

Bank of China Macau Selects Hillstone Networks to Deliver 24/7/365 Availability Without Security Compromise

The Customer

Established in June of 1950 as "Nam Tung Bank," the Bank of China in Macau (BOCM) became the 9th overseas branch of Bank of China on New Year's Day, 37 years later in 1987. BOCM delivers a full range of banking services, including corporate and personal banking, as well as related financial services. It currently manages 36 sub-branches with assets totalling over 600 Billion in MOP, owning over 40 percent of the local market share in mainstream businesses such as savings, loans and profit.

The Challenge

For some corporations, natural disasters pose more dangers than do technical or human error. Macau is situated in a geography location that is prone to typhoons, earthquakes, and the like. In order to manage natural disasters that may disrupt business, and to be financially and regulatorily compliant, BOCM needed to build a disaster recovery (DR) site near Macau, with an Active-Active configuration that would fail over in the event of a disaster. As the team was architecting requirements and looking for solutions, they realized that the most difficult aspect of the technical requirements was selecting a compatible firewall which could route complex traffic flow, and simultaneously deliver Layer 7 network protection. The solution must ensure business continuity, while protecting critical assets on the network.

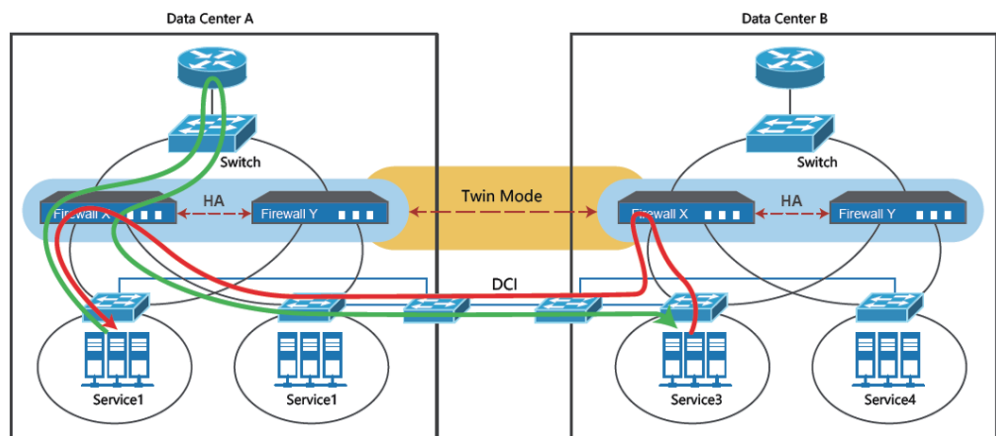
"As we know, most devices in the data center, such as routers and load balancers, support redundant failover. Finding a reliable firewall that met the criteria of an Active-Active solution was a challenge, until we came across Hillstone Networks," said Head of Network Admin, Kuan Leong Lai, "Generally, a stateful firewall needs to analyze the state of all session information in order to apply security policies effectively. If a session attempts to cross over from disparate firewalls, the session will mostly likely be dropped, terminating the transaction. This is a typical scenario in asymmetric traffic environments, Active-Passive configurations and something we could not risk for many reasons."

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The Solution

Solutions delivering network security in redundant, Active-Active mode in DR sites typically have trade-offs with features and benefits. However, Hillstone's Next Generation Firewalls (NGFWs) offer a Twin-Mode feature, which links redundant firewall pairs across multiple datacenters to maintain full security for all traffic flow while ensuring failover without disruption in the event of a disaster.

BOCM selected the Hillstone E-Series NGFWs with Twin-Mode feature to fully address their requirements. The Hillstone solution solves the asymmetric traffic flow issue by synchronizing pairs of redundant firewalls in each site via dedicated data control links, essentially creating a single logical firewall.



Looking deeper into the configuration from the diagram above, BOCM deployed four Hillstone high-end NGFWs with Twin-Mode features between their Active-Active data centers to protect their critical web server and e-bank servers. They used different external interface IPs, but the same internal Gateway IPs. This is to ensure that during a VMware vMotion instance, the live migration of active virtual machines from one physical server to another occurs without incident. In effect, this configuration prevents virtual machines from changing network parameters during normal traffic flow. And furthermore, in the case of a failover, it continues to function normally in asymmetric traffic environments.

From an administrative standpoint, BOCM stands to gain, as well. The web user interface has helped the IT team with streamlining maintenance and other administrative tasks, such as reducing operational overhead with respect to failover tasks, on both the network and server side. Having to manage less tasks allows the IT team to focus on what matters, optimizing operations efficiency in the data center.

The Conclusion

A highly available data center design is critical for businesses that rely on 24/7/365 system availability. Hillstone's solution is designed to do just that: help businesses achieve 24/7/365 availability without any security compromise.

The BOCM Head of Network Admin Kuan Leong Lai concluded: "The Hillstone Twin-Mode feature was the total solution we were seeking, to achieve an Active-Active environment between two data centers across the full Layer 7 stack," he continued, "The quick responsiveness of the technical support by Hillstone TAC as well as the R&D teams have made us feel that are in trusted hands."