GET MORE FROM YOUR ENTERPRISE NETWORK

A10 THUNDER ADC HELPS ENTERPRISE DATA CENTERS IMPROVE THE BOTTOM LINE

MANAGE LIMITED STAFF AND BUDGET IN THE FACE OF GROWING TRAFFIC AND DEMANDS

Today's enterprise data center operator faces challenges that are radically different from those seen only a few years ago. Complex new virtualization architectures and cloud data centers are on the rise. Network traffic is expanding exponentially, thanks to the proliferation of Bring Your Own Device (BYOD) and the growing ubiquity of mobile broadband. At the same time, IT organizations are being asked to do more with less – less budget, less manpower and less infrastructure. Compounding these issues is the fact that information technology has become a marked competitive advantage.

Enterprises must maintain mission-critical applications such as ERP, Voice over IP, collaboration systems and Virtual Desktop Infrastructures. The cost of outages has been estimated at close to $500,000 per hour, and data center professionals report a 40 percent increase in downtime over the last three years. Each element of the enterprise data center must be fault-tolerant, to deliver 24/7 uptime.

Uptime becomes even more difficult to maintain as the data center scales. Infrastructure must grow to keep pace with new devices, many of which feature always-on applications that multiply the number of concurrent sessions by constantly polling servers. Many applications are encrypted, and servicing these requests brings additional overhead.

Unfortunately, costly infrastructure must also be consolidated wherever possible, since enterprises are always under pressure to reduce expenses and minimize disparate point products. Key initiatives include higher density per rack unit and virtualization to consolidate equipment and lower power and heating/cooling needs.

At the same time, IT must optimize its most costly resource – staff. As new, more complicated applications are added to the data center, the burden on IT only grows. Deployments are difficult due to the learning curve associated with

CHALLENGE

Enterprises face growing, seemingly contradictory issues:
- Guaranteeing 24/7 uptime
- Securing applications and services
- Ensuring scalability for users, applications and devices
- Minimizing data center infrastructure
- Rapidly troubleshoot issues and pro-actively modify infrastructure

SOLUTION

A10 Thunder ADC offers:
- Server Load Balancing, GSLB and health checks to ensure availability
- Advanced security features
- Caching, compression and TCP optimization
- Physical, virtual and bare metal appliances
- Integration with A10 Harmony Controller

BENEFITS

- Ensure business continuity and disaster recovery
- Provide security from "day zero" application attacks
- Integrate multiple point products into one application delivery controller
- Achieve unprecedented price/ performance
- Anticipate service degradation and correct ahead of time

infrequent manual tasks like those found in application installs. Such manual processes are often fraught with error and require significant planning to be handled correctly The complex nature of today's apps and services often are invisible to administrators.

Finally, these applications must also remain secure, particularly in the face of regulations such as Health Insurance Portability and Accountability Act (HIPAA) and Payment Card Industry Data Security Standard (PCI DSS). Security measures protect both the data contained in the applications and the enterprise brand itself. Threat vectors are constantly evolving and security issues are compounded when application access is extended from internal to external users.

A10 NETWORKS THUNDER ADC KEEPS BUSINESSES IN BUSINESS

The A10 Thunder® ADC line of high-performance, next-generation application delivery controllers delivers the features that enterprises need to succeed in the face of constantly evolving IT challenges.

FLEXIBLE, SCALABLE ARCHITECTURE

A10 Thunder application delivery controllers (ADCs) are themselves built on a unique hardware platform designed to make the most of data center space and power. The introduction of an A10 Thunder Series device can consolidate the number of ADCs and Service Load Balancers (SLBs) by a factor of up to 10, thanks to A10's Advanced Core Operating System (ACOS®), which enables more efficient and flexible enterprise data centers. By taking full advantage of multi-core processors, our ACOS application networking platform delivers unprecedented performance in a small form factor. ACOS testing has validated up to 220 Gbps of throughput with 10.5 million new sessions/second and 256 million concurrent sessions – all in a single rack unit appliance.

A10 also makes it easy to deploy exactly the form factor that your installation requires; now, and in the future. A10's virtual ADCs, vThunder®, are designed for organizations that require a flexible, strongly isolated, easy-to-deploy solution with a full ADC feature set running in a virtualized infrastructure. vThunder instances can be deployed to run on your choice of

commodity hardware, with support for multiple hypervisors such as VMware ESXi, XenServer, KVM and Microsoft Hyper-V.

Thunder bare metal for ADC solutions support next generation SSL security adapter cards and offer a SR-IOV software implementation to enable high-performance SSL offload and networking function acceleration, which are not present in conventional virtual appliances deployed on commodity server hardware.

Finally, application delivery partitions (ADPs) are a proven ADC virtualization solution within A10 ADCs (both virtual appliances and hardware), providing large-scale and high-performance multi-tenancy for application networking. The ADP allows you to provision isolated partitions for separated applications with granularly allocated ADC resources such as administrative resources, system resources and network resources.

ENSURE 24/7 UPTIME

For today's enterprise, keeping vital applications available at all times has become mission-critical. A10 Thunder ADC enables high availability with a rich set of server load balancing capabilities that include advanced application health monitoring. These server checks go beyond simple connectivity to check databases and even specific data on a given webpage. Comprehensive load balancing methods promote fully redundant and efficient use of your application server resources. Additional features include a variety of checks that protect against Distributed Denial of Service (DDoS) attacks. If your company operates multiple data centers, A10 Global Server Load Balancing (GLSB) features can provide disaster recovery by directing traffic to an active data center in the case of an unforeseen event. GSLB also allows multiple data centers to interact with one another, and intelligently direct traffic flows to enable optimal availability and lowest response times.

OPTIMIZE YOUR DATA CENTER INFRASTRUCTURE

Thunder ADC delivers a host of application acceleration features, which help your infrastructure run at maximum efficiency. TCP optimization features multiplex connections from the ADC to the data center, freeing back-end servers from the CPU-intensive task of setting up and tearing down TCP sessions by enabling reuse of those connections. Not only does this speed the end user experience, it enables

high performance with less infrastructure. The A10 Thunder ADC line also provides RAM caching features which store frequently requested items on-box and HTTP compression designed to shrink WAN payloads.

Thunder ADC features complete SSL offload, which can significantly improve the performance of critical business applications that use TLS/SSL encryption. Select models offer high-performance SSL security processors designed specifically for the task. This functionality becomes increasingly important as key sizes become longer and SSL is used more frequently, resulting in higher performance at a reduced cost.

Application access management in the Thunder ADC line also eases time-consuming authentication tasks. The ADC can handle authentication tasks before the application server connection, to ensure that only valid, authorized users can interact with application infrastructure. Not only does this ensure optimal application resource usage, it can help with security by eliminating a bar to entry.

MAKE THE MOST OF YOUR STAFF FROM DEPLOYMENT TO MANAGEMENT

With A10 Networks, optimizing your data center extends to making the most of your most precious resource – your staff. A10 Thunder ADC helps you do more with fewer resources. Issues can be dealt with more quickly and policies deployed with application configuration and provisioning available

through the ADC web GUI, which includes application-aware smart templates. Templates support basic applications like HTTP servers and DNS servers, as well as critical off-the-shelf business applications such as Microsoft, SAP and Oracle. A complete library of deployment guides, in which each configuration step is verified and updated, can simplify the process of rolling out customized installations of many applications, services and solutions. Full functionality is also available via our industry-standard command-line interface (CLI), so staff can work with whatever interface is most comfortable.

A10 also makes it easy to consolidate management into third-party applications and network management systems (NMS), with our REST-based API. This feature, which is unique within the SLB/ADC market, ensures quicker integration and can be used for flexible resource provisioning and dynamic traffic control, such as allowing commands to be triggered by certain events. Flexible traffic transformation capabilities are provided by a powerful TCL-based Layer 4-7 traffic scripting feature called aFleX®. This provides organizations with a critical tool to adjust traffic flowing to applications as needed, and to effectively resolve critical unforeseen custom application issues, zero day security threats, or backward compatibility issues. Any existing TCL-based script can easily be converted to aFleX. Because aFleX has multi-protocol fluency, with an understanding of HTTP, DNS, SIP, RADIUS and more, application-aware traffic transformation and packet inspection for your enterprise data center can be applied to a wide variety of services.
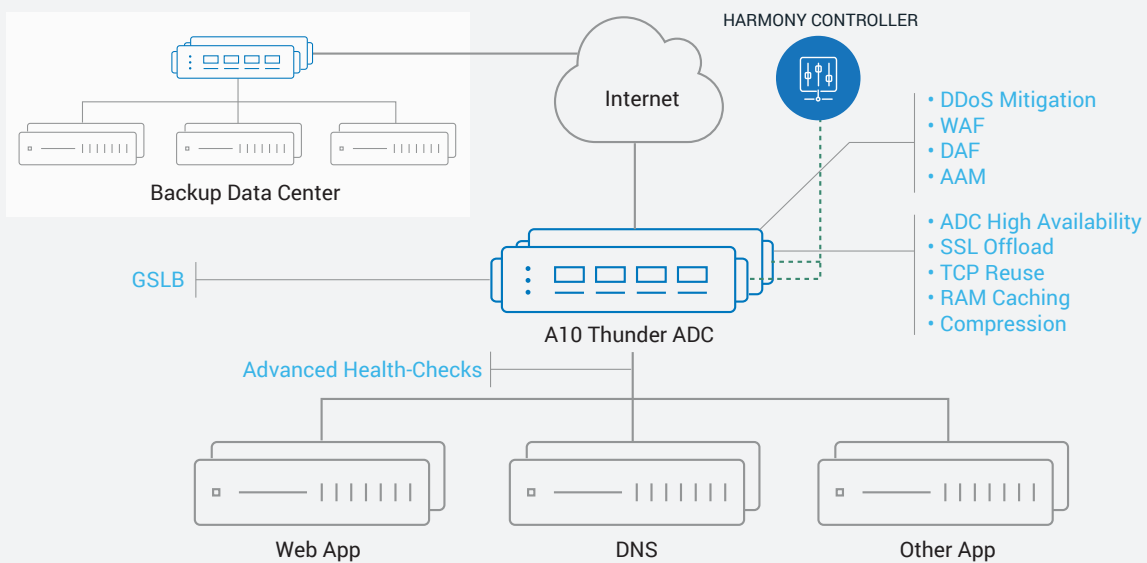

Figure 1: A10 Thunder ADC consolidates numerous point products into one appliance to minimize cost and complexity.

When combined with A10's Harmony Controller, IT can centrally manage ADCs across multi-cloud environments. The ADCs also feed information to Harmony; IT obtains rich L4-7 analytics on hundreds of metrics. This real-time visibility quickly troubleshoots network and service issues, spots burgeoning user experience deterioration and enables proactive infrastructure modifications.

ADVANCED SECURITY FEATURES

Security is a primary concern for enterprises, and protecting business applications and data is vital. Thunder ADC offers a variety of specialized features to this end, including a built-in ICSA-certified Web Application Firewall (WAF) designed to strengthen your critical infrastructure. The A10 WAF delivers application-specific inspection and intelligence to pinpoint specific attacks, including relevant Open Web Application Security Project (OWASP) top ten website threats. A10's unique SSL Intercept feature removes the traditional outbound "SSL blind spot" by enabling inspection of internal traffic before it goes out. Firewalls, intrusion protection systems and antivirus protection devices can now see unencrypted flows, enabling them to make appropriate decisions. The aFleX scripting feature delivers the power of customizable scripting to protect your data center from zero day threats.

Finally, Thunder ADC offers multiple vectors of DDoS protection, to stay safe in a landscape of rapidly changing threats. Servers are protected from a variety of application and network attacks, including slow HTTP attack protection, TCP SYN flood protection and anomaly packet detection. Black/white listing, flexible rate-and connection-limiting and more are available as additional effective mitigation techniques. With A10, DDoS mitigation rates of 150 Gbps of traffic can be handled in a single rack unit appliance.

NO-LICENSING MODEL

Thunder ADC hardware appliances include all features and performance without licenses, ensuring no budget surprises and no need to purchase licenses during unforeseen peak loads. All innovative and advanced features are included, such as: application acceleration, GSLB, WAF, application access management and aFleX scripting. In addition, annual support costs are significantly lower than those of industry competitors.

MAKE YOUR NETWORK A COMPETITIVE ADVANTAGE WITH A10

The A10 Thunder line of application delivery controllers has been built to ensure that enterprises can meet data center issues head-on, with security from the inside out, highly available resources, and application acceleration that makes the most of your back-end servers. The Thunder ADC platform optimizes both user experience and your bottom line, with innovations that offload CPU-intensive tasks to enable applications and servers to do more, faster. The unique A10 Advanced Core Operating System offers you vastly improved performance in a remarkably small form factor. And you can manage the system in the way that works for you – from our GUI, CLI, DevOps orientated aXAPI® RESTful API, or our Harmony Controller central management system.

ABOUT A10 NETWORKS

A10 Networks (NYSE: ATEN) provides Reliable Security Always™ through a range of high-performance solutions that enable intelligent automation with deep machine learning to ensure business critical applications are protected, reliable and always available. Founded in 2004, A10 Networks is based in San Jose, Calif., and serves customers globally with offices worldwide.

For more information, visit: a10networks.com or tweet @a10Networks

LEARN MORE
ABOUT A10 NETWORKS

CONTACT US
a10networks.com/contact