

Low Latency Content Delivery for Millions of Connections

Company:

- Jaguar Networks

Industry:

- Service Provider

Critical Issues:

- Poor network performance, current connections limited to just 1 million

Selection Criteria:

- Low latency, improved performance, reduced RAM usage, IPv6 ready

Results:

- Improved performance under peak and non-peak loads, removed concurrent connections limitation

“We looked at three vendors, including A10, Cisco, and Brocade, and with A10, we had a great experience during the evaluation. We were impressed with how easy the A10 Application Delivery Controller was to configure and manage. In addition to being very easy to set up, the A10 ADC offered superior 64-bit hardware and could support our IPv6 migration plans. We have installed A10 ADCs in our production network and we are very pleased with the results.”

Kevin Polizzi
Founder, Jaguar Networks

Jaguar Network is a leading business ISP and web-hosting provider that was founded in 2001. The company, which has been growing by leaps and bounds, has more than 28 data centers, 450 equipment bays, and 8,000 servers delivering advanced telecommunications services to more than 500 customers all across Europe.

In addition to offering web-hosting services, Jaguar has expanded into telecom services and offers next-generation broadband, Content Delivery Network (CDN) and Storage Area

Networking (SAN) solutions, managed and co-located hosting, as well as MPLS-based VPNs that enable high-speed interconnection of company sites. With employees in France and Switzerland, the company is recognized for its technical leadership.

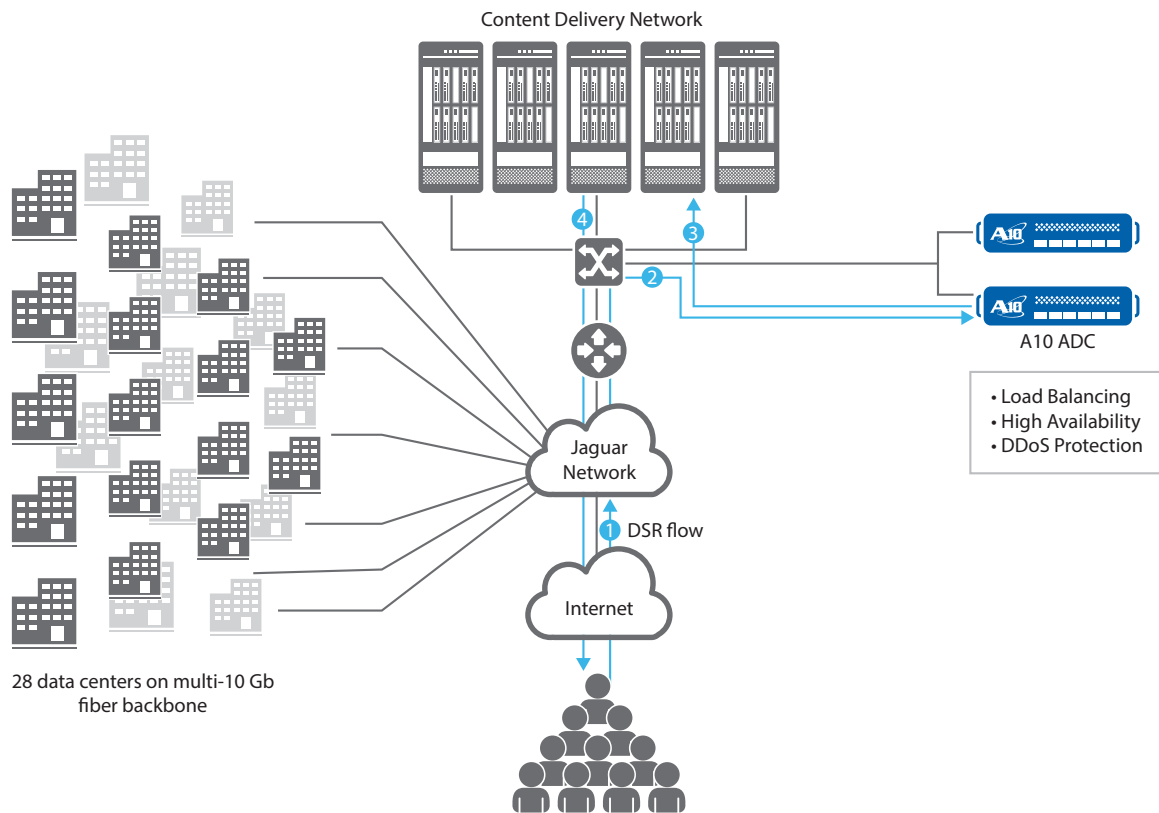
The nodes within the company's CDN are connected with fiber optic lines on a private multi-10 Gb backbone. Jaguar developed its own open source content delivery software to improve upon the standard QoS solutions and to facilitate rapid response to customer demands. This home-grown approach helps ensure that content is delivered as quickly as possible and in closest proximity to the exit point of the network. Scalability, low latency, and resiliency are necessities for the Jaguar network.

Jaguar Network's Growing Pains

As the company's offerings have expanded, its network has become more sophisticated, and its Cisco CSM load balancers are no longer adequate, as demonstrated by intolerable latency and support for just 1 million concurrent connections. For the Content Delivery Network that the Cisco devices front-ended, this was an unacceptable solution.

To address these shortcomings, Jaguar evaluated the latest Cisco ACE product line, along with competing solutions from Brocade and A10 Networks—running in Direct Server Return (DSR) mode. The evaluations showed that the A10 Networks' DSR results were far superior to the competition. The A10 ADC appliances were the only 64-bit system evaluated, offering scalability starting at 32 million concurrent sessions in the entry level platform, versus the 1 million sessions provided by the existing Cisco CSM equipment.





Based upon those trials, Jaguar Network deployed A10 ADCs into their production network, and Polizzi said he has never been so pleased, "In addition to solving the issues with limited concurrent sessions, we have also benefited from the A10 ADCs' direct server return mode and added security with SYN Flood Protection, all at no additional cost. Our network has been designed to meet the toughest demands of enterprise e-commerce websites, and it has been built to ensure the highest application availability. The A10 ADC appliances have helped us achieve our goals, and we are pleased to see improved performance, both under the peak loads caused by special promotions and TV advertising, and also under normal day-to-day operations. Regardless of when these traffic spikes occur, our network is ready."

In its customer trials, Jaguar Network also evaluated future IPv6 functionality, and this was found to be missing from the current and proposed Cisco solutions.

A10 ADC: Scalability and Security for Peak Volumes

Jaguar Network chose the A10 ADC appliances for the following reasons:

- **64-bit Scalability, Low Latency, and DSR:** The testing of the A10 ADC, operating in DSR mode in front of the CDN, showed a noticeable increase in performance. This improvement was due to low latency and reduced RAM usage on the CDN servers. Testing also showed a 32-fold increase in session scalability, which will

help to accommodate Jaguar's increased daily volumes and peak loads. As a result, the network can support more users and operate faster. The A10 ADCs' Advanced Core Operating System (ACOS) internal architecture utilizes a multi-core processing system with shared memory for maximum efficiency.

- **DDoS Protection, High Availability, and CLI/GUI:** Standard A10 ADC features showcased the advantages of the appliance. SYN Flood Protection ensures Distributed Denial of Service (DDoS) attacks are stopped, thus protecting the CDN. The A10 ADCs' High Availability feature ensures that any failure will pass unnoticed by customers, as one A10 ADC appliance discreetly replaces the other. Finally, the easy-to-use CLI and GUI offer flexible management options and a hassle-free deployment.
- **IPv6 Support and A10 ADC Virtualization:** The advanced IPv6 features and A10 ADC Virtualization with Application Delivery Partitions (ADP), at no additional charge, will meet Jaguar Network's future needs. The SLB-PT feature will enable IPv6 clients to access IPv4-content using the existing web servers that Jaguar hosts for its customers. Alternatively, Jaguar's customers can deploy native IPv6 websites behind the A10 ADC appliance. The A10 ADCs' ADP functionality also allows segmentation of the A10 ADC resources and management functions, and this will allow any one of the 60+ separate VLANs and associated web servers that Jaguar manages to have its own dedicated load balancer interface, as well as any necessary A10 ADC resources.

Success: Problems Solved Under Budget

Deploying the A10 ADC solved the network latency and concurrent connection limitation issues Jaguar Network was experiencing. The A10 ADC appliances succeeded in ensuring the project was delivered under budget, without compromising on the features required, all for a fraction of the cost of competing solutions. Jaguar's Polizzi said his team is very happy with their purchase, "The A10 boxes have surpassed our scalability requirements, and we are looking forward to being able to use the advanced IPv6 and virtualization features. At the end of the day, we've improved the customer experience, both under normal daily use and under peak-load conditions, while making our network more efficient."

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 (NYSE: ATEN) is a leader in application networking, providing a range of high-performance application networking solutions that accelerate and secure data center applications and networks of thousands of the largest enterprise, service provider and hyperscale web providers around the world. Founded in 2004, A10 Networks is based in San Jose, Calif., and serves customers globally with offices worldwide. For more information, visit: www.a10networks.com.

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