Hitachi Consulting Secures IP Telephony Network Using HP TippingPoint Intrusion Prevention System

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Michael Shisko, Director of IT
Hitachi Consulting

The Challenge
No one knows better than Hitachi Consulting (www.hitachiconsulting.com) how vulnerable today’s networks are to crippling attacks and malware. In late 2003, an employee inadvertently imported Slammer, an extremely damaging and infectious worm, from his laptop into Hitachi Consulting’s Dallas office network. The lethal worm brought the LAN into a denial-of-service standstill in minutes. With 900 laptop-wielding staff members in 17 offices in 12 states communicating via the $200 million Fortune 2000 IT consultant’s converged enterprise LAN/WAN, each employee was a potential threat.

When Code Red and Welchia worms later invaded Hitachi Consulting’s development servers at its headquarters, also in Dallas, the Hitachi, Ltd. business unit incurred considerable expense cleaning and restoring the systems. However, traffic from remote offices and outside users caused reinfections. “That’s when we decided to keep our networks clean rather than to have to keep cleaning them up,” recalls Michael Shisko, director of IT, Hitachi Consulting. “We were particularly concerned with Voice over Internet Protocol (VoIP)-specific threats.”

Previously in 2002, Hitachi Consulting attempted to secure its converged network using a Cisco firewall and a Cisco hardware-based Virtual Private Network (VPN) at its headquarters. However, the Cisco solution, according to Shisko, caused network traffic to degrade, especially telephony transmissions. Voice quality at all 17 sites became unclear, handicapping Hitachi Consulting’s communications. “You don’t realize how critical the phone is to your business until you pick up the receiver and can’t understand what your biggest client is saying. Or you hear only a few digits from a phone number on voice mail,” says Shisko.

Amidst these difficulties, Hitachi Consulting disconnected the Cisco systems and deployed another firewall and VPN that resolved network performance issues. However, Hitachi Consulting was still at risk. Firewalls offer some control over who enters a network, but are not optimized to prevent sophisticated threats from penetrating the network on commonly used ports or from being carried in on laptops. At this time, Hitachi Consulting also dismissed the application service providers that hosted its data systems and transferred its applications, including a critical knowledge management system to new production servers.

Facing even greater security needs, Hitachi Consulting sought a proven intrusion prevention system (IPS). The solution had to be capable of safeguarding telephony as well as data traffic throughout its 17 sites. In addition, any solution deployed had to be able to pass voice traffic without adding latency. Based on prior experience, Hitachi Consulting was very sensitive to voice performance over its network. Because these offices relied on multivendor switches, the system needed to be highly interoperable. It also had to be easy to manage, configure, and update with robust reporting features that made it simple to view, sort, and report events.
Why HP TippingPoint

To find its solution, Hitachi Consulting turned to Vigilar (www.vigilar.com), a leading information security-consulting firm. Together, Vigilar and Hitachi Consulting carefully evaluated intrusion prevention systems from a number of vendors. In the end, the only security solution Hitachi Consulting felt “secure” in choosing was from HP TippingPoint.

“We went about the selection process very carefully,” says Shisko. “We conducted all the comparison testing we could ourselves, and we also relied on the findings of the NSS Group, one of the world’s foremost independent security testing centers. These experts picked the TippingPoint solution as the only security appliance to receive their coveted Gold Award. We were also impressed that SC Magazine ranked the TippingPoint IPS the Best Security Solution 2005.”

“TippingPoint appliances are the most effective at preventing intrusions,” Shisko added. “They are the easiest to use and manage, and interoperate with all kinds of hardware and they keep our phone conversations crystal clear. With HP TippingPoint, we got everything we were looking for in one affordable package.”

The Benefits

Using the TippingPoint solution gives Hitachi Consulting the pervasive security it needs for its enterprise-wide communications internally and with its customers, partners, and suppliers. The system prevents denial-of-service (DoS) floods, viruses, worms, spyware, VoIP threats, buffer overflows, and a host of other potentially devastating attacks, virtually eliminating the possibility of costly business disruptions.

A powerful sentinel at the network gateway, the TippingPoint solution delivers robust monitoring capabilities that are ideal for protecting Hitachi Consulting’s VoIP deployments. Regardless of the number of filters utilized, packet flows move through the IPS at wirespeed, with a latency of less than 215 microseconds, allowing clear, undisturbed phone conversations.

The TippingPoint rate-shaping capabilities, denial-of-service protection, and VoIP protection make it ideal for securing VoIP deployments. In addition to releasing VoIP-specific vulnerability filters to customers through the TippingPoint Digital Vaccine service, HP TippingPoint also formed and chairs the VoIP Security Alliance (VOIPSA, www.voipsa.org). VOIPSA was formed by TippingPoint in early 2005 to research and reduce VoIP security threats, and now has over 50 member organizations.

Hitachi Consulting installed the TippingPoint Intrusion Prevention System at its Dallas headquarters and the Dallas consulting office. In the rest of its locations, Hitachi Consulting allows only outbound activity through the Internet, permitting return traffic, but not uninitiated incoming traffic. Since most traffic from its branches is copied to its headquarters, the TippingPoint system there provides ubiquitous monitoring and security for Hitachi Consulting’s entire network. “If we need to open up an office to external traffic, we’ll add another TippingPoint system, and the range of HP TippingPoint products lets us affordably tailor our solution to the size of our offices,” explains Shisko.

Although they are highly sophisticated and powerful, TippingPoint products are extremely easy to deploy and manage. Their intuitive graphical user interface renders the management application remarkably simple to use and very scalable.
“TippingPoint solutions are the easiest to deploy,” confirms Shisko. “They come with a suggested configuration, meaning you can plug the appliance in and it starts protecting you right away. The other solutions we compared had unwieldy signatures and cautions that you shouldn’t turn them all on at once. Every rule had a rating and you had to read through all of them to see which applied.”

“The TippingPoint appliance, on the other hand, gives us the experts’ best opinion of what we should be doing without having to spend valuable time working through each filter. That’s a huge time and cost savings.”

In addition, TippingPoint solutions provide Hitachi Consulting with comprehensive reporting for all security-related events, allowing the firm to identify attacks at their source. Finally, to ensure evergreen protection against the latest vulnerabilities, exploits, viruses, and rogue applications, TippingPoint solutions offer the Digital Vaccine® real-time inoculation service. This service provides regularly updated filters to protect vulnerable operating systems and applications from threats. The Digital Vaccine service is delivered to customers weekly, or immediately when critical vulnerabilities emerge, and can be deployed automatically with no intervention required by IT personnel. TippingPoint solutions help protect Hitachi Consulting’s network against the known threats of today, as well as future threats that are beginning to emerge, especially for VoIP-specific vulnerabilities.

“The TippingPoint systems secure both the data and voice networks, and save us money by keeping our organization up and running. We haven’t had a devastating attack since deploying the IPS. We have also received savings by securely hosting our production servers in house, which the IPS enables us to do,” Shisko concludes. “Moreover, we continue to enjoy the cost-savings of a secure, converged network without incurring any degradation in data or telephone service. With HP TippingPoint products, you get not only pervasive security—you get business solutions that improve your bottom line.”

* The products referenced in this publication were developed and sold by 3Com, H3C, or TippingPoint, which were acquired by HP in April 2010. Many references to HP herein refer to 3Com, H3C, or TippingPoint or those products acquired from 3Com, H3C, or TippingPoint and not the HP product line generally.