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Andrew Chasse
Technical Delivery Team Lead, Email,
Tucows



Internet Services Wholesaler Relies on BIG-IP LTM 3400 to Provide “Five Nines” of Availability

Industry

Internet—Domain name registrar and wholesale provider of Internet services

Challenges

- High traffic volumes
- Customer expectations for 100 percent availability

Solution

BIG-IP® Local Traffic Manager™ (LTM) 3400

Benefits

- Simplified administration and maintenance
- 2,300 percent higher availability
- Application performance improved 400 percent
- Scalable environment

Overview

As a leading provider of Internet services to hosting companies and ISPs, Tucows supports more than 9,000 service providers worldwide. When the company rebuilt its hosted email service, it chose F5 Networks® BIG-IP® Local Traffic Manager™ 3400 with SSL Acceleration and Intelligent Compression. One year after implementing the BIG-IP product, Tucows is providing faster connection speeds and 99.999 percent system availability to its service provider customers. The company is also benefitting from simplified IT maintenance and administration.

Challenges

Founded in 1993, the Toronto-based company began as a software download site—the first to offer free and shareware software. To say that Tucows has since branched out is an understatement. While the company still offers an extensive collection of software downloads, Tucows has grown to become one of the largest wholesale domain name registrars with a growing customer base for hosted email services.

In 2006, the company decided to reinvent its hosted email platform in an effort to achieve 100 percent availability, says Rick Yazwinski, Principal Engineer at Tucows.

Tucows used application networking and load balancing solutions from Cisco and Radware to support its previous email platforms. Andrew Chasse, Technical Delivery Team Lead for Email adds, “We had numerous instances of production downtime caused by problems with the Radware software, and with Cisco, we felt constrained by a lack of features and micro-outages.”

The negative effects of the outages were threefold: diminished customer confidence; a technical operations department burdened with more maintenance and administration; and the payment of service level agreement (SLA) penalties to Tucows’ customers for downtime experienced. “When the load balancers went down, we were off the air,” says Chasse. “We were often in a reactive, firefighting mode.” This limited his team’s ability to make more meaningful, proactive contributions to the Email Service. Yazwinski adds, “We wanted to provide new features and services, but it was a continual weighing of the benefits these would provide versus the risks of turning on a new feature—of making modifications to the system.”





Tucows needed a solution that would help ensure that its new email platform provided an excellent customer experience—ensuring fast performance and little or no downtime.

Solution

After hearing multiple recommendations for Application Delivery Networking devices from F5 Networks, Tucows evaluated the BIG-IP Local Traffic Manager (LTM) 3400. Tucows was assisted by Scalar, a Canadian IT consulting firm providing practical, cost-effective technology and services aimed at optimizing IT infrastructure. Several months of test trials and performance comparisons convinced Tucows that the BIG-IP LTM 3400 would provide the results the company needed in order to ensure high availability of the Tucows Email Service for its customers.

In January 2007, Tucows installed two BIG-IP LTM 3400 devices with SSL Acceleration and Intelligent Compression—running version 9.4.3 of the TMOS™ operating system—in front of 100 email servers. Secure sockets layer (SSL) acceleration improved the performance of the email servers by offloading CPU-intensive SSL encryption and decryption from the servers and, migrating it onto the high-performance BIG-IP LTM 3400 devices which are designed to handle SSL transactions more efficiently. Not all connections to these servers require SSL, so Tucows used F5 iRules™ technology—a customizable scripting language that gives IT departments complete and granular

control over application traffic—to intelligently mandate which connections must use SSL.

Tucows also uses the BIG-IP Intelligent Compression Module to reduce the volume of traffic sent from the servers, reducing WAN latency and connection bottlenecks, and improving email performance for the user.

Benefits

Using BIG-IP Application Delivery Networking products, Tucows has significantly improved uptime for the Tucows Email Service, reduced IT administration and maintenance, and built an environment that can scale to meet future growth.

Simplified Administration and Maintenance

“When we unboxed the BIG-IP 3400s and got them on the network, we were awed and amazed at how easy they were to set up and administer. Administering Cisco CSS was an onerous, command-line process—as is the case with most other products,” says Yazwinski. “Simple and powerful” is how I would characterize BIG-IP. The intuitive web-based interface definitely makes it easier to get the job done.” Chasse adds, “Overall, we’re spending less administrative time on F5 products.”

2,300 Percent Higher Availability

One year after implementing the application networking devices from F5, Tucows has experienced a significant increase in email system availability. “We’re feeling a lot less pain than in the past,” says Yazwinski. “We’re able to provide a smooth customer experience and have reached our goal of delivering

the five-nines of availability our customers expect.” Since January 2007, Tucows has experienced one outage, lasting two hours. This compares to the two days of outages experienced in the previous year with Cisco and Radware and represents a 2,300 percent increase in availability.

Application Performance Improved 400 Percent

F5 SSL Acceleration and Intelligent Compression has significantly improved Tucows’ customer experience. “With BIG-IP providing compression, our dial-up service is approximately five times faster,” says Chasse. “This is significant for us because we have customers all over the globe who still rely on dial-up networks—particularly in Hawaii, Eastern Europe, and South America.”

Scalable Environment

A long-term goal for the Tucows Email Service infrastructure aims to have each email server cluster supporting more than a million subscribers. Chasse says that an important factor in choosing F5 was the availability of BIG-IP device upgrades to help the company meet this goal. “If the traffic gets to be too much for the 3400s, it’s just a simple upgrade to the next BIG-IP model,” he says. “We set out to design and implement a messaging system that could scale to millions of users and heal itself with very little interaction—a system that on its own would run very efficiently. We feel that we’ve accomplished this, and BIG-IP has played a big part in that.”

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