A10 THUNDER ADC HELPS CASIO SUPPORT CLOUD ACCESS FOR 6,000 EMPLOYEES

> " *We've not only consolidated the functions of six proxies and load balancers into two A10 Thunder ADCs, but also reduced the load to a fourth.*"

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User Support Group

A10

COMPANY

Casio Computer Co., Ltd.

INDUSTRY

Manufacturing

NETWORK SOLUTION

A10 Thunder 3030S

CASIO

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CRITICAL ISSUES

- User experience had deteriorated due to an increased load on proxy servers following the introduction of Google Apps for Work.

- The existing load balancer could only perform pings via live monitoring, preventing proper allocation of processing resources.

- The use of open source software for the proxy meant inefficient response in the event of failures.

RESULTS

- The load balancing functions and proxies provided by the existing six servers were consolidated into two A10 appliances.

- Trouble-free access to the cloud was achieved, with the load on the proxies reduced to about one-fourth.

- Surplus performance was available for use in gateway functions for other applications.

- Use of a dedicated appliance reduced the load from operating system version upgrades and other operations management.

Casio Computer Company, Limited (hereafter, Casio), a well-known global company with world-class brands in fields such as watches and digital cameras, operates an internal communications infrastructure that utilizes various functions such as email, chat and web meetings. User experience had deteriorated due to an increased load on proxy servers following the introduction of Google Apps for Work. After exploring an optimal infrastructure for load balancing devices and proxies, Casio decided to deploy A10 Networks® Thunder® ADC line of application delivery controllers.

CHALLENGES

Casio Computer Company, Limited was founded in 1957 with the corporate motto "Creativity and Contribution," an expression of the company's commitment to contribute to society by offering products with novel features. Casio is a leading global company consisting of 43 business groups in Japan as well as regions including Asia, North America and Europe. It develops and sells products for businesses such as office terminals, printers and projectors, as well as products for the consumer market such as EXILIM digital cameras, EX-word electronic dictionaries, calculators and the G-SHOCK global watch brand.

The company has used on-premise groupware for many years, and launched a project in 2010 to update an environment that had become obsolete. During the process of exploring a new infrastructure, the Great East Japan Earthquake struck in March 2011, forcing Casio to suspend email systems for several hours each day during planned power outages. Faced with considerable disruptions in its work, the company introduced Google Apps for Work as a communication infrastructure able to withstand disasters, according to Koji Kawade from the User Support Group at Casio Information Systems, which is in charge of functions from overall design and system architecture to operations at the Casio Group. After the company began using Google Apps for Work, it was able to achieve stable access through load balancing using proxies and load balancers.

However, as Mr. Kawade explains, the load on the proxies became greater as the number of users increased, affecting application performance and user experience.

SELECTION CRITERIA

Because of planned power outages, Casio's quickly transitioned to new email, collaboration and business applications delivered as a service and the company built a network architecture to handle these new cloud services in a little over two weeks. The company provisioned the open source proxy software Squid on virtual servers and reused existing equipment for load balancers. "The commercial proxy appliances used by other work applications already carried a large load. Taking into account the time and costs for procuring new products, we adopted the method of building Squid on a virtual server as the environment for Google Apps for Work," explains Kimiharu Mayuzumi of the User Support Group. "Following this, we operated an environment for access to cloud services, increasing the Squid machines to four units to support heavier traffic as users increased, and increasing the overall capacity of our proxies."

However, proxy performance eventually reached a limit. "The load would rise close to 100% in the morning under heavy employee access," Kawade says, "and there were complaints from offices about the difficulty of starting meetings that used chat or web conferencing. Also, as only real-time monitoring using pings could be performed by the existing load balancers, the load balancers could not detect Squid application failures and redirect traffic to responsive application servers."

While exploring better load balancing and proxy alternatives, Casio discovered Thunder ADC from A10 Networks. "With the A10 Thunder ADC, it is possible to implement both proxy and load-balancing functions in one unit. Under repeated testing, even among high-performance application delivery controller hardware, the cost-performance of one A10 unit was extremely high. We found that we could employ it at a third of the cost of competitors' solutions," Kawade says.

SOLUTION

Appreciating A10 Thunder ADC's high performance, the company selected the solution to load balance and proxy user traffic to Google Apps for Work. Today, a redundant pair of A10 Thunder 3030S application delivery controllers located in Japan handle traffic for the Asian region, supporting the Google Apps for Work deployment for the Casio Group (see Figure 1).

A10 Thunder ADC is a next-generation application delivery controller equipped with virtualization and security functions, including SSL Insight, Web Application Firewall (WAF), and Distributed Denial of Service (DDoS) protection, in addition to application acceleration and load balancing. Thunder ADC also provides low power consumption and space saving with a proprietary Advanced Core Operating System (ACOS® software) that yields the maximum performance from hardware.

By implementing the A10 Networks solutions, Casio achieved a high performing solution powered by a scalable and flexible operating system. The solution also implements multi-tenant functions that can support more services and applications with a single platform via Application Delivery Partitions (ADPs) that can be constructed for a maximum of over 1,000 virtual ADCs.

Google Apps for Work

General Websites

Internet

A10 Thunder ADC

Proxy Server

Web traffic for Cloud services run through A10 Thunder ADC

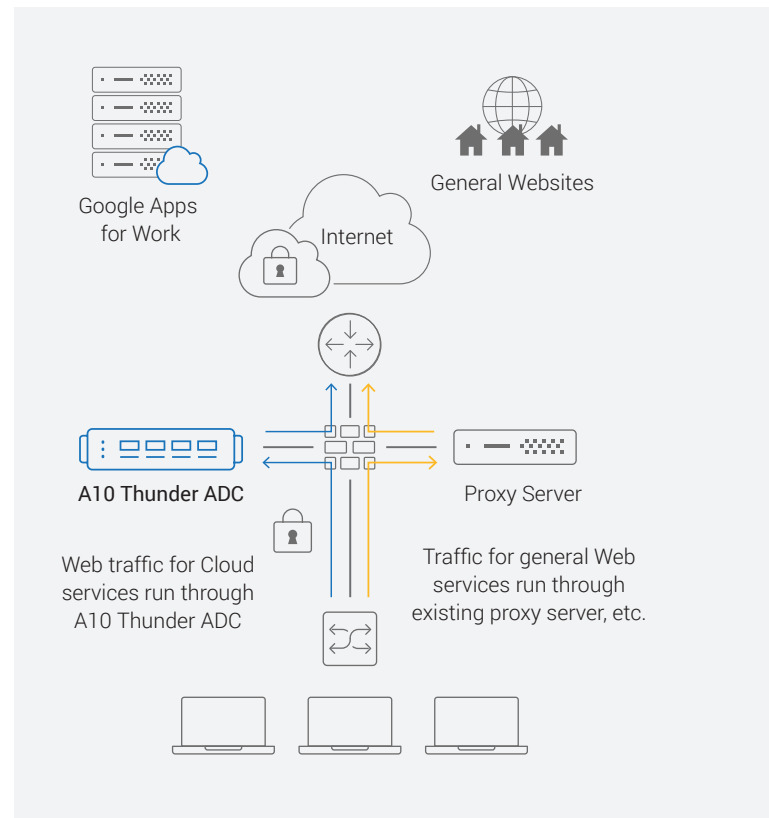Traffic for general Web services run through existing proxy server, etc.

Figure 1: Consolidate web traffic for cloud services on A10 Thunder ADC

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RESULTS

The 6,000 employees of the Casio Group in the Asian region continuously access Gmail, Google Hangouts web conferencing application, and Google Drive cloud storage without disruption from network overload and without performance degradation. Operations have stabilized, with the load on proxies—previously close to 100%—now at a maximum of about 25% following the deployment of A10 Thunder ADC.

"We've not only consolidated the functions of six proxies and load balancers into two A10 Thunder ADC appliances, but also reduced the load to a fourth of its previous level," says Kawade. "With the high processing capability of A10 Thunder ADC, even if one unit goes down, we can keep the load on the other to about 50%, enabling operation with more leeway than before." (Figure 2)

With surplus performance available from the proxies, a number of IMAP email software users are switching network paths to go through A10 Thunder ADC. Furthermore, whereas real-time monitoring had only been possible using pings, it is now possible to determine whether proxies are functioning accurately using advanced health monitoring, helping to maximize application uptime.

On the processing side, A10 Thunder ADC offers a full range of reports and enables visualization of statistical information that simplifies and improves management. Speaking about the merits offered only by A10 Thunder ADC, Mayuzumi notes, "In the past, we worried about version updates for the Linux installations running Squid, and updates for Squid itself. The fact that we no longer have to worry about those things has made a big difference. We can also easily update settings and monitor status from an intuitive graphical user interface or a command line interface, as required for the situation."

Furthermore, while their network engineers had to spend considerable time managing their open source Squid servers and reconfiguring servers when failures occurred, the A10 Thunder ADC dramatically reduced operating costs, says Mayuzumi. "Now I can speak directly with engineers to receive detailed support. Previously, I had to look at manuals and decide things myself, or repeatedly look for solutions on the Internet. I'm very grateful for this, as well," Mayuzumi says.
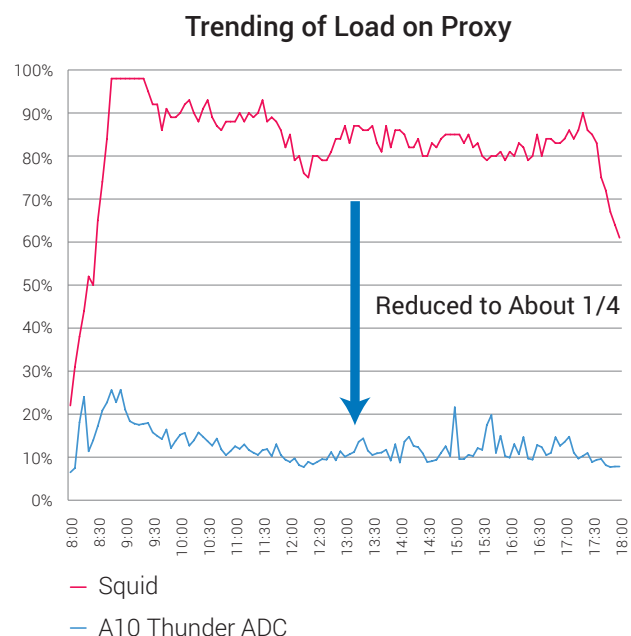
Trending of Load on Proxy

Reduced to About 1/4

— Squid
— A10 Thunder ADC

Figure 2: Loads on proxy greatly decreased throughout business hours after deployment of A10 Thunder ADC

A10 THUNDER ADC

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SUCCESS AND NEXT STEPS

The A10 Thunder 3030S appliances adopted by Casio are expected to play a role for various network and security applications in future. Proxy servers are also used partly for work by other business applications, and the company is considering overall optimization that includes deeper integration with the A10 Thunder ADC product line.

In addition, with A10 Thunder ADC, Casio is able to use all functions included in the operating system without additional licenses. Mr. Kawade concluded by expressing the desire to enhance security by implementing new functions such as A10 Networks SSL Insight™, in order to differentiate between personal use and work-related cloud bound traffic by analyzing encrypted communications.

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**.

ABOUT A10 NETWORKS, K.K.

A10 Networks, K.K. is the Japan office of A10 Networks. It holds a mission to deliver innovative application networking solutions, while proactively incorporating feedback and requirements from customers in the local market.

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