



APPLICATION NOTE - SECURE SATELLITE NETWORKING

BLUE RIDGE NETWORKS LEADS IN EFFICIENCY, PERFORMANCE, RELIABILITY, AND SECURITY

In recent years, mobile and geographically dispersed organizations have driven a steady rise in the use of satellite networking. The popularity of voice over IP (VoIP) has introduced numerous challenges—especially where highly volatile fixed-packet satellite communications are concerned, including: reliability, efficiency, performance, and security.

One high assurance secure satellite networking solution clearly rises above the rest and is being deployed in some of the most demanding satellite applications worldwide — BorderGuard™ from Blue Ridge Networks.

BorderGuard is a proven leader in:

- reliability and efficiency
- performance
- high assurance communications

In fact, BorderGuard is a central part of the largest secure VoIP over VSAT network in the world.

Reliable, Efficient Transmissions

VoIP, a short, fixed packet length protocol, is one of the least efficient protocols to send over latency-sensitive satellite links. The percentage of payload for this packet type is very large compared to conventional IP traffic. In thin bandwidth VSAT applications, efficiency becomes a critical factor in being able to carry traffic reliably.

The additional overhead of Generic Routing Encapsulation (GRE), recommended for all Cisco VoIP VPNs, adds 40% to 70% more overhead to these volatile packets being sent over this narrow bandwidth. The demand placed on the available bandwidth is too great and the result is packet loss.

Blue Ridge technology adds only a small pad to the IP / IPSec headers ensuring fast and reliable transmissions.

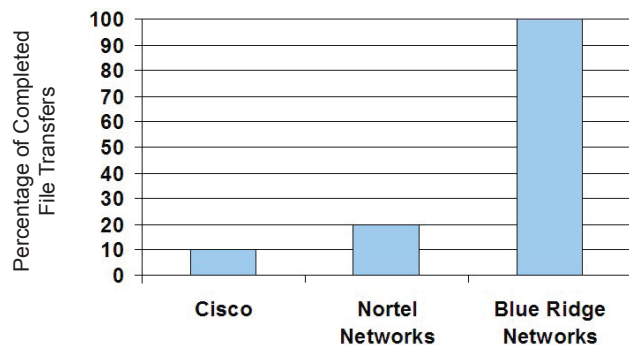
Stellar Performance

A snapshot of recent performance tests summarizes how well Blue Ridge Networks technology performed against some familiar names in the VPN market. Not only did Blue Ridge technology carry traffic reliably, it did so at three times the speed of the others.

High Assurance Communications

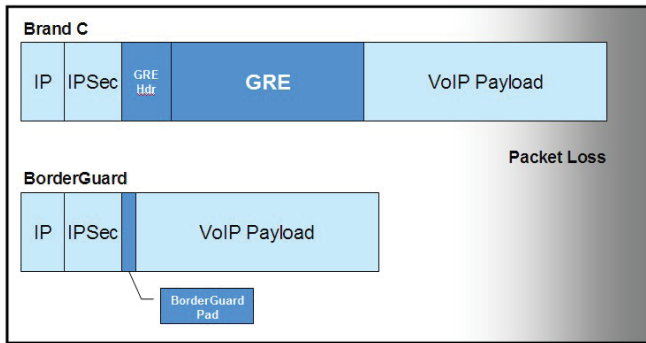
Strong authentication forms the basis of high assurance communications. The basis for this high assurance is a mandatory mutual authentication process that Blue Ridge Networks developed called Security-Enhanced

Summary of Findings

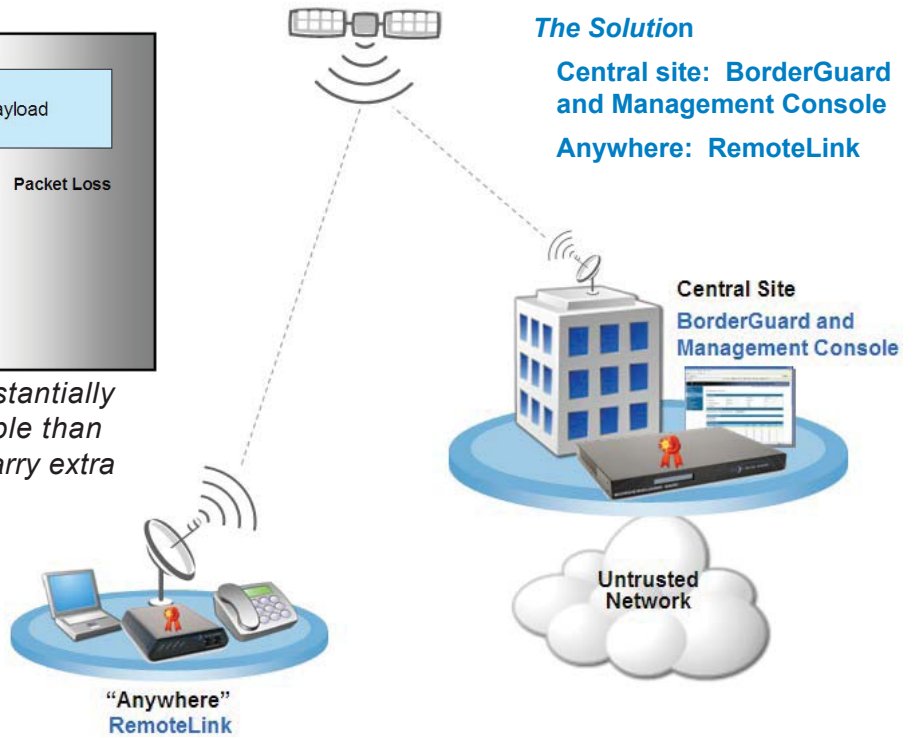


Vendor	File Transfers Completed	Transfer Rate
Blue Ridge Networks	100%	30 KBS
Cisco	10%	10 KBS
Nortel	20%	10 KBS

Source: *Satellite VPN Performance Report*. Prism Secure Networks. 2006



BorderGuard VoIP packets are substantially (40%-70%) more efficient and reliable than other solutions because they don't carry extra baggage.



Internet Key Exchange (SE-IKE™). When a VPN tunnel is established, SE-IKE prevents all active and passive attacks.

BorderGuard is the only VPN with no reported vulnerabilities — ever. And that's over its 12 year history. The NIST National Vulnerability Database records several vulnerabilities each year for competing solutions. Many of these vulnerabilities classified as "critical." It all comes down to trust.

The Solution

BorderGuard

The cornerstone of high assurance VoIP over VSAT communications for years. Early customers have used BorderGuard in double-hop scenarios reliably and for many years. They continue to be relied upon for "when it counts" applications such as the Iraqi Command and Control Network — the world's largest secure VoIP over VSAT network.

RemoteLink

The RemoteLink is designed to make deployment fast, easy, and secure and scalable. It is a small (not much bigger than a paperback book) zero-configuration device that is the ideal component for every piece of your field deployment.

Management Console

Manage the entire network from a single, geographically-independent location anywhere you need it to be.

In a short packet, fixed bandwidth environment, the bottom line is that a little overhead means a lot. Only Blue Ridge Networks delivers a reliable solution.

About Blue Ridge Networks

Blue Ridge Networks developed the first commercial virtual private network. Now, the company continues to be at the forefront of new developments in network security technology.

Today, we leverage our proven security framework and strong authentication technology to provide the industry's first practical secure satellite communications solutions.

Whether it's guarding highly sensitive information for government agencies or protecting security-conscious commercial customers in the finance, health care, and legal industries, our powerful secure communications solutions prove themselves daily in the most demanding security environments in the world.