

Accelerating Interactive Entertainment Media



Shanda Interactive Entertainment Limited (NasdaqGS: SNDA) is a leading interactive media entertainment company in China, offering a diverse portfolio of entertainment content including some of the most popular massively multi-player online role-playing games (MMORPGs), casual online games and a variety of cartoons, literature and music.



Shanda Interactive Entertainment

Jinjiang (jjwxc.net), a subsidiary of Shanda, is the largest and most popular female creative writing web site in China. The users who regularly visit the site to research the original essays generate more than 50 million page views daily from 500,000 independent viewers that typically average up to 49 minutes per session on the site. This volume is increasing rapidly with traffic having increased over 300% since the end of 2007, so scaling growth is paramount to success.

Jinjiang's network includes a 100% BSD/Linux server infrastructure running eCommerce web applications with MySQL databases on the backend to handle the current load of over 100,000 creative writing purchase transactions daily. Previously, an open source load balancing product called HAProxy was in place, but this was not enough to meet the performance requirements. To handle the rapidly growing Internet traffic and eCommerce transactions, Shanda required a high-performance platform for its web servers to better manage the load. The company considered solutions from F5 and Citrix NetScaler, but after rigorous technical testing made the decision to purchase A10's AX Series.

Dramatic Performance Benefits with AX Series

A10's AX Series immediately solved the problem with the following server load balancing and advanced application acceleration solutions and benefits:

- Uses a high availability pair of AX Series appliances to establish a Virtual IP (VIP) address and configures multiple "real" servers to eliminate a single point of failure. Increased overall reliability for online application delivery
- Reduced the MySQL database load by 70% with the URL-hashing

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When traffic growth signaled a need to add additional network infrastructure, Shanda chose the AX Series to upgrade its current data center.

"We deployed A10's AX Series and the appliances easily handled our rapidly increasing traffic. We were surprised at the dramatic performance increases upon enabling the advanced server load balancing and application acceleration functions that are included without additional fees."

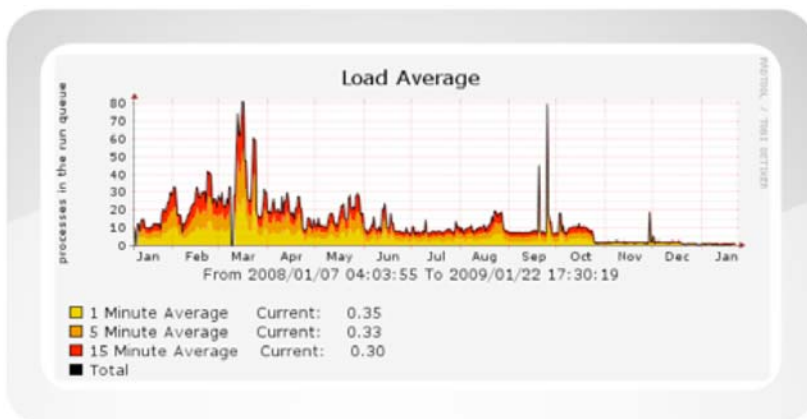
Mr. Ye Ning
Technical Director
Jinjiang, a subsidiary of Shanda
Interactive Entertainment

Results

- Reduced database load by 70%
- Saved more than 40% bandwidth
- Reduced network traffic 66%

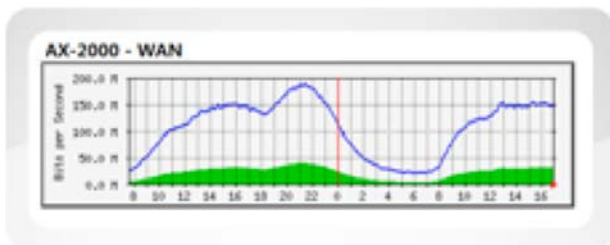
feature, which keeps the same URL persistent to the same server, versus previously forwarding the URL to four different servers, resulting in efficient database operations

- Leveraged AX Series compression feature to dramatically reduce network traffic 66% on average. Compression reduces service provider bandwidth costs and accelerates traffic
- Streamlines network traffic with a number of features. For example, automatically filtering invalid data packets from DDoS attacks arriving through open firewall connections. Also, connection reuse/multiplexing features allow the back-end servers to work more effectively, and reduce TCP setup and teardown overhead
- The ultimate flexibility to protect against malicious attacks and abnormal traffic with aFleX's deep packet inspection techniques, allowing complete control of the packet header or payload



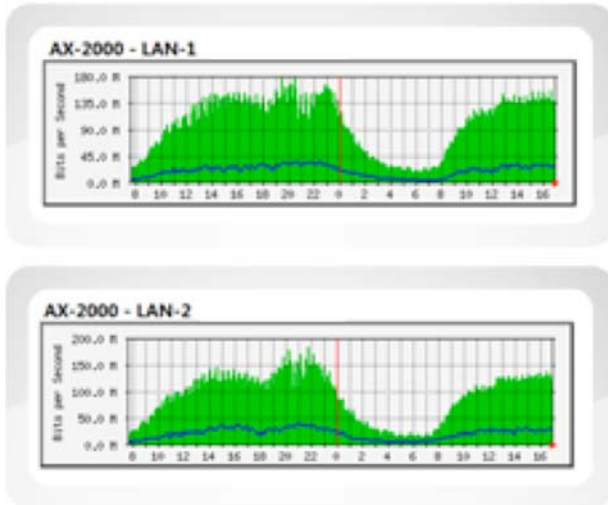
This chart represents the load on one of Shanda Interactive's MySQL databases. The AX Series was implemented in late October 2008, and before the AX Series, when the HAProxy was in place, the SQL server's queue length was consistently higher at typically over 15%. After leveraging the AX's URL-hashing feature the URL is now forwarded once, versus four times previously, so the queue length decreased to less than 3%, increasing overall performance for the database.

Also, by leveraging the compression feature, the AX Series saved more than 40% bandwidth. These charts show internal to external compression examples.



External Interface: This WAN chart shows compressed content sent from the AX Series to clients. You can see the dramatic savings in bandwidth (green line) when compared to the internal side below.

- Green block WAN = compressed content sent to clients from the AX after compression applied
- Blue line = external client traffic sent to the AX



Internal Interface: These two LAN charts show uncompressed content from the internal servers to the AX Series.

- Green block LAN = uncompressed content from the servers sent to the AX
- Blue line = traffic from the AX to the internal servers

Success

After deploying A10's AX Series, Shanda now has a comprehensive application delivery platform for server load balancing, application acceleration, availability, reliability and security. All features are included without additional licensing fees so that Shanda can take advantage of the entire suite of features without additional budget. By reducing database load and site traffic by over 60%, protecting against malicious attacks, and reducing bandwidth by 40%, the AX Series allows Shanda's servers to operate more efficiently, which is critical to any organization that experiences such rapid growth and attention. With the AX Series, Shanda can ensure that Jinjiang's popular creative writing essays will always be available to be purchased and read.

About AX Series

A10 Networks' AX Series is the industry's best price/performance advanced traffic manager – helping enterprises and ISPs maximize application availability through a high-performance and scalable web Application Delivery platform. The AX's Advanced Core Operating System (ACOS) architecture has garnered the company numerous awards and is revolutionary by market standards due its scalable symmetrical multiprocessing (SSMP), shared memory architecture. AX includes an optimized multi-CPU architecture built from the ground up that leaps the competition in terms of performance, scalability and reliability. For more information, visit: www.a10networks.com/products/axseries

About A10 Networks

A10 Networks was founded in 2004 with a mission to provide innovative networking and security solutions. A10 Networks makes high-performance products that help organizations accelerate, optimize and secure their applications. A10 Networks is headquartered in Silicon Valley with offices in the United States, United Kingdom, France, The Netherlands, Germany, Brazil, Japan, China, Korea and Taiwan. For more information, visit: www.a10networks.com