

Nalini Elkins

Diagnosing TCP/IP Applications

(Web-based Seminar)

How do TCP applications really work? Often problems happen, not at the protocol layer, but in the application. Do you understand how HTTP, FTP, DNS, LDAP, Enterprise Extender, SNMP, MQSeries and other major applications work? When there are problems, do you know where to look? What are the common problems which occur for each application? The more you understand about how each layer impacts the other, the more effective and successful you will be as a diagnostician.

In this class, we will try to understand the behavior of important TCP and UDP applications. We will do this by not just understanding the theory but by looking at trace packets and configuration files from many different applications. We will look at the RFCs which govern the architecture of these applications. The more times you have looked at traces, the more you will become comfortable and adept at resolving many problems in the TCP/IP network. 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 hundreds of companies and thousands of problems, will teach you practical TCP/IP diagnostic skills. You will learn how major TCP and UDP applications work and what might go wrong. We can also read in your own traces to find problems on your own network

Consider this class as being focused on starting to understand the major TCP and UDP applications.

Audience

This 1 day (two 1/2 days) web based seminar is designed for systems programmers who are responsible for troubleshooting, analysis, security, performance measurement, or tuning of their installation's TCP/IP network, socket applications and TCP/IP stack. You will leave class knowing how many major TCP/IP applications work. Most importantly, you will have an understanding of how the applications use TCP or UDP facilities to transport data. Then, when you look at a trace – you will understand what you are seeing. You can then find and eliminate potential trouble spots or problems in your TCP/IP stack, network or socket applications.

This class is for you...

- if you want to troubleshoot your TCP/IP stack, socket applications, or network
- if you want to know how your applications can be attacked
- if you are a novice network analyst, or new to the field of TCP/IP networking, and need to learn how major TCP and UDP applications work to effectively diagnose problems in your TCP/IP network and socket applications
- if you are a z/OS generalist and interested in learning about TCP/IP networking or analysis

Class Overview

This intensive seminar is designed to provide the attendee with a basic understanding of how important TCP and UDP applications use network facilities. Packet traces will be used to show how to diagnose problems with socket applications. It is designed to guide you in taking the next step in TCP/IP network diagnosis by going beyond the protocol to the application layer.

The strength of this seminar not only comes from the information learned, but from the analysis you can perform on your own data during the seminar.

Seminar Highlights

Detailed explanations on how to interpret packet traces for many TCP and UDP applications and how to fix many commonly seen problems are provided.

- You will learn to identify performance problems, whether originating from the TCP/IP network system setup parameters, from socket applications, or network hardware.
- You will learn how socket applications actually work!

Prerequisite

A basic understanding of z/OS, TCP/IP, and networks is assumed. The **Introduction to TCP Diagnostics** course is highly recommended.

Seminar Dates and Prices

For dates and prices, please visit <http://www.insidestack.com/classes.html>, or contact sales@insidestack.com or call our office at 831-659-8360. This seminar is offered as a web-based class only.

For More Information...

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

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



Instructor

Nalini Elkins, of Inside Products, Inc., (www.insidestack.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.insidestack.com), which designs, develops and markets network management software. The products are Inside the Stack TCP/IP monitor, TCP Problem Finder, EE Problem Finder, SSL Problem Finder, Early Warning System, Connection Log 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. Inside Products has international distributors in Australia, Germany, Switzerland, the United Kingdom, Belgium, Netherlands, Luxemburg and Israel.

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@insidestack.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 Socket Application Introduction

- Well known ports
- Core Internet protocols (TCP, IP, UDP, ICMP)
- Common RFCs
- What can we learn with traces?

Major TCP Applications

- Hypertext Transfer Protocol (HTTP) Introduction
- HTTP: Architecture, troubleshooting, performance, security
- Lightweight Directory Access Protocol (LDAP) Introduction
- LDAP: Architecture, troubleshooting, performance, security
- File Transfer Protocol (FTP) Introduction
- FTP: Architecture, troubleshooting, performance, security
- MQSeries Introduction
- MQSeries: Architecture, troubleshooting, performance, security
- Case studies

Major UDP Applications

- Enterprise Extender (EE) Introduction
- EE: Architecture, troubleshooting, performance, security
- Simple Network Management Protocol (SNMP) Introduction
- SNMP: Architecture, troubleshooting, performance, security
- Domain Name System (DNS) Introduction
- DNS: Architecture, troubleshooting, performance, security
- Case studies