Nalini Elkins

# IPSec and SSL Security Protocols

Do you have the responsibility for implementing security for z/OS TCP/IP? What options are available? You may have heard of IPSec, Secure Sockets Layer, or Virtual Private Tunnels. What implementation pitfalls will you run into? Would you like to have some hands-on experience before you get started? Would you like to see trace packets using such protocols?

The implementation of IPSec on z/OS after version 1.8 requires implementation of Policy Agent, the Traffic Regulator Daemon, and the IKE daemon. In this class, we will implement these tasks on a live system. We will do much problem diagnostics and tracing of IPSec sessions. We will cover:

- Security associations (setup: manual, dynamic, modes)
- IP Authentication Header
- Internet Key Exchange (ISAKMP)
- Main and Quick modes

The more hands-on experience you have, the more you will become comfortable and adept at resolving many problems with the security protocols. We will use case studies from real situations to see how such problems manifest themselves and have been resolved.

Nalini Elkins, an experienced TCP/IP network performance expert, with many years in network management and working with IBM, will teach you practical TCP/IP diagnostic skills. You will learn how to identify protocol and performance problems, whether originating from TCP/IP system setup, application problems or hardware failures.

Consider this class as being dedicated to learning about and understanding the new security protocols.

## *Audience*

This 3 day seminar is designed for systems programmers who are responsible for troubleshooting, performance measurement, security, analysis, or tuning of their installation's TCP/IP network, socket applications and TCP/IP stack. You will leave class knowing how to implement and troubleshoot the TCP/IP security protocols. Most importantly, you will have an understanding of the protocols and how they interrelate to transport data. You can then find and eliminate potential trouble spots or problems in your own TCP/IP stack, network or socket applications.

## Class Overview

This intensive seminar is designed to provide the attendee with an understanding of how to implement and troubleshoot security protocols and functions on z/OS such as IPSec and SSL.

The seminar will provide hands-on experience with IPSec, policy agent, and SSL. You will learn how to analyze traces, profile and setup parameters for the security protocols.

The strength of this course comes not only from theoretical information learned but from hands-on labs and exercises.

## Prerequisite

A basic understanding of z/OS, TCP/IP, and networks is assumed. For best results, you may wish to take ***our Trace Reading and Diagnostics on z/OS*** course first. It will provide you with a clear understanding of the core Internet protocols and IPv4.

## Seminar Dates and Location and Prices

For dates and locations and prices, please contact sales@insidethestack.com or call our office at 831-659-8360. Seminars are regularly offered in the USA, Europe, and Australia.

## For More Information…

For more information on this or other seminars, including prices and locations, please contact:

Inside Products, Inc.
30 Los Helechos
Carmel Valley CA 93924

Phone: 831-659-8360
Fax: 408-228-8019

Email: bill.jouris@insidethestack.com or
Email: training@insidethestack.com
Web: www.insidethestack.com

Please do not hesitate to call if you would like more information or details on this seminar.

## In-house

All seminars are available for in-house instruction.

## *Instructors: Nalini Elkins*

Nalini Elkins, of Inside Products, Inc., (www.insidethestack.com), is a recognized leader in the field of computer performance measurement and analysis. In addition to being an experienced software product designer, developer, and planner, she is a formidable businesswoman. She has been the founder and co-founder of two start-ups in the high-tech arena.

During her career Nalini served in groups responsible for network performance design, analysis, troubleshooting, and systems programming. The classes Nalini produces and instructs, and the products she develops are designed with the needs of systems programmers as a key requirement. Nalini has an excellent understanding for the needs of system programmers because she was in their shoes for many years.

Nalini has also developed an expert system for diagnosing network hardware problems. The marketing rights for this product were sold to Boole & Babbage (which was later taken over by BMC). Nalini then joined Boole to further develop and support this product. After some time at Boole, Nalini joined some other Boole employees in co-founding a new company – Applied Expert Systems.

As Technical Co-founder, Nalini helped to design and develop a number of products in the SNA and TCP/IP network management area. These products included expert systems for SNA diagnostics, web performance diagnostics, TCP/IP routing diagnosis and TCP/IP network management. She was the Chief Developer of the product IBM first marketed as NetView Performance Monitor for TCP/IP.

**Nalini** now has her own company, **Inside Products, Inc.** (www.insidethestack.com), which designs, develops and markets TCP/IP network management software. The products are Inside the Stack TCP/IP monitor, TCP Problem Finder and TCP Response Time Monitor. Inside Products also provides consulting to resolve network problems such as FTP throughput, socket application performance and TCP/IP tuning. In fact, the Inside Products Network Health Check can be purchased via IBM. Please contact the IBM Network Traffic Analysis group at 1-800-876-8801. Of course, you may also contact Inside Products to purchase our consulting or Health Check services. Inside Products has international distributors in Australia, Germany, Switzerland, the United Kingdom, Belgium, Netherlands, Luxemburg and Brazil.

Nalini has published numerous articles in publications such as zJournal, Technical Support, Xephon's TCP/IP Update, and Enterprise Systems Journal. Nalini is also a regular speaker at SHARE, both national and regional Computer Measurement Groups (CMGs), and variety of international conferences.

Nalini can be contacted directly at Nalini_Elkins@Insidethestack.com

# Seminar Outline

The following is a high level outline for this seminar. Since the seminar is constantly being updated, actual seminar content and flow may vary slightly from this outline.

## *TCP/IP Security Introduction*

- TCP/IP security fundamentals
- Basic implementations (IPSec, VPN, IDS, SSL, RACF)
- Common RFC's
- Mainframe security architecture
- Implementation issues and pitfalls
- Problem and performance diagnostics

## *IPSec and VPN*

- Introduction
- Security associations (setup: manual, dynamic, modes)
- IP authentication header
- IP Encapsulating Security Protocol
- Internet Key Exchange
- VPN tunnel types and modes

## *Implementation of IPSec and Policy Agent*

- Implementation of Policy Agent, IKED, TRMD on mainframe
- Lab: Hands-on installation of Policy Agent, IKED, TRMD on mainframe
- Lab: Problem diagnostics / tracing of IPSec / VPN tunnels
- Lab: Hands-on installation of IPSec on Windows PC
- Lab: Communication between PC and mainframe

## *Secure Sockets / Web Servers*

- Secure Sockets Layer (SSL) / Transport Layer Security (TSL) protocols
- SSL handshake and performance implications
- SSL certificates
- Server and client authentication
- Sockets API for SSL
- Lab: Read traces with SSL used
- How does SSL work with HTTP?