

Linux

Troubleshooting

3 days

Chapter 1

Troubleshooting Methodology

- Evaluating Possible Solutions
- Identifying and Implementing Changes
- Define and Follow Policies

Chapter 2

TOOLS

- Common Troubleshooting Tools
- RPM Quires
- RPM Verification
- strace and ltrace
- lsof and fuser
- ipcs and ipcrm
- iostat, mpstat and vmstat
- sar and top
- ifconfig and ip
- arp and route
- Name Resolution
- netstat and rpcinfo
- nmap
- Netcat
- tcpdump and ethereal

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Chapter 3

Boot, Process, Filesystem and Threads

- Linux Boot Process
- Booting Linux
- Boot Process Troubleshooting
 - troubleshooting GRUB problems
 - troubleshooting kernel problems
 - /etc/fstab
 - /etc/inittab problems
- Process Management
- Process Management Troubleshooting
 - Process consumes excessive memory
 - Process consumes excessive CPU

resources

- Process consumes excessive disk space

Threads Management

Filesystem Concepts

Filesystems Troubleshooting

- Filled filesystem

- Exhausted inodes

- File permissions

- Filesystem corruption

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Chapter 4

Network, xinetd, TCP Wrappers, Netfilter/iptables

Networking Tools

Networking Commands Review

Networking Troubleshooting

- Kernel module problems

- DHCP client problems

- DNS issues

- address and mask

- gateway issues

Virtual Interfaces/IP Aliases

xinetd Concepts

xinetd Troubleshooting

- configuration file errors

- service ports may already be in use

TCP Wrappers Concepts

- /etc/hosts.allow

- /etc/hosts.deny

- libwrap.so

TCP Wrappers Troubleshooting

- file persing order/rule syntax

- incorrect daemon name

- xinetd conflicts

Netfilter/iptables Concepts

Netfilter/iptables Troubleshooting

- identifying bad rules

- chain policy

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Chapter 5

Kernel and LVM

Kernel Modules

- lsmod

- modinfo

- modprobe

Kernel Modules Troubleshooting

- incorrect kernel parameters and alias

- modules not installed

- modules dependency database not

updated

Different kernels

Logical Volume Management

Creating Logical Volumes

LVM Deployment Issues

LVM Troubleshooting

- pvscan

- vgscan, vgexport, vgimport

- vgmknodes

- vgcfgbackup/vgcfgrestore

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Chapter 6

Linux Processes: Hangs and Core Dumps

Process Structure and Life Cycle

Linux Threads

Identifying Process Hangs

Process Cores