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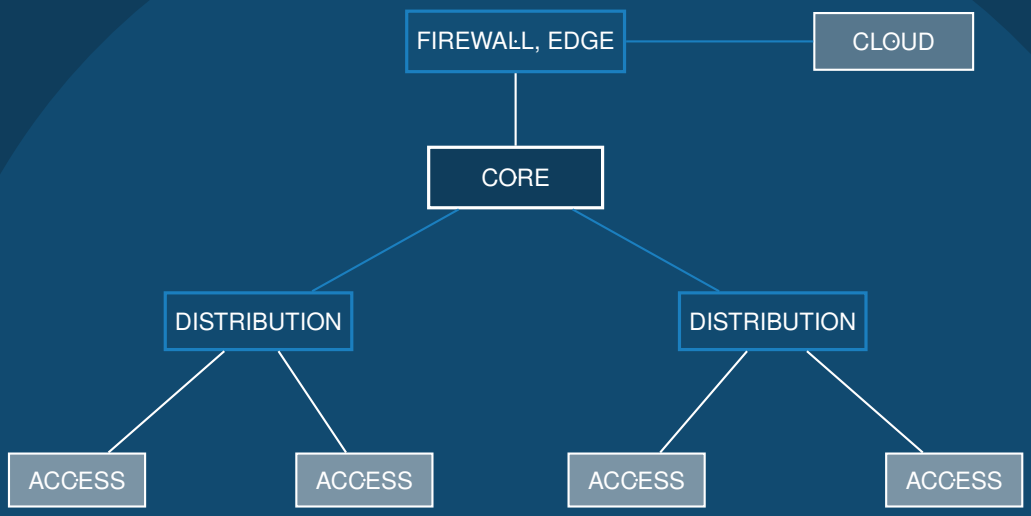
The Codelivly Network Engineer Series

LEVEL 2

NETWORK ENGINEER: L2

Advanced Enterprise Networking, Routing, Switching, Security, Troubleshooting and Automation



ROUTING & SWITCHING — SECURITY — MONITORING — AUTOMATION

Written by Rocky

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Network Engineer: L2 Advanced Enterprise Networking, Routing, Switching, Security, Troubleshooting and Automation

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About Codelivly

Codelivly is a technical learning platform focused on practical cybersecurity, networking, and IT education. Codelivly material is built around how skills are actually used on the job: real commands, real architecture decisions, and lab exercises readers can reproduce themselves, rather than theory presented in isolation.

This book is the second title in the Codelivly Network Engineer series, following Network Engineer L1. You can find more guides and learning resources at codelivly.com.

About the Author

Rocky is a technical writer and instructor at Codelivly focused on networking and cybersecurity fundamentals. His approach centers on first principles, understanding why a technology exists and what actually happens on the network, then reinforcing that understanding with labs, configuration practice, and structured troubleshooting. This book continues that approach at an enterprise level.

How to Use This Book

This book builds directly on Network Engineer L1 and assumes that foundation is solid. It is organized so that each part builds on the parts before it: enterprise architecture and design principles come first, because every later decision in switching, routing, security, or automation is made in service of an architecture. Read the parts in order on a first pass.

Do the labs as you reach them. Part XV contains twenty hands on labs matched to the chapters that precede them. Each lab includes a topology, an addressing table, step by step instructions, verification steps, and a challenge task. You will retain far more from an hour of lab work than from an hour of additional reading.

Work the troubleshooting scenarios actively. Part XVI contains fifty realistic scenarios. Read only the incident and symptoms, decide what you would check first, then compare your reasoning against the full walkthrough. A wrong guess that teaches you something is more valuable than skipping ahead to the answer.

Use the interview and practice question sections as spaced review, not as a single read through. Revisit them after finishing the relevant part, then again after finishing the book.

Treat vendor specific material carefully. Where this book shows Cisco style command line syntax, it is explicitly labeled as vendor specific. The underlying concept, what a routing protocol does, what a firewall zone means, transfers across vendors even when the exact keystrokes differ.

Prerequisites

Before starting this book, you should already be comfortable with the material covered in Network Engineer L1, specifically:

Basic networking concepts, the OSI model, and the TCP IP model. IPv4 addressing and an introduction to IPv6. Subnetting by hand. Ethernet, MAC addresses, and ARP. Switching fundamentals and basic VLAN concepts. Basic routing concepts, including static routes and the routing table. DHCP and DNS operation. Basic NAT concepts. A structured, layered approach to troubleshooting. Basic command line tools on Linux and Windows for checking addressing, connectivity, and routing.

If any of these feel unfamiliar, working through Network Engineer L1 first will make this book significantly more useful. This book does not reteach these fundamentals, it builds directly on top of them.

Contents

Copyright i

About Codelivly ii

About the Author iii

How to Use This Book iv

Prerequisites v

Enterprise Network Architecture 1

1 Enterprise Network Architecture 2

1.1 From Small Networks to Enterprise Networks . . . 2
1.2 The Three Tier Hierarchical Model . . . 2
1.3 Collapsed Core and When to Use It . . . 3
1.4 Spine and Leaf Architecture . . . 3
1.5 The Internet Edge and the Demilitarized Zone . . . 4
1.6 Network Segmentation as a Design Principle . . . 4
1.7 Chapter Summary . . . 5

2 Network Design Principles 7

2.1 Scalability and Modularity . . . 7
2.2 Availability, Redundancy, and Fault Tolerance . . . 7
2.3 Performance and Capacity Planning . . . 8
2.4 Security and Manageability as Design Inputs . . . 8
2.5 Documentation as Part of the Design . . . 9
2.6 Chapter Summary . . . 9

3 IP Addressing Architecture 10

3.1 Why Hierarchical Addressing Matters . . . 10
3.2 Summarization and Route Aggregation . . . 10
3.3 Variable Length Subnet Masking at Enterprise Scale . . . 11
3.4 IPv6 Planning Considerations . . . 11
3.5 Private, Public, and IP Address Management . . . 11
3.6 Chapter Summary . . . 12

Advanced Switching 13

4 Advanced VLAN Architecture 14

4.1 Designing a VLAN Scheme . . . 14
4.2 Access, Voice, Management, and Guest VLANs . . . 15
4.3 VLAN Security Considerations . . . 15
4.4 VLAN Documentation . . . 15
4.5 Chapter Summary . . . 16

5 Trunking **17**
5.1 802.1Q Tagging at the Frame Level . . . 17
5.2 Native VLAN Behavior . . . 17
5.3 The Allowed VLAN List . . . 18
5.4 Diagnosing Trunk Failures . . . 18
5.5 Chapter Summary . . . 19

6 Layer 3 Switching **20**
6.1 Layer 2 Switching Compared to Layer 3 Switching . . . 20
6.2 Switched Virtual Interfaces . . . 20
6.3 Routed Interfaces on a Multilayer Switch . . . 21
6.4 Where Inter VLAN Routing Should Live . . . 21
6.5 Chapter Summary . . . 21

Spanning Tree **23**

7 STP Deep Dive **24**
7.1 Why a Layer 2 Loop Is Catastrophic . . . 24
7.2 Root Bridge Election . . . 24
7.3 Root Ports, Designated Ports, and Blocking . . . 25
7.4 Bridge Protocol Data Units . . . 25
7.5 Path Cost and Port Priority as Tiebreakers . . . 25
7.6 Chapter Summary . . . 26

8 RSTP **28**
8.1 Why Original Spanning Tree Converges Slowly . . . 28
8.2 What RSTP Changes . . . 28
8.3 RSTP Port Roles and States . . . 29
8.4 Edge Ports . . . 29
8.5 Chapter Summary . . . 29

9 MST **31**
9.1 The Scaling Problem MST Solves . . . 31
9.2 Regions, Instances, and VLAN Mapping . . . 31
9.3 Enterprise Use Cases and Design Considerations . . . 32
9.4 Chapter Summary . . . 32

Dynamic Routing **33**

10 Dynamic Routing Architecture **34**
10.1 Why Dynamic Routing Exists . . . 34

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10.2 Metrics and Convergence . . . 34
10.3 Administrative Distance Revisited . . . 35
10.4 Control Plane, Data Plane, and Forwarding Plane . . . 35
10.5 Chapter Summary . . . 35

11 OSPF Deep Dive **37**
11.1 Hello Packets, Dead Timers, and Router Identifiers . . . 37
11.2 The Full Neighbor State Machine . . . 37
11.3 The Link State Database and SPF . . . 38
11.4 Broadcast Networks, Point to Point Networks, and the DR BDR Election . . . 38
11.5 Chapter Summary . . . 39

12 OSPF Areas **41**
12.1 Why Multi Area OSPF Exists . . . 41
12.2 Area 0, the Backbone . . . 42
12.3 Area Border Routers and Autonomous System Boundary Routers . . . 42
12.4 Stub Areas, Totally Stubby Areas, and Not So Stubby Areas . . . 42
12.5 Route Summarization at Area Boundaries . . . 43
12.6 Chapter Summary . . . 43

13 OSPF Troubleshooting **45**
13.1 A Systematic Approach to OSPF Adjacency Problems . . . 45
13.2 Scenario: Incorrect Area Configuration . . . 45
13.3 Scenario: Authentication Mismatch . . . 45
13.4 Scenario: Maximum Transmission Unit Mismatch . . . 46
13.5 Scenario: Hello and Dead Timer Mismatch . . . 46
13.6 Scenario: Network Type Mismatch . . . 46
13.7 Scenario: Duplicate Router Identifier . . . 46
13.8 Scenario: Passive Interfaces Misconfigured . . . 47
13.9 Scenario: Incorrect Network Statements . . . 47
13.10Chapter Summary . . . 47

BGP Fundamentals **49**

14 BGP Introduction **50**
14.1 What BGP Is and Why It Exists . . . 50
14.2 Autonomous Systems . . . 50
14.3 Path Vector Behavior . . . 51
14.4 BGP Neighbor Relationships and TCP Port 179 . . . 51
14.5 BGP Attributes, an Introduction . . . 51
14.6 Chapter Summary . . . 51

15 BGP Path Selection **53**
15.1 The Attributes That Drive Path Selection . . . 53
15.2 Local Preference and Its Role . . . 53
15.3 AS Path Length and Multi Exit Discriminator . . . 54
15.4 eBGP Routes Compared to iBGP Routes . . . 54

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15.5 The Next Hop Attribute . . . 54
15.6 Chapter Summary . . . 55

16 BGP Troubleshooting Fundamentals 56
16.1 Diagnosing a Session That Will Not Establish . . . 56
16.2 Route Advertisement Problems . . . 56
16.3 Next Hop Problems Revisited . . . 57
16.4 Prefix Filtering Concepts . . . 57
16.5 Chapter Summary . . . 57

Routing Services 59

17 Route Redistribution 60
17.1 Why Redistribution Exists . . . 60
17.2 Metrics Across a Redistribution Boundary . . . 60
17.3 Route Feedback . . . 61
17.4 Filtering as the Mitigation . . . 61
17.5 Chapter Summary . . . 61

18 Route Summarization 63
18.1 Benefits of Summarization . . . 63
18.2 Risks of Summarization . . . 63
18.3 Summarization Calculation Practice . . . 64
18.4 OSPF Summarization . . . 64
18.5 BGP Aggregation . . . 64
18.6 Chapter Summary . . . 64

Network Redundancy 66

19 High Availability 67
19.1 Identifying Single Points of Failure . . . 67
19.2 Redundant Links, Switches, and Routers . . . 67
19.3 Failure Domains . . . 68
19.4 Chapter Summary . . . 68

20 First Hop Redundancy 69
20.1 The Virtual Gateway Concept . . . 69
20.2 Priority and Preemption . . . 69
20.3 HSRP, VRRP, and GLBP Concepts . . . 70
20.4 Chapter Summary . . . 70

21 Link Aggregation 72
21.1 The Aggregation Concept . . . 72
21.2 The Link Aggregation Control Protocol . . . 72
21.3 Load Distribution Across the Bundle . . . 73
21.4 Failure Behavior . . . 73
21.5 Chapter Summary . . . 73

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Network Security 75

22 Enterprise Network Security Architecture 76
22.1 Defense in Depth . . . 76
22.2 Trust Zones . . . 77
22.3 Management, Guest, Server, and User Networks . . . 77
22.4 Chapter Summary . . . 77

23 ACLs 79
23.1 Standard Compared to Extended Access Control Lists . . . 79
23.2 Implicit Deny . . . 79
23.3 Ordering and Placement . . . 80
23.4 Chapter Summary . . . 80

24 Firewall Architecture 82
24.1 Stateful Inspection . . . 82
24.2 Firewall Zones and Policy . . . 82
24.3 NAT Integration . . . 83
24.4 Application Inspection . . . 83
24.5 Firewall High Availability and Logging . . . 83
24.6 Chapter Summary . . . 83

25 VPN Technologies 85
25.1 Site to Site Compared to Remote Access VPN . . . 85
25.2 IPsec Concepts . . . 85
25.3 Tunnels and Encapsulation . . . 86
25.4 Common VPN Troubleshooting Patterns . . . 86
25.5 Chapter Summary . . . 87

26 Network Attack Detection 88
26.1 ARP Spoofing . . . 88
26.2 Rogue DHCP Servers . . . 88
26.3 DNS Manipulation, MAC Flooding, and Broadcast Storms . . . 88
26.4 Port Scanning, Denial of Service, and Rogue Access Points . . . 89
26.5 Detection, Investigation, Mitigation . . . 89
26.6 Chapter Summary . . . 89

Network Monitoring 91

27 Enterprise Network Monitoring 92
27.1 Availability, Latency, and Packet Loss . . . 92
27.2 Bandwidth, Throughput, and Interface Errors . . . 92
27.3 Device Health, CPU, Memory, and Capacity . . . 93
27.4 Chapter Summary . . . 93

28 SNMP 94
28.1 Managers, Agents, and Polling . . . 94
28.2 Object Identifiers and Management Information Bases . . . 94

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28.3 SNMP Versions and Security . . . 95
28.4 Chapter Summary . . . 95

29 Syslog **96**
29.1 Syslog Architecture . . . 96
29.2 Log Severity Levels . . . 96
29.3 Centralized Logging and Event Correlation . . . 97
29.4 Chapter Summary . . . 97

30 NetFlow and Traffic Analysis **98**
30.1 What Flow Data Is . . . 98
30.2 Top Talkers and Traffic Composition . . . 98
30.3 Capacity Planning and Security Investigation . . . 98
30.4 Chapter Summary . . . 99

Packet Analysis **100**

31 Advanced Wireshark **101**
31.1 Capture Filters Compared to Display Filters . . . 101
31.2 Advanced TCP Analysis . . . 101
31.3 DNS, ARP, DHCP, and ICMP in a Capture . . . 102
31.4 TLS Metadata Without Decryption . . . 102
31.5 Conversation and Endpoint Statistics . . . 102
31.6 Chapter Summary . . . 103
31.7 Packet Analysis Exercises . . . 103

Advanced Troubleshooting **106**

32 Troubleshooting Methodology **107**
32.1 The Full Troubleshooting Cycle . . . 107
32.2 Bottom Up, Top Down, and Divide and Conquer . . . 108
32.3 Follow the Path and Compare with Known Good . . . 108
32.4 Change Isolation . . . 108
32.5 Chapter Summary . . . 108

33 Advanced Switching Troubleshooting **110**
33.1 Scenario: VLAN Mismatch Between Switches . . . 110
33.2 Scenario: Trunk Failure Between Switches . . . 110
33.3 Scenario: EtherChannel Mismatch . . . 110
33.4 Scenario: Native VLAN Mismatch . . . 111
33.5 Scenario: Switched Virtual Interface Failure . . . 111
33.6 Scenario: MAC Address Table Anomalies . . . 111
33.7 Scenario: Broadcast Storm from an Undetected Loop . . . 111
33.8 Chapter Summary . . . 112

34 Advanced Routing Troubleshooting **113**
34.1 Scenario: Incorrect Route in the Table . . . 113

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34.2 Scenario: Missing Route . . . 113
34.3 Scenario: Wrong Next Hop . . . 113
34.4 Scenario: OSPF Neighbor Failure . . . 114
34.5 Scenario: Routing Loop . . . 114
34.6 Scenario: Redistribution Problem . . . 114
34.7 Scenario: Route Summarization Issue . . . 114
34.8 Scenario: BGP Session Failure . . . 115
34.9 Chapter Summary . . . 115

35 Performance Troubleshooting **116**
35.1 Latency, Packet Loss, and Jitter as Distinct Problems . . . 116
35.2 Congestion, Interface Errors, and Duplex Problems . . . 116
35.3 Maximum Transmission Unit Issues and Buffering . . . 117
35.4 A Diagnostic Workflow for Bandwidth Saturation . . . 117
35.5 Chapter Summary . . . 118

Network Automation **119**

36 Why Network Automation Matters **120**
36.1 Configuration Drift . . . 120
36.2 Repeatability, Standardization, and Scalability . . . 120
36.3 Error Reduction . . . 121
36.4 Infrastructure as Code . . . 121
36.5 Chapter Summary . . . 121

37 Python for Network Engineers **122**
37.1 Variables and Data Types . . . 122
37.2 Lists and Dictionaries . . . 122
37.3 Loops and Functions . . . 123
37.4 JSON and YAML . . . 123
37.5 File Handling, Regular Expressions, and Error Handling . . . 123
37.6 Chapter Summary . . . 124

38 Network Automation with Python **125**
38.1 Parsing Configuration and Reading Device Data . . . 125
38.2 Generating Configuration from a Template . . . 125
38.3 Validating IP Addresses . . . 125
38.4 Processing Routing Table Data . . . 126
38.5 Calling an API from Python . . . 126
38.6 Chapter Summary . . . 126

39 Ansible for Network Engineers **128**
39.1 Inventory . . . 128
39.2 Playbooks and Tasks . . . 128
39.3 Variables and Templates . . . 129
39.4 Modules and Idempotency . . . 129
39.5 Configuration Management and Automation Workflows . . . 129

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39.6 Chapter Summary . . . 130

40 Network APIs **131**
40.1 REST API Fundamentals . . . 131
40.2 HTTP Methods . . . 131
40.3 JSON as the Standard Exchange Format . . . 132
40.4 Authentication Concepts . . . 132
40.5 Reading API Documentation . . . 132
40.6 Chapter Summary . . . 132

Cloud and Hybrid Networking **134**

41 Cloud Networking Fundamentals **135**
41.1 Virtual Networks and Subnets . . . 135
41.2 Security Groups and Network Access Control Lists . . . 135
41.3 Internet Gateways, NAT Gateways, and Load Balancers . . . 136
41.4 VPN Connectivity and an Introduction to Hybrid Networking . . . 136
41.5 Chapter Summary . . . 136

42 Hybrid Networking **138**
42.1 Connecting On Premises and Cloud Environments . . . 138
42.2 VPN and Dedicated Connectivity . . . 138
42.3 Routing and DNS Across Environments . . . 139
42.4 Identity Boundaries and Security . . . 139
42.5 Chapter Summary . . . 139

Real World Network Engineering **141**

43 Enterprise Network Case Study **142**
43.1 The Organization and Its Requirements . . . 142
43.2 The Architecture . . . 142
43.3 VLANs, Routing, and Firewall Placement . . . 143
43.4 Wireless, Monitoring, and Management . . . 143
43.5 Chapter Summary . . . 143

44 Branch Office Network **145**
44.1 WAN and LAN Design . . . 145
44.2 VLANs, DHCP, DNS, and Firewall Policy . . . 145
44.3 VPN Connectivity and Redundancy . . . 145
44.4 Monitoring at the Branch . . . 146
44.5 Chapter Summary . . . 146

45 Data Center Networking Introduction **147**
45.1 Spine and Leaf in the Data Center . . . 147
45.2 East to West and North to South Traffic in Practice . . . 147
45.3 Redundancy and Load Balancing . . . 147
45.4 VXLAN, an Introduction . . . 148

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45.5 Chapter Summary 148

Practical Labs **149**

46 Practical Labs **150**
46.1 Lab 1, Enterprise VLAN Architecture 150
46.2 Lab 2, 802.1Q Trunking 150
46.3 Lab 3, Inter VLAN Routing 151
46.4 Lab 4, STP Root Bridge 151
46.5 Lab 5, RSTP 152
46.6 Lab 6, MST 152
46.7 Lab 7, EtherChannel 152
46.8 Lab 8, Static Routing 153
46.9 Lab 9, Single Area OSPF 153
46.10 Lab 10, Multi Area OSPF 154
46.11 Lab 11, OSPF Troubleshooting 154
46.12 Lab 12, Route Summarization 154
46.13 Lab 13, ACL Troubleshooting 155
46.14 Lab 14, Firewall Segmentation 155
46.15 Lab 15, VPN Concepts 156
46.16 Lab 16, SNMP Monitoring 156
46.17 Lab 17, Syslog Monitoring 156
46.18 Lab 18, Wireshark Investigation 157
46.19 Lab 19, Python Network Automation 157
46.20 Lab 20, Ansible Network Automation 158

Troubleshooting Scenario Bank **159**

47 Troubleshooting Scenario Bank **160**

Network Engineer Interview Preparation **175**

48 Network Engineer Interview Preparation **176**
48.1 Switching 176
48.2 Routing 177
48.3 OSPF 178
48.4 BGP 178
48.5 STP 179
48.6 VLANs 180
48.7 Security 180
48.8 Firewalls 181
48.9 VPNs 181
48.10 Monitoring 181
48.11 Wireshark 182
48.12 Automation 182

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