

Spending Wave Buoy Makers Of Network Gear

New Web Services Spur Phone Firms to Invest In Increasing Capacity

By **BOBBY WHITE**

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After years in the doldrums, the global networking industry is riding a new wave of spending as an explosion in online video and other bandwidth-hungry Internet services forces telecommunications carriers to beef up their capacity.

As consumers have flocked to file-sharing, Internet phone services and online video on Web sites like YouTube, telecom networks have felt the strain. In response, companies ranging from Australia's **Telstra Corp.** to **AT&T Inc.** are buying up new gear to upgrade the "plumbing" that carries voice and data traffic around the globe.

"There's been a dramatic change in [network] usage, with consumers wanting much richer content and even faster access," says Claude Tolbert, who oversees network infrastructure for Covad Communications Group Inc., a San Jose, Calif., telecom provider. To handle the increased demands on its network, Covad began a \$50 million overhaul about a year ago.

That kind of new spending has been good news for the companies whose hardware forms the backbone of phone networks and the Internet. In recent weeks, **Cisco Systems Inc.** and **Juniper Networks Inc.** have posted annual sales growth of nearly 50%, among their strongest performances in years.

Last week, Cisco reported a 40% increase in quarterly profits and a 27% jump in revenue and also raised its sales forecast for its current quarter ending in late April. In the past six months, Cisco's shares have soared 50%.

Smaller networking companies are also benefiting. **Avici Systems Inc.**'s stock, for example, has climbed more than 80% in the past year as its revenue has nearly doubled.

"We're definitely at the beginning of a new boom," says Kevin Denuccio, chief executive of Redback Network Inc. "Video takes a lot more infrastructure to deliver. It's a new ballgame."

The good times look likely to continue for at least a while. Overall, North American telecom companies are projected to spend \$70 billion on new infrastructure this year. While that's down from the \$110 billion they shelled out during the boom year of 2000, it's up 67% from their 2003 total, according to industry tracker Infonetics Research.

World-wide, spending on new telecom infrastructure is expected to rise to \$240 billion in 2008, up 19% from 2005. Moreover, a greater proportion of that spending is expected to be plowed into accommodating capacity-hogging Internet traffic like video.

The new files can be clunky and costly to handle. A typical Internet video file eats up 1,000 times as much bandwidth as an average email message. And while sending 100,000 emails costs a telecom company around 20 cents, transmitting 100,000 low-resolution videos costs around \$15, and sending 100,000 high-definition movies costs around \$10,800, according to Infonetics Research.

Telecom giant Verizon Communications Inc. says transmitting a video file across its network doesn't necessarily cost more than an email, but the cost comes in building up its capacity to handle the larger overall volume.

The new spending telecom providers have earmarked for boosting capacity accounts for a relatively small slice of their capital budgets. But it has provided a crucial boost to Silicon Valley networking companies like Redback. In 2003, Redback, San Jose, Calif., filed for bankruptcy protection. Then, in 2004, Redback introduced a new product called the Smartedge router, a device that helps deliver phone, Internet video and other services through a single "pipe."

Helped by sales of the new router to companies such as BellSouth Corp., which was acquired last year by AT&T, Redback returned to profit. The Smartedge now generates around 80% of Redback's overall revenue. In November, Telefon AB L.M. Ericsson announced it would buy Redback for \$2.1 billion, an 18% premium to Redback's then share price.

Some in the networking industry are bulking up again and even laying plans to raise new capital. **Equinix** Inc., whose stock has jumped 77% in the past six months, recently announced plans to build three new facilities this year, its first expansion in four years. Riverbed Technologies Inc., which provides products and services designed to declog corporate communications networks, filed for an initial public offering late last year.

Other networking equipment makers, mindful of the bust that followed the 2000 boom, are more cautious. "The last time there were far too many spectators on the field," says Scott Kriens, CEO of Juniper. "They are off the field now. This time, we still have a lot of work to do."

Indeed, any new boom isn't expected to hit the same heights as in 2000. That's partly because the networking industry has lost many of its customers. At the peak of the last boom, North America had more than 300 small phone companies and seven Baby Bells to buy the routers and switches used to direct phone and Internet traffic. But after a wave of consolidation, there are now fewer than 100 small phone companies, and AT&T and Verizon account for 56% of the North American industry's infrastructure spending, according to Infonetics.

AT&T and Verizon won't say how much they have spent on buying capacity-boosting networking gear. AT&T estimates its total capital expenditure this year will be "at or below" last year's level. Verizon says its capital spending will reach \$17.5 billion to \$17.9 billion, up from \$17.1 billion in 2006. While those figures include sums budgeted to upgrade their backbone

networks, a part of both companies' outlays also will go into expanding their local fiber-optic systems.

This time, any boom also is likely to be more confined to specialized and higher-margin networking gear, rather than the wider range of equipment initially required to connect millions of consumers and businesses to the Internet. Many telecoms still have excess broadband capacity to deal with simple tasks such as email and Web browsing. But their networks, some of which are a hodgepodge of older equipment inherited from mergers, aren't as efficient in handling online video, Internet telephony services like Skype and massive multiplayer online games, such as World of Warcraft, networking companies say.

These days, Cisco, Redback and Ellacoya Networks Inc. are producing new gear aimed not so much at boosting network capacity, but at managing Internet traffic by prioritizing which bits of data are transmitted across the network. That contrasts with older gear, which was designed to fulfill a more basic task of moving vast amounts of data between countries and cities.

"It's very clear that just bumping up capacity to compensate for the bandwidth-heavy stuff will not solve the issue," says Adam Dunstan, president of Active Broadband Networks, a Watertown, Mass., company that monitors clients' communications networks to help them avoid traffic jams. Adding capacity, he says, "only exacerbates the problem. It inspires more people to use it."

Redback's Smartedge router was among the first of the new-style gear. It consolidated functions that control video services and customer management into one box. Juniper, among others, is set to roll out a similar device in coming months. BellSouth network officials who now work for AT&T say they haven't used the Smartedge router to prioritize data traffic, but instead for other capacity-increasing functions.

Overall, telecom spending is shifting away from the older networking equipment to the newer traffic-management products. Spending on older types of gear is projected to drop to \$7.7 billion in 2009 from \$9 billion this year, while spending on the new products is expected to rise to \$16.4 billion in 2009 from \$12.1 billion this year, according to Infonetics.

Networking firms that haven't shifted as much into making the new gear, such as **Nortel Networks Corp.** and **Alcatel-Lucent SA**, may be left in the cold. Nortel, which primarily makes wireless and fiber-optic gear, last week announced job cuts of 2,900 as it continues to slash costs following the tech bust. Alcatel-Lucent, which inherited a portfolio of old wireline products when it acquired Lucent Technologies last year, also last week reported that it swung to a net loss in its fourth quarter. Alcatel added that it would shed 12,500 jobs, or 16% of its employees, over the next three years.

---- Dionne Searcey contributed to this article.

Write to Bobby White at bobby.white@wsj.com¹