

<<TCP/IP详解卷2:实现(英文版)>>

图书基本信息

书名：<<TCP/IP详解卷2:实现(英文版)>>

13位ISBN编号：9787111095040

10位ISBN编号：7111095049

出版时间：2002-1-1

出版时间：机械工业出版社

作者：Gary R.Wright,W.Richard Stevens

页数：1066

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<TCP/IP详解卷2:实现(英文版)>>

内容概要

TCP/IP Illustrated, and ongoing series covering the many facets of TCP/IP, brings a highly-effective visual approach to learning about this networking protocol suite. TCP/IP Illustrated, Volume 2: The Implementation contains a thorough explanation of how TCP/IP protocols are implemented. There isn't a more practical or up-to-date book-this volume is the only one to cover the de facto standard implementation from the 4.4BSD-Lite .release, the foundation for TCP/IP implementations run daily on hundreds of thousands of systems worldwide.

书籍目录

Chapter 1. Introduction	
1.1 Introduction	1
1.2 Source Code Presentation	1
1.3 story	3
1.4 Application Programming Interfaces	5
1.5 Example Program	5
1.6 System Calls and Library Functions	7
1.7 Network Implementation Overview	9
1.8 Descriptors	10
1.9 Mbufs (Memory Buffers) and Output Processing	15
1.10 Input Processing	19
1.11 Network Implementation Overview Revisited	22
1.12 Interrupt Levels and Concurrency	23
1.13 Source Code Organization	26
1.14 Test Network	28
1.15 Summary	29
Chapter 2. Mbufs: Memory Buffers	
2.1 Introduction	31
2.2 Code Introduction	36
2.3 Mbuf Definitions	37
2.4 mbuf Structure	38
2.5 Simple Mbuf Macros and Functions	40
2.6 m_devget and m_pullup Functions	44
2.7 Summary of Mbuf Macros and Functions	51
2.8 Summary of Networking Data Structures	54
2.9 rucrw and Cluster Reference Counts	56
2.10 Alternatives	60
2.11 Summary	60
Chapter 3. Interface Layer	
3.1 Introduction	63
3.2 Code Introduction	64
3.3 Ifnet Structure	65
3.4 ifaddr Structure	73
3.5 sockaddr Structure	74
3.6 Ifnet and ifaddr Specialization	76
3.7 Network Initialization Overview	77
3.8 Ethernet Initialization	80
3.9 SLIP Initialization	82
3.10 Loopback Initialization	85
3.11 Ifattach Function	85
3.12 ifnet Function	93
3.13 Summary	94
Chapter 4. Interfaces: Ethernet	
4.1 Introduction	95
4.2 Code Introduction	96

<<TCP/IP详解卷2:实现(英文版)>>

- 4.3 Ethernet Interf8ce 98
- 4.4 Ioctl SyStem Catl 114
- 4.5 Summary 125
- Chapter 5. Int6rfaces: SLIP and Loopback
- 5.1 IntrOduCtion 127
- 5.2 Code Introduction 127
- 5.3 SUP Interf8ce 128
- 5.4 Loopback Interf8ce 150
- 5.5 Summary 153
- Chapt6r 6. IP Addressing
- 6.1 IntroduCtion 155
- 6.2 Code Introduction 158
- 6.3 tnterface and Address Summary 158
- 6.4 sockaddr--In StruCture 160
- 6.5 in--ifdddr StruCture 161
- 6.6 Address Assignment 161
- 6.7 Interface ioctl Processing 177
- 6.8 Internet Utility FunCtions 181
- 6.9 if net Utility FunCtions 182
- 6.10 Summary 183
- ChaPter 7. Domains and Pndocols
- 7.1 IofroduCtion 185
- 7.2 Code IntrOduCtion 186
- 7.3 domain StruCture 187
- 7.4' protosw StrUCtUre 188
- 7.5 IP domain artd protosw Structures 191
- 7.6 pfflndproto and pffindtype FunCtions 196
- 7.7 pfct1input Function 198
- 7.8 IP Initialization 199
- 7.9 sysctl System Call 201
- 7.10 Summary 204
- Chapt6r 8. IP: Int6rn6t Protheol
- 8.1 IntroduCtion 205
- 8.2 COde IntroduCtion 206
- 8.3 IP P8Ck6ts 210
- 8.4 InPut Processjng f ipintr Function 212
- 8.5 FOrWarding' iPforwald FunCtion 220
- 8.6 Output PMssinq' ip--output FunCtion 228
- 8.7 Int6rnet Ch60ksum' in--cksum Funotinn 234
- 8.8 setsockopt and getsockopt SyStem Calls 239
- 8.9 iPsyst1 FunCtion 244
- 8.10 Summary 245
- ChaPter 9. IP OPTlon ProcessIng
- 9.1 IntbouCtion 247
- 9.2 Code Introdudion 247
- 9.3 Option F0rmat 248
- 9.4 ip--dooptlons FunCtion 249

<<TCP/IP详解卷2:实现(英文版)>>

- 9.5 Record Route Option 252
- 9.6 Source and Record Route Options 254
- 9.7 Timestamp Option 261
- 9.8 Ip--Insertoptions Function 265
- 9.9 Ip--Pcbopts FunCtion 269
- 9.10 Limitations 272
- 9.11 Summary 272
- Chapt6r 10. IP Fragment8tion and Reassembly
- 10.1 IntroduCtion 275
- 10.2 C0de IntrOductlon 277
- 10.3 Fmpmentation 278
- 10.4 Ip--optcopy FunCtion 282
- 10.5 Reassembly 283
- 10.6 ip--reass FunCtion 286
- 10.7 ip--s1owtlmo FunCtion 298
- 10.8 Summary 300
- Chapter 11. ICMP: Internet Control Message Pbocol
- 11.1 IntroduCtion 301
- 11.2 Code IntroduCtion 305
- 11.3 ictnp StruCture 308
- 11.4 ICMP protosw StruCture 309
- 11.5 Input Processing: icmP--input Fuodion 310
- 11.6 Error Processing 313
- 11.7 Request Processing 316
- 11.8 RedireCt Processing 321
- 11.9 Reply Processing 323
- 11.10 Output Processing 324
- 11.11 icmP--error Fun0tion 324
- 11.12 lcro--ret1ect FunCtion 328
- 11.13 icmP--send Function 333
- 11.14 lcco--sysctl FunCtIon 334
- 11.15 Summary 335
- Chapter 12. IP MulticastIng
- 12.1 lotrOduCtion 337
- 12.2 Code IntrOdodion 340
- 12.3 Ethern6t MulticaSt Addresses 341
- 12.4 etheramulti StruCture 342
- 12.5 Ethern6t Multicast Reception 344
- 12.6 ininultl StrUCtUre 345
- 12.7 ippooptions StrUCtUre 347
- 12.8 Multicast S0Cket OPtlons 348
- 12.9 MulticaSt TTL V8lues 348
- 12.10 ip_setmoptions FunCtion 351
- 12.11 Joining an IP MulticaSt Group 355
- 12.12 Leaving an tP MulticaSt Group 366
- 12.13 Ip--getmoptlons Function 371
- 12.14 Multicast Input Processing: ipintr FunCtion 373

<<TCP/IP详解卷2:实现(英文版)>>

- 12.15 Multicast Output Processing f ip--output FunCtion 375
- 12.16 Perf0rmance Considerations 379
- 12.17 Summary 379
- ChaPter 13. IGMP: Internet Group Management Protocol
- 13.1 IntroduCtion 381
- 13.2 Code IntroduCtion 382
- 13.3 Igmp StrUCtUre 384
- 13.4 IGMP protQsw StrUCtUre 384
- 13.5 Joining a Group f Igmp--3oIngroup FunCtion 386
- 13.6 Igmp--fasttimo Function 387
- 13.7 Input Processingt igmp--Input Function 391
- 13.8 Leaving a Group f Igmp--leavegroup Function 395
- 13.9 Summary 396
- Chapt6r 14. IP Multicast Routing
- 14.1 Introduction 397
- 14.2 Code Introduction 398
- 14.3 Mufticast Output Processing Revisit6d 399
- 14.4 mrouted Daemon 401
- 14.5 Virtual Interfaces 404
- 14.6 IGMP Revisited 411
- 14.7 Multicast Routing 416
- 14.8 Multicast FOrwarding f Ipamforward Function 424
- 14.9 Cleanup; ipinrouter--done Function 433
- 14.10 Summary 434
- Chapt6r 15. Socket Layer
- 15.1 IntroduCtion 435
- 15.2 Code IntroduCtion 436
- 15.3 socket Structure 437
- 15.4 System Calls 441
- 15.5 Processes, Descriptors, and Sock6ts 445
- 15.6 socket System Call 447
- 15.7 getsock and sockargs FunCtions 451
- 15.8 blnd System Call 453
- 15.9 llsten SyStem Call 455
- 15.10 tsleep and wakeup FunCtions 456
- 15.11 accept System Call 457
- 15.12 sonewconn and soisconnected Functions 461
- 15.13 connect System call 464
- 15.14 shutdown System Call 468
- 15.15 close System Call 471
- 15.16 Summary 474
- Chapter 16. Sock6t UO
- 16.1 Introduction 475
- 16.2 Code Introduction 475
- 16.3 Socket Buffers 476
- 16.4 wrlte, writév, sendto, and sendrisg System Calls
- 16.5 sendrisg System Call 483

<<TCP/IP详解卷2:实现(英文版)>>

- 16.6 sendIt FunCtion 485
- 16.7 sOsend FunCtion 489
- 16.8 read, readv, recvfrom, and recwnsg Syst6m Calls
- 16.9 recwnsg System Call 501
- 16.10 recvIt FunCtion 503
- 16.11 sorecelve FunCtion 505
- 16.12 sorece1ve Code 510
- 16.13 se1ect System Call 524
- 16.14 Summary 534
- ChAPter 17. Socket OPtions
- 17.1 IntrOduCtion 537
- 17.2 Code IntrOduCtion 538
- 17.3 setsockoPt System Call 539
- 17.4 getsockopt SyStem Call 545
- 17.5 fcntl and loct1 System Calls 548
- 17.6 getsockname SyStem Call 554
- 17.7 getpeername Syst6m Call 554
- 17.8 Summary 557
- ChAPter 18. Radix Tree Routing TSbles
- 18.1 IntrOduCtion 559
- 18.2 Routing T8ble StruCture 560
- 18.3 RoUting SOCKats 569
- 18.4 COde IntrOduCtion 570
- 18.5 Radix Node Data StruCtures 573
- 18.6 Routing StruCtures 578
- 18.7 Initia[ization] route--InIt and rtable--InIt FunCtions 581
- 18.8 Initialhation' rn--init and rn--inlthead FunCtions' 584
- 18.9 Duplicate Keys and Mask LiSts 587
- 18.10 rnamatch FunCtion 591
- 18.11 rn--search FunCtion 599
- 18.12 Summary 599
- ChAPter 19. Routing Requests and Routing Messages
- 19.1 IntrOduCtion 601
- 19.2 rta11oc and rta11ocl FunCtions 601
- 19.3 RTFREE Macro and rtfree FunCtion 604
- 19.4 rtrequest FunCtion 607
- 19.5 rt--setgate Function 612
- 19.6 rtinit FunCtion 615
- 19.7 rtredirect FunCtion 617
- 19.8 Routing Message Structures 621
- 19.9 rtamissmsg FunCtion 625
- 19.10 rt--zfmsg FunCtion 627
- 19.11 rt--newaddrmsg Function 628
- 19.12 rt--msg1 FunCtion 630
- 19.13 rt--msgz FunCtion 632
- 19.14 sysctl--rtab1e FunCtion 635
- 19.15 sysctl--dumpentry FunCtion 640

<<TCP/IP详解卷2:实现(英文版)>>

19.16 sysctl--if1st FunCtiOn	642
19.17 Summary	644
Chapter 20. Routing SOck6ts	
20.1 IntroduCtion	645
20.2 routedomain and protosw StruCtures	646
20.3 Routing Control Blocks	647
20.4 rawinit Fuodion	647
20.5 route--output FunCtion	648
20.6 rt--xaddr FunCtion	660
20.7 rt--setmetrics FunCton	661
20.8. rawinput FunCtion	662
20.9 route--uslreq FunCtion	664
20.10 rawusrreq Funoton	666
20.11 rawattach, rawdetach, and ravidisconnect Fun	
20.12 Summary	672
Chapter 21. ARP: Address Resolutlon ProtOcol	
21.1 Introduction	675
21.2 ARP and the Routing Table	675
21.3 Code IntrOduction	678
21.4 ARP StruCtures	681
21.5 arpwhoas Function	683
21.6 arprequest FunCtion	684
21.7 arpintr FunCtion	687
21.8 in--arp1nput Function	688
21.9 ARP Timer FunCtions	694
21.10 arpreso1ve FunCtion	696
21.11 arplookup Function	701
21.12 Proxy ARP	703
21.13 arPrtrequest FunCtion	704
21.14 ARP and Multicasting	710
21.15 Summary	711
Chapter 22. PtOtolcol Control 8locks	
22.1 Intrduction	713
22.2 Code Introduction	715
22.3 inpcb StruCture	716
22.4 in--Pcbal1oc and inWcbdetach FunCtions	717
22.5 Binding, ConneCting, and Demultiplexing	719
22.6 in--Pcb1ookup FunCtion	724
22.7 in--Pcbbind FunCtion	728
22.8 in--Pcbconnect FunCtion	735
22.9 Inwcbdiseonnect FunCtion	741
22.10 in--setsockaddl and In--setpeeladdr FunCtions'	
22.11 inwcbnoti fy, iflrtcchange, and in--iosinq FunedQ	
22.12 Implement8tion RefinementS	750
22.13 Summary	751
Chapter 23. UDP: User Datagram Pl'Otolcol	
23.1 IntrOduotion	755

<<TCP/IP详解卷2:实现(英文版)>>

- 23.2 Code Introduction 755
- 23.3 UDP protocol Structure 758
- 23.4 UDP Header
- 23.5 udp_init Function
- 23.6 udp_output Function
- 23.7 udp_input Function
- 23.8 udp_saveopcb Function
- 23.9 udp_ctlinput Function
- 23.10 udp_usrreq Function
- 23.11 udp_sysctl Function
- 23.12 Implementation Refinements
- 23.13 Summary
- Chapter 24. TCP: Transmission Control Protocol
- 24.1 Introduction
- 24.2 Code Introduction
- 24.3 TCP protocol Structure
- 24.4 TCP Header
- 24.5 TCP Control Block
- 24.6 TCP State Transition Diagram
- 24.7 TCP Sequence Numbers
- 24.8 tcp_init Function
- 24.9 Summary
- Chapter 25. TCP Timers
- 25.1 Introduction
- 25.2 Code Introduction
- 25.3 tcp_cancel_timers Function
- 25.4 tcp_fasttimo Function
- 25.5 tcp_slowtimo Function
- 25.6 tcp_tlmel's Function
- 25.7 Retransmission Timer Calculations
- 25.8 tcp_newtcpcb Function
- 25.9 tcp_setpersist Function
- 25.10 tcp_xmtimer Function
- 25.11 Retransmission Timeout' tcp_timers Function
- 25.12 An Rr Example
- 25.13 Summary
- Chapter 26. TCP Output
- 26.1 Introduction
- 26.2 tcp_output Overview
- 26.3 Determine if a Segment Should be Sent
- 26.4 TCP Options
- 26.5 Window Scale Option
- 26.6 Timestamp Option
- 26.7 Send a Segment
- 26.8 tcp_output Function
- 26.9 tcp_respond Function
- Chapter 27. TCP Functions

<<TCP/IP详解卷2:实现(英文版)>>

- 27.1 Introduction
- 27.2 tcp--drain Function
- 27.3 tcp--drop Function
- 27.4 tcp--close Function
- 27.5 tcpamss Function
- 27.6 tcp--ct1input Function
- 27.7 tcp--notlfy Function
- 27.8 tcp--quench Functlon
- 27.9 TCP--REASs Macro and tcp--reass FunCtion
- 27.10 tcp--trace Function
- 27.11 Summary
- Chapter 28. TCP Input
- 28.1 Introduction
- 28.2 Prelimfnary Processing
- 28.3 tcp--dooptions Function
- 28.4 Header Prediction
- 28.5 TCP Input: Slow Path Processing
- 28.6 Initiatlon of Passive Open, Completion of ACtive Open
- 28.7 PAWS f Protection Against Wrapped Sequence Numbers
- 28.8 Trim Segment so Data is Within Window
- 28.9 Self-Connects and Simultaneous Opens
- 28.10 Record TImestamp
- 28.11 RST Processing
- 28.12 Summary
- Chapter 29. TCP Input (Continued)
- 29.1 Introduction
- 29.2 ACK Processing Overview
- 29.3 Completion of Passlve Opens and Simultaneous Opens
- 29.4 Fast Retransmit and F8st Rec0very Algorithms
- 29.5 ACK ProcessIng
- 29.6 Update Window InfOrmation
- 29.7 Urgent Mode Processing
- 29.8 tcpulloutofband Function
- 29.9 Processing of Recelved Data
- 29.10 FIN Processing
- 29.11 Final Processing
- 29.12 Implementation Refinements
- 29.13 Header Compression
- 29.14 Summary
- Chapter 30. TCP User Requests
- 30.1 Introduction
- 30.2 tcp--usrreq Function
- 30.3 tcn a ttAnh Flinntinn
- 30.5 top--usrc losed FunCtion
- 30.6 top--ct1output FLJnCtion
- 30.7 Summary
- Chapter 31. BPF: BSD PScket Filt6r

<<TCP/IP详解卷2:实现(英文版)>>

- 31.1 IntrOduCtion
- 31.2 Code Introduction
- 31.3 bpf--if Structure
- 31.4 bpf--d StrUewre
- 31.5 BPF Input
- 31.6 BPF Output
- 31.7 Summary
- Chapter 32. Raw IP
- 32.1 IntrOduCtion
- 32.2 COde IntrOduCtion
- 32.3 Raw IP protosw StruCture
- 32.4 rlp--init FunCtion
- 32.5 rip--input FunCtion
- 32.6 riPoutput FunCtion
- 32.7 riPusrreq FunCtion
- 32.8 rlp--ct 1output FunCtiOn
- 32.9 Summary
- Epilogue
- Appendix A. Solutlons tO selford Exercises
- Appendix B. Source Code AvaIlability
- Appendix C. RFC 1122 Compliance
 - C.1 LinkL8yer R6quirementS
 - C.2 IP Requirements
 - C.3 IP OPTions R6quirements
 - C.4 IP Fragmeofation and Reassembly Requirements
 - C.5 ICMP Requirements
 - C.6 Multicoding R6quirements
 - C.7 IGMP Requirements
 - C.8 Routing Requirements
 - C.9 ARP Requirements
 - C.10 UDP Requirements
 - C.11 TCP Requirements
- Bibliography
- Index

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>