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A10 FlexPool Licensing and Virtual Appliances Improve Bandwidth Allocation and Boosts NEC's Multi-Cloud Business

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Industry | Telecom, Technology, Manufacturing, Service Provider

NEC is one of Japan's largest manufacturers of electronic equipment, with a corporate group that comprises more than 303 companies in Japan and around the world. Under the brand statement "Orchestrating a Brighter World," NEC is pursuing, at global level, a social solutions business that embodies the values of safety, peace of mind, efficiency and fairness in response to the megatrends facing the global economy and global society.

> *A10 FlexPool enabled us to overcome the barriers to offering a subscription-based gateway service in the cloud.*
>
> — Kazuhiko Nakahara
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Network Solution

A10 FlexPool®
A10 vThunder®
A10 vThunder® CFW

Critical Issues

- A lack of gateway functions for cloud IaaS business

- A need to reduce initial investment and lead time in providing these functions as a service

Results

- NEC was able to offer a flexible gateway service that allows clients to take as much bandwidth as they require from a shared pool via a self-service portal

- Virtual appliances reduced the lead time for providing services

- NEC was able to transfer configuration rights to the client and establish a business model where clients are able to use the functions they require

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NEC offers NEC Cloud Solutions, a wide range of cloud services that create new value. The work of the Service Platform Division's Cloud Platform Service Department centers on NEC's infrastructure as a service (IaaS), called NEC Cloud IaaS. Until recently, NEC provided the load balancer, firewall and other gateway functions of this IaaS under a dedicated or shared model using physical appliances. However, because physical appliances had to be provisioned on a case-by-case basis, scalability was low and initial investment costs tended to mount up.

Kazuhiko Nakahara, a senior expert in the Cloud Platform Service Department's Cloud IaaS Group, recalled, "Because we were provisioning physical appliances according to the status of business negotiations, in some cases there was a three-month lead time before we could start providing services."

NEC also provided services based on virtual software, but problems on the host side made switching time consuming, and although VMware, OpenStack and other virtual infrastructure was provided in menus, NEC also faced the issue that security infrastructure was not complete.

To resolve these issues, NEC began to look at new gateway service infrastructure that would reduce initial costs and lead times and offer greater flexibility.

FlexPool license satisfied cloud business operators' demand for services

As NEC considered new infrastructure, its attention was drawn to A10 Networks' FlexPool subscription license, which makes it possible to purchase bandwidth as a pool and allocate bandwidth to multiple instances from that pool.

Mr. Nakahara said, "With the new infrastructure, we wanted a postpaid license system, where you would be charged for what you used. FlexPool was closest to that ideal." The FlexPool license model matched the demand for services from cloud business operators as well.

NEC also selected the vThunder CFW virtual appliance, a high-performance security platform that supports FlexPool.

Mr. Nakahara said, "To be able to expand our services, we short-listed solutions with a wealth of security functions. We also required that the solution should not be too closely coupled to the controller or orchestrator to ensure that we could respond flexibly to changing conditions. And it should allow us to build a more loosely coupled API-based system. Among the virtual appliances that would make it possible to keep initial costs own, the vThunder CFW matched these requirements."

A virtual appliance that does not rely on a physical environment not only increases the scalability of the infrastructure itself, but also substantially reduces lead times for services. The vThunder CFW also makes it possible to provide menus of new security services such as web application firewalls (WAFs), which could not be provided until now. For this reason, NEC adopted the vThunder CFW using FlexPool as its new gateway service infrastructure.

FlexPool subscription license improves re-allocation of bandwidth units

FlexPool is a subscription software license model that makes it simpler to manage bandwidth. It supports virtual appliances (private and public cloud) and the A10 Thunder series of solutions in bare metal.

FlexPool makes it possible to add or reallocate the necessary bandwidth to multiple instances in units of 1 Mbps. Compared with a perpetual license, under which bandwidth is purchased for each instance, FlexPool allows a more flexible configuration of services. It also provides an environment that allows the status of the bandwidth pool in use to be managed centrally, simplifying the operating process.

The vThunder CFW virtual appliance is a platform that combines all the security and application networking functions that businesses, mobile network carriers and data centers need—and all in a single appliance.

From load-balancing functions, firewall functions and WAF functions to secure web gateways, data center firewalls, Gi/SGi firewalls and site-to-site IPsec VPN, it offers a wide array of functions that meet the security needs of a wide range of organizations.

Deployment lead time reduction contributes to highly scalable IaaS

At present, vThunder CFW is used as part of the load balancer and firewall services of NEC Cloud IaaS, which is used by around 2,500 tenants. UBiqube's MSA*[1] open-source multivendor orchestrator handles the provisioning for vThunder CFW, which runs on OpenStack.

To allow clients to make use of vThunder CFW's wealth of functions, NEC transfers the configuration rights to the client, and each function can be used according to the bandwidth selected by the client themselves.

Mr. Nakahara said, "Some cloud service providers don't offer bandwidth licenses, so FlexPool has made it possible to increase the competitiveness of our IaaS."

Kazushi Nakamura, senior staff member of the Cloud IaaS Group, said that being able to manage client and service provider partitions separately made it much easier to provide configuration rights so that clients are able to use all functions.

"If you transfer the configuration rights for allocated licenses to the client, there is a risk that they will set the bandwidth to 100 Mbps, even though they have a bandwidth contract for 10 Mbps, but thanks to the function for separating partitions, we were able to implement the service," said Nakamura.

Moreover, because the environment is now based on virtual appliances, there is no need to start by procuring physical appliances, and it is possible to secure bandwidth in a flexible manner, greatly reducing lead time while helping to avoid loss of opportunities.

> *Mr. Nakahara said,"To date, we have set up menus at 1 Gbps and 200 Mbps, but we can provide other bandwidths on request. This also makes a major contribution to speedy service development."*

APIs also allow the automation of license allocation and deployment. Using virtual appliances, NEC is able to ensure sufficient throughput and performance that compares favorably with that of a physical environment.

During the development process, NEC also used the FlexPool review site. "Because our business originally centered on system integration (SI), we did not have a clear idea of service-type development methods or the appropriate use of licenses for the cloud, but the review site allowed us to validate FlexPool in advance," said Nakamura.

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1. MSActivator is a registered trademark of Irish company UBiqube, whose open source orchestrator is OpenMSA
   https://www.openmsa.co

Looking to the future: IaaS to provide a wide range of gateway services

In the future, NEC plans to promote wider use of load balancer and firewall services and introduce them to new gateway service infrastructure.

The vThunder CFW is expected to enhance convenience by running not only load balancers, but a wide variety of security functions in a unified environment.

Mr. Nakamura said, "It also makes it possible to use cloud proxies, which reduce the burden on cloud applications, via NEC Cloud IaaS. We will continue to use A10 Networks solutions in the future, partly with a view to offering seamless multi-cloud environments, including AWS, Office 365, and on-premises environments."
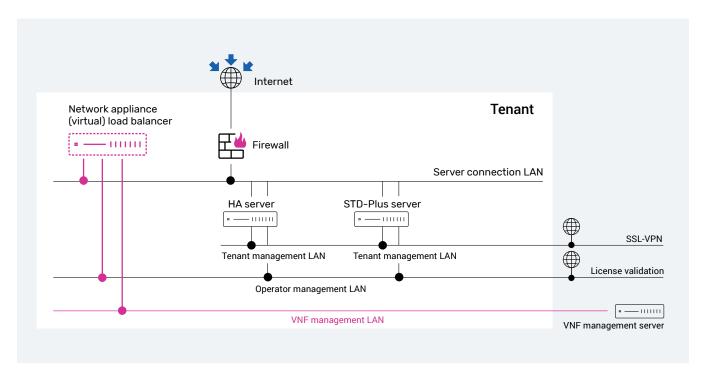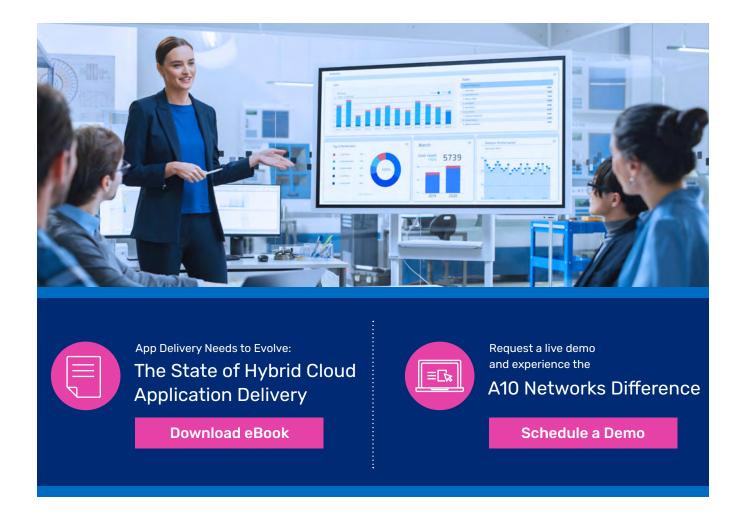
Figure 1: Network Configuration Diagram

App Delivery Needs to Evolve:

The State of Hybrid Cloud Application Delivery

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About A10 Networks

A10 Networks (NYSE: ATEN) provides secure application services for on-premises, multi-cloud and edge-cloud environments at hyperscale. Our mission is to enable service providers and enterprises to deliver business-critical applications that are secure, available and efficient for multi-cloud transformation and 5G readiness. We deliver better business outcomes that support investment protection, new business models and help future-proof infrastructures, empowering our customers to provide the most secure and available digital experience. Founded in 2004, A10 Networks is based in San Jose, Calif. and serves customers globally.

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