CJ Murzyn, Classified Ventures' manager of infrastructure operations, uses compression to stay ahead of ever-increasing web traffic.

Honey, I shrunk the data

Web powerhouse Classified Ventures uses data compression technology to scale up for growth cost-effectively.

BY RICH FREEMAN

Photograph by Chris Lake

It's one of the business world's great paradoxes: Next to coping with failure, there's nothing tougher than coping with success. Nowhere is this truer than in the volatile world of e-commerce. Behind every popular website is a harried IT organization scrambling to keep rising tides of data flowing to an ever-expanding customer base.

Just ask Classified Ventures LLC, an online classified advertising enterprise jointly owned by five leading media corporations: Belo Corporation, Gannett Company, The McClatchy Company, Tribune Company, and The Washington Post Company. Keeping pace with growth is an ongoing challenge for the Chicago-based firm, which hosts such heavily trafficked websites as Cars.com, Apartments.com, HomeGain.com, and Homescape.com.

Most companies struggling with scaling up resort to a tried-and-true, but expensive, formula: Buy more servers and bandwidth. But Classified has found a different, more cost-effective way to scale. Instead of expanding its infrastructure, the firm is shrinking its data, using compression technology in F5 Networks' BIG-IP Local Traffic Manager, an application delivery networking system. The results have included significant savings, improved performance, and more than a little food for thought. Compression, it turns out, may just be one of the most powerful—and underutilized—weapons in the scalability arsenal.

HEAVY HITTERS
Classified Ventures Sites

cars.com
apartments.com™
Homescape
Gateway to your real estate market
rentalhomesplus
HomeGain™
Connect. Build. Grow.

An irresistible pitch

CJ Murzyn, Classified's manager of infrastructure operations, was the guiding force behind the firm's compression initiative. Murzyn's team oversees networking, connectivity, storage, and other core IT services shared by Classified's various sites. Late in 2004, with traffic on those sites exploding, Murzyn was repeatedly exceeding the usage limits he had negotiated with his bandwidth supplier. The upshot was as much as $7,500 a month in overage penalties.

Meanwhile, Murzyn's colleagues on the website teams had troubles of their own: Inefficient code on some of the company's older web pages was lengthening download times. Fixing those sluggish pages would take time that Classified's developers, who were busy creating important new features, didn't have. Delaying the repairs until later, however, meant exposing users to potential frustration.

COMPRESSION'S VALUE PROP AT CLASSIFIED VENTURES

1. 20% reduction in bandwidth usage
2. Page load times reduced by average of one-half second
3. Developers freed to update older web pages without delaying strategic initiatives

Murzyn saw compression as a potential answer to everyone's woes. Familiar with compression from a former job, he knew it would help Classified cut its bandwidth consumption. He suspected, though, that it would address the performance slowdowns on Classified's websites, too. A proof-of-concept test of F5's BIG-IP proved his suspicion correct. "The analysis determined that we could easily compress the problematic pages and provide quicker response times," he says. That took the pressure off developers to update the pages immediately.

Convinced that compression would solve Classified's problems, Murzyn had to persuade others. There was no money in his budget for a compression solution, so he needed supplemental spending approval from the finance organization and senior managers. Their initial response was skeptical, but Murzyn ultimately won them over with a torrent of cold, hard numbers.

"We did ROI calculations," he explains. Drawing on figures collected during his proof-of-concept test, plus historical reporting and future growth estimates, Murzyn calculated how much BIG-IP would save Classified on bandwidth. "We projected that the savings would pay for the appliances in 18 months," he says. Assuming the F5 hardware's lifespan was three years, as anticipated, savings in the second 18 months would go straight to Classified's bottom line. Also, Murzyn says, "We were able to show quantifiable performance increases in download times."

It all added up to an irresistible pitch. "It's kind of rare to see an IT purchase where you can actually go out and do the ROI calculation," says Matthew Barrett, an accounting manager at Classified who reviews capital expenditures. "In this case, though, it was pretty cut-and-dried. We were able to review those numbers and see it was a worthwhile purchase."

Murzyn sees a moral in his experience: When requesting extra funding, he says, always focus on three things: statistics, statistics, and statistics. Nothing strengthens an IT manager's case more than ROI projections based on objective, irrefutable performance metrics. "As tough as they are to get, that's the type of information management is going to ask you about," Murzyn says. "Be ready and know those statistics."

Additional resources

F5 white paper on intelligent compression *(http://www.f5.com/solutions/technology/compression_wp.html)*

Classified Ventures home page *(www.classifiedventures.com)*

Nexum Inc. home page *(www.nexuminc.com)*

Right on track

Based on a recommendation from F5, Murzyn chose solution provider Nexum Inc. as his partner for the BIG-IP deployment. The Chicago-based firm was F5's first North American authorized service center and has deep expertise in application optimization. "They're a terrific shop," says Ryan Waters, Classified's F5 account manager. Murzyn, who appreciates Nexum's sensitivity to his business needs, agrees. "We've gotten great service," he says.

Deployment, which was completed in March 2005, went smoothly. "CJ has a very talented group there," says Nexum account executive Michael Polick. "They were up and going in less than two weeks." Today, Classified's two 3400 series BIG-IP appliances support more than 50 servers. The company uses a third BIG-IP device for testing purposes.

To Classified's delight, Murzyn's ROI estimates have proven remarkably accurate. "The solution was calculated to pay for itself in 18 months, and we're right on track," Murzyn says. As anticipated, the system has put a sizable dent in bandwidth usage. "We started off getting a 20% reduction in our bandwidth, and that seems to be consistent even now," Murzyn reports. That's impressive given the growth Classified was seeing in the months after deployment. Data from web analytics firm comScore Media Metrix shows that between October 2004 and October 2005, Cars.com saw its monthly unique visitor count jump 48%, from 2.9 million to 4.3 million. Homescape.com grew an even more impressive 55% during the same period.

Meanwhile, page load times on Classified's sites have dropped half a second on average. That performance gain gave developers the breathing room to modify outdated web pages without neglecting other priorities. "They did it at their own pace, so it wasn't detrimental to business growth," says Murzyn.

F5's Waters notes that compression is just one of several technologies that flourishing businesses can use to boost capacity and lower costs. Caching tools, for example, free up server processing power by offloading repetitive network traffic. "If you're a company that's going to double or triple its requirements over two or three years, that can produce huge savings," Waters says.

For his part, Murzyn expects compression to remain an ally in his continuing efforts to stay ahead of ever-increasing traffic. He's already evaluating new F5 hardware. "We're at the point where we may have to go to the next level up," he says, to more powerful 6400 series BIG-IP appliances. That would yield even greater compression, and as Murzyn points out, additional compression means additional savings. For managers of fast-growing businesses, those are words to live by.

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COMPRESSION: THE UNHERALDED SCALABILITY SOLUTION

According to Peter Sevcik, president of Charlottesville, Va.-based consulting and analyst firm NetForecast Inc., Classified Ventures is hardly the first thriving e-business to encounter growing pains. Too many companies, though, assume that adding more bandwidth and servers is the only answer to their scaling woes. "I find the unbelievable inertia of management thinking interesting," says Sevcik. "Buying bandwidth and servers got them where they are, so that's the default plan whenever something goes wrong."

Sadly, that knee-jerk reaction keeps companies from investigating alternatives such as compression, Sevcik says. In layperson's terms, compression is a sort of electronic shorthand, or code, that allows applications to temporarily condense data as it travels from server to client. Smaller data means faster transmission and less bandwidth consumption, saving firms money by enabling them to utilize existing resources more efficiently. Tacking on extra bandwidth, on the other hand, raises costs and does nothing to improve download times. "The way the application behaves on the network doesn't change one bit," Sevcik notes, so neither does performance.