

Southeast Asia Communication Service Provider Stabilizes Network and Reduces Servers with Secure64



COMPANY

Southeast Asia Communication Service Provider

BUSINESS CHALLENGES

- Improve DNS scalability to handle rising loads
- Improve resilience to DDoS attacks
- Control and reduce operational costs
- Control and reduce capital costs

SOLUTION

- SECURE64® DNS CACHE™

BENEFITS

- Reduced DNS servers deployed by 10x
- Maintained 100% customer availability during attacks without overprovisioning
- Reduced patching frequency and costs by nearly 10x
- Introduced DNS genetic diversity for improved resiliency

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- Senior Director of Network Engineering

This Southeast Asia Communication Service Provider (“SE Asia CSP”) provides ISP, IPTV, mobile and fixed line telephony services to 600 million subscribers in 25 countries. This case study covers a regional market which serves 4 million subscribers.

The Need to Build a Scalable, Resilient Network

SE Asia CSP provides services in an extremely fast- growing part of the globe. Countries in Southeast Asia have been adding mobile subscribers at blistering rates and those subscribers expect to use their ubiquitous smart phones at all times. In the highly competitive space, subscriber satisfaction is critical and SE Asia CSP was struggling to provide an always available network.

The SE Asia CSP network was made up of BIND-based DNS servers which would get overwhelmed by distributed denial of service attacks as well as spikes in traffic. In order to ensure availability, SE Asia CSP had overprovisioned their BIND-based servers, adding more and more servers to ensure subscribers would always be able to access the internet. Beyond the capital cost of adding additional servers and their protective firewalls, there were space considerations, utility costs and most importantly, patching costs.

On average over the past several years, BIND has had over 9 critical vulnerabilities (CVEs) yearly requiring SE Asia CSP’s operations team to drop everything and patch multiple servers. SE Asia CSP was perpetually patching their network – and they knew they needed a better solution.



Genetic Diversity & Skepticism

SE Asia CSP began evaluating the concept of “**genetic diversity**” – building a DNS network that utilizes more than one DNS software code base in order to increase its resilience to attacks because each code base has different vulnerabilities.

Unlike most other commercial DNS products, Secure64 is not based on BIND and is immune to any BIND-specific vulnerability. For this reason, Secure64 DNS Cache was the ideal choice to add to the SE Asia CSP network to increase genetic diversity. What was even more compelling was that the Secure64 patented micro OS and built-in DDoS capabilities offered a level of security and scalability that BIND simply could not match.

SE Asia CSP was highly skeptical that just two Secure64 DNS Cache appliances could replace 20 of the BIND-based servers in their network. After aggressive lab testing and fine tuning for their production environment, SE Asia CSP released Secure64 DNS Cache to production, and found that the two servers did indeed handle the normal and peak DNS traffic loads previously handled by their 20 BIND servers. But more importantly, the two Secure64 servers remained 100% available during abnormal (DDoS, PRSD) attacks without overprovisioning.

“We really did not believe that 2 servers could replace 20 and still handle normal and attack traffic,” said SE Asia CSP’s Senior Director of Network Engineering. “But Secure64 can, did and still does. We have literally been able to reduce our DNS servers by a factor of 10, which saves space, power, security devices and more. I can sleep at night – I know my network will handle it.”

The End Result

To keep up with their rising network DNS load, SE Asia CSP continued to acquire and deploy additional Secure64 DNS Cache servers over time. In addition, they began using the unique authoritative response capabilities in the server to answer queries for internal domains without having to deploy and manage separate authoritative servers. Working in conjunction with Secure64 support and engineering personnel, SE Asia CSP was able to get additional important features added to the product – an advantage of working with a vendor that is completely focused exclusively on the needs of the carrier market.



“We are genetically diverse, and Secure64 is a critical piece of that diversity,” said SE Asia CSP’s Senior Director of Network Engineering. “We have reduced patching, servers and operational spend while our network stays up and our customers are happy. This is very important in our market – going with Secure64 was a very good decision.”

Learn more about Secure64 DNS solutions at www.secure64.com