Highlights from a recent webcast on advanced load balancing

IMPLEMENTING ADVANCED LOAD BALANCING IN AZURE

Load Balancing 2.0: Addressing today's multi-cloud challenges to improve enterprise system visibility, security, and automation

For years, load balancing solutions have performed traffic management functions. However, the face of enterprise data centers are changing as CIOs support a wider mix of systems which has resulted in less visibility. Cloud load balancers sit in a prime position to help. But what is required now are advanced load balancers with enhanced capabilities to help IT improve system visibility, security, automation, multi-cloud support, and use of containers.

The changing role of load balancers was the focus of a recent webinar "The 5 Benefits of Implementing Load Balancing in Azure," sponsored by A10 Networks. Kamal Anand, Vice President of Cloud, A10 Networks; Sudarsan Ragharvan, Director of Software Engineering at A10 Networks and Keith Vidal, Director, Marketplace, Cloud & AI at Microsoft shared their views at the event.

A Need for Speed

Nowadays, businesses move faster and want to go even quicker. Traditionally, data center infrastructure changed slowly because technicians spent a lot of time configuring systems. Public cloud services, like Microsoft Azure, have become popular because they enable development and IT teams to respond faster to business unit requests. "Public cloud systems, like Azure, help IT drive agility throughout the organization," explained A10 Networks' Anand.

But public cloud does not meet every business need. In some cases, companies prefer to keep information on site because of legal requirements. In other instances, they do not feel comfortable placing the corporate eggs in someone else's basket. Microsoft provides businesses with a way to meet both drivers. They can use public cloud Azure and private cloud with Azure Stack.

As corporations embrace cloud, system diversity grows. IT often supports private cloud, hybrid cloud, and public cloud. Variations on these different themes, such as bare metal and containers, are added to the mix. Consequently, system management has become more challenging and complex with the move to cloud.

Finding a Focal Point

Corporations need a focal point, a place capable of examining all of the traffic coming in and out of their systems. Load balancers now sit in that location. Historically these devices performed traffic management functions, such as moving information to another server, if the primary one became overloaded. Recently, these products have taken on more functions. In fact, new solutions, load balancer 2.0 devices, deliver improvements in five key areas: visibility, security, automation, containers, and multi-cloud.

With systems becoming larger, more dispersed, and more varied, application owners often lack needed visibility. As a result, troubleshooting and management becomes more vexing. Because load balancers watch application traffic, they provide access to system logs and

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other metrics used in areas like performance monitoring. These devices feature descriptive analytics that empower IT to take a close look and alter system configurations, if response time slows or latency increases.

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>
> —Sudarsan Ragharvan, A10 Networks

"With public cloud, security is a shared responsibility," said A10 Networks' Anand. The cloud vendor is responsible for maintaining the infrastructure but enterprise IT is still responsible for maintaining and securing the applications.

Load balancers already help to keep information safe. Use of encryption has been growing, but this security check can be compute intensive. A10 Networks load balancers have been offloading traffic from the server, freeing them up to focus on application requirements.

Because all traffic goes through a load balancer, it sees every device's behavior and acts as a security buffer. They can detect anomalies, separate a good bot from a bad one, and enable businesses to fend off Distributed Denial of Service attacks.

Load balancers are also in an optimal position to enforce security policies. They apply security checks and grant privileges, so only authorized users access system resources.

Keeping Pace with DevOps

While systems requirements have been growing exponentially, IT budgets have been increasing in the low single digits. To keep pace with Continuous Integration/Continuous Deployment DevOps models, businesses need to manage their systems more cohesively. They require a centralized management location, one that supports high levels of automation.

One emerging area is applying artificial intelligence (AI) and machine learning (ML) to system maintenance. These tools establish a baseline for how the applications or users perform, identify aberrations, and take corrective actions automatically. Armed with such capabilities, the operations team is no longer reactive but proactive in addressing system problems.

New techniques have emerged to build applications. Containers have gained acceptance, and Kubernetes is becoming the primary way to manage these applications. "Corporations need solutions that support traditional functions, like SSL as well as work with modern technologies, like containers," stated Microsoft's Vidal.

With A10 Networks advanced load balancers, corporations can grow from one application service to many services without performing a lot of configuration work. Technologies, such as Kubernetes support, are integrated into the solution.

Managing the Dispersed Data Center

At one time, all company applications ran in one data center. Today, companies run applications in their own data center, public cloud, and hybrid cloud. Subsets emerged among these different options, like bare metal and containers.

Even when a business relies on one public cloud provider, the system may be set up across cloud regions. The customer may have a branch working in one region but rely on different servers for users in another area to improve availability or in some cases to adhere to compliance regulations.

Consequently, a growing number of enterprises run applications across regions and clouds. And it's critical to have a centralized management solution to maintain policy consistency and gain visibility across the hodgepodge of systems. "With the A10 Networks' solutions, businesses automate the selection of the region, resource group, network, and instance type," explained A10 Networks' Ragharvan.

The end result is that organizations need an advanced load balancing/application delivery solution that works with different computing options now and grow with the technology in the future. A10 Networks has been in the application delivery business for more than a decade and its 6,000 customers include the industry's largest firms. The vendor offers a next generation solution delivering system visibility, security, automation, multi-cloud support, and container support.