



BeSecure manages web hosting and VPN services with a Cisco Systems robust **security solution**

### Background

BeSecure, Australia's premier secure managed network ISP, provides a complete range of managed secure Internet services to small and medium sized businesses throughout Australia. The company has more than 300 clients including well known organisations such as the Australian Rugby Union, Sydney City Council, NSW Farmers Association, Handbags International, Best and Less, PanAmSat and Count Wealth Financial, as well as a range of other clients from satellite communications and accountancy to advertising and the Travel Industry.

These companies rely on BeSecure to implement and manage highly secure e-business websites as well as Virtual Private Networks using innovative and affordable networking solutions.

BeSecure was formed in 1999 and is now the largest ISP of its type in the country.

### The Challenge

In August 2002, as a successfully expanding business BeSecure was fast outgrowing its mission-critical infrastructure. Having spent five and a half years building their reputation for providing uncompromising secure, managed Internet and Network solutions, it was vital that they quickly increased bandwidth so that they could continue to provide their growing customer base with the best possible technology and solutions.

Trent Simshauser, General Manager at BeSecure comments: "When we first started offering secure managed web hosting and VPN services, we invested in a state-of-the-art network with plenty of room for growth; however, even we didn't anticipate how quickly we would grow or how much. For example, in 2001, our growth rate was 430 percent and in 2002, it was more than 450 percent.

"One of the major reasons for the massive growth over a short period of time was our migration to broadband services for our clients using HDSL and ADSL/SADSL access through Optus and Request DSL. We were already offering dial-up ISDN, however, when we upgraded to HDSL, we found our clients preferred the 'always-connected' service rather than dialling up each time they wanted to collect email or send data to their clients.

"We could also offer more cost-effective solutions with larger throughput. With ISDN, our clients' average connection was a 128K; with HDSL, it's 2MB.

"This increased bandwidth brought its own challenges. Because we hadn't upgraded our routers, firewalls or servers, inconsistencies were creeping into our service, such as data packets disappearing from client sessions. As a result, customers were experiencing some delays and in some instances they were having to reconnect their connection based sessions."

A policy of web caching was also causing service problems. When a customer was browsing the Internet, BeSecure's solution took advantage of policy routing to force a cache, but the increased load was causing the router to fall over and fail to serve web pages.

"When we investigated this, we discovered that more than 90 percent of the router's CPU was used for policy routing, leaving very little processing power for the CPU's remaining tasks."

In his search for a fast and effective solution, Trent Simshauser researched the offerings of different vendors, finally selecting Cisco to provide the powerful, robust and scalable security management solution they were looking for.

### The Solution

Cisco Catalyst 6500 routers and a Cisco Intrusion Detection System (IDS) were immediately added to the network.

"The Cisco Catalyst 6500 routers support 48 to 576 10/100 Ethernet port configurations, delivering 210 million packets-per-second throughput across our network cores and multiple gigabit-per-second trunks. The Catalyst 6500 can satisfy our customers' needs today and tomorrow, since it scales to 256 Gbps of switching bandwidth using a crossbar switching fabric architecture. By combining it with Cisco IDS, we have a highly secure Internet management system.

The Cisco IDS is a real-time intrusion detection security system that includes the Cisco Secure IDS Sensors, stealthy security appliances that act as "sniffers," and the Cisco Secure IDS Director, a centralised management console. The Director collects incoming Sensor data, translates it and presents it to security personnel at

BeSecure in a map-based and intuitive graphical interface. Trent's team can quickly access additional information about the type of attack from the Director's Network Security Database (NSDB).

"The sophistication of the Cisco Secure IDS's expert system attack detection allows it to detect General Category attacks on-the-fly, even as hackers launch new variations to fool our security systems," said Trent Simshauser.

"We also invested in the Cisco IOS Firewall, a security-specific, value-add option for Cisco IOS Software. It enhances existing Cisco IOS security capabilities, such as authentication, encryption and failover, with state-of-the-art security features, such as stateful (dynamic), application-based filtering (context-based access control), defence against network attacks, per user authentication and authorisation and real-time alerts.

This ensures that we have robust, integrated firewall and intrusion detection functionality for every perimeter of the network. We can also take advantage of sophisticated security and policy enforcement for connections within an organisation (intranet) and between partner networks (extranets), as well as securing Internet connectivity for remote and branch offices. This is important because we manage more than 400 head office and branch office networks, each with its own network security requirements and complexities."

To reduce the CPU workload that was causing the routers to fall over, a Cisco Cache Engine 500 was installed. This does away with the need for policy routing, which can be replaced with WCCP Version 2. As an added benefit, it provides a redundant Asynchronous Transfer Mode (ATM) so if the caches aren't available, the routers can go straight to the Internet via the Telstra backbone, which ensures customers always have access to the Internet.

### The results

The Cisco robust security solution provides BeSecure with five firewalls between their client and the Internet as well as the Intrusion Detection System, which immediately provides its worth by providing information about attempted unauthorised access or DoS attacks.

Trent Simshauser comments: "When we turned on the Cisco IDS for the first time, our jaws dropped, we couldn't believe what we were seeing. We were receiving up to 10,000 attempts to try and bypass our security systems daily. The IDS also provides information about the origin of the attack including what time, which part of the world it

originated in, the attacker's IP address and the ISP they were routed through. Depending on the nature of attack, we can also instruct the Cisco IDS to automatically break the connection and refuse connection and access to that IP address in the future.

"For example, we're finding a lot more instances of attempted 'Launch-Pad' attacks onto clients networks. With the IDS, we can inform the victim that they've been hacked. We can even offer them help in restoring their

system and offer them advice in how to put a security system in place."

Beyond the improvements in security and diagnostics, BeSecure is also delighted with the improved performance and stability of their network, which has been available in excess of 99.5 percent of the time.

In addition, the Cisco IOS software that provides a common IP fabric, functionality and command-line interface across their network, enables BeSecure to locate and rectify problems with their clients' networks, before they develop into an issue.

"Part of our service is to monitor and maintain client networks. Our clients prefer to concentrate on their business and leave the network to us. Most don't have the

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*Trent Simshauser, General Manager, BeSecure*

skills or more importantly, wish to employ the extra headcount. We can take control of their local PCs and fix them remotely as well as monitoring their nightly backups. The improved stability and manageability of the Cisco network has made this far easier for us to do."

## The Partnerships

As a strategic partner of BeSecure, Cisco has been involved in the deployment of one of the most advanced secure managed networks in Australia. The two companies focus on managed services and the successful operation of the network to ensure customers obtain the expected cost savings and advanced capabilities.

When it came to rolling out a solution for BeSecure's Points of Presence (PoP) in Sydney and Melbourne, the staff co-operated very closely. Mike Powrie, Commercial Sales

Account Manager, Cisco comments: "Teamwork between the two organisations was impressive, including planning and implementation assistance which led to a very smooth installation and very satisfied end users."

Trent Simshauser was equally happy with the Cisco partnership.

"When you are implementing leading edge solutions, such as secure managed networks, and, as in my case, you are the first company to do so on this scale it is essential that the solution delivers on its promises. the Cisco IDS, IOS Firewall and other Internet security solutions have already proven themselves with the ROI that they have delivered and I anticipate further benefits to our clients down the track as we leverage the potential of this technology."



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