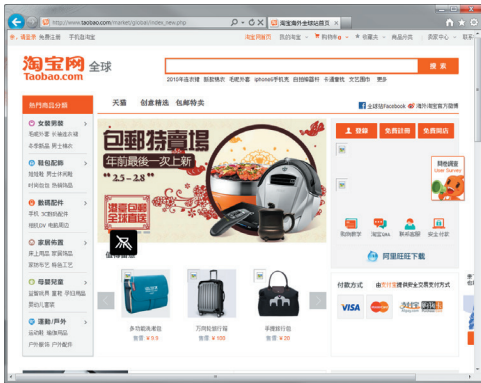# Accelerating the User Experience for China's Largest Online Retail Site

> **"** *We were impressed with the higher Layer 4 and Layer 7 performance that the A10 ADC deliver versus the existing systems. This enables operational efficiency by allowing us to consolidate from two platforms into one. The A10 ADC met our business requirements not only with performance, but also with stability, scalability and tremendous value. With the A10 ADC, we not only ensure a fast user experience, but also lower our cost per transaction.* **"**
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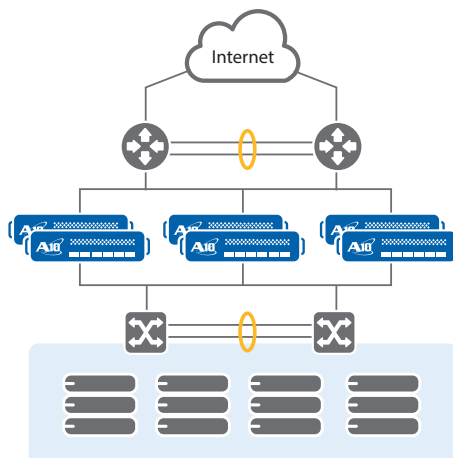> **Cao Yi Feng**
> Operation Director, Taobao

Launched in 2003, Taobao (owned by Alibaba Group Holding Ltd.) is the largest Internet retail and trading website in China, servicing nearly 100 million registered users. More than 1.5 million sellers have stores on Taobao.com, offering users comprehensive product offerings as the primary online shopping destination for the largest online population in the world. Annual transaction volume on Taobao reached almost $15 billion in 2008, equaling approximately one percent of China's total retail trade.

Taobao's operations are supported by over 10,000 servers concentrated in a handful of data centers, along with many content delivery network (CDN) sites. The data centers support web browsing and e-commerce transactions for Taobao's users.

Taobao has a highly scalable network architecture. Hundreds of applications (mainly web based) are deployed in the main data centers, while its CDNs serve large images from regional locations, improving load times. Linux, Apache, Squid and other open source products run in the application layer, and mature commercial products run at the network layer. The infrastructure is designed to ensure quick deployment and expansion of the entire business system as required.
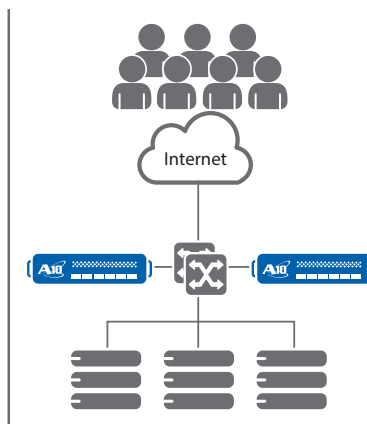
A10 ADC: Advanced Application Delivery Controller

Server Load Balancing is the key solution in Taobao's data center and CDN sites to achieve network stability, scalability and reliability. With nearly 100 million registered users and growing, data center traffic can be taxing on the network and application servers. To better handle traffic surges and volume growth, and to ensure that the site is always available for users, Taobao began researching new load balancing options. They needed a solution that not only can handle the rapidly increasing load on Layer 4 services in the data center, but also can provide better Layer 7 performance to accommodate the demands on the CDN and its nodes.

Data Center
A10 ADC Key Solutions:

• Layer 4 Server Load Balancing
• High Availability
• Security/DDoS
• Scalability through performance

Content Delivery Network (CDN)
A10 ADC Key Solutions:

• Layer 7 Server Load Balancing
• Application Acceleration
• Server and Network Optimization/Reduced Load

Figure 1: Taobao's Distributed A10 ADC Deployment

In Taobao's previous data center deployment, the old systems could not provide the required high performance at Layer 7, and were aging and unstable. After evaluating the A10 ADC, as well as newer models from incumbent vendors, the Taobao.com IT team concluded the A10 ADCs' Layer 4-7 performance was much higher than the other vendors', enough to meet Taobao's network needs, and decided to make the transition to A10 ADC.

Taobao initially purchased and deployed more than 30 units of the most advanced A10 ADC platform along with 6 mid-range units. Both models include Flexible Traffic ASICs, which move functions into the hardware for the highest performance, freeing the main CPUs for advanced processing. In the data centers, the A10 ADC performs core Layer 4 server load balancing and reliability services such as session synchronization with High Availability and DDoS protection. In the CDN sites, the A10 ADC delivers

Layer 7 server load balancing and application acceleration services such as connection reuse and URL- hashing to ensure the fastest user experience.

The key deciding factors for Taobao to upgrade to the A10 ADC were higher performance at Layer 4 and Layer 7, better value for money, as all features are included without additional licensing fees, and superior stability. Due to A10 ADCs' industry-leading performance, Taobao was able to install two systems for every four they had deployed in the past, translating to a 2:1 data center consolidation ratio and equivalent operational efficiency. In addition, A10 delivered outstanding technical support and services that ensured rapid deployment into Taobao's data centers and CDN.

Success: Faster, Better, Greener

The A10 ADC enables Taobao to meet the different Layer 4 and Layer 7 requirements for its data centers and CDN. Powered by the A10 ADCs' high performance, flexibility and scalability, Taobao is able to quickly deliver new services that accelerate business expansion and reach more and more end users. All features and performance capacity are included in the platform without additional charges, guaranteeing maximum headroom for growth to add features, and lower cost of ownership. By transitioning to the A10 ADC, Taobao not only ensures a faster and better end user experience, but also lowers the cost of each transaction. Savings are further compounded by a 2:1 server load balancer consolidation ratio in the data centers, saving power and space for a greener solution.

About A10 Application Delivery Controllers

A10 ADC is a scalable, high-performance application networking platform that delivers enterprises, web properties and Internet Service Providers (ISPs) with superior reliability and an energy-efficient footprint for low total cost of ownership (TCO). With A10 ADC, customers of all sizes benefit from application availability, scalability and performance, increased infrastructure efficiency and a faster end user experience. The A10 ADC has a comprehensive Layer 4-7 feature set and flexible virtualization technologies such as A10 Networks aVCS™ Virtual Chassis System, multi-tenancy and more for public, private and hybrid cloud environments. In addition, A10 ADC leads in IPv6 migration technologies with many large-scale deployments worldwide.

A10 ADC delivers an industry-leading return on investment (ROI) by leveraging A10's 64-bit Advanced Core Operating System (ACOS), with a scalable shared-memory parallelism architecture that surpasses the competition in scalability and flexibility.

For more information, visit: www.a10networks.com/products/ application_delivery_controllers.php

About A10 Networks

A10 Networks is a leader in application networking, providing a range of high-performance application networking solutions that help organizations ensure that their data center applications and networks remain highly available, accelerated and secure. Founded in 2004, A10 Networks is based in San Jose, California, and serves customers globally with offices worldwide. For more information, visit: **www.a10networks.com**

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To learn more about the A10 Thunder Application Service Gateways and how it can enhance your business, contact A10 Networks at: **www.a10networks.com/contact** or call to talk to an A10 sales representative.