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Chris Dunlop, Manager, Networks and Infrastructure

Zacks.com Supports Rapid Business Growth, Increased Traffic Loads with F5 solutions

Headquartered in Chicago, Zacks Investment Research is the preeminent investment research firm for institutions and individuals. Zacks Rank, a stock rating system based on earnings and earnings revisions, compares in stature to the Morningstar mutual fund ratings. Additional investment tools include one of the most comprehensive stock screeners on the market as well as inclusive earnings and events calendars. As the firm aggressively pursues opportunities to deliver its value-added products via new outlets, IT must ensure its retail site, Zacks.com, can handle increased traffic with confidence. Intelligent traffic management is critical to Zack’s business development and growth plans, for which high availability and on-demand scalability are musts.

Business Challenges

Individuals seeking financial investment guidance head in large numbers to Zacks.com, where they can subscribe to more than a dozen services. Through these services the company repurposes its high-end, institutional-oriented stock research by tailoring it to the small investors’ needs. “Traffic to Zacks.com grows at approximately 30%-40% annually, with several million hits monthly,” says Oleg Voloshin, CTO.

With rising numbers of subscribers tapping into site tools such as stock screeners and research wizards, Zacks.com’s web

infrastructure was beginning to show the strain. The IT team worried about how a single server unavailability might impact delivery of customer services via the site, as well as increasing challenges to manage loads intelligently and scale seamlessly as traffic grew in explosive fashion.

Solution

Zacks.com quickly zeroed in on the need for layer 7 appliances. “We required a solution that, like a policeman standing at an intersection, would be able to direct traffic intelligently rather than just splitting it

Overview

Industry

Financial Services

Challenges

- Support rapid and irregular traffic growth
- Ensure high availability and optimized performance
- Achieve seamless scalability of web infrastructure

Solution

- BIG-IP Local Traffic Manager

Benefits

- Streamlined infrastructure with reduced costs
- Enhanced business value
- Ease of management
- Scalability
- Improved performance and greater availability
- Increased site intelligence

equally among the servers," Voloshin says.

After evaluating Citrix NetScaler and Zeus Technology appliances, Zacks selected F5's BIG-IP Local Traffic Manager (LTM). The device's advanced features such as caching, compression and SSL termination features along with the customizable iRules made the decision a no-brainer, says Chris Dunlop, Manager, Networks and Infrastructure.

"The iRules functionality makes the F5 device the most powerful load balancer on the market ... for analytics and [complicated traffic redirects,] which really can't be done with any other product," says Dunlop, who worked with F5 devices for eight years previously. "Plus if you look at the overall reliability and performance, F5 has the best product."

Zacks currently uses a pair of BIG-IP LTM 1600 appliances to direct and shape traffic across its web servers. It uses about five iRules for trickier traffic redirects, plus taps into the solution's integrated caching, compression and SSL termination features to streamline its infrastructure and simplify management.

Benefits

Having established a strong reputation on Wall Street, Zacks is now working to parlay that name recognition into new value-added offerings. It couldn't do so quickly and cost-effectively minus the BIG-IP LTM devices, which make the Zacks.com infrastructure highly available, scalable and flexible, Voloshin says. As a result of deploying the F5 solution, Zacks.com has been able to simplify its infrastructure, boost scalability, ease the management burden, improve performance and pave the way to greater business value.

Streamlined infrastructure

Prior to bringing on the BIG-IP LTM devices, Zacks' web infrastructure was getting increasingly cumbersome. For example, the web servers handled caching themselves,

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Oleg Voloshin,
Chief Technology Officer, Zacks.com

which meant assigning roughly two gigabytes of memory to each machine. By offloading the caching to the F5 devices, Zacks has been able to save one gigabyte per server. "That helps a lot to reduce increasing costs and leverage limited resources," Dunlop says.

In addition, Zacks no longer needs to rely on homegrown caching code, which wasn't necessarily efficient, Voloshin says. "We wanted to offload caching to a feature that was part of the traffic manager rather than reinventing the wheel," he adds.

Ease of management

Having an application delivery controller that provides functions such as caching and compression has simplified management considerably, too. Traditionally, Zacks application developers have written their own server rules, which then get spread out across various websites. That could prove problematic should a change negatively have affected the infrastructure, especially if the developer hadn't documented the work with enough granularity, Dunlop says.

"That's why I'm a big fan of centralizing all of that at the F5 device. Having everything self-contained there makes it all simple to manage," Dunlop adds. "We can have a canned web server image that's standard

for everybody and all the different things that need to be specific for a website can be contained in the virtual IP addresses. The F5 solution and iRules are part of that."

Scalability

Even more significant is the comfort Zacks.com gains in knowing that, with the BIG-IP LTM devices in place, it can grow its business without worry that a surge in numbers of new users will make website's response to customers unsatisfactory and/or some services unavailable. As a case in point, Voloshin highlights its stock screening tool. Once exclusively embedded in the website, Zacks is now selling the screener, which allows users to select from 70 to 150 criteria depending on their subscription level, as a value-added widget to other sites.

"Some of these customers may have traffic to this screening asset that exceeds the traffic we've had on our whole site," Voloshin says. "We need to be able to isolate that traffic so it doesn't compete with the general Zacks.com traffic and so that there's no competition between any two customers of the stock screener—that's where the F5 solution fits in."

Besides the stock screener, Zacks also has productized its Zacks Rank and earnings and events calendars for use by other sites.

"Sure, we could have delivered these assets without the F5 solution, but it would have taken a lot of different servers, processes and labor. Then the question would be, 'Could we sustain the traffic and traffic growth that we expect to these assets in a way that wouldn't cost us an arm and a leg for new servers and support activity?' And the answer is, 'Not successfully,'" Voloshin says.

Zacks achieves the ability to allow different customers customized views of the Zacks.com assets via an iRule that rewrites inbound and outbound URLs and delivers specialized pages accordingly, Dunlop says.

Improved performance

Another iRule helps Zacks optimize site performance. By examining inbound user agent strings, the iRule identifies bots sent out by Google, MSN and the like and then redirects them to a special location created specifically to handle web crawling. "Sometimes web crawlers can have significantly negative impact on performance. So now because they never hit our live production website, we've resolved a lot of our performance issues," Dunlop says.

Increased intelligence

With the BIG-IP LTM devices and iRules also comes deeper intelligence about who's coming to the site, from where, and what they're doing during a visit. That intelligence provides us with the ability to monetize the traffic, Voloshin says.

"The local traffic managers allow us to quantify the cost of doing business with different partners and our agreements with them, giving us ... a historical model to use in contract negotiations going forward," he says.

Zacks achieves this visibility via an iRule that attaches cookies to URLs with refers from other sites so that the refers remain constant during the sessions. Previously, Zacks knew only how many visitors landed at Zacks.com from an external site, not what those visitors did beyond that first click. Did they subscribe to a service? Now Zacks knows the answer to that all-important question.

With such knowledge, Zacks can focus on creating innovative services aimed at boosting business opportunities. The company will do so knowing IT has the business covered, thanks to the F5-based intelligent traffic management infrastructure that delivers high availability and scales seamlessly to meet any new demand that comes its way.

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