Hillstone Networks Strengthens Security for Macao Water Supply Against Growing Cyberthreats

The Customer

Established in 1935, the Macao Water Supply Company Limited (Macao Water) was awarded with the "Extended Contract for the Concession of the Public Utility Service of Water Supplying in the Macao SAR" in 2009 for 20 years, with another 11 years remaining to 2030. Macao Water's mission is to contribute to the growth and prosperity of Macao by building strong, mutually beneficial relationships with its customers while creating value for all stakeholders.

The Challenge

Cyber security matters at Macao Water. Firewalls operated by well-established networking companies have been deployed to protect the company network. However, as cyberthreats are becoming more sophisticated and indistinguishable as they develop, existing appliances may not be able to catch and detect ransomware variants in the early stages, leaving the network more vulnerable to attacks without full protection.

"We needed a more robust and automated security management system that could reduce dependency on human intervention and proactively protect against malware and ransomware," Said Alvin IUN, IT Advisory Technician of Macao Water. "Antivirus alone has become insufficient from a security point of view. We cannot rely on solutions that only look for signatures to protect our workstations. What is demanded is something more intelligent that defends potential threats in various ways and understands the behavior of people using the workstations to discover abnormal activity before it is too late."

The Solution

Macao Water deployed the Hillstone Networks Intelligent Next-Generation Firewall to protect its network and critical assets. The solution addressed the company's challenges of not having thorough visibility on network assets, nor a holistic understanding of its security posture.

Macao Water has deployed one Hillstone T2860 Intelligent Next Generation Firewall (iNGFW) between an existing firewall appliance and the core network switch in order to protect traffic to web and email servers.

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This Hillstone T-Series iNGFW uses three key technologies to detect advanced attacks and provide continuous threat defence against today's cyberthreats:

- Statistical clustering, used to detect unknown malware, leveraging the patented Hillstone Advanced Threat Detection engine (ATD).
- Behavioural analytics, to detect anomalous network behaviour, which is based on the Hillstone Abnormal Behaviour Detection engine (ABD).
- Threat correlation analysis, to correlate threat events detected by disparate engines – including ATD, ABD, Sandbox and other traditional signature-based threat detection technologies – along with contextual information to identify advanced threats.
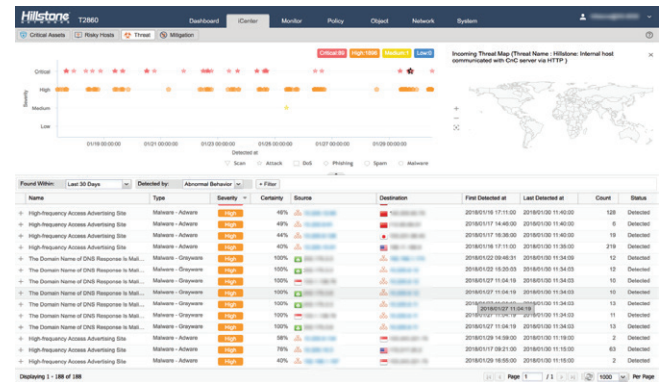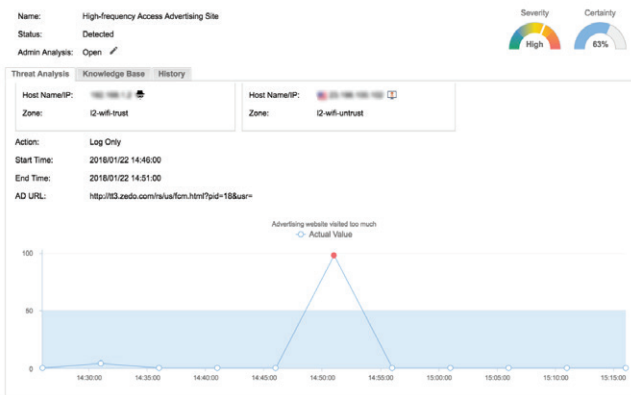

Figure 1, Abnormal Behavior Detected by iNGFW

"As soon as we installed the Hillstone Networks iNGFW, we were able to identify devices infected with malware trying to ping external sites hundreds of times a day," reported Alvin. "We could then reimage those machines, freeing up bandwidth and preventing our 350 machines from turning into a botnet going out and trying to hack other organizations."

Figure 2: Machines Infected by Malware

He added, "We are very satisfied with the results since deploying iNGFW. We have not had any network issue that required remediation or special intervention from our security team. It has also saved our team time from an operational perspective."

"The visibility that Hillstone iNGFW delivers allows us to identify issues timely, which is critical, due to our strict SLAs. Visibility also helps with forensic analysis—detailed information and trends that allow us to easily figure out the security posture, and enable us to meet network uptime and performance commitments."

In addition, Macao Water has been impressed with the ease of management as it requires no extra manpower. The security team now enjoy more bandwidth for other pressing projects, because the automation in the solution removes the need to write rules and policy.

The Results

"The objective of our digital transformation is based on simplicity and transparency, and Hillstone Networks gives us the visibility and insight we need with one click," concluded Alvin . "We don't see Hillstone Networks only a vendor, but a trusted cybersecurity partner. We keep constant dialogue, and they are always keen to listen to what we need and help us innovate and continue to add value to our company and clients."

Hillstone helps Macao Water gain greater visibility and control over its network, while delivering intelligent protection against known malwares and unknown variants. It has helped their IT team manage security risks with user, applications and device visibility to see everything regardless of the geo-location. With the solution's multi-engine, intelligent analytics, the IT team is able to fully comprehend its security posture, to understand in real time what is transpiring in its network. It also arms its security admins with real-time controls to act and mitigate risks to maintain network integrity.

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