



Table of Contents

Preface ix

Part I. Building the Kernel

1. Introduction	3
Using This Book	4
2. Requirements for Building and Using the Kernel	5
Tools to Build the Kernel	5
Tools to Use the Kernel	6
3. Retrieving the Kernel Source	12
What Tree to Use	12
Where to Find the Kernel Source	13
What to Do with the Source	15
4. Configuring and Building	17
Creating a Configuration	17
Modifying the Configuration	18
Building the Kernel	23
Advanced Building Options	26
5. Installing and Booting from a Kernel	29
Using a Distribution's Installation Scripts	30
Installing by Hand	31
Modifying the Bootloader for the New Kernel	32



6. Upgrading a Kernel	35
Download the New Source	36
Applying the Patch	38
Reconfigure the Kernel	40
Can't This Be Automated?	42

Part II. Major Customizations

7. Customizing a Kernel	45
Using a Distribution Kernel	45
Determining the Correct Module from Scratch	52
8. Kernel Configuration Recipes	63
Disks	63
Devices	66
CPU	71
Networking	75
Filesystems	80
Security	82
Kernel Debugging	83

Part III. Kernel Reference

9. Kernel Boot Command-Line Parameter Reference	87
Module-Specific Options	87
Console Options	88
Interrupt Options	91
Memory Options	92
Suspend Options	94
CPU Options	95
Scheduler Options	97
Ramdisk Options	98
Root Disk Options	99
Init Options	101
kexec Options	101
RCU Options	102
ACPI Options	103
SCSI Options	106
PCI Options	107

Plug and Play BIOS Options	109
SELinux Options	110
Network Options	111
Network File System Options	111
Hardware-Specific Options	113
Timer-Specific Options	114
Miscellaneous Options	115
10. Kernel Build Command-Line Reference	117
Informational Targets	117
Cleaning Targets	118
Configuration Targets	118
Build Targets	119
Packaging Targets	120
Documentation Targets	121
Architecture-Specific Targets	121
Analysis Targets	121
11. Kernel Configuration Option Reference	122
<hr/>	
Part IV. Additional Information	
A. Helpful Utilities	161
Managing Your Patches with quilt	163
git	165
ketchup	166
B. Bibliography	168
Index	171

