IP-VPN Scalability and Performance Tester
TeraVPN™

Product Overview

IP-VPN technology is used to protect sensitive data as it is sent across the Internet. This is achieved through IPSec, which creates secure tunnels in which information is authenticated and encrypted. However, this additional protection comes at a cost to performance due to the additional processing. What is the impact of this security and how can the development and deployment of IP networking and IP-VPN technologies be accelerated?

TeraVPN™ answers these questions by providing realistic testing of the IP-VPN control plane, as well as by testing the data plane.

TeraVPN is the industry's first test solution for measuring IP-VPN network performance. TeraVPN, implemented with Spirent's award-winning TeraMetrics™ architecture and SSH Communications' award-winning protocol stack, is the world's first integrated test solution. It is uniquely positioned to determine the true impact of IP-VPNs on data transfer.
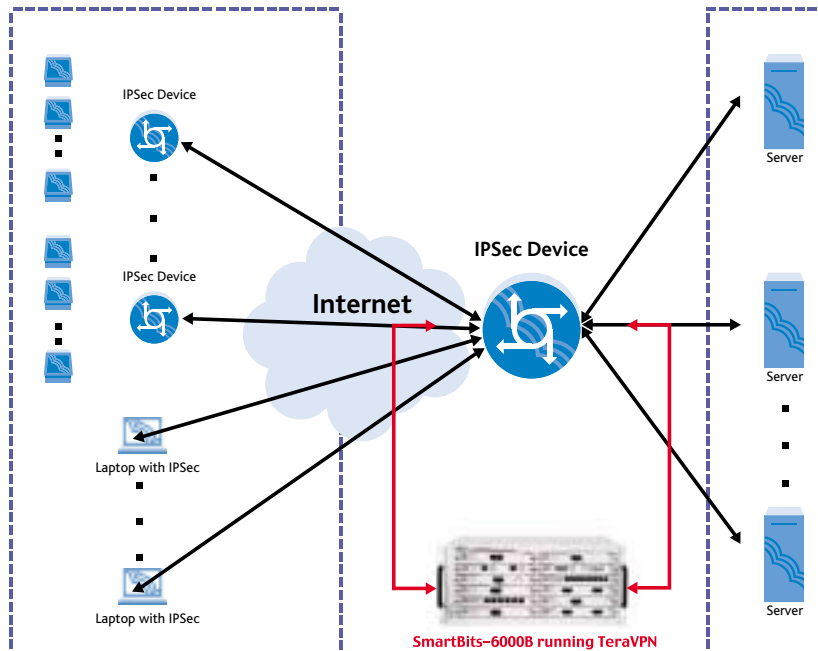
NEMs, ISPs, and Enterprise users no longer need to wonder about the actual performance impact of IP-VPNs. TeraVPN provides a solution to quickly and easily determine IP-VPN device tunnel capacity, measure network performance, evaluate tunnel setup rate, and help troubleshoot interoperability issues.

TeraVPN is Designed to:

- Measure tunnel capacity by simulating hundreds to tens of thousands of users, each creating an IP-VPN tunnel.
- Measure data performance for 10/100 SOHO to Gigabit Enterprise class VPNs from an end-user perspective.
- Measure setup rate from one to 100s of tunnels per second.
- Troubleshoot interoperability issues with bounce diagrams and a detailed IPSec stack log.
- Verify the robustness of IPSec solutions by adjusting variables such as IKE Phase 1 controls.

TeraVPN is Used by:

- Network Equipment Manufacturers (NEMs) during the development, QA, and regression test cycles of VPN equipment.
- Internet Service Providers (ISPs) for benchmarking the tunnel capacity of VPN equipment before, during, and after deployment.
- Enterprise customers for measuring the performance impacts of using different types of VPN authentication and security schemes.

IPSec Device
IPSec Device
Laptop with IPSec
Laptop with IPSec
Internet
IPSec Device
Server
Server
Server
SmartBits–6000B running TeraVPN

SPIRENT
Communications

Analyze | *Assure* | *Accelerate*™

TeraVPN applications

IPSec Parameters

- Support for encryption algorithms DES, 3DES, and AES (128, 192, 256)
- Support for authentication algorithms MD5 and SHA-1
- Support for IKE Phase 1 (Main and Aggressive) using pre-shared keys
- Support for IPSec Phase 2 (Quick)
- Support for AH and ESP
- Support for Diffie-Hellman Groups 1, 2, or 5
- Support for Perfect Forward Secrecy (PFS) for Groups 1, 2, 5, or None
- Support for SA Lifetimes by Phase 1 and Phase 2
- Support for IKE Phase 1 parameters:
  - Retry Attempts
  - Retry Timer
  - Max. Retry Timer
  - Expire Timer

Key Features

- Proven IPSec stack from industry leader SSH Communications
- Hardware accelerator support for increased performance testing
- Automation support for large scale testing via Tcl/tk or Spirent's SmartBits Automation™ product
- Industry tested capability of creating 10,000s of tunnels
- Full TCP stack generation of stateful traffic over tunnels
- Data performance measurements of forwarding rate and response time
- Per tunnel statistics (SPI entries, IP Addresses, # Packets, # Octets, # Rekeys)
- Per Phase and entire tunnel Min/Max/Ave setup rate information
- Troubleshooting bounce diagrams for tunnel creation
- Tunnel failure with description recording by Phase
- Detailed stack log for investigating tunnel failures
- Easy-to-use GUI with straightforward tab-approach configuration
- Graphical, single-tunnel diagram for creating tests or displaying information for a specific tunnel
- Easily create tests consisting of thousands of tunnels by using a simple wizard
- Control over IKE Phase 1 setup parameters like # retries and expire timer

- Ability to establish (Initiate) or terminate (Respond) to IKE requests

Supported Modules

Module	Description
LAN-3301A	10/100/1000Base-T Ethernet, Copper, 2-port, TeraMetrics module
LAN-3302A	10/100Base-T Ethernet, Copper, 2-port, TeraMetrics module
LAN-3306A	10/100Base-T Ethernet, Copper, 4-port, TeraMetrics XD module
LAN-3311A	1000Base-X Ethernet, GBIC, 2-port, TeraMetrics module
LAN-3321A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 2-port, TeraMetrics XD module
LAN-3325A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 4-port, TeraMetrics XD module
LAN-3327A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 1-port, TeraMetrics XD module

Supported Hardware Accelerator Modules

Module	Description
ACC-3601A	IPSec Hardware Accelerator
ACC-3603A	XD Security Module

Requirements

- A SmartBits 600, 6000B, or 6000C chassis.
- An IBM or compatible Pentium PC running Windows 2000/NT/XP, with mouse and color monitor
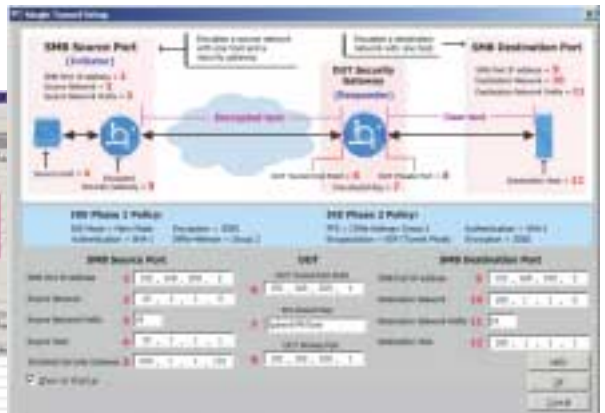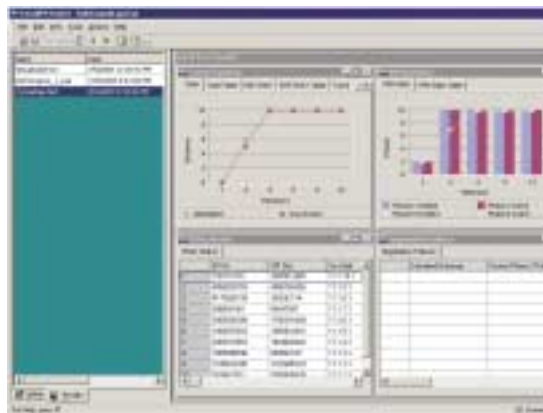
Ordering Information

SWF-1241A

TeraVPN Tester

SUS-SMB

12-month Software Update Support Service

TeraVPN test setup and results windows