hadron Collider, which will re-create conditions immediately after the Big Bang. The Grid will distribute this data among a network of computers through a system of multiple tiers connected through fiber-optic cables. Data will move from the main laboratory to regional and sub-regional centers to universities and departments and finally to individual researchers. What makes the Grid so revolutionary is that a university researcher, even using a standard PC, would have access to data from the original supercomputers. That much data would overwhelm a computer downloading it from today's Web. The CERN scientists admit that the Grid is still a project very much under development—the Large Hadron Collider itself is not due to begin work for another five years—but they are very optimistic about its potential. (*International Herald Tribune*)

PORTABLE TECHNOLOGY STEPS INTO ELECTRONICS YOU CAN WEAR

Levi Strauss and Phillips next month will introduce the ICD+, a jacket that features a built-in cell phone, MP3 player, and headset. The jacket, which will retail for \$900 at exclusive European boutiques, also includes remote and voice-activated controls. Woven into the ICD+ are an electronic circuit and approximately four feet of wires, which together establish a personal area network, or PAN, to conduct data and power throughout the jacket. The electronic components weigh only five ounces. Although Levi Strauss and Phillips are aiming this early model at young people

and those who must have the latest trends, they believe interactive clothing will soon find a place in every wardrobe. Several other companies are working on similar technology. Motorola and Swatch are teaming on a wristwatch cell phone, while Nike is designing clothes equipped with MP3 players. Tech labs have built concept clothes such as a solar-powered T-shirt. Meanwhile Levi Strauss is already envisioning the next generation of wearable electronics. The company wants the devices in its following line of clothes to be wireless. (*Wall Street Journal*)

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