

NETGEAR, Inc.

ProSafe SSL VPN Concentrator 25 SSL312

SSL VPN Feature and Performance Evaluation



Test
Summary

***Premise:** SSL VPNs are an increasingly important alternative to IPsec VPNs for remote access in Enterprise networks with proven scalability, flexibility and security. As today's small- and mid-sized businesses (SMBs) have an increasingly mobile workforce and more SMB users demand the flexibility to access their data while physically not at work, SSL VPN vendors need to provide SMB users easy, secure, and Web-based remote access solutions in a cost-effective manner.*

NETGEAR, Inc. commissioned The Tolly Group to evaluate the ProSafe SSL Concentrator 25 - SSL312, an SSL VPN Gateway that provides an affordable remote access solution to SMB users.

Tolly Group engineers performed a battery of feature and performance tests to prove that SSL312 provides an easy, secure, cost-effective clientless remote access solution for SMB users. Testing was conducted in November 2006.

Test Highlights

- ▶ Provides clientless remote access with granular access control features
- ▶ Delivers ample performance to SMB users with its hardware-based encryption
- ▶ Supports up to 25 remote employees with simultaneous access to corporate resources using standard Web browsers
- ▶ Integrates key Enterprise-class SSL VPN features into SMB domain in a cost-effective and seamless way

NETGEAR ProSafe SSL VPN Concentrator 25 SSL312 Feature Validation

Remote Access	Brower-based Access	✓
	IPsec-like VPN Tunnel Support	✓
	Port Forwarding	✓
	Integrated Remote Access Application Support	✓
	Integrated Client Program Support	✓
Seamless Integration	Integration with Backend User Repository	✓
	Integration with Existing Firewall Infrastructure	✓
	Self Signed Certificate Support	✓
Access Control	Customized Portal Layout	✓
	Access Control Policy	✓
	Granular Access Control Via Customized Portal Layout, Port Forwarding and Access Policy	✓
Scalability	Unrestricted User Support	✓
	25 Simultaneous Tunnel Support	✓

Note: Figure shows only features validated by The Tolly Group, not entire spectrum of SSL312 product features.

Source: The Tolly Group, December 2006

Figure 1

Executive Summary

The NETGEAR ProSafe SSL312 is a cost-effective alternative to traditional remote access products for small and medium business users.

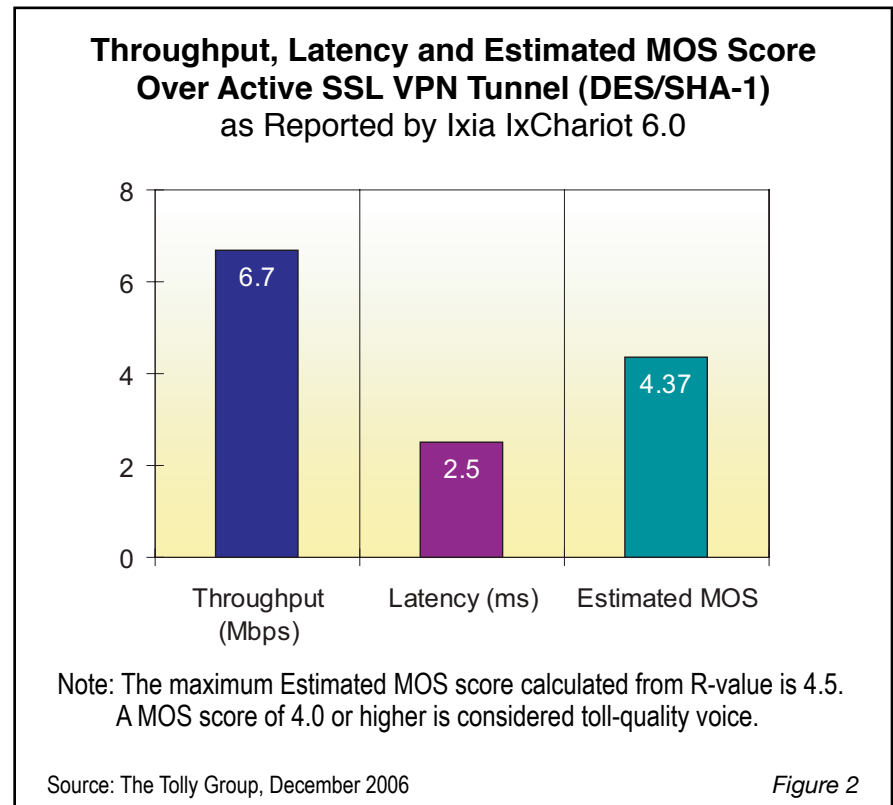
With the emergence of SSL VPN gateways, Enterprise users have already experienced the benefit of the SSL VPN gateways that offer greater scalability and flexibility with proven security. With the constant growth of the Internet which demands high productivity of remote employees, SMB owners now need to provide the same benefit to their employees at an affordable cost.

Tolly Group tests show that the ProSafe SSL312 is an easy, secure, clientless remote access solution to SMB users in a cost-effective manner.

Test results demonstrate that the ProSafe SSL312 provides clientless remote access, ample throughput performance using hardware-based encryption, browser-based access, seamless integration with existing networks, key SSL VPN feature support and, most importantly, at a price that is affordable to SMB buyers.

CLIENTLESS REMOTE ACCESS

Tolly Group engineers verified that the ProSafe SSL312 provides clientless



remote access to corporate data with granular access control to applications. Its browser-based access allows remote employees to gain access to corporate resources from anywhere, anytime using Web browsers such as Microsoft Internet Explorer and Apple Safari without requiring a VPN client.

PERFORMANCE (HARDWARE ENCRYPTION)

Tolly Group engineers measured the throughput, latency and estimated MOS score across the ProSafe SSL312 to demonstrate its encryption impact on network performance. Due to its hardware-based encryption module, the ProSafe SSL312 delivered throughput of 6.7 Mbps which is sufficient for either a broadband or multiple T1 links for SMB WAN connections. The ProSafe SSL312 also provided very low latency and

did not degrade VoIP call quality noticeably by recording a MOS score of 4.37. The Tolly Group considers a MOS score of 4.0 or higher as toll-quality voice.

25 SIMULTANEOUS CONNECTIONS

Tolly Group engineers tested the number of remote users capable of simultaneously accessing corporate resources via the ProSafe SSL312. The ProSafe SSL312 has proved that it supports up to 25 users simultaneously.

SSL VPN TAILORED FOR SMB

In this test, Tolly Group engineers demonstrated the effectiveness of the ProSafe SSL312 solution in SMB network environments by validating its seamless integration, access control policy and endpoint security features. First, engi-

neers verified its integration with back-end user repositories such as local user database and Microsoft Active Directory. Second, engineers validated that the ProSafe SSL312 customized access to specific corporate resources based on applications and 'user and group.' Third, engineers verified that it supports automatic cache cleanup after log out. Lastly, engineers tested its Port Forwarding functionality to allow specific TCP application to access corporate resources over the secure channel. The results show that this works seamlessly in the scenarios tested.

COST-EFFECTIVE SOLUTION

Tolly Group engineers conducted market research on SSL VPN products in the SMB market and found that the ProSafe provided a very cost-effective solution for 25 users in terms of features and cost. The list price for the ProSafe SSL312 is \$379 from cdw.com.

TEST SET-UP & METHODOLOGY

Tolly Group engineers tested a NETGEAR ProSafe SSL VPN Concentrator 25 - SSL312 ver 1.4.19.

Engineers used Ixia IxChariot 6.0 traffic generator to measure throughput, latency and estimated MOS score over an active VPN tunnel.

For the Clientless Remote Access test, engineers first set up a client machine which only ran Windows XP Pro SP2 with Internet

Explorer 6.0. Then, engineers attempted to gain access to SSH and FTP servers through the portal provided by the ProSafe SSL312. Engineers also tested its WebCIFS functionality by navigating the Windows file systems, by listing, reading, writing and deleting the files in the directory, and by creating and deleting the folders. Next, engineers tested the remote desktop access functionality by trying to access to Windows Terminal Server and VNC server via the built-in Windows Terminal Services and VNC client available on the portal page.

For the Performance Hardware Encryption test, engineers generated traffic over the established VPN tunnel using the Ixia IxChariot testing tool and measured the maximum throughput and also the latency and estimated MOS score from the emulated G.711u VoIP streams using IxChariot VoIP module.

For the 25 Simultaneous Connections test, engineers set up 25 Windows XP machines and had all of them log into the ProSafe SSL312 and establish the VPN tunnels simultaneously.

For the SSL VPN Tailored for SMB test, engineers first configured a local user database and an Active Directory server as user repositories and verified that the clients gained access based on their user information. Second, engineers validated the granular access control by ensuring that particular users or groups were given access to particular applications. Third, engineers verified that the clients clean the local cache automatically after properly logging out by doing complete search on the information that the client downloaded during the session. Lastly, engineers proved that Port Forwarding works seamlessly. In this test, engineers set up the

NETGEAR

ProSafe
SSL312SSL VPN
Feature
and Performance
Evaluation

Product Specifications

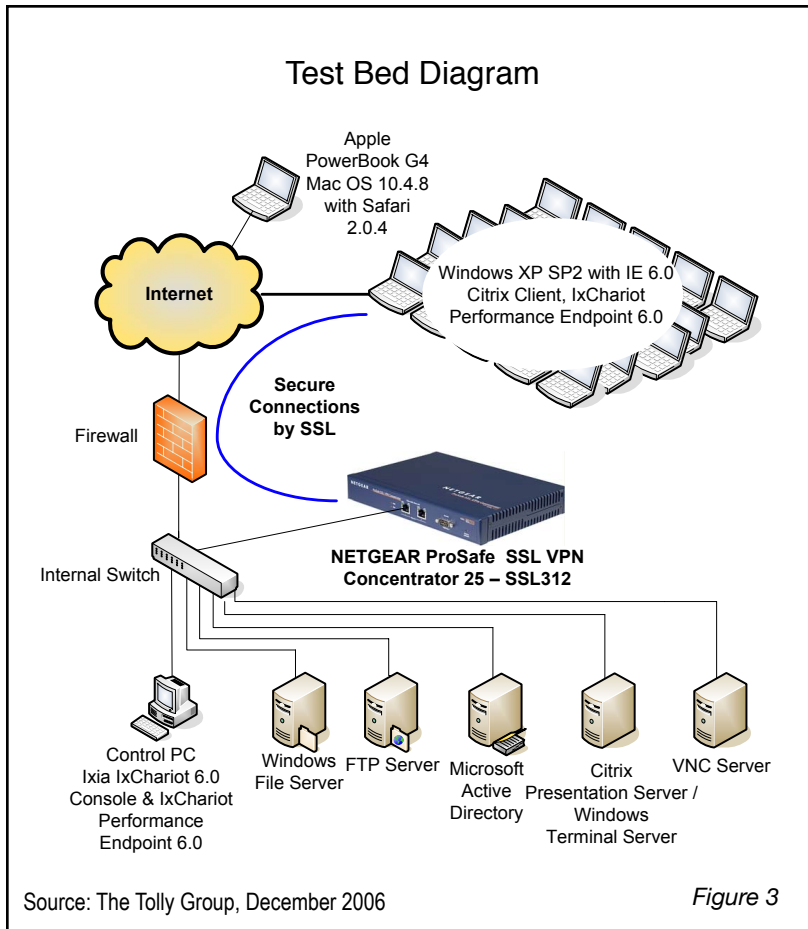
Vendor-supplied information not necessarily verified by The Tolly Group

NETGEAR, Inc. ProSafe SSL VPN Concentrator 25- SSL312

- 👤 SSL VPN Acceleration
- 👤 Two 10/100Base-T Ethernet LAN ports, One Serial Port
- 👤 Unrestricted User Support
- 👤 SSL VPN Tunnels: 25
- 👤 SSL Version Support: SSLv3 and TLS 1.0
- 👤 SSL Encryption Support: DES, 3DES, ARC4, AES 128/256 bit
- 👤 SSL Message Integrity: MD5, SHA-1, MAC-MDs/SHA-1, HMAC-MD5/SHA-1
- 👤 Certification Support: RSA, Diffie-Hellman, Self
- 👤 Full Network Access Support
- 👤 Port Forwarding
- 👤 Support for Terminal Services, VNC, WebCIFS, Telnet, FTP, SSH, WebFTP
- 👤 User Repository Support
- 👤 E-mail notification
- 👤 NTP support
- 👤 Remote logging
- 👤 Web GUI

For more information contact:

NETGEAR
4500 Great America Parkway
Santa Clara, CA 95054
Phone: 1-888-NETGEAR
URL: <http://www.netgear.com>



Citrix Presentation Server and its client and had the client access the Citrix server via Port Forwarding. When Port Forwarding was turned off, the Citrix client was not able to access to the server.

The Tolly Group is a leading global provider of third-party validation services for vendors of IT products, components and services.



The company is based in Boca Raton, FL and can be reached by phone at (561) 391-5610, or via the Internet at:
 Web: <http://www.tolly.com>,
 E-mail: sales@tolly.com

Test Equipment Summary

The Tolly Group gratefully acknowledges the providers of test equipment used in this project.

Vendor	Product	Web
Ixia Communications	IxChariot 6.0	www.ixiacom.com

Terms of Usage

USE THIS DOCUMENT ONLY IF YOU AGREE TO THE TERMS LISTED HEREIN.

This document is provided, free-of-charge, to help you understand whether a given product, technology or service merits additional investigation for your particular needs. Any decision to purchase must be based on your own assessment of suitability.

This evaluation was focused on illustrating specific features and/or performance of the product(s) and was conducted under controlled, laboratory conditions and certain tests may have been tailored to reflect performance under ideal conditions; performance may vary under real-world conditions. Users should run tests based on their own real-world scenarios to validate performance for their own networks. Commercially reasonable efforts were made to ensure the accuracy of the data contained herein but errors and/or oversights can occur. In no event shall The Tolly Group be liable for damages of any kind including direct, indirect, special, incidental and consequential damages which may result from the use of information contained in this document

The test/audit documented herein may also rely on various test tools the accuracy of which is beyond our control. Furthermore, the document relies on certain representations by the sponsor that are beyond our control to verify. Among these is that the software/hardware tested is production or production track and is, or will be, available in equivalent or better form to commercial customers.

When foreign translations exist, the English document is considered authoritative. To assure accuracy, only use documents downloaded directly from The Tolly Group's Web site. All trademarks are the property of their respective owners.