



Chapter 15 - Service Provider Case Study: Asian ISP

Asian service provider manages international links to deliver competitively priced, high-speed access with unparalleled service quality.

By leasing lines from established telecommunications companies, young ISPs have been able to gain a foothold in the network services business and to expand rapidly as subscriber bases grow. However, as incumbent telcos seek to regain their presence in the industry, the costs of leased lines have begun to escalate. Those rising costs threaten to impede growth for many ISPs, especially when they attempt to add expensive international links to their networks.

This chapter describes how an Asian ISP — which, for this case study, we will call AISP — has been using intelligent IP service optimization to circumvent these cost challenges. Specifically, AISP has been using the Allot AC-2540 NetEnforcer to manage the traffic over numerous international links to reduce additional bandwidth investments, adhere to service-level agreements (SLAs), and ensure subscribers the quality of experience (QoE) they expect.

Growth Opportunities and Challenges

In the fall of 1998, newly formed AISP began offering an alternative to the Internet access being supplied throughout Southeast Asia by the region's incumbent telcos. AISP's promise to potential customers was high-speed access at guaranteed service levels and competitive prices. From its inception, AISP quickly experienced rapid growth in its subscriber base, building its network in part on lines leased from telcos in Southeast Asia.

Since international commerce is the economic driving force for most countries in Southeast Asia, global connectivity is key. Some international links are more valuable than others, determined by factors such as link speed and the age of network infrastructure and technology. Hence, some international access links are far more expensive for AISP to lease than others.

As the number of AISP's subscribers grew early on, the company faced an increasing demand for international connections from its enterprise and consumer subscribers. That, along with the advent of more sophisticated services, such as the data-voice-video triple play, firewalls, and antivirus service, drove AISP to make a mission-critical decision: Should it add more first-rate international links at exorbitant leasing costs or find ways of using its existing links more efficiently?

What AISP did was to combine the best of each solution. It refined its network by using both high-end and low-cost international links for access to each popular global

destination, country by country. From there, it used the Allot NetEnforcer to manage individual subscriber traffic flows across both types of links.

Using the Allot NetEnforcer

AISP implemented Allot NetEnforcer AC-2540 broadband IP service optimization systems on its international links to manage the bandwidth differently for each routing path. This allowed the network operator to offer different services and charge different rates for them.

For example, for long-distance destinations such as the United States, AISP set up two distinct paths on its routers. AISP was then able to manage the bandwidth by enabling NetEnforcer policies for each line and setting up different policies for each path. One path guarantees high priority for specific traffic, such as HTTP or VoIP, and places limits on bandwidth-consuming applications, such as peer to peer (P2P). The second path reaches the same destination but at slower speeds. With these service management techniques, AISP has been able to offer subscribers a choice of two service levels and at the same time has reduced its operating expenses by minimizing the purchase of extra lines. This solution has also increased AISP's ARPU.

Today, AISP has four Allot NetEnforcer AC-2540s which, working together, permit AISP to manage its international links cost-effectively. The NetEnforcer AC-2540s are connected to AISP's routers, which direct subscriber traffic to the NetEnforcer AC-2540s for quick classification and for the enforcement of SLAs based on customer quality-of-service (QoS) policies set by the provider.

After QoS policies are applied, the traffic is sent back to the access routers then on to the 10Gbps backbone, and finally to the border routers and the proper international link. As AISP grows its subscriber base and its range of offerings, it can easily add NetEnforcers as needed to increase capacity dramatically without adding significant and costly infrastructure complexities.

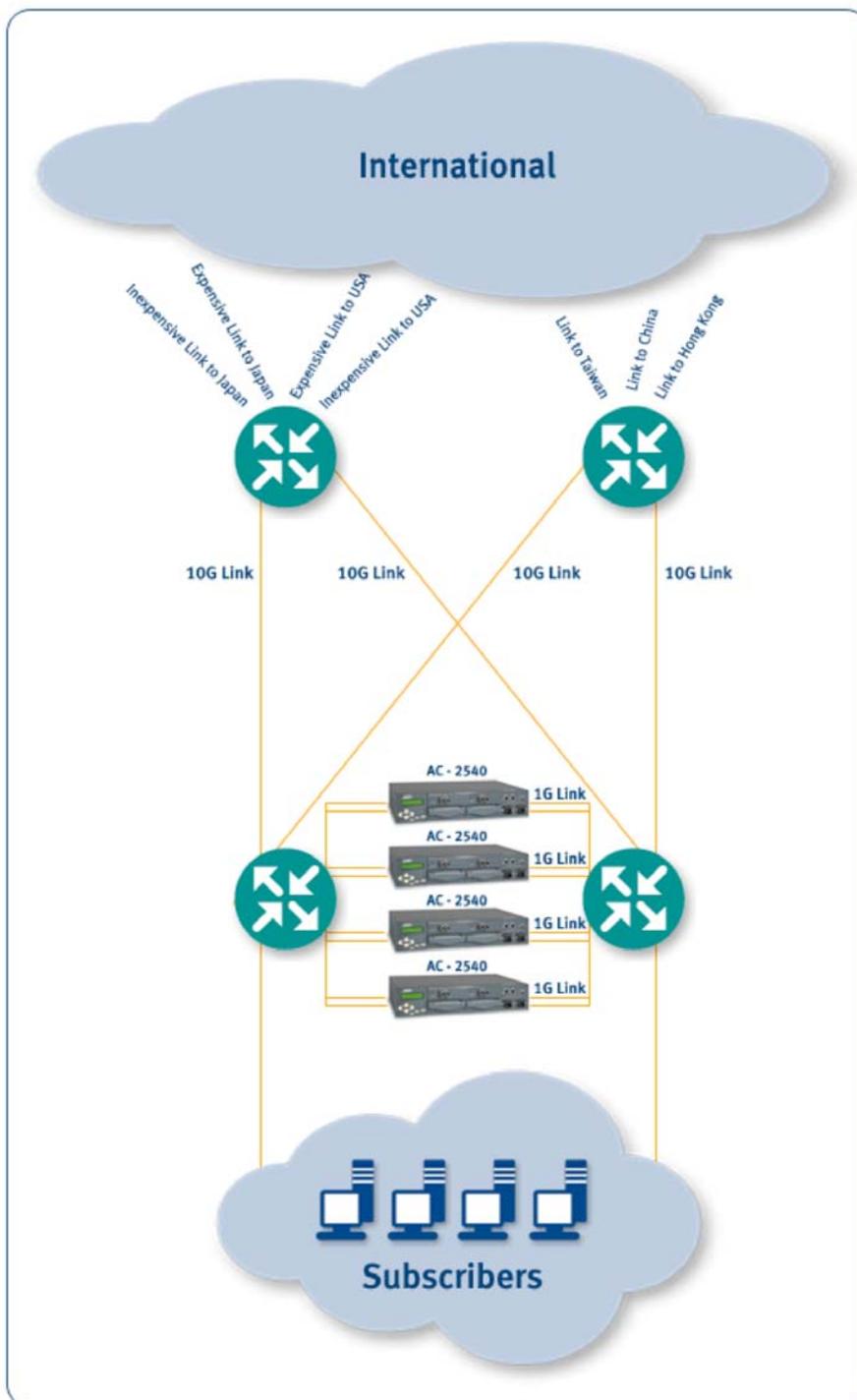


Figure 1: AISP uses a quartet of Allot NetEnforcer AC-2540s for cost-effective management of its international links.

Strategic Settings

AISP has few if any competitors that can manage traffic at this level of granularity. Currently, AISP even manages its traffic according to the time of day, making adjustments locally for surges that occur in destination countries. AISP uses the NetEnforcers to gather usage statistics by time and to detect peak traffic patterns originating from or going to specific locations. For example, if business traffic in the United States regularly peaks at mid-afternoon local time according to the NetEnforcer data, AISP manages its bandwidth at the corresponding local time in Southeast Asia to avoid network congestion.

AISP also manages its traffic by setting different policies for uplinks and downlinks, as well as for different types of traffic — such as P2P, enterprise-originating priority traffic, and VoIP, for example — again, adding in time correlation to minimize or avoid congestion.

“Grow as you go”

With a self-described philosophy of “Grow as you go,” AISP has brought its network infrastructure up to the 10-gigabit link level with the expectation that additional capacity can be readily and easily accessed as its customer base and demand for bandwidth grow.

The addition of the Allot NetEnforcer solution has allowed AISP to become one of the leading service providers in all of Southeast Asia within the span of only a few short years. With a consistent base of roughly 40% enterprise international service and 60% consumer international service, AISP is currently serving over one million broadband customers.

AISP alone has seen independent agencies rate its service levels considerably higher than that of the telcos. As is true in Europe and elsewhere, the discrepancies between what companies promise to deliver in Southeast Asia and what they actually give their customers is coming under strong public scrutiny. In this battle over public perception of service quality, ISPs like AISP, who use service optimization systems, are starting to win out over legacy companies mired in old technology.

Chapter Summary

AISP, a major Asian service provider with more than 1 million subscribers, uses Allot Communications' NetEnforcer broadband IP service optimization system to manage costly international links based on subscriber service level, time-of-day congestion considerations, protocol type, and other factors. Managing the bandwidth closely with the NetEnforcer has provided a cost-saving alternative to making repeated investments in increasingly expensive international lines leased from incumbent telcos.

AISP has also found the system integral to meeting the service-level expectations of subscribers whose traffic travels globally, as does so much traffic emanating from Southeast Asia. Its efforts to manage traffic and subscriber behavior efficiently have allowed the company to become one of the leading ISPs in its region.

###