Opening the Flood Gates

Will the Internet run out of space? BY Kate Rubin

PROBABLY NOT. But some serious thinkers are concerned that the rapid growth in Internet traffic will soon stretch our capabilities to the max. This immense flood of data has spawned a new term—Exaflood. • The word exabyte—one quintillion bytes (or about 50,000 years of DVD quality video)—is the basis for the term exaflood, a neologism created by The Wall Street Journal. "Exaflood" refers to the rapidly increasing torrent of information transmitted over the Internet. The amount of data uploaded, downloaded and shared on the Internet is growing, due in large part to video, audio and photo applications, at an exponential rate, while the capacity of the Internet, its bandwidth, is limited.

The Internet Innovation Alliance advises that Internet content is currently growing at more than 40 percent each year, while broadband infrastructure investment and growth lags far behind at only 19 percent. Industry analyst Deloitte Telecommunications estimates that Internet traffic now doubles every 12 to 15 months.

The U.S. Internet of 2015 will be at least 50 times larger than it was in 2006. Internet growth at these levels will require a dramatic expansion of bandwidth, storage, and traffic management capabilities. Industry experts, who say that today's networks are not remotely prepared to handle this Exaflood, estimate as much as $137 billion in new investment is needed for broadband modernization such as storage, server farms and transmission lines ($50 billion in the U.S.).

University of Minnesota Professor Andrew Odlyzko, an international expert on Internet traffic, estimates 50 to 60 percent annual growth rates for U.S. traffic alone. "There are huge potential sources of Internet traffic that already exist," Odlyzko writes, and "just a slight

WHAT'S DRIVING THE FLOOD?

VIDEO » YouTube alone accounts for nearly 100 million downloads a day.

DOWNLOADS » P2P file sharing and movie downloads are filling the pipes.

VIDEO CALLING » Just 75 hour long calls on Cisco's new Telepresence system generate as much traffic as the entire Internet in 1990.

"CLOUD" COMPUTING »
Sending data to server farms across the globe is now standard fare.

INTERNET VIDEO, GAMING, AND VIRTUAL WORLDS »
Advances in graphics chips are revolutionizing the online experience. Haven't heard of Webkinz or World of Warcraft? Your kids/grandkids have.
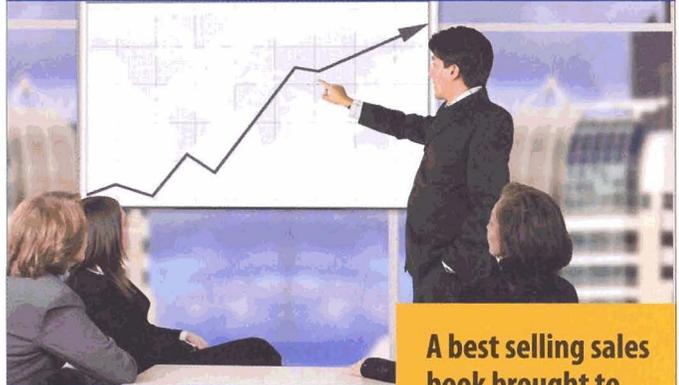
BUSINESS AND MEDICAL TRAFFIC » CT scans are being sliced into multigigabyte files and sent to radiologists in Mumbai for diagnosis.

PHONES, WEB, E-MAIL,PHOTOS, MUSIC » Here's a staggering statistic—at least 700 million camera phones will be sold in 2009 alone. And the number of devices connected to the web? 14 billion.
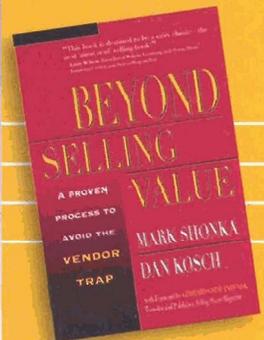
change in the velocity with which information circulates can have a large impact on Internet traffic." AT&T, the world's largest telecom company, says traffic on its backbone is growing at a pace of more than 50 percent per year, backing up Odlyzko's claim.

Technology remains a key engine of economic growth and our country's competitive edge. Policies that encourage investment and innovation in our digital and communications sectors at all levels of government should be among our highest priorities.

Minnesota has taken a step in the right direction by creating an Ultra High-Speed Broadband Task Force, chaired by Rick King, EVP and COO of Thomson Reuters. The mission of the 26-member task force is to make recommendations to the governor and legislature regarding the creation of a statewide high-speed Internet access goal, and a plan for implementation by 2015.

The title of MHTA's upcoming Spring Conference on April 15 is The Changing Face of Business and Technology. The Exaflood, which will be a topic at the conference, embodies this theme. Time and time again, we see that consumers, established businesses, and entrepreneurs find game changing technologies—both serious and whimsical applications—that fill the pipes.

Put on your lifejacket. The Exaflood is coming! **MB**

> ## "JUST A SLIGHT CHANGE IN THE VELOCITY WITH WHICH INFORMATION CIRCULATES CAN HAVE A LARGE IMPACT ON INTERNET TRAFFIC."
>
> —PROFESSOR ANDREW ODLYZKO OF THE UNIVERSITY OF MINNESOTA

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