BR	Bridging and IBM Networking Command Reference
DR	Dial Solutions Command Reference
FR	Configuration Fundamentals Command Reference
IR	Cisco IOS Interface Command Reference
P1R	Network Protocols Command Reference, Part 1
P2R	Network Protocols Command Reference, Part 2
P3R	Network Protocols Command Reference, Part 3
QR	Quality of Service Solutions Command Reference
SR	Security Command Reference
VR	Voice, Video, and Home Applications Command Reference
WR	Wide-Area Networking Command Reference
XR	Cisco IOS Switching Services Command Reference

Cisco IOS Command Reference Master Index, Release 12.0

Symbols

! character
    ping command output FR-529
character
    privileged EXEC mode prompt FR-8
$ character in regular expressions DR-905
* character in regular expressions DR-904
+ character in regular expressions DR-904
. character
    ping command output FR-529
/etc/printcap file
    modifying for printing FR-70
> prompt FR-283
? character in regular expressions DR-904
? command FR-xv
^ character in regular expressions DR-905
_ character in regular expressions DR-906

Numerics

100VG AnyLAN port adapter
    configuring IR-126
    displaying information IR-251
7-bit character set
    changing for session FR-95
8-bit character set
    EXEC and configuration commands
        changing for a session FR-84
        setting default value FR-50
        setting for line FR-59
    hardware databits
        changing for session FR-78
        configuring on a line FR-48
    software character bits
        changing for session FR-79
        setting for line FR-49
    special character width
        changing for session FR-95
        configuring default FR-51
        configuring for line FR-74
90-compatible OUI form BR-94

A

aaa accounting command SR-70
aaa accounting suppress null-username command SR-73
aaa accounting update command SR-74
aaa authentication arap command SR-4
aaa authentication banner command SR-6
aaa authentication enable default command SR-8
aaa authentication fail-message command SR-10
aaa authentication login command SR-12
aaa authentication nasi command SR-14
aaa authentication password-prompt command SR-16
aaa authentication ppp command SR-18
aaa authentication username-prompt command SR-20
aaa authorization command SR-58
aaa authorization config-commands command SR-61
aaa authorization reverse-access command SR-62
AAA configuration, virtual profiles, use with DR-777
aaa nas-port extended command SR-86
aaa new-model command SR-22
aaa processes command SR-23
AAA/TACACS+
    arap authentication DR-646
    enable login authentication DR-177
AAL, displaying WR-98, WR-105, WR-111
AAL3/4
    ATM
        (example) WR-4
        enabling WR-4

AAL5 NLPID WR-106, WR-112, WR-122
abbreviating commands
  context-sensitive help FR-xv
  software recognition FR-3
ABR
  configuring
    (example) WR-3
  rate-factor
    (example) WR-5
    configuration WR-5
abr command WR-2
absolute DR-21
absolute-timeout command DR-172, FR-66
accept reverse charging, X.25 WR-323
accept-lifetime command P1R-478
access control
  AppleTalk
    access group P2R-21
    distribute list P2R-37, P2R-39
    zone filter P2R-57
    zones P2R-2
  ARA DR-649, DR-650, DR-657
  DECnet P3R-135, P3R-147
  IPX P2R-210, P2R-246
  LAT
    assigning names to group lists DR-387
    connections DR-364
    defining a group list DR-393
    specifying access conditions to nodes DR-384
  VINES P3R-57–P3R-59
  XNS
    extended P3R-330
    standard P3R-333
access expressions, configuring BR-84
access groups
  DECnet P3R-117
  IP P1R-127
access list command
  with regular expressions DR-902
    (example) DR-907
access list violations
  IP
    accounting P1R-131
    displaying P1R-162
    displaying (example) P1R-163
    logging P1R-101, P1R-109, P1R-117, P1R-121, P1R-131, P1R-157
access lists
  Apollo Domain
    applying to an interface P3R-2
    creating P3R-3
  AppleTalk
    network numbers
      cable range P2R-4
      creating P2R-11
      including P2R-6
      interfaces P2R-21
      other access P2R-13
      within P2R-17
    zones, creating P2R-2, P2R-19
AppleTalk, displaying P2R-110
bridging (table) BR-937
DDR
  dialing, controlling DR-665, DR-693, DR-721
  types and numbers, supported (table) DR-665, DR-693, DR-721
DECnet
  extended P3R-106
  filter connect initiate packets P3R-108
  standard P3R-112
dynamic, temporary entries, clearing manually SR-142
Ethernet type codes (table) BR-937
IBM NetBIOS, byte offset BR-189
IP
  applying on inbound or outbound interfaces P1R-127
  BGP access list filters P1R-386, P1R-403
  extended P1R-98, P1R-131
  logging message P1R-117, P1R-121, P1R-157
  named P1R-129
  setting on virtual terminal lines P1R-96
  standard P1R-108–P1R-110
  violations, accounting for P1R-131
  violations, logging P1R-101, P1R-117, P1R-121, P1R-131, P1R-157
IP violations, logging P1R-109
IPX
  extended P2R-206
  named P2R-248
  NetBIOS P2R-300, P2R-302, P2R-408
  NLSP route aggregation P2R-213
  routing table filtering P2R-285
  SAP P2R-216
  standard P2R-210
LSAP, using in access expressions BR-84
netbios-host BR-85
rate limit statistics (table) QR-56
rate-limited QR-55
SNAP type, using in access expressions BR-84
SRB
  Ethernet type codes (table) BR-937
  filtering by protocol type BR-86
traffic shaping based on QR-85
transparent bridging
  assigning to bridge group BR-30
  assigning to interface BR-26, BR-30
  associating with interface and bridge group BR-38
  filtering MAC addresses BR-33
  qualifications for using BR-3

VINES
displaying P3R-25
extended P3R-54
simple P3R-57
standard P3R-59
XNS
extended P3R-330
standard P3R-333
access routers, pooling, common hostname DR-596
access servers, four services supported DR-171
access-class command DR-364, P1R-96, WR-284
access-enable command SR-142
access-expression command BR-84
access-list (DECnet extended) command P3R-106
access-list (DECnet standard) command P3R-112
access-list (encryption) command SR-206
access-list (filter connect initiate packets) command
DECnet P3R-108
access-list (IPX extended) command P2R-206
access-list (IPX standard) command P2R-210
access-list (standard) command IR-3
access-list (type-code) command IR-4
access-list (XNS extended) command P3R-330
access-list (XNS standard) command P3R-333
access-list additional-zones command P2R-2
access-list cable-range command P2R-4
access-list command
access-list (standard-ibm) BR-5
access-list (type-code-ibm) command BR-6
IP
extended P1R-98, P1R-115, P1R-119
standard P1R-108
IPX
extended P2R-206, P2R-229
NLSP route aggregation summarization P2R-213
SAP P2R-216
violation logging P2R-206, P2R-229
SRB BR-86
transparent bridging, extended BR-2
type-code BR-6
access-list includes command P2R-6
access-list nbp command P2R-8
access-list network command P2R-11
access-list other-access command P2R-13
access-list other-nbps command P2R-15
access-list rate-limit command QR-2
access-list within command P2R-17
access-list zone command P2R-19
access-profile command SR-25
replace command form, (caution) SR-26
using per-user configuration, (caution) SR-26
access-template command SR-143
accounting
DECnet
database threshold P3R-122
deleting database entries P3R-114
enabling P3R-118
filters P3R-120
maximum transit entries P3R-123
accounting command SR-76
accounting, IPX
configuring P2R-250
database threshold P2R-254
deleting database entries P2R-221
enabling P2R-250
filters P2R-252
maximum transit entries P2R-255
acc-qos command VR-4
activation character, setting FR-46, FR-543
activation-character command FR-46, FR-543
adapter command BR-738
address command SR-388
address ranges, summarizing
IS-IS for IP P1R-293, P1R-352
OSPF P1R-233
addressed-key command SR-389
addresses
alternate destinations, defining WR-325
primary IP P1R-14
secondary IP P1R-14
SMDS
displaying assigned WR-265, WR-266
effect of bridging WR-269
mapping IP multicast WR-281
multicast WR-274
multicast ARP WR-276
structure of WR-269
X.121
called, suppressing WR-383
calling
suppressing WR-384
updating WR-394
setting WR-324
address-registration, ATM, (example) WR-6
adjacency
TARP blacklist
displaying P3R-295
setting P3R-306
adjacency levels, IS-IS for IP, specifying P1R-329, P1R-330
adjacent-cp-name command BR-556
administrative distance
BGP, setting P1R-384
defaults (table) P1R-297, P1R-480
IP Enhanced IGRP, setting P1R-297
OSPF default P1R-298, P1R-480
RIP default P1R-298, P1R-480
administrative filtering, statically configured stations BR-8
ADT, primary end of link, specifying BR-304
AESOs, attaching to interfaces SR-448
aggregate address, configuring for BGP P1R-356

aggregate-address command P1R-356
alias command FR-618
aliases
  creating for commands FR-618
  default FR-618
  displaying FR-671
all-nets flooding, IPX P2R-278
all-routes explorer packets, definition BR-195
ALPS
  alarms
    ASCU BR-897
    circuits BR-898
    peer BR-899
  ASCU
    displaying status BR-930
    logical address BR-892
    physical address BR-893
    poll BR-900
  circuit
    activating BR-895, BR-901
    deactivating BR-927
    default BR-896
    definition BR-894
    disabling BR-906
    displaying status BR-931
    message queue BR-908
    remote CPE BR-894
  counters BR-928
  error message display BR-902
  error states BR-913, BR-919
  HLD definition BR-909
  IP address BR-910
  messages BR-911
  multiplexing BR-912
  P1024B protocol BR-929
  peer
    alarms BR-899
    displaying status BR-933
    partner CPE BR-917
    TCP BR-916
  polls
    intervals BR-915
    limits BR-923
    minimum requirement BR-914
  service messages
    content BR-922
    intervals BR-920
    lists BR-921
  TCP peers BR-907, BR-916
  timeouts BR-924, BR-925
  X.121 address BR-926
  X.25 interface BR-903
  X.25 virtual circuit BR-904
alps a1-map a2-map command BR-892
alps ascu command BR-893
alps circuit command BR-894
alps connection-type permanent command BR-895
alps default-ckt command BR-896
alps enable-alarms ascu command BR-897
alps enable-alarms circuit command BR-898
alps enable-alarms peer command BR-899
alps enable-ascu command BR-900
alps enable-circuit command BR-901
alps error-display command BR-902
alps host-hld host-link command BR-903
alps hostlink command BR-904
alps idle-timer command BR-906
alps keepalive command BR-907
alps lifetime-timer command BR-908
alps local-hld remote-hld command BR-909
alps local-peer command BR-910
alps max-msg-length command BR-911
alps mpx command BR-912
alps n1 command BR-913
alps n2 command BR-914
alps poll-pause command BR-915
alps primary-peer command BR-916
alps remote-peer command BR-917
alps retry-option command BR-919
alps service-msg-interval command BR-920
alps service-msg-list command BR-921
alps service-msg-list number command BR-922
alps servlim command BR-923
alps t1 command BR-924
alps t2 command BR-925
alps translate command BR-926
alt-dial command VR-6
AMI line coding IR-390
anchoring, regular expressions DR-905
answer-address command VR-7
AO/DI
  BAP number
    formats DR-866
    prefix DR-866
  client, enabling DR-870
  mapping DR-871
  multilink PPP bundle, receive only mode DR-869
apollo access-group command P3R-2
apollo access-list command P3R-3
Apollo Domain
  access lists
    applying to an interface P3R-2
    creating P3R-3
  ARP table, displaying entries P3R-11
  interfaces, displaying status P3R-12
  load sharing P3R-5
  maximum paths, setting P3R-5
  parallel paths, choosing between P3R-5

routing
enabling P3R-8
interface, enabling on P3R-6
routing table entries
adding P3R-7
displaying P3R-14
update interval P3R-9
static routes, adding to routing table P3R-7
traffic, displaying statistics P3R-16
apollo maximum-paths command P3R-5
apollo network command P3R-6
apollo route command P3R-7
apollo routing command P3R-8
apollo update-time command P3R-9
AppleTalk
access control
access group P2R-21
distribute list P2R-37, P2R-39
zone filter P2R-57
zones P2R-2
access lists
cable range P2R-4
displaying P2R-110
interface cable range P2R-21
network numbers P2R-21
other access P2R-13
range-overlaps P2R-6
within P2R-17
network numbers, creating P2R-11
zones, creating P2R-2, P2R-19
addresses
format P2R-24
remapping P2R-46
adjacent networks P2R-112
adjacent routers P2R-150
ARP table entries
deleting P2R-103
displaying P2R-114
gleaning P2R-59
ARP table update interval P2R-25, P2R-27, P2R-29
AURP
enabling P2R-77
last-heard-from timer P2R-30
private path database P2R-117
routing update interval P2R-31
tunnel interface, assigning AppleTalk
domain-group number P2R-41
update-events queue P2R-116
cable ranges
assigning to interface P2R-32
remapping P2R-46
CAP, compatibility
checksum P2R-33
discovery mode P2R-35
enabling P2R-23, P2R-32, P2R-35
startup process P2R-35
domain
hop count P2R-43
information, displaying P2R-121
number, assigning P2R-41
eigrp interfaces, displaying P2R-123
eigrp log-neighbor-changes command P2R-51
eigrp-bandwidth-percent command P2R-50
Enhanced IGRP
enabling P2R-77
hello packets P2R-53
hold time P2R-53
neighbors, displaying P2R-125
query packets P2R-52
route redistribution P2R-83
split horizon P2R-52
timers, adjusting P2R-53
topology table P2R-127
update packets P2R-52
EtherTalk P2R-1
extended interface, assigning cable range P2R-32
extended interfaces P2R-35
fast switching P2R-82
configuring P2R-82
displaying cache entries P2R-119
FDDITalk P2R-1, P2R-76
filters
data packet, applying P2R-21
GZL, applying P2R-39, P2R-57
partial zone P2R-75
routing table P2R-37, P2R-39
floating static routes P2R-90
displaying P2R-164
nonextended networks P2R-92
free-trade zone P2R-56
GZL
filters P2R-39, P2R-57
replies P2R-39, P2R-57
hop count P2R-43
interenterprise routing
addresses
remapping P2R-46
AURP tunnel interface P2R-41
cable ranges, remapping P2R-46
domain name P2R-45
domain number P2R-45
domains P2R-45
hop count P2R-43
remap, displaying P2R-153
remapping P2R-46
interfaces
configuring dynamically P2R-35
displaying P2R-135
domain number, assigning P2R-41
internetwork parameters, displaying P2R-132

IPTalk
/etc/services file P2R-63
IP encapsulation, configuring P2R-61
UDP port numbers P2R-63
Kinetics IPTalk
LocalTalk P2R-1
MacIP
addresses, allocating P2R-67, P2R-71
clients, displaying P2R-139
servers, displaying P2R-140
servers, establishing P2R-69
traffic statistics P2R-144, P2R-166
maximum paths, defining P2R-73
NBP
lookup interval P2R-74
lookup type P2R-65
name registration table P2R-148
registered entities P2R-201
services, displaying P2R-146
tests P2R-201
neighbor table P2R-104
network events, logging P2R-55
nonextended interface, assigning address P2R-23
Phase 1/Phase 2 networks, compatibility P2R-79
pre-FDDITalk packets, enabling recognition P2R-76
proxy network numbers, assigning P2R-79
routes, poisoned P2R-158, P2R-160
routing P2R-84
extended interface P2R-35
routing protocol, specifying P2R-77
routing table
displaying entries P2R-156
update timers, setting P2R-95
routing uopdates, interval timer P2R-86
routing updates
advertising P2R-81
retransmission, disabling P2R-89
strict checking P2R-94
stub mode, enabling P2R-87
timers, setting P2R-95
RTMP
enabling P2R-77
routes without zones P2R-81
routing updates, disabling transmission P2R-89
strict checking of routing updates P2R-94
stub mode, enabling P2R-87
service types (table) P2R-65
SMDS, configuring over WR-274
SMRP
enabling for P2R-198
fast-switching cache table, clearing entries P2R-108
fast-switching cache table, displaying P2R-181
fast-switching, enabling on a port P2R-196
sockets P2R-162
static routes
displaying P2R-164
overriding P2R-90, P2R-92
test mode, entering P2R-201
TokenTalk P2R-1
traffic statistics P2R-166
tunneling, Cayman IR-407, P1R-96
ZIP
query interval P2R-99
reply filter, creating P2R-100
zone
assigning name P2R-101
displaying P2R-173
name format P2R-101
special characters P2R-101
appletalk access-group command P2R-21
appletalk address command P2R-23
appletalk alternate-addressing command P2R-24
appletalk arp interval command P2R-25
appletalk arp retransmit-count command P2R-27
appletalk arp-timeout command P2R-29
appletalk aurp tickle-time command P2R-30
appletalk cable-range command P2R-32
appletalk checksum command P2R-33
appletalk client-mode command P2R-34
appletalk discovery command P2R-35
appletalk distribute-list in command P2R-37
appletalk distribute-list out command P2R-39
appletalk domain hop-reduction command P2R-43
appletalk domain name command P2R-45
appletalk domain remap-range command P2R-46
appletalk domain-group command P2R-41
appletalk eigrp active-time command P2R-48
appletalk eigrp log-neighbor-changes command P2R-51
appletalk eigrp split-horizon command P2R-52
appletalk eigrp-bandwidth-percent command P2R-50
appletalk eigrp-timers command P2R-53
appletalk event-logging command P2R-55
appletalk free-trade-zone command P2R-56
appletalk getzonelist-filter command P2R-57
appletalk glean-packets command P2R-59
appletalk ignore-verify-errors command P2R-60
appletalk iptalk command P2R-61
appletalk iptalk-baseport command P2R-63
appletalk lookup-type command P2R-65
appletalk macip server command P2R-69
appletalk macip static command P2R-71
appletalk maximum-paths command P2R-73
appletalk name-lookup interval command P2R-74
appletalk permit-partial-zones command P2R-75
appletalk pre-fdditalk command P2R-76
appletalk protocol command P2R-77
appletalk proxy-npb command P2R-79
appletalk require-route-zones command P2R-81
appletalk route-cache command P2R-82

appletalk route-redistribution command P2R-83
appletalk routing command P2R-84
appletalk rtmp jitter command P2R-86
appletalk rtmp-stub command P2R-87
appletalk send-rtmps command P2R-89
appletalk static cable command P2R-92
appletalk static cable-range P2R-90
appletalk static cable-range command P2R-90
appletalk static network command P2R-92
appletalk strict-rtmp-checking command P2R-94
appletalk timers command P2R-95
appletalk virtual-net command P2R-97
appletalk zip-reply-filter command P2R-100
appletalk zone command P2R-101
APPN
activating and deactivating
activation retries, specifying BR-644, BR-645
limited resources BR-616, BR-617
link, activating BR-575
link, deactivating BR-578
port, activating BR-576
port, deactivating BR-579
routing, activating BR-573
routing, deactivating BR-577
startup connection, specifying BR-589
subsystem, activating BR-574
ATM link, specifying BR-580
BTU
maximum receive size, specifying BR-626
maximum send size, specifying BR-595
buffers, specifying BR-586
capacity, specifying BR-602, BR-603
central resource registration feature, disabling BR-587
class of service
defining BR-588
specifying BR-557
control point, specifying BR-561
cost per byte, specifying BR-590, BR-591
cost per connection, specifying BR-592, BR-593
CP-CP session, permitting BR-594
database storage BR-650, BR-651, BR-652
destination LU, specifying BR-567
DLUR
permitting function BR-596
specifying node BR-596, BR-597
DLUS
backup default, specifying BR-582, BR-584
node, specifying BR-598, BR-600
DSPU
specifying BR-641
Frame Relay link
specifying BR-605
HPR
hpr command
APPN
control point BR-606
link station BR-607
port BR-608
hpr retries command BR-610
hpr sap command BR-611
hpr timers liveness command BR-612
hpr timers path-switch command BR-613
hpr-max-sessions command BR-609
show appn link-station command BR-674
show appn node command BR-678
show appn port command BR-680
show appn rtp command BR-683
show appn session command BR-685
show appn topology command BR-687
ISR, enabling BR-614
link station
active, specifying maximum BR-624
inbound, specifying maximum BR-642
name, specifying BR-563
outbound, specifying maximum BR-643
port, specifying BR-636
role, specifying BR-646, BR-647
memory usage, specifying
buffers BR-586
cached directory entries BR-621
cached routing trees BR-622
maximum available BR-623
minimum available BR-627
mode, specifying or changing BR-566
monitoring
class of service BR-659
connection network BR-662
dependent LUs BR-666
dependent PUs BR-668
directory entries BR-664
LUs BR-670
mode BR-677
node BR-678
ports BR-680
SNA sessions BR-672, BR-685
topology BR-687
network name, specifying BR-559, BR-658
node row, specifying BR-630
partner node, specifying BR-556
ATM link BR-580
Ethernet link BR-615
FDDI link BR-615
Frame Relay link BR-605
LU-LU session BR-567
PPP link BR-637
QLLC BR-705
SDLC BR-653

SMDS address BR-690
Token Ring link BR-615
ports, defining BR-570
PPP link, specifying BR-637
QLLC
link, specifying BR-705
X.25 subaddress, configuring BR-706
queuing priority, specifying BR-618
route selection, determining
bit rate, specifying BR-602, BR-603
cost per byte BR-590, BR-591
cost per connection BR-592, BR-593
local node BR-648
propagation delay BR-638, BR-639
RSRB
configuring BR-649
port, defining BR-570
RTP connection
activating BR-569
SAP (service access point), activating BR-619
SDLC
link, specifying BR-653
secondary address, configuring BR-654
security, specifying BR-655, BR-656
transmission group, specifying BR-691, BR-692
transmission priority, specifying BR-694
virtual data link control
configuring BR-701
port, defining BR-570
ring-group, specifying BR-701
virtual MAC address option, specifying BR-701
XID, specifying BR-707, BR-708
appn class-of-service command BR-557
appn connection-network command BR-559
appn control-point command BR-561
appn link-station command BR-563
appn mode command BR-566
appn partner-lu-location command BR-567
appn path-switch command BR-569
appn port command BR-570
appn routing command BR-573
appn start command BR-574
appn start link-station command BR-575
appn start port command BR-576
appn stop command BR-577
appn stop link-station command BR-578
appn stop port command BR-579
APS, protect interface IR-14, IR-18
aps authenticate command IR-6
aps force command IR-7
aps group command IR-9
aps lockout command IR-11
aps manual command IR-12
aps protect command IR-14
aps revert command IR-15
aps timers command IR-16
aps unidirectional command IR-17
aps working command IR-18
ARA
access control DR-649, DR-650, DR-657
clients, connecting to virtual terminal lines DR-509, DR-518, DR-527
monitoring DR-658
session, automatic startup DR-620
arap authentication command DR-646, SR-28
using list-names
(caution) SR-28
arap callback command DR-812
arap dedicated command DR-646
arap enable command DR-648
arap net-access-list command DR-650
arap noguest command DR-651
arap timelimit command DR-653
arap use-tacacs command DR-654
line configuration commands
arap use-tacacs SR-105
single-line option
(caution) SR-105
arap warningtime command DR-656
arap zonelist command DR-657
area authentication command P1R-228
area default-cost command P1R-230
area nssa command P1R-232
area range command P1R-233
area stub command P1R-235
area virtual-link command P1R-237
area-address command P2R-219
area-password command P1R-324
ARP
displaying accounting information IR-264
SMDS broadcast messages WR-276
SMDS, enabling WR-262, WR-272, WR-274
arp arpa command P1R-5
arp command P1R-4, WR-262
arp frame-relay command P1R-5
arp probe command P1R-5
ARP server, (example) WR-8
arp snap command P1R-5
ARP table
Apollo Domain P3R-11
AppleTalk
gleaning entries P2R-59
update interval P2R-25, P2R-27, P2R-29
LANE, dynamic entries, clearing XR-129
timeout P1R-7
VINES P3R-62
arp timeout command P1R-5, P1R-7

ASCII
activation character FR-46
character, widths FR-74, FR-95
character set, (table) FR-741
disconnect character FR-52
dispatch character FR-53, FR-80
escape character FR-58, FR-83
hold character FR-61, FR-86
padding FR-68, FR-91
start character FR-97
stop character DR-62, FR-99
asp addr-offset command BR-302
asp role command BR-304
asp rx-ift command BR-305
asterisk character in regular expressions DR-904
asychronous mobility DR-626
async default routing command DR-7
async dynamic address command DR-8
async dynamic routing command DR-9
async mode dedicated command DR-618
async mode interactive command DR-619
async-bootp command DR-4, FR-322
asynchronous
interfaces
group ranges DR-17
members DR-24
mobility DR-485
asynchronous interface, routing on, configuring manually DR-9
asynchronous interfaces
compression
ignore-pfc option for async drivers DR-576, IR-60
MPPC DR-576
group
effect of peer neighbor routes DR-589
groups, designating IR-123
ATG, DECnet, configuring P3R-136
ATM
ABR
rate-factor (example) WR-5
address
NSAP (example) WR-29
addresses
multicast (example) WR-25
address-registration
(example) WR-6
configuration WR-6
AIP filter register
(example) WR-44
configuring WR-44
APPN partner node, specifying BR-580
ARP server, (example) WR-8
channels, maximum, configuring (example) WR-21
Cisco 4500 Series
loopback for OS3, DS3, E3 interfaces WR-79
commands WR-1
DS3
framing (example) WR-16
scrambling (example) WR-10
E.164 addresses
(example) WR-39
configuring WR-39
E.164 auto conversion
(example) WR-11
E3
framing (example) WR-17
E3-scramble
(example) WR-12
ESI address
(example) WR-13
exception queue
length (example) WR-15
framing
DS3 (example) WR-16
E3 (example) WR-17
ILMI
keepalives (example) WR-18
ilmi
PVC discovery (example) WR-19
interfaces
(example) WR-77
displaying WR-97
keepalive timer (example) WR-149
LBO
(example) WR-20
line build-out
(example) WR-20
loopback (example) WR-79
loopback mode
Cisco 4500 Series, OC3, DS3, E3 interfaces WR-79
maximum number of VCs, configuring WR-23
MID
per VC (example) WR-24
multicast addresses
(example) WR-25
multipoint intervals
configuring (example) WR-26
NSAP address WR-28
(example) WR-29
OAM
cell flush (example) WR-30
permanent rate queues
(example) WR-34
configuring WR-33
point-to-multipoint SVC P1R-631

poll timer (example) WR-151
protocol addresses, mapping (example) WR-65
PVC, discovery (example) WR-19
raw queue size
(example) WR-35
configuring WR-35
receive buffers, configuring WR-36
receive buffers (example) WR-36
scrambling, DS3 (example) WR-10
signaling, point-to-multipoint (example) WR-27
SMDS WR-39
AAL3/4 encapsulations WR-25
broadcast addresses WR-25
multicast addresses WR-25
multicast addresses, configuring (example) WR-25
SONET PLIM IR-19
(example) WR-40
configuring WR-40
speed WR-33
SSCOP WR-146
SSCOP connection control timer (example) WR-148
SSCOP receiver window, (example) WR-152
SSCOP retry count (example) WR-150
SSCOP transmitter window (example) WR-153
static maps, displaying WR-100
SVC
disabling WR-37
disabling (example) WR-37
point-to-multipoint P1R-631
traffic information, displaying WR-115, WR-117
traffic shaping, strict
(example) WR-38
enabling WR-38
transmit buffers
(example) WR-41
configuring WR-41
transmit clock, enabling (example) WR-9
UNI version
(example) WR-42
configuring WR-42
unicast addresses WR-39
VC status, displaying P1R-681
vc-per-vp (example) WR-43
virtual circuits, maximum, configuring (example) WR-23
atm aal aal3/4 command WR-4
atm abr rate-factor command WR-5
atm address-registration command WR-6
atm arp-server command WR-7
atm clock internal command WR-9
atm compression command VR-9
ATM-DXI IR-80
protocols supported for maps WR-65
requires ADSU WR-65
atm ds3-scramble command WR-10
atm e164 auto-conversion command WR-11
atm e164 auto-conversion example WR-11
atm e3-scramble command WR-12
atm esi-address command WR-13
atm exception-queue command WR-15
atm framing (DS3) command WR-16
atm framing (E3) command WR-17
atm ilmi-keepalive command WR-18
atm ilmi-pvc-discovery command WR-19
atm lbo command WR-20
atm max-channels command WR-21
atm maxvc command WR-23
atm mid-per-vc command WR-24
atm multicast command WR-25
atm multipoint-interval command WR-26
atm multipoint-signalling command WR-27
atm nsap-address command WR-28
atm oam flush command WR-30
atm pvc command WR-21
atm pvp command WR-31
atm rate-queue command WR-33
atm rawq-size command WR-35
atm rxbuff command WR-36
atm sig-traffic-shaping strict command WR-38
atm smds-address command WR-39
atm sonet command IR-19
atm sonet stm-1 command WR-40
atm txbuff command WR-41
atm uni-version command WR-42
atm vc-per-vp command WR-43
ATM virtual circuit configuration commands
cbr VR-172
atm vp-filter command WR-44
atm-address command XR-186
atm-dest-address command BR-580
ATM-DXI, AAL encapsulations WR-67
ATM-DXI encapsulations, (example) WR-68, WR-71
atmsig close atm command WR-37
attach command FR-488
attach shelf command FR-694
authentication
CAs SR-362
IP Enhanced IGRP packets P1R-300
MD5, RIP P1R-497
on DRP Server Agent P1R-137
authentication (IKE policy) command SR-391
authentication translate option, mapping to virtual interface template command DR-515, DR-536
authorization command SR-65
autobaud command FR-47
autoconfigure discovery command DR-83
autoconfigure, modem DR-84
auto-cut-through command VR-90
autodetect encapsulation command DR-258, DR-338

autodetect encapsulation v120 command DR-642
autohangup command DR-11
automatic protocol startup
ARA DR-620
PPP DR-620
SLIP DR-620
automatic receiver polarity reversal IR-20
autonomous bridging, enabling on ciscoBus II BR-23
autonomous switching, SRB, enabling BR-189
autonomous systems
BGP providing paths to remote networks P1R-477
boundary router P1R-243, P1R-523
auto-polarity command IR-20
autoselect command DR-620
auto-summary (BGP) command P1R-358
auto-summary (RIP) command, RIP P1R-192
auto-summary command, IP Enhanced IGRP P1R-292

B

B8ZS line coding IR-390
backup delay command DR-740
backup interface, Dialer Profiles DR-747
backup interface command DR-741, DR-748
backup load command DR-742, DR-750
backup server table, IPX Enhanced IGRP P2R-258
backup-dlus command
APPN control point BR-582
APPN link station BR-584
bandwidth, setting DR-236, IR-21
bandwidth command DR-236, IR-21
bandwidth on demand, DDR DR-695
banner exec command FR-112
banner incoming command FR-114
banner login command FR-115
banner motd command FR-117
banners
disabling on a line FR-112, FR-115, FR-139
enabling on a line FR-112, FR-115, FR-139
EXEC, displaying FR-112
for reverse Telnet lines FR-114
incoming message FR-114
line number FR-144
login FR-115
MOTD FR-117
baud rate
receive, changing for session FR-94
receive, configuring for a line DR-180
transmit and receive, configuring for a line DR-187
transmit, configuring for a line DR-195
X.3 PAD parameters DR-896
Bc, committed burst size, Frame Relay WR-174
Be, excess burst size, Frame Relay WR-176
BECN
bits WR-250
message generation QR-83
BFE
address translation WR-285, WR-312
Blacker Emergency Mode
entering WR-285
leaving WR-285
local marker facilities (table) WR-405
mapping algorithm WR-312
remote-red setting WR-371
X.25 encapsulation WR-292
bfe command WR-285
BGP
administrative distance, setting P1R-384
aggregate address, configuring P1R-356
autonomous system path P1R-436
backdoor routes, indicating P1R-433
community attribute
sending to a neighbor P1R-422
setting P1R-440
community list, creating P1R-389
community, matching P1R-393
confederation P1R-367
display routes
allowed by a community list P1R-459
of communities P1R-457
enabling P1R-435
filtering packets and routing information DR-902
IP access (example) DR-907
local preference value, setting P1R-545
metric type P1R-446
networks, specifying P1R-431
remove-private-as P1R-417
route dampening
configuring factors P1R-369
dampened routes, displaying P1R-461
dampening information, clearing P1R-379
enabling P1R-369
flap statistics, clearing P1R-380
flap statistics, displaying P1R-464
setting with a route-map P1R-442
suppressed routes, unsuppressing P1R-379
route filtering P1R-386, P1R-403
route map P1R-525
route reflector, configuring P1R-365, P1R-366, P1R-420
route summarization P1R-192, P1R-292, P1R-358
routing domain confederation P1R-367
sessions, resetting immediately P1R-375
soft reconfiguration P1R-377, P1R-424
synchronization with IGPs P1R-477
TCP MD5 authentication P1R-408
timers, adjusting P1R-480
bgp always-compare-med command P1R-359

bgp bestpath compare-routerid command P1R-361
bgp bestpath med-confed command P1R-362
bgp bestpath missing-as-worst command P1R-364
bgp client-to-client reflection command P1R-365
bgp cluster-id command P1R-366
bgp confederation identifier command P1R-367
bgp confederation peers command P1R-368
bgp dampening command P1R-369
bgp default local-preference command P1R-371
bgp fast-external-fallover command P1R-375
bgp log-neighbor-changes command P1R-373
bgp router-id command P1R-376
bgp-policy command QR-4
Bisync
  bsc dial-contention command BR-309
  character set BR-307
  contention interfaces BR-308
  number of poll-list cycles BR-316
  poll timeout BR-312
  polling cycle interval BR-311
  primary end of link BR-313
  retries for a device BR-314
  secondary end of link BR-315
  specific polls BR-317
Bisync enhancements, bsc contention command BR-308
Blacker Emergency Mode WR-327
  address translation WR-285
  entering WR-285
  leaving WR-285
boot bootldr command FR-286
boot bootstrap command FR-288
boot buffersize command FR-199
boot command FR-282
boot config command FR-200
BOOT environment variable
  rearranging order of entries FR-293
  specifying FR-290, FR-293
boot field
  bit settings, listing FR-300
  default values, changing FR-295, FR-297
boot flash command FR-282
boot host command FR-202
boot network command FR-204
boot register FR-295, FR-297
boot system command FR-290, FR-292
booting
  from Flash FR-290
  from network server FR-282
    (example) FR-284
  manually from Flash FR-282
  system software, configuration register FR-295, FR-297
BOOTLDR environment variable, specifying FR-286
BOOTP, forwarding agent P1R-26, P1R-32
bootstrap image
  backing up on a server FR-253
  secondary FR-288
Break key FR-293
Break key, use in login string DR-415
Break signals DR-895
  generating DR-461
  X.3, action upon receipt of DR-895
bridge acquire command BR-8
bridge address command BR-9
bridge bridge command BR-11
bridge circuit-group pause command BR-13
bridge circuit-group source-based command BR-14
bridge cmf command BR-15
bridge crb command BR-16, P1R-15
bridge domain command BR-17
bridge forwarding database, viewing classes of entries BR-62
bridge forward-time command BR-19
bridge group command P1R-15
bridge groups, assigning interface to BR-14, BR-20, BR-25
bridge hello-time command BR-46
bridge irb command BR-47
bridge lat-service-filtering command BR-48
bridge max-age command BR-49
bridge multicast-source command BR-50
bridge priority command BR-51
bridge protocol command BR-52
bridge protocol data units, intervals between hello BR-46
bridge protocol ibm command BR-89
bridge route command BR-54
bridge-group aging-time command BR-22
bridge-group cbus-bridging command BR-23
bridge-group circuit-group command BR-25
bridge-group command BR-20
bridge-group input-address-list command BR-26
bridge-group input-lat-service-deny command BR-27
bridge-group input-lat-service-permit command BR-28
bridge-group input-lsap-list command BR-29
bridge-group input-pattern-list command BR-30
bridge-group input-type-list command BR-31
bridge-group lat-compression command BR-32
bridge-group output-address-list command BR-33
bridge-group output-lat-service-deny command BR-34
bridge-group output-lat-service-permit command BR-35
bridge-group output-lsap-list command BR-36
bridge-group output-pattern-list command BR-38
bridge-group output-type-list command BR-39
bridge-group path-cost command BR-40
bridge-group priority command BR-41
bridge-group spanning-disabled command BR-42
bridge-group sse command BR-44
bridge-group virtual interface (BVI) BR-61

bridges
displaying
all global information BR-149
logical configuration BR-150
bridging, X.25 WR-349
broadcast command WR-46
broadcasts
IP
and transparent bridging spanning-tree protocol P1R-28
flooding P1R-28
IPX
forwarding P2R-278
type 20 packets P2R-392, P2R-393, P2R-394
VINES
forwarding P3R-78
serverless networks P3R-86
zero-hop P3R-86
XNS
all-nets P3R-344
flooding P3R-344, P3R-345, P3R-346
in 3Com environment P3R-345
forwarding P3R-347, P3R-350
BSC
Bisync enhancements, contention BR-309
bsc contention command BR-308
bsc dial-contention command BR-309
contention interfaces BR-308
bsc contention command BR-308
bsc dial-contention command BR-309
bsc host-timeout command BR-310
bsc pause command BR-311
bsc poll-timeout command BR-312
bsc primary command BR-313
bsc retries command BR-314
bsc secondary command BR-315
bsc servlim command BR-316
bsc spec-poll command BR-317
bsc-char-set command BR-307
BSTUN
BSTUN over Frame Relay
bstun lisnsap command BR-320
bstun route command BR-327
frame-relay map bstun command BR-331
frame-relay map llc2 command BR-536
frames, specifying BR-327
custom queuing
BSTUN header BR-337
TCP port BR-338
frames, specifying BR-325
group, specifying BR-318
interface, enabling BR-328
peers, specifying BR-321
protocol group, specifying BR-322
bstun group command BR-318
bstun keepalive-count command BR-319
bstun lisnsap command BR-320
bstun peer-name command BR-321
bstun protocol-group command BR-322
bstun route (Frame Relay) command BR-327
bstun route command BR-325, BR-327
buckets-of-history-kept command FR-352
buffer-percent command BR-586
buffers
character, for terminal sessions FR-53, FR-56
command history
changing for session FR-33
setting for a line FR-16, FR-18
configuration file, changing size FR-199
interface buffer pool tuning FR-622
management parameters FR-621, FR-623
message logging to internal FR-508
public buffer pool tuning FR-622
receive
(example) WR-36
configuring WR-36
size, setting FR-621, FR-623
statistics, displaying FR-672
transmit
(example) WR-41
configuring WR-41
XRemote, changing size of DR-492
buffers command FR-621
buffers huge size command FR-623
burned-in address WR-307
busy-message command DR-366

C

cable arp command VR-190
cable channel-change command VR-191
cable downstream annex command VR-192
cable downstream frequency command VR-193
cable downstream if-output command VR-194
cable downstream interleave-depth command VR-195
cable downstream modulation command VR-196
cable downstream symbol-rate command VR-197
cable insertion-interval command VR-198
cable interface configuration commands
cable arp VR-190
cable channel-change VR-191
cable downstream annex VR-192
cable downstream frequency VR-193
cable downstream if-output VR-194
cable downstream interleave-depth VR-195
cable downstream modulation VR-196
cable downstream symbol-rate VR-197
cable insertion-interval VR-198
cable ip-broadcast-echo VR-200

cable ip-multicast-echo VR-199
cable proxy-arp VR-205
cable shared-secret VR-206
cable source-verify VR-211
cable spectrum-group frequency VR-209
cable upstream fec VR-212
cable upstream frequency VR-213
cable upstream power-level VR-214
cable upstream scramble VR-216
cable upstream shutdown VR-218
cable ip-broadcast-echo command VR-200
cable ip-multicast-echo command VR-199
cable length, T3 IR-23
cable privacy kek grace-time command VR-201
cable privacy kek life-time command VR-202
cable privacy tek grace-time command VR-203
cable privacy tek life-time command VR-204
cable proxy-arp command VR-205
cable shared-secret command VR-206
cable source-verify command VR-211
cable spectrum-group command VR-207
cable spectrum-group frequency command VR-209
cable upstream fec command VR-212
cable upstream frequency command VR-213
cable upstream power-level command VR-214
cable upstream scramble command VR-216
cable upstream shutdown command VR-218
cablelength command IR-23
cablelength long command IR-24
cablelength short command IR-26
ca-identity mode, enabling SR-371
calendar set command FR-624
callback
ARA DR-812
ARA protocol chat scripts DR-815
dialer interface, non-DTR DR-809
enabling for PPP client DR-814
enabling on interface DR-807
enabling on the EXEC DR-818
exec chat scripts DR-817
forcing a waiting period DR-813
PPP, client or server DR-809
secure DR-806
callback forced-wait command DR-813
called-number command DR-64
caller ID screening DR-820
configuring DR-202, DR-295, DR-822
platform support DR-202, DR-295, DR-822
CAP, compatibility P2R-61
CAR
access lists QR-2
interface statistics (table) QR-62
policies, configuring QR-50
carrier wait time
DDR
interface disabling DR-707
map class DR-730
carrier-delay command IR-28
CAs
authenticating SR-362
(example) SR-362
CEP, support SR-384
configuration, (example) SR-383
declaring SR-371, SR-383
(example) SR-371, SR-383
enrolling SR-368
identity, deleting SR-371
LDAP
support SR-384
support (example) SR-384
locations, specifying SR-383
public keys SR-362
URLs, specifying SR-383
cas-custom command DR-259
cas-group (controller e1) command DR-265
cas-group command DR-269, IR-29
caution, description VR-216
cautions
access lists SR-210, SR-262, SR-271
access-profile command
replace command form (caution) SR-26
using per-user configuration (caution) SR-26
arap authentication command
using list-names (caution) SR-28
arap use-tacacs command
single-line option (caution) SR-105
Cisco 7200 series router SR-249
crypto key zeroize dss command SR-249
DSS keys SR-248
enable password command
using encryption-type (caution) SR-422
enable secret command
using encryption-type (caution) SR-424
enable use-tacacs command
using tacacs-server authenticate enable command (caution) SR-108
Java blocking SR-185
key config-key command
unrecoverable DES key (caution) SR-137
login authentication command
using list-names (caution) SR-34
nasi authentication command
using list-names (caution) SR-37
ppp authentication command
using list-names (caution) SR-39
ppp use-tacacs command
single-line option (caution) SR-51

service password-encryption command
security level (caution) SR-432
usage in text v
Cayman tunneling, AppleTalk IR-407, P1R-96
CBAC
application-layer protocols, configuring SR-185
audit trail messages
(example) SR-176
enabling SR-176
configurations, viewing SR-200
denial-of-service attacks, detection SR-194
disabling SR-199
H.323 inspection, configuring SR-186
half-open sessions
deleting, high threshold SR-179, SR-188
deleting, low threshold SR-181, SR-190
description SR-179
TCP threshold SR-194
inspection rules
applying SR-178
applying (example) SR-178
defining SR-183
removing SR-178
viewing SR-200
Java
blocking SR-183
blocking (caution) SR-185
inspection, configuring SR-185
RPC inspection, configuring SR-186
session information
(example) SR-200
viewing SR-200
SMTP inspection, configuring SR-186
TCP inspection, configuring SR-185
timeouts
DNS idle, specifying SR-177
FIN-exchange, specifying SR-192
overriding SR-186
synwait, specifying SR-196
TCP idle, specifying SR-193
UDP idle, specifying SR-197
UDP inspection, configuring SR-185
cbr VR-172
CCL scripts, using modified and unmodified together
DR-621
CCO
accessing vi
definition vi
cd command FR-168
CDP
enabling and disabling for routing device FR-356
enabling on an interface FR-354
global information, displaying FR-396
interface status information, displaying FR-399
neighbor
information, displaying FR-400
table, clearing FR-359
neighbor device, displaying information FR-397
traffic counters, clearing FR-358
traffic information, displaying FR-402
transmission hold time, configuring FR-355
transmission timer, setting FR-357
cdp enable command FR-354
cdp holdtime command FR-355
cdp run command FR-356
cdp timer command FR-357
CEF, interface, enabling XR-36
central resource registration, disabling BR-587
central-resource-registration command BR-587
CEP, specifying SR-384
certificate chain configuration mode, enabling SR-364
certificate command SR-358
certificates
accepting SR-360
(example) SR-360
adding SR-358
deleting SR-358, SR-364
(example) SR-358, SR-364
requesting SR-368
(example) SR-369
requests
resending (example) SR-379, SR-381
resending, number of times SR-379
resending, wait period SR-381
retrieving SR-366
(example) SR-366
revoking SR-368
storing SR-366
viewing SR-385
(example) SR-385–SR-386
Certification Authority Interoperability
CA authentication SR-362
CEP, specifying SR-384
challenge password SR-368
description SR-357
LDAP support, specifying SR-384
NVRAM memory usage SR-366
ces aal1 clock command WR-48
ces aal1 service command WR-49
ces cell-loss-integration-period command VR-174
ces circuit command WR-51
ces clockmode synchronous command VR-176
ces connect command VR-177
ces dsx1 clock source command WR-54
ces dsx1 framing command WR-55
ces dsx1 lbo command WR-57
ces dsx1 linecode command WR-58
ces dsx1 loopback command WR-60
ces dsx1 signalmode robbedbit command WR-61

ces initial-delay command VR-179
ces max-buf-size command VR-180
ces partial-fill command VR-182
ces pvc command WR-62
ces service command VR-184
CGMP
  clearing P1R-576
  enabling P1R-586
  proxy P1R-586
Challenge Handshake Authentication Protocol
channel-associated signaling (CAS) WR-52
channel-group (Fast EtherChannel) command IR-31
channel-group command DR-273
channelized E1
  channel groups DR-273
  controller, statistics DR-279, DR-317
  loopback
    local, interface DR-310
channelized T1
  channel groups DR-273
  controller, descriptive name DR-284
  loopback IR-156, IR-157
    local, entire line DR-309
    local, interface DR-310
    remote, interface DR-312
channelized T3 IR-63, IR-394
channel-protocol command BR-740
channels, ATM, maximum, configuring (example) WR-21
CHAP
  authentication method DR-590
  rotary, common alias for routers DR-596
  username and password, specifying DR-615
  using with DDR DR-700
character data bits
  changing for session FR-79
  setting for line FR-49
character mapping
  creating DR-471
  determining DR-449
  displaying DR-450
character padding
  changing for session FR-91
  configuring for line FR-68
character set
  7-bit for standard U.S. characters FR-95
  8-bit
character width
  EXEC process
    changing for session FR-84
    configuring for a line FR-59
    defining default FR-50
  special characters
    changing for session FR-95
    configuring for line FR-74
    defining default FR-51
characters in regular expressions
  $ character DR-903
  * character DR-903
  + character DR-903
  . character DR-903
  ? character DR-903
  ^ character DR-903
  _ character DR-903
chat scripts
  ARA protocol-callback DR-815
  backward compatibility, SLIP and PPP DR-638
  DDR DR-672
  escape sequences, (table) DR-669
  example DR-907
  EXEC callback DR-817
  expect-send pairs, sample (table) DR-670
  naming conventions DR-668, DR-672
  physical terminal lines, using on DR-38, DR-815, DR-817
  starting
    because of incoming connections DR-40
    from the EXEC DR-60
    manually for a line DR-60
    on line activation DR-38
    on line reset DR-42
    on system startup DR-44
  writing DR-668
chat-script command DR-668
  regular expressions, (example) DR-907
checksums
  AppleTalk P2R-33
  ISO CLNS P3R-198
  system images, verifying FR-254
chunk size, configuring IP DR-373
CIPX DR-630
circuit emulation services (CES)
  cable length WR-57
  channel-associated signaling (CAS) WR-52
  clocking WR-48
  clocking information WR-144
  framing WR-55
  hard PVC WR-62
  line code format WR-58
  loopback WR-60
  on-hook detection WR-52
  robbed bit signaling WR-61
  structured services WR-52
  unstructured services WR-52
Cisco 2520 through 2523 routers
  low-speed serial interfaces, physical layer DR-35
Cisco 4500 Series
  ATM loopback, OC3, DS3, E3 interfaces WR-79
Cisco IOS, saving configuration changes FR-xxi
ciscoBus II, enabling autonomous bridging on BR-23
Cisco-supported RFCs, (table) FR-753

class (map-list configuration) command, Frame Relay WR-166
class (virtual circuit configuration) command
Frame Relay
map class
DLCI WR-168
class command WR-64
class-of-service command BR-588
claw (backup) command BR-744
claw command BR-741
clear access-list counters command P1R-111
clear access-template command SR-145
clear adjacency command XR-26
clear alps circuits command BR-927
clear alps counters command BR-928
clear appletalk arp command P2R-103
clear appletalk neighbor command P2R-104
clear appletalk route command P2R-105
clear appletalk traffic command P2R-106
clear arp-cache command P1R-8
clear atm vc command XR-128
clear bridge command BR-57
clear bridge multicast command BR-58
clear card-message command FR-219
clear cdp counters command FR-358
clear cdp table command FR-359
clear cef linecard command XR-27
clear clns cache command P3R-184
clear clns es-neighbors command P3R-185
clear clns is-neighbors command P3R-186
clear clns neighbors command P3R-187
clear clns route command P3R-188
clear controller command DR-275
clear controller lex command IR-33
clear counters command IR-35
clear counters line command DR-68
clear crypto connection command SR-214
clear crypto isakmp command SR-393
clear crypto sa command SR-310
clear dbconn connection command BR-710
clear decnet accounting command P3R-114
clear decnet counters command P3R-116
clear dialer command DR-676, DR-682
clear dlsw circuit command BR-236
clear dlsw reachability command BR-237
clear dlsw statistics command BR-238
clear drip command BR-200
clear entry command DR-367
clear frame-relay-inarp command WR-170
clear host command P1R-9
clear hub command IR-38
clear hub counters command IR-39
clear interface command IR-40
clear interface fastethernet command IR-42
clear ip accounting checkpoint command P1R-112
clear ip bgp command P1R-377
clear ip bgp dampening command P1R-379
clear ip bgp flap-statistics command P1R-380
clear ip bgp peer-group command P1R-381
clear ip cef command XR-28
clear ip cgmp command P1R-576
clear ip drp command P1R-113
clear ip dvmrp route command P1R-577
clear ip eigrp neighbors command P1R-293, P1R-577
clear ip flow stats command XR-2
clear ip igmp group command P1R-578
clear ip mds forwarding command XR-110
clear ip mroute command P1R-579
clear ip nat translation command P1R-10
clear ip nhrp command P1R-12
clear ip ospf command P1R-240
clear ip pim auto-rp command P1R-580
clear ip pim interface count command XR-111
clear ip route command P1R-13
clear ip rtp header-compression command P1R-581
clear ip sdr command P1R-582
clear ip sse command P1R-114
clear ip trigger-authentication command SR-30
clear ip wccp command FR-148
clear ipx accounting command P2R-221
clear ipx cache command P2R-223
clear ipx nhrp command P2R-224
clear ipx nlsp neighbors command P2R-225
clear ipx route command P2R-227
clear kerberos creds command SR-126
clear lane le-arp command XR-129
clear lane server command XR-131
clear line EXEC command DR-12
clear logging command FR-490
clear modem command DR-70, DR-72
clear modempool-counters command DR-74
clear mpoa client cache command XR-187
clear mpoa server cache command XR-188
clear ncia circuit command BR-722
clear ncia client command BR-723
clear ncia client registered command BR-724
clear netbios-cache command BR-90
clear rif-cache command BR-91, IR-43
clear service-module serial command IR-44
clear smrp mcache command P2R-108
clear snapshot quiet-time command DR-826
clear source-bridge command BR-92
clear sse command BR-93
clear tarp counters command P3R-189
clear tarp ldb-table command P3R-190
clear tarp tid-table command P3R-191
clear tcp command FR-119
clear tcp statistics command P1R-114
clear vines cache command P3R-20
clear vines ipc command P3R-21

clear vines neighbor command P3R-22
clear vines route command P3R-23
clear vines traffic command P3R-24
clear vlan statistics command BR-59
clear voice port command VR-10
clear vpdn history failure command DR-836
clear vpdn tunnel command DR-837
clear x25 command WR-286
clear xot command WR-288
client (lu limit) command BR-749
client (lu nailing) command BR-751
client-atm-address command XR-133
clns access-group command P3R-192
clns adjacency-filter command P3R-194
clns cache-invalidate-delay command P3R-196
clns checksum command P3R-198
clns cluster-alias command P3R-199
clns configuration-time command P3R-200
clns congestion-threshold command P3R-201
clns dec-compatible command P3R-202
clns enable command P3R-203
clns erpdu-interval command P3R-204
clns esct-time command P3R-205
clns es-neighbor command P3R-206
clns filter-expr command P3R-207
clns filter-set command P3R-209
clns holding-time command P3R-211
clns host command P3R-212
clns is-neighbor command P3R-214
clns mtu command P3R-215
clns net (global configuration) command P3R-217
clns net (interface configuration) command P3R-218
clns packet-lifetime command P3R-219
clns rdpdu-interval command P3R-220
clns route (interface static route) command P3R-221
clns route (to enter a static route) command P3R-223
clns route default command P3R-225
clns route default discard command P3R-226
clns route discard command P3R-228
clns route-cache command P3R-224
clns router isis command P3R-230
clns router iso-igrp command P3R-231
clns routing command P3R-232
clns security-passthrough command P3R-233
clns send-erpdu command P3R-234
clns send-rdpdu command P3R-235
clns split-horizon command P3R-236
clns template-alias command P3R-238
clns want-erpdu command P3R-240
clock, transmit, (example) WR-9
clock calendar-valid command FR-625
clock rate, (examples) IR-46
clock rate command DR-237, IR-45
clock rate examples DR-238
clock rate line command VR-11
clock rate network-clock command VR-12
clock read-calendar command FR-626
clock set command FR-627
clock signal, inverting DR-249, IR-132
clock source
    T1 IR-385
    T3 IR-47
clock source (Cisco AS5200) IR-49
clock source (Cisco AS5200) command IR-49
clock source (Cisco MC3810) command IR-50
clock source (controller) command DR-276, IR-51
clock source (CT3IP) command IR-47
clock source (interface) command IR-53
clock source command DR-278
    interface configuration DR-239
clock source line command DR-276
clock summer-time command FR-628
clock ticks, IPX P2R-270
clock timezone command FR-630
clock update-calendar command FR-631
cluster aliases, ISO CLNS P3R-199
CMCC adapters
    activating, host link BR-776
    assigning, generic-pool BR-763
    backup data paths BR-790
    channel-protocol, defining transmit rate BR-740
    CLAW
        configuring BR-741
        display
            connection state BR-823
            packing names BR-823
            packing statistics BR-825
    configuring BR-738
        claw (backup) BR-744
        CMCP subchannels BR-753
        CSNA BR-755
        DLUR BR-758
        DLUS backup BR-760
        interfaces BR-744
        internal lan BR-774
        IP host backup, offload devices BR-787
        LLC connection parameters BR-882
        maximum LUs BR-781
        offload device BR-784
        offload devices BR-787
        PCA BR-740
        PU entity BR-793
        SNA session switch BR-888
            internal adapter interface BR-888
        TCP port setting BR-881
        TN3270 BR-884
        TN3270 server BR-884, BR-887
        WILL TIMING-MARK BR-885

defining
host link BR-776
idle-time BR-765
preferred network node server BR-792
keepalive interval BR-772
display
adapters BR-810
internal lans BR-810
display information
channel statistics BR-827
CLAW BR-797
CMPC
subchannel information BR-798
transmission groups BR-843
CSNA subchannels BR-801
interfaces BR-831, BR-874
IP stack BR-807
LLC2 sessions BR-821
offload, backup groups BR-797
TCP connections BR-837
TCP stack BR-840
TN3270 server
configuration parameters BR-848, BR-851, BR-855, BR-859
PU LU BR-867
UDP listener sockets BR-871
UDP stack BR-872
enabling, core dump BR-761
ICMP stack, display information BR-805
interfaces, configuring BR-741
internal adapter, specify name BR-783
IP host backup BR-790
claw (backup) command BR-744
LLC2
display, active connections BR-800
display parameters BR-812
specify number BR-780
LSAPdefining, SNA session switch BR-778
LU sessions, limiting BR-749
microcode version, displaying BR-796
offload device, configuring BR-784
physical channel interface monitoring BR-880
PU entity, configuring, direct connection BR-793
shut down
internal LAN interface BR-878
physical interfaces BR-878
virtual interfaces BR-878
specify
internal adapter name BR-783
TCP port setting BR-881
TN3270, generic-pool command BR-763
CMNS
enabling WR-289
local X.25 routing on nonserial media WR-289
restarting WR-286
traffic statistics, displaying WR-307
X.25 routing WR-378
cmns enable command WR-289
CMPC
defining
LLC connection parameters BR-882
cmpc command BR-753
cmt connect command IR-55, IR-56
cmt disconnect command IR-56
codec (voice-port configuration) command VR-91
codec command VR-13
Combinet devices, protocols supported DR-288, DR-347
comfort-noise command VR-93
command FR-180
command history
buffer size
changing for session FR-33
setting for a line FR-16, FR-18
displaying previous commands FR-26
recalling commands FR-26
command modes
exiting FR-11
global configuration FR-206
privileged EXEC FR-8
summary (table) FR-xx
command syntax, help FR-14
commands
abbreviating FR-3
ATM WR-1
EXEC, show ip bgp neighbors P1R-467
mapping old to new, (table) FR-321
mapping old to new (table) FR-198, FR-218, FR-247
router configuration
bgp bestpath med-confed P1R-362
neighbor shutdown P1R-423
Common Command Language (CCL) DR-621
community access string, setting for SNMP FR-451
compand-type command VR-94
compatible command P1R-241
compress command DR-240, DR-576, IR-58
compress mppc command DR-576
compress predictor command DR-240, DR-576
compress stac command DR-240, DR-576
compressed system images FR-293
compressing configuration files FR-209
compression
configuring IR-58
HDLC encapsulation IR-59
LABP encapsulation IR-59
LAPB DR-240, IR-60
MPPC, ignore-pfc option DR-576, IR-59
packet-by-packet, X.25 BR-81, BR-456, WR-346, WR-349
PPP DR-576, IR-59
PPP encapsulation IR-59

RAND compression algorithm DR-240, IR-60
specifying for LAT packets BR-32
statistics, displaying IR-205
TCP packet header WR-354
concentrator port, enabling IR-170
concurrent routing and bridging, enabling BR-16
condition command VR-95
conditional default origination, IS-IS P1R-325
CONFIG_FILE environment variable, specifying FR-200
config-isakmp command mode, enabling SR-399
config-register command FR-295
configuration file
active, displaying FR-214
buffer, changing size FR-199
copying, to an rcp server FR-252
host
default filename FR-211
loading from a server FR-202, FR-211
network
default filename FR-211
loading from a server FR-211
network server, storing FR-254
NVRAM, displaying file FR-216
storing
in CONFIG_FILE environment variable FR-254, FR-255
in NVRAM FR-254, FR-255
configuration files, copying, to an rcp server FR-203, FR-205, FR-253
Configuration Management, FDDI MAC-level connection IR-290
configuration mode, exiting FR-10
configuration register, streamlined setup facility FR-37
configuration, saving FR-xxi
configure command FR-206
configuring BR-275
confreg command FR-297
congestion threshold
DECnet P3R-128
ISO CLNS P3R-201
connect command DR-368, DR-382, DR-458
connect-at-startup command BR-589
connection command VR-97
connections
displaying open DR-486, DR-565
escaping from DR-417, DR-559
incoming, definition FR-114
LAT DR-382–DR-383
mobile remote node DR-485
naming FR-141
NASI clients, connecting to DR-754
NetBEUI DR-55
enabling DR-34
notification of pending output DR-416, FR-67
PPP DR-635
refusing full duplex DR-462, FR-101
resuming DR-36
reverse DR-26, DR-30
rlogin DR-419, DR-421, DR-422, DR-457–DR-459
SLIP DR-640
switching between DR-36
Telnet DR-457–DR-460
Telnet, configuring a line DR-463
TN3270 DR-468
viewing the status of TCP DR-443
X.3 PAD DR-566
XRemote DR-487, DR-491, DR-495
console
displaying debug messages FR-89
logging messages FR-510
console port, configuring DR-22
constant bit rate (CBR) port
clocking WR-81
clocking information WR-144
configuring WR-78
constrained multicast flooding
enabling BR-15
multicast state information
clearing BR-58
displaying BR-68
contact string, setting for SNMP FR-453
continue command FR-299
controller command DR-279
Controller commands
cablelength short IR-26
clock source IR-50
controller configuration commands
loop-detect VR-30
mode (Voice over ATM) VR-31
shutdown (DS 1 link) VR-75
tdm-group VR-77
voice-group VR-81
controller t3 command IR-63
copy FR-193
copy bootflash rcp command FR-260
copy command FR-249
copy flash lex command IR-64
copy flash rcp command FR-258
copy modem command DR-76
copy rcp flash command, example FR-256
copy rcp running-config command FR-260
copy rcp startup-config command FR-260
copy tftp flash command, example FR-257
copy tftp lex command IR-65
copy xmodem command FR-224
copy ymodem command FR-225
cost
assigning to DECnet P3R-131
modifying default for transparent bridging BR-40

cost-per-byte command
APPN, link station BR-590
APPN port BR-591
cost-per-connect-time command
APPN
link station BR-592
port BR-593
counters
clearing IR-35, IR-375
DECnet P3R-116
TARP, clearing P3R-189
cp-cp-sessions-supported command BR-594
CPP
and PPP support DR-339
authentication, negotiating with DR-281, DR-339
callback, accepting DR-283, DR-340
encapsulation DR-288, DR-347
half-bridging DR-288, DR-347
PPP support DR-281
cpp authentication command DR-281, DR-283, DR-339, DR-340
usernames and passwords used DR-281
cptone command VR-100
CRC
G.703/G.704 IR-67
setting IR-66
crc bits 5 command IR-68
crc command IR-66
crc4 command DR-242, IR-67
crl optional command SR-360
CRLs
certificates
accepting SR-360
revoking SR-367
checking SR-360
downloading SR-367
requesting SR-367
retrieving SR-366
(example) SR-366
storing SR-366
cross-connect command VR-14
crypto algorithm 40-bit-des command SR-216
crypto algorithm des command SR-217
crypto ca authenticate command SR-362
crypto ca certificate chain command SR-364
crypto ca certificate query command SR-366
crypto ca crl request command SR-367
crypto ca enroll command SR-368
crypto ca identity command SR-371
crypto card clear-latch command SR-220
crypto card command SR-218
crypto cisco algorithm 40-bit-des command SR-222
crypto cisco algorithm des command SR-224
crypto cisco connections command SR-226
crypto cisco entities command SR-228
crypto cisco key-timeout command SR-230
crypto cisco pregen-dh-pairs command SR-231
crypto clear-latch commandSR-233
crypto dynamic-map command SR-312
crypto esa command SR-234
crypto gen-signature-keys command SR-235
crypto ipsec security-association lifetime command SR-315
crypto ipsec transform-set command SR-317
crypto isakmp enable command SR-394
crypto isakmp identity command SR-395
crypto isakmp key command SR-397
crypto isakmp policy command SR-399
crypto key exchange dss command SR-237
crypto key exchange dss passive command SR-239
crypto key generate dss command SR-242
crypto key generate rsa (CA) command SR-373
crypto key generate rsa (IKE) command SR-401
crypto key pubkey-chain dss command SR-245
crypto key pubkey-chain rsa command SR-403
crypto key zeroize dss command SR-248
crypto key zeroize rsa command SR-376
crypto key-exchange command SR-236
crypto key-exchange passive command SR-241
crypto key-timeout command SR-247
crypto map (CET global configuration) command SR-250
crypto map (CET interface configuration) command SR-253
crypto map (IPSec global configuration) command SR-321
crypto map (IPSec interface configuration) command SR-325
crypto map local-address command SR-327
crypto pregen-dh-pairs command SR-254
crypto public-key command SR-255
crypto sdu connections command SR-256
crypto sdu entities command SR-257
crypto transform configuration mode, enabling SR-320
crypto zeroize command SR-258
csna command BR-755
CSNA device path BR-755
CSNP, packets P2R-319
CSU/DSU
loopback IR-154
resetting on Cisco 2524 or Cisco 2525 IR-44
Ctrl-C command FR-143
Ctrl-Z command FR-143
CUD
interpreting calls with unknown WR-328
placing in routing table WR-325, WR-375
custom queueing
configuration information, displaying QR-74
establishing QR-5
custom-queue-list command QR-5
cut-through command IR-68

D

data, inverting IR-128
data bits
  changing character FR-79
  setting for session FR-49
data compression DR-240, IR-61
data flow control, setting FR-85
data size, RTR FR-374, FR-375
databits command FR-48
data-character-bits command FR-49
datagram encapsulation
  alternate destination addresses WR-325
dbconn license command BR-711
dbconn ping command BR-712
dbconn server command BR-713
DCE
  clock rate IR-45
  Frame Relay device WR-232
  timing IR-70
  X.25 timers
    T10 restart indication WR-385
    T11 incoming call WR-386
    T12 reset indication WR-387
    T13 clear indication WR-388
dce-terminal-timing enable command DR-244, IR-70
DDN
  local marker facilities (table) WR-405
  X.121 address caution WR-293
  X.25 encapsulation WR-292
DDR P2R-399
  backups with floating-static routes P2R-350
  bandwidth on demand DR-695
  carrier wait time
    specifying for interface DR-707
    specifying for map class DR-730
  chat scripts DR-672
    sample expect-send pairs (table) DR-670
    writing DR-668
  clearing dialer interface statistics DR-676, DR-682
  controlling dialing
    by protocol DR-664, DR-692, DR-720
    by protocol and access list DR-664, DR-692, DR-720
  diagnostics for interface, displaying DR-222
  diagnostics for interface, displaying DR-709, DR-733
  dialer hold queue
    and rotary groups DR-688
    dialers supported DR-688
  dialer pool, ISDN B channels
    maximum number DR-726
    minimum number DR-726
  dialer profile
    CHAP or PAP, username DR-728
    dialer interface data, displaying DR-222, DR-709, DR-733
    dialer pool and dialer pool-member (example) DR-724
    dialer pool, members DR-726
    dialer pool, specifying DR-724
    link to physical interface DR-726
    links, maximum number DR-723
    specifying DR-728
  dialer rotary groups
    assigning interfaces DR-702
    setting interface priority DR-701
  dialing pool, dialer profile DR-724
  DTR dialing
    not for rotary group (hunt group) leaders DR-677, DR-683
    outgoing calls only DR-677, DR-683
    receiving calls from DR-677, DR-683
    remote interface passive DR-677, DR-683
    remote interface to terminate calls DR-677, DR-683
    show dialer display DR-711, DR-735
  floating-static routes P2R-350
  identifying best line DR-704
  idle time, line DR-689
  idle time, map-class DR-718
  interface timeout, setting DR-684
  IPX
    spoofing watchdog packets P2R-381
    watchdog packets P2R-381, P2R-399
  legacy
    assigning dial string-telephone number DR-705
    calls to single site, dial string DR-679, DR-705
    dialer map, ISDN interfaces DR-346
    dialer map, for outbound calls DR-697
    dialer map, ISDN interfaces DR-343
    enabling DR-678, DR-690
    forwarding broadcasts DR-342, DR-345
    ISDN Advice of Charge, BRI (example) DR-343
    snapshot routing DR-827
    specifying one telephone number DR-679
  outbound calls, identifying best line DR-704
  protocol address for broadcasts DR-698
  setting dialer load threshold DR-695
  single DDR telephone number DR-705, DR-729
  SPX, spoofing of watchdog packets P2R-383
  supported access list types and numbers (table) DR-665, DR-693, DR-721
  telephone number to call, specifying single DR-679
debug command output, displaying FR-89
debug messages, displaying enabled FR-561
debug serial-interface command DR-615
DEC spanning-tree protocol, specifying use of BR-52

DECnet
- access groups P3R-117
- access list (example) DR-907
- access lists P3R-106, P3R-108, P3R-112
- accounting
  - database entries, deleting P3R-114
  - database threshold P3R-122
  - disabling P3R-118
  - enabling P3R-118
  - filters P3R-120
  - maximum transit entries P3R-123
- associate name P3R-134
- ATG limitations P3R-136
- cluster alias configuration P3R-199
- congestion threshold P3R-128
- conversion, Phase IV to Phase V P3R-129
- cost value for interface P3R-131
- default route, on interface P3R-154
- designated router P3R-158
- end systems P3R-158
- equal cost paths P3R-142, P3R-148
- extended access lists P3R-106
- fast switching P3R-157
- filtering packets and routing information DR-902
- filters
  - on hello messages P3R-135
  - on object numbers (table) P3R-110
  - on routing information P3R-135
- hello timer P3R-133
- hop count P3R-127
- host name mapping P3R-134
- interarea routing cost P3R-126
- intra-area routing cost P3R-140
- Level 1 routing P3R-146
- Level 2 routing P3R-146
- maximum packet visits P3R-143
- node addresses P3R-138
- node type P3R-146
- OSI backbone, propagating Phase IV areas P3R-124
- path selection P3R-142
- Phase IV Prime
  - displaying adjacencies P3R-175
  - enabling P3R-160
  - inherent MAC addresses P3R-105
  - MAC addressing advantages P3R-160
  - packets sent to Unknown Destination multicast P3R-159
- Phase IV through OSI backbone, advertising P3R-124
- Phase IV/Phase IV Prime on same LAN P3R-158
- Phase IV-to-Phase V conversion P3R-129
- propagate static route P3R-149
- protocol keywords, SMDS multicast address WR-274
- route default P3R-156
- routing P3R-160
  - cost P3R-126, P3R-140
  - table size P3R-139
- routing updates P3R-163
- SMDS, configuring over WR-274
- static routes
  - creating P3R-152
  - displaying P3R-178
  - on interface P3R-150
- timers P3R-133, P3R-162
- Token Ring
  - configuring on P3R-132
  - encapsulation over P3R-132

decnet access-group command P3R-117
decnet accounting command P3R-118
decnet accounting list command P3R-120
decnet accounting threshold command P3R-122
decnet accounting transits command P3R-123
decnet advertise command P3R-124
decnet area-max-cost command P3R-126
decnet area-max-hops command P3R-127
decnet congestion-threshold command P3R-128
decnet conversion command P3R-129
decnet cost command P3R-131
decnet encapsulation command P3R-132
decnet hello-timer command P3R-133
decnet host command P3R-134
decnet in-routing-filter command P3R-135
decnet map command P3R-136
decnet max-address command P3R-138
decnet max-area command P3R-139
decnet max-cost command P3R-140
decnet max-hops command P3R-141
decnet max-paths command P3R-142
decnet max-visits command P3R-143
decnet multicast-map command P3R-144
decnet node-type command P3R-146
decnet out-routing-filter command P3R-147
decnet path-split-mode command P3R-148
decnet propagate static command P3R-149
decnet route (interface static route) command P3R-150
decnet route (specific static route) command P3R-152
decnet route default (interface default route) command P3R-154
decnet route default (specific default route) command P3R-156
decnet route-cache command P3R-157
decnet router-priority command P3R-158
decnet routing command P3R-160
decnet routing-timer command P3R-162
decnet split-horizon command P3R-163
dedicated line, configuring , DR-647
default form of a command, using FR-xxi
default networks, specifying P1R-487

default routes
IP P1R-487
IP Enhanced IGRP P1R-294
IS-IS for IP P1R-242, P1R-325
OSPF P1R-242, P1R-325
default-information command, IP Enhanced IGRP P1R-294
default-information originate (BGP) command P1R-382
default-information originate (IS-IS) command P1R-325
default-information originate command
OSPF P1R-242
RIP P1R-193
default-metric (BGP) command P1R-383
default-metric (RIP) command, RIP P1R-194
default-metric command
IP Enhanced IGRP P1R-295
OSPF P1R-244
default-name command XR-135
default-value exec-character-bits command FR-50, FR-95
default-value special-character-bits command FR-51
define command VR-103
delay command IR-69
delete command FR-169
delta, PPP BACP negotiations, telephone number change DR-791
deny (CET) command SR-259
deny command P1R-115
IPX
SAP filtering P2R-234
standard P2R-236
summary P2R-232
deny command (extended) P2R-229
deny command (SAP filtering) P2R-234
deny command (standard) P2R-236
deny command (summary) P2R-232
description (controller) command IR-71
description command VR-105
description command (controller) DR-284
description command (interface) DR-245, DR-285
designated routers
IS-IS for IP, specifying election P1R-338
desired-max-send-btu-size command BR-595
destination routing table
ISO CLNS, displaying P3R-332
destination-pattern command VR-16
DHCP
helper addresses P1R-26, P1R-32
IP address pooling DR-579
show settings DR-608
specifying server DR-581
diag command FR-491
dial backup
Dialer Profiles DR-747–DR-750
Dialer Watch DR-743
watched routes DR-743
line delay, setting DR-740
secondary line, selecting DR-741, DR-748
traffic load threshold, setting DR-742, DR-750
dial peer configuration commands, shutdown (dial-peer configuration) VR-74
dial string (telephone number), specifying DR-679, DR-705, DR-729
dial-control-mib command VR-18
dialer DR-678, DR-690
dialer callback-secure command DR-806
dialer callback-server command DR-807
dialer caller command DR-820
dialer dtr command DR-677, DR-683
dialer enable-timeout command DR-684
dialer fast-idle command DR-685
interface configuration DR-685
map-class configuration DR-716
dialer group, assigning interface DR-687, DR-717
dialer hold queue
dialers supported DR-688
rotary groups DR-688
dialer hold-queue command DR-688
dialer idle-timeout command DR-689
interface configuration DR-689
map-class configuration DR-718
dialer in-band command DR-678, DR-690
dialer interface
clearing statistics DR-676
dial backup, Dialer Profiles DR-747
dialer interface, clearing statistics DR-682
dialer isdn command DR-719
dialer isdn short-hold command DR-341
dialer isdn spc command DR-719
dialer isdn speed command DR-719
dialer load-threshold command DR-695
multilink PPP and idle timers DR-599, DR-689, DR-696, DR-797
dialer map, map class name DR-313
dialer map bridge command DR-697
dialer map class, for ISDN Advice of Charge DR-342
dialer map command DR-342, DR-345, DR-697
form used for ISDN Advice of Charge DR-342
form used for ISDN semipermanent connections DR-345
ISDN Advice of Charge, usage guidelines DR-343
ISDN semipermanent connections DR-697
no effect on DTR dialing DR-677, DR-683
regular expressions DR-902
dialer map snapshot command DR-827
dialer map, defining configuration parameters for DR-732, DR-808
dialer max-link command DR-723
dialer pool, Dialer Profiles, backup interfaces DR-747
dialer pool command DR-724
dialer pool-member command DR-726
dialer priority command DR-701

Dialer Profiles, dial backup DR-747–DR-750
dialer remote-name command DR-728
dialer rotary groups
  assigning interfaces DR-702
  defining DR-708, DR-731
  setting interface priority DR-701
dialer rotary-group command DR-702
dialer rotor command DR-704
dialer string class command DR-729
dialer string command DR-679, DR-705, DR-729
  DDR, dialer profiles DR-729
  legacy DDR DR-679, DR-705
  no effect on DTR dialing DR-677, DR-683
dialer wait-for-carrier-time command
  interface configuration DR-707
  map-class configuration DR-730
Dialer Watch
  overview DR-743
  watched routes DR-743
dialer watch-disable command DR-744
dialer watch-group command DR-745
dialer watch-list command DR-746
dialer-group command DR-687, DR-717
dialer-list protocol command DR-664, DR-692, DR-720
dial-peer configuration commands
  acc-qos VR-4
  alt-dial VR-6
  answer-address VR-7
  codec VR-13
  destination-pattern VR-16
  expect-factor VR-22
  fax-rate VR-23
  forward-digits VR-25
  icpif VR-27
  ip udp checksum VR-29
  port (voice) VR-38
  preference VR-40
  prefix VR-41
  req-qos VR-42
  session protocol VR-44
  session target VR-45
  snmp enable peer-trap poor-qov VR-76
  vad (dial-peer configuration) VR-79
dial-peer terminator command VR-19
dial-peer voice command VR-20
dial-type command VR-106
dir command FR-170
direct encapsulation, configuring SRB for BR-228, BR-452
directory
  print working FR-182
  remove FR-184
disable command FR-4
disconnect character, setting FR-52
disconnect command DR-371
disconnect warning time, setting DR-656
disconnect-character command FR-52
discovery mode P2R-35
  enabling P2R-23, P2R-32, P2R-35
  startup process P2R-35
diskless boot, configuring FR-329
dispatch character
  changing for session FR-80
  configuring for line FR-53
dispatch-character command FR-53
dispatch-machine command FR-54
dispatch-timeout command DR-186, FR-56
display information, TN3270 server
    LU nailing BR-861
    PU configuration parameters BR-863
displaying, DRiP BR-203
distance (ISO CLNS) command P3R-241
distance bgp command P1R-384
distance command P1R-480
distance eigrp command P1R-297
distance ospf command P1R-245
distributed compression IR-58, WR-211, WR-221
DistributedDirector, enabling DRP Server Agent P1R-138
distribute-list in (IPX) command P2R-238
distribute-list in command P1R-483
distribute-list out (IPX) command P2R-240
distribute-list out command P1R-485
distribute-sap-list in command P2R-242
distribute-sap-list out command P2R-244
distributions-of-statistics-kept command FR-360
DLCI
  forwarding broadcasts to WR-215, WR-216
  interface statistics, displaying IR-320
  local (source), setting WR-210
  multicast mechanism
    configuring WR-216
    displaying statistics about IR-320
  protocol address, mapping to WR-211
  using for bridging (example) WR-213
dlsw allroute-netbios command BR-239
dlsw allroute-sna command BR-240
dlsw bgroup-list command BR-241
dlsw bridge-group command BR-242
dlsw disable command BR-244
dlsw duplicate-path-bias command BR-245
dlsw group cache disable command BR-246
dlsw group-cache max entries command BR-247
dlsw icannotreach saps command BR-248
dlsw icanreach command BR-249
dlsw llc2 nornr command BR-251
dlsw local-peer command BR-253
dlsw mac-addr command BR-255
dlsw netbios-keepalive-filter command BR-258
dlsw netbios-name command BR-259

dlsw peer-on-demand-defaults command BR-261
dlsw port-list command BR-263
dlsw prom-peer-defaults command BR-264
dlsw remote-peer frame relay command BR-266
dlsw remote-peer fst command BR-269
dlsw remote-peer interface command BR-271
dlsw remote-peer tcp command BR-274
dlsw ring-list command BR-278
dlsw timer command BR-279
dlsw udp-disable command BR-281, BR-282, BR-284
DLSw+
configuring service access points BR-248
duplicate MAC addresses BR-245
fault-tolerance BR-245
load-balancing BR-245
local peer, defining BR-253
QLLC, connecting with BR-459
Rif Passthru BR-275
static MAC address, configuring BR-255
static NetBIOS name, configuring BR-259
dlur command BR-596, BR-758
DLUR, APPN support BR-596, BR-597
dlur-dspu-name command BR-597
dlus command, APPN
control point BR-598
link station BR-600
DLUS, APPN support BR-598, BR-600
dlus-backup command BR-760
DNS
enabling for rcp and rsh FR-330
ISO CLNS addresses P3R-243
DNS idle timeout, specifying SR-177
DNSIX
collection center, specifying SR-441
enabling SR-444
hosts that receive messages
alternate SR-443
primary SR-442
number of records in a packet, specifying SR-445
retransmit count SR-440
dnsix-dmdp retries command SR-440
dnsix-nat authorized-redirection command SR-441
dnsix-nat primary command SR-442
dnsix-nat secondary command SR-443
dnsix-nat source command SR-444
dnsix-nat transmit-count command SR-445
dollar sign character in regular expressions DR-905
domain, assigning BR-17
domain-password command P1R-327
downward-compatible-config command FR-632
down-when-looped command IR-72
DRiP
clearing BR-200
displaying BR-203
DRP Server Agent, enabling P1R-138
DS-3
loopback IR-156, IR-157
scrambling, (example) WR-10
DSPU
activating BR-501
activation request units, defining BR-462
default PU, defining BR-463
Ethernet address
enabling BR-468
for use by, defining BR-492
Ethernet interface
host, defining BR-477
upstream host BR-465
FDDI address for use by, defining BR-492
Frame Relay
address for use by, enabling BR-468
interface
host, defining BR-471
PU, defining BR-486
upstream host BR-465
LAN, defining BR-511
LU
defining BR-479
pool, defining BR-484
monitoring BR-512
NCIA
address for use by, defining BR-492
connection
SAP, enabling for downstream PU BR-482
server configuration BR-481
notification level, specifying BR-483
QLLC data link
downstream PU, defining BR-488
host, defining BR-473
upstream host BR-466
RSRB
address for use by, defining BR-492
connection
activating BR-499
host, defining BR-477
service access point, enabling for downstream PU BR-498
RSRB connection
service access point, enabling for upstream host BR-497
virtual ring, defining BR-495
SDLC
address for use by, enabling BR-470
data link
downstream PU, defining BR-490
host, defining BR-475
upstream host BR-467
Token Ring address for use by
defining BR-492
enabling BR-468

Token Ring interface
host, defining BR-477
upstream host BR-465
virtual data link control address for use by, defining BR-492
virtual data link control connection
activating BR-509
service access point, enabling for downstream PU BR-507
service access point, enabling for upstream host BR-505
virtual ring, defining BR-503
X.121 subaddress for use by, enabling BR-469
dspu activation-window command BR-462
dspu default-pu command BR-463
dspu enable-host, dspu enable-host (QLLC) command BR-466
dspu enable-host (FDDI) command BR-465
dspu enable-host command
dspu enable-host (Ethernet) command BR-465
dspu enable-host (SDLC) command BR-467
dspu enable-host command, for Frame Relay and Token Ring BR-465
dspu enable-pu command
dspu enable-pu (Ethernet) command BR-468
dspu enable-pu (FDDI) command BR-468
dspu enable-pu (Frame Relay) command BR-468
dspu enable-pu (SDLC) command BR-470
dspu enable-pu (Token Ring) command BR-468
dspu host command
dspu host (Ethernet) command BR-477
dspu host (FDDI) command BR-477
dspu host (Frame Relay) command BR-471
dspu host (QLLC) command BR-473
dspu host (RSRB) command BR-477
dspu host (SDLC) command BR-475
dspu host (Token Ring) command BR-477
dspu host (VDLC) command BR-477
dspu lu command BR-479
dspu ncia command BR-481
dspu ncia enable-pu command BR-482
dspu notification-level command BR-483
dspu pool command BR-484
dspu pu command
dspu pu (Ethernet) command BR-492
dspu pu (FDDI) command BR-492
dspu pu (Frame Relay) command BR-486
dspu pu (NCIA) command BR-492
dspu pu (QLLC) command BR-488
dspu pu (RSRB) command BR-492
dspu pu (SDLC) command BR-490
dspu pu (Token Ring) command BR-492
dspu pu (VDLC) command BR-492
dspu rsrb command BR-495
dspu rsrb enable-host command BR-497
dspu rsrb enable-pu command BR-498
dspu rsrb start command BR-499
dspu start command BR-501
dspu vdlc command BR-503
dspu vdlc enable-host command BR-505
dspu vdlc enable-pu command BR-507
dspu vdlc start command BR-509
DSU
configuration information, displaying IR-230
interoperability mode, setting IR-74
maximum bandwidth, setting IR-73
dsu bandwidth command IR-73
dsu mode command IR-74
DTE, X.25 timers
T20 restart request WR-389
T21 call request WR-390
T22 reset request WR-391
T23 clear request WR-392
dte-invert-txc command DR-246, IR-76
DTR, signal pulsing IR-181
DTR dialing
not affected by dialer map and dialer string commands DR-677, DR-683
not for rotary group (hunt group) leaders DR-677, DR-683
outgoing calls only DR-677, DR-683
remote interface configured to terminate calls DR-677
remote interface passive DR-683
remote interface passive only DR-677
remote interface to terminate calls DR-683
DTR signal pulsing DR-251
duplex command IR-77
DVMRP IR-407
DWFQ
configuration information, displaying QR-74
default queue lengths and thresholds (table) QR-11
enabling QR-11
interfaces supported QR-11
DWRED
configuration information, displaying QR-74
enabling QR-43
exponential weight factor QR-45
hardware support QR-43, QR-46, QR-48
minimum threshold values (table) QR-47
parameters QR-47
DXI 3.2 WR-270
dxi map command WR-65
dxi pvc command WR-67
dynamic command P1R-119
dynamic map, SMDS WR-273
dynamic routing, asynchronous connection, configuring manually DR-9

E

E.164, auto conversion, (example) WR-11
E.164 addresses
  ATM, (example) WR-39
  configuring WR-39
  field descriptions WR-240
  format WR-240
  Frame Relay SVC WR-239
E1 R2
  countries supported DR-260
  country settings DR-260
  customizing parameters DR-260
E3-scramble, (example) WR-12
early-token-release command IR-79
Easy IP DR-876
echo-cancel coverage command VR-107
echo-cancel enable command VR-109
editing command DR-173, FR-5
editor
  enhanced mode
    disabling for a line DR-173, FR-5
    disabling for session FR-28
    enabling for a line DR-173, FR-5
    enabling for session FR-28
  Release 9.21 keys and functions (table) DR-173
effective-capacity command, APPN
  link station BR-602
  port BR-603
EGP, neighbor, relationships P1R-216
EIA/TIA-232
  handshake DR-36
EIGRP, timers active-time P1R-321
eigrp log-neighbor-changes command P1R-299
enable command FR-8, FR-695, SR-422
enable last-reort command SR-107
enable password command SR-422
  using encryption-type, (caution) SR-422
enable secret command SR-424
  using encryption-type, (caution) SR-424
enable use-tacacs command SR-108
  using tacacs-server authenticate enable command (caution) SR-108
enabling logging for neighbor resets P1R-373
encapsulation
  ATM-DXI IR-80
  bstun IR-80
  DECnet, over Token Ring P3R-132
  dynamic detection on serial or ISDN interface DR-258, DR-338
  Frame Relay WR-171
  hdlc IR-80
  IPX P2R-304, P2R-352
  LAPB WR-290
  lapb IR-80
  PPP DR-247, DR-578, IR-80
  SMDS WR-263
  V.120, dynamically set DR-642
  VINES P3R-65
  X.25 WR-292
  XNS P3R-343
encapsulation aal5 command WR-69
encapsulation alc command BR-929
encapsulation atm-ces command VR-186
encapsulation atm-dxi command WR-71
encapsulation bstun command BR-328
encapsulation command DR-247, DR-578, DR-622, IR-80
encapsulation cpp command DR-288, DR-347
encapsulation frame-relay command WR-171
encapsulation isl command XR-3
encapsulation lapb command WR-290
encapsulation sde command XR-4
encapsulation sdlc command BR-370
encapsulation sdlc-primary command BR-371
encapsulation sdlc-secondary command BR-373
encapsulation smds command WR-263
encapsulation stun command BR-329
encapsulation tr-isl command BR-201, XR-6
encapsulation x25 command WR-292
encryption (IKE policy) command SR-405
end command FR-10
end-of-line character, changing FR-104
enrollment mode ra command SR-378
enrollment retry-count command SR-379
enrollment retry-period command SR-381
enrollment url command SR-383
environment variables
  BOOT, specifying FR-290
  BOOTLDR, specifying FR-286
  CONFIG_FILE, specifying FR-200
environmental conditions
  at last shutdown FR-565
  table of measurements within specification FR-568
  temperature and voltage FR-565
equal cost paths, DECnet P3R-148
erase command FR-172
erase flash command FR-226, FR-265
erase start-up config command
ERPDU
  interval, determining P3R-204
  ISO CLNS P3R-234
  support, configuring P3R-234
error messages
  logging priorities, (table) FR-508, FR-510, FR-519, FR-526, FR-583
  redirecting FR-521
ES, listing P3R-206, P3R-214
escape character
  changing for session FR-83
  defining for a line FR-58

returning to EXEC prompt DR-487
escape-character command FR-58
ESI, address, (example) WR-13
ES-IS, hello rate configuration P3R-200, P3R-211
/etc/services file P2R-63
Ethernet
0x80d5 format, enabling use of BR-169
100VG AnyLAN port adapter IR-126, IR-251
APPN partner node, specifying BR-615
bandwidth IR-21
bridging from FDDI IR-87
encapsulated packets
filtering on input BR-31
filtering on output BR-39
extending twisted-pair 10BaseT capability IR-382
MOP enabled IR-162
specifying media type IR-161
Ethernet type codes, (table) BR-937
ethernet-transit-oui command BR-94
EtherTalk P2R-1
evaluate command SR-148
examples
CAs
authenticating SR-362
configuration SR-383
declaring SR-371, SR-383
LDAP support SR-384
CBAC
audit trail messages SR-176
half-open sessions, high threshold SR-179, SR-188
half-open sessions, low threshold SR-181, SR-190
half-open sessions, TCP threshold SR-195
inspections, configuring SR-187
session information, viewing SR-200
timeouts, DNS idle SR-177
timeouts, FIN-exchange SR-192
timeouts, synwait SR-196
timeouts, TCP idle SR-193
timeouts, UDP idle SR-198
certificates
accepting SR-360
deleting SR-358, SR-364
requesting SR-369
requests, resending SR-379, SR-381
retrieving SR-366
viewing SR-385–SR-386
CRLs, retrieving SR-366
IKE
configuration SR-400
connections, clearing SR-393
DH group identifier, specifying SR-406
disabling SR-394
encryption algorithm, specifying SR-405
hash algorithm, specifying SR-407
ISAKMP identity, configuring SR-395
parameters, viewing SR-414
pre-shared keys
configuration SR-391
specifying SR-397
RAs, configuration SR-378
RSA keys
deleting SR-376
generating SR-374, SR-375, SR-402
specifying SR-388, SR-390
specifying manually SR-403, SR-408, SR-413
viewing SR-417, SR-418
SAs
lifetimes, configuring SR-410
viewing SR-415
exception core-file command FR-494
exception dump command FR-496
exception linecard command FR-498
exception memory command FR-500
exception protocol command FR-502
exception queue, length, (example) WR-15
exception slot command BR-761
exception spurious-interrupt command FR-506
EXEC
mode, default aliases FR-618
process
delaying startup of FR-663
disabling on a line FR-121
displaying messages upon creation FR-112
enabling on a line FR-121
setting timeout interval FR-124
prompt, setup command facility FR-37
exec command DR-13, FR-121
EXEC commands
clear voice port VR-10
show c7200 VR-244
show cable burst-profile VR-219
show cable modem VR-221
show cable modulation-profile VR-223
show cable privacy VR-225
show cable qos VR-227
show cable spectrum group VR-228
show call active voice VR-48
show call history voice VR-52
show controllers cable VR-230
show diag VR-242
show dial-peer voice VR-55
show dialplan incall number VR-58
show dialplan number VR-59
show interface cable VR-234
show interface cable signal-quality VR-239
show interfaces cable sid VR-240
show ip bgp neighbors P1R-467
show num-exp VR-62
show voice call VR-63

show voice dsp VR-65
show voice port VR-67
EXEC process
disabling on a line DR-13
enabling on a line DR-13
setting timeout interval DR-14
exec-banner command FR-112, FR-115
exec-character-bits command FR-59
exec-timeout command DR-14, DR-186, FR-124
execute-on command FR-227
exit, configuration mode FR-10
exit command FR-11
expect-factor command VR-22
explorers, spanning-tree, forwarding or blocking BR-180
explorers, forwarding or blocking
all-routes BR-178
spanning-tree BR-179
exponential weight factor, DWRED QR-45
extended access lists
IP P1R-98
named dynamic P1R-119
IPX P2R-206
extended networks, IP, using secondary addresses P1R-15
extended TACACS, username authentication DR-615
external port
T1 IR-386

F

facility handling, X.25 WR-403
marker facility (table) WR-405
standard (table) WR-404
fair-queue (DWFQ) command QR-11
fair-queue command QR-7
Fast EtherChannel IR-31
assigning a Fast Ethernet IR-31
configuring IR-124
displaying information IR-311
Fast Ethernet
assigning a Fast EtherChannel IR-31
displaying Fast EtherChannel information IR-311
Fast EtherChannel IR-31
Fast EtherChannel interface IR-124
fast idle timer
interface, setting DR-685
map class, setting DR-716
fast switching
AppleTalk P2R-82
configuring P2R-82
displaying cache entries P2R-119
flow XR-13
IP, enabling XR-13
IPX
cache entries, deleting P2R-223
cache entries, displaying P2R-429
directed broadcast packets P2R-260
disabling P2R-352
enabling P2R-352
inactivity timeout P2R-354
update timeout P2R-357
ISO CLNS P3R-224
SRB BR-188
SSE BR-191
transport, configuring BR-223
VINES
cache entries
deleting P3R-20
displaying P3R-26
configuring P3R-82
XNS P3R-357
fast-switched SR/TLB, disabling BR-198
fax-rate command VR-23
FDDI
APPN partner node, specifying BR-615
bit specifications IR-85
bridging configurations IR-87
determining bandwidth IR-94
encapsulation mode compatibility IR-87
full-duplex IR-102, IR-104
full-duplex status IR-287
raw, IPX encapsulation P2R-304
stopping IR-55
transmission time, controlling IR-92
fddi burst-count command IR-82
fddi c-min command IR-83
fddi cmt-signal-bits command IR-84
fddi duplicate-address-check command IR-86
fddi encapsulate command IR-87
fddi frames-per-token command IR-89
fddi smt-frames command IR-90
fddi tb-min command IR-91
fddi tl-min-time command IR-92
fddi token-rotation-time command IR-94
fddi t-out command IR-93
fddi valid-transmission-time command IR-95
FDDITalk P2R-1, P2R-76
FDL, performance report IR-388, IR-396
fdl command IR-96
FECN, bits WR-250
FID4 frames, configuring the router to read BR-222
file, display FR-180
file compression FR-209
file prompt command FR-174
file system
erase FR-172
list FR-170
setting the default FR-168
files, download mode FR-82
filter register, AIP

(example) WR-44
configuring WR-44
filter-for-history command FR-362
filtering
by protocol type, Ethernet type codes (table) BR-937
establishing packet size for SNMP FR-469
filters
AppleTalk
applying GZL P2R-57
data packet, applying P2R-21
GZL P2R-39
partial zone P2R-75
routing table P2R-37, P2R-39
IP Enhanced IGRP
routes in updates P1R-483
routes in updates, advertising P1R-485
routing updates, preventing P1R-519
IP, on sources of routing information P1R-480
IPX
broadcast P2R-280
generic P2R-246
NetBIOS P2R-300, P2R-302
routing table P2R-285, P2R-361
routing updates P2R-363
SAP P2R-287, P2R-340, P2R-363
IPX Enhanced IGRP, route updates P2R-238, P2R-240
IPX SAP, routes in updates, processing P2R-242
NLSP, route updates P2R-238, P2R-240
VINES
access lists
extended P3R-55
simple P3R-57
standard P3R-60
interface, applying to P3R-53
XNS
enabling P3R-358
generic, enabling P3R-342
routing table, enabling P3R-352
FIN-exchange timeout, specifying SR-192
Finger protocol, enabling FR-664
FIP, displaying information about IR-220
Flash file system
check and repair FR-178
format FR-176
make directory FR-179
recover deleted file FR-191
remove directory FR-184
rename file FR-183
squeeze FR-190
verify memory FR-193
Flash load helper, monitoring FR-235
Flash memory
booting automatically FR-290
erasing internal FR-265
formatting FR-175
partitioning FR-267
verifying checksum FR-193, FR-254
Flash memory device, deleting a file FR-169
floating static routes
AppleTalk extended networks P2R-90
AppleTalk nonextended networks P2R-92
flow control
changing for session FR-85
configuring for a line DR-15
end transmission FR-99
input, X.3 PAD parameters DR-897
start character FR-97
start character, configuring for a line DR-59, DR-188
stop character FR-99
stop character, configuring for a line DR-62
flowcontrol command DR-15
format command FR-175
format indicator 4 (FID4) frames, configuring the router to read BR-222
forward delay interval, specifying BR-19
forward-digits command VR-25
forwarding database, clearing BR-57
forwarding mask, X.3 PAD DR-894
fractional data line DR-279
Frame Rejects (FRMRs), SDLC, configuring BR-397
Frame Relay
APPN partner node, specifying BR-605
bandwidth, estimating QR-81
Bc WR-174
Be WR-176
bridging over BR-60, WR-215
broadcast queue
actual transmission rate limit WR-179
creating WR-179
maximum transmission rate measures WR-179
priority WR-179
broadcast traffic, defined WR-179
CIR, minimum acceptable, specifying WR-219
committed burst size (Bc), specifying WR-174
compression, Stacker packet-by-packet WR-221
conditions that bring down WR-206
configured routes, displaying WR-256
custom queue, associating with map class WR-184
DE, group number for DLCI WR-185
DE bit, purpose WR-186
DE group
deleting all groups WR-185
deleting one group WR-185
DE list
deleting entire list WR-187
deleting part WR-186
disabling split horizon P1R-200, P1R-212
DLCI
forwarding broadcasts to WR-215, WR-216
interface statistics IR-320

mapping protocol address to WR-211
multicast mechanism WR-216
multicast mechanism statistics IR-320
multicasts WR-220
setting source in test environment WR-210
enabling WR-171
encapsulation
cisco WR-171, WR-190
IETF WR-171, WR-190, WR-211, WR-215
excess burst size (Be), specifying WR-176
FECN/BECN bit passing WR-250
general statistics, displaying WR-260
idle timeout, specifying interval WR-188
IETF encapsulation, effect on TCP/IP header compression WR-195, WR-217
Inverse ARP WR-170, WR-193
IP map, inheriting compression characteristics from interface WR-217
LAPF
commands WR-199, WR-200, WR-201, WR-202
commands, usually not used WR-198
display status of internals WR-244
FRMR frame, sending WR-197
link idle timer, setting WR-202
maximum length of information field, setting WR-200
maximum retransmission count, setting WR-199
retransmission timer, setting WR-201
window size, setting WR-198
LMI
general statistics, displaying IR-320, WR-246
keepalive interval WR-236
type, selecting WR-209
LMI DCE
error threshold WR-204
monitored events count WR-206
polling verification timer WR-208
LMI DTE
error threshold WR-205
full status polling interval WR-203
monitored event count WR-207
LMI NNI
error threshold WR-204, WR-205
monitored events count WR-206, WR-207
polling verification timer WR-208
map class
interface or subinterface WR-182
routing protocols supported WR-166
map list
configuration and display WR-258
map class and QOS parameters WR-239
OSPF over WR-211
point-to-point links WR-215
PVC
displaying statistics for WR-250
status WR-250
switching on DCE WR-232
switching on NNI WR-232
QOS parameters, applying to map list WR-237
routes, configured, displaying WR-256
routing protocols supported WR-211
RTP header compression
enabling P1R-583
enabling per DLCI P1R-585
enabling with TCP header compression P1R-584
statistics, displaying P1R-654
SVC support WR-166, WR-181, WR-219, WR-231
X.121 or E.164 addresses WR-239
SVCs
displaying all for map list WR-257
enabling WR-231
map group for interface required WR-238
switching, enabling WR-232
TCP/IP header compression
active WR-217
Cisco encapsulation WR-217
displaying interface information WR-242
inconsistent with IETF encapsulation WR-195
outgoing WR-195
passive WR-217
supported interfaces WR-195
test environment WR-210, WR-220
traffic shaping QR-81, QR-86, QR-88, WR-174, WR-176
default queuing WR-235
operation on SVCs WR-233
per-VC queuing WR-235
virtual circuits, assigning priority queue WR-225
frame type, channelized E1, channelizedT1 DR-289
frame type, selecting IR-97
framed mode on G.703-E1 interface DR-252, IR-399
frame-relay adaptive-shaping command WR-172
frame-relay bc command WR-174
frame-relay be command WR-176
frame-relay broadcast-queue command WR-179
frame-relay cir command WR-181
frame-relay class command WR-182
frame-relay custom-queue-list command WR-184
frame-relay de-group command WR-185
frame-relay de-list command WR-186
frame-relay frmr command WR-197
frame-relay idle-timer command WR-188
frame-relay interface-dlci command WR-190
frame-relay intf-type command WR-192
frame-relay inverse-arp command WR-193
frame-relay ip rtp header-compression command P1R-583
frame-relay ip tcp header-compression command WR-195
frame-relay lapf k command WR-198
frame-relay lapf n200 command WR-199
frame-relay lapf n201 command WR-200

frame-relay lapf t200 command WR-201
frame-relay lapf-t203 command WR-202
frame-relay lmi-n391dte command WR-203
frame-relay lmi-n392dce command WR-204
frame-relay lmi-n392dte command WR-205
frame-relay lmi-n393dce command WR-206
frame-relay lmi-n393dte commands WR-207
frame-relay lmi-t392dce command WR-208
frame-relay lmi-type command WR-209
frame-relay local-dlci command WR-210
frame-relay map bridge broadcast command BR-60
frame-relay map bridge command WR-215
frame-relay map bstun command BR-331
frame-relay map clns command WR-216
frame-relay map command WR-211
frame-relay map ip compress command P1R-584
frame-relay map ip rtp header-compression command P1R-585
frame-relay map ip tcp header-compression command WR-217
frame-relay map llc2 command BR-536
frame-relay map rsrb command BR-537
frame-relay mincir command WR-219
frame-relay multicast-dlci command WR-220
frame-relay payload-compress command WR-221
frame-relay payload-compress packet-by-packet command WR-221
frame-relay priority-dlci-group command WR-223
frame-relay priority-group command WR-225
frame-relay qos-autosense command WR-227
frame-relay route command WR-229
frame-relay svc command WR-231
frame-relay switching command WR-232
frame-relay traffic-rate command WR-233
frame-relay traffic-shaping command WR-235
frames
  forwarding BR-8, BR-50
  maximum size on source-route bridge BR-225, BR-228, BR-230, BR-232, BR-452
  using bridge address to filter BR-9
framing
  T1 IR-389
  T3 IR-100
framing (E1/T1controller) command IR-97
framing (E3/T3 interface) command IR-98
framing (T3 controller) command IR-100
framing command, channelized E1, channelized T1 DR-289
FRAS
  BAN
    configuring BR-540
    displaying status BR-550
    enabling BR-543
  BNN
    displaying status BR-550
    DLCI, LLC connection BR-546
    enabling BR-544
    LLC connection, associating BR-546
  congestion, managing BR-549
  connection state, displaying status BR-550, BR-554
  dial backup over DLSw+
    displaying status BR-550
    enabling BR-538
  DLCI, SDLC link, associating BR-547
  DLCI backup, configuring BR-542
  host, LLC2 local termination BR-545
  LLC2, sessions, displaying status BR-552
  mapping, displaying status BR-554
  RSRB, DLCI number BR-537
  SDLC, link, associating BR-547
  source-bridge command BR-166
fras backup dlsw command BR-538
fras ban command BR-540
fras ddr-backup command BR-542
fras map llc command BR-546
fras map sdlc command BR-547
fras-host ban command BR-543
fras-host bnn command BR-544
fras-host dlsw-local-ack command BR-545
fr-atm connect dlci command VR-26
fr-dest-address command BR-605
free-trade zone
  AppleTalk P2R-56
    establishing P2R-56
frequency command FR-364
FRF.9 compression, example configuration WR-213
FRMRs, SDLC, configuring BR-397
front panel LED message FR-219
fsck command FR-178
FST, configuring BR-223, BR-230
FTP Server
  restricted regions FR-698
  router acting as FR-697
ftp-server enable command FR-697
ftp-server topdir command FR-698
full-duplex command IR-101
full-help command FR-12
functional address P1R-622

G

G.703-E1 interface
  clock source IR-51, IR-53, IR-54
  CRC IR-67
  CRC4 DR-242
  framed mode DR-252, IR-399
  time slot 16 DR-255, IR-402
  unframed mode DR-252, IR-399
G.704 interface, CRC IR-67

gateway of last resort, IGRP and RIP, computing P1R-487
generic-pool command BR-763
global configuration command mode FR-206
global configuration commands
aaa accounting SR-70
aaa accounting suppress null-username SR-73
aaa accounting update SR-74
aaa authentication arap SR-4
aaa authentication banner SR-6
aaa authentication enable default SR-8
aaa authentication fail-message SR-10
aaa authentication login SR-12
aaa authentication nasi SR-14
aaa authentication password-prompt SR-16
aaa authentication ppp SR-18
aaa authentication username-prompt SR-20
aaa authorization SR-58
aaa authorization config-commands SR-61
aaa authorization reverse-access SR-62
aaa nas-port extended SR-86
aaa new-model SR-22
aaa processes SR-23
cable privacy kek grace-time VR-201
cable privacy kek life-time VR-202
cable privacy tek grace-time VR-203
cable privacy tek life-time VR-204
cable spectrum-group VR-207
cross-connect VR-14
dial-control-mib VR-18
dial-peer terminator VR-19
dial-peer voice VR-20
enable last-resort SR-107
enable use-tacacs SR-108
interface fr-atm VR-28
ip radius source-interface SR-88
ip tacacs source-interface SR-109
ip trigger-authentication (global configuration) SR-31
kerberos clients mandatory SR-127
kerberos credentials forward SR-128
kerberos instance map SR-129
kerberos local-realm SR-130
kerberos preauth SR-131
kerberos realm SR-132
kerberos server SR-133
kerberos srvtab entry SR-134
kerberos srvtab remote SR-136
key config-key SR-137
network-clock base-rate VR-33
network-clock-select (MC3810) VR-34
network-clock-switch VR-36
num-exp VR-37
radius-server attribute nas-port extended SR-89
radius-server configure-nas SR-90
radius-server deadtime SR-91
radius-server extended-portnames SR-92
radius-server host SR-93
radius-server host non-standard SR-96
radius-server key SR-98
radius-server optional passwords SR-97
radius-server timeout SR-101
radius-server vsa SR-102
tacacs-server attempts SR-110
tacacs-server authenticate SR-111
tacacs-server directed-request SR-113
tacacs-server extended SR-114
tacacs-server host SR-115
tacacs-server key SR-117
tacacs-server last resort SR-118
tacacs-server notify SR-120
tacacs-server optional-passwords SR-121
tacacs-server retransmit SR-122
tacacs-server timeout SR-123
voice local-bypass VR-83
global configuration mode, summary FR-xx
global translation options
translate command DR-511
translate lat command DR-514
translate tcp command DR-524
translate x25 command DR-535
global translation options, translate command DR-520, DR-529
GNS
filters P2R-332
responding to requests P2R-276
delay in P2R-275
GRE IR-407, IR-409
group (IKE policy) command SR-406
group and member asynchronous interfaces DR-17, DR-24, IR-123
group codes
denying access BR-27, BR-34
permitting access BR-28, BR-35
group range command DR-17
guests
allowing DR-651
disallowing DR-651
GZL
replies P2R-39, P2R-57
requests P2R-39

H

half-bridging
AppleTalk DR-592
Combinet devices, not supporting PPP DR-347
Combinet devices not supporting PPP DR-288
IP DR-593
IPX DR-594

serial or ISDN, and Ethernet subnetwork DR-592, DR-593, DR-594
half-duplex command IR-104
half-duplex controlled-carrier command IR-106
half-duplex timer command IR-108
hardware
break signal FR-100
flow control FR-85
hardware compression IR-58, WR-211, WR-221
hardware compression, displaying IR-206
hardware flow control, configuring for a line DR-15
hash (IKE policy) command SR-407
HDLC
compression IR-58
encapsulation, enabling BR-363
traffic, forwarding BR-360
header-compression translate option, mapping to virtual interface template command DR-515, DR-536
Health Monitor
managed shelf polling FR-712
SNMP traps FR-727, FR-729
heartbeat, DXI 3.2 on SMDS WR-270
hello BPDUs, specifying intervals BR-46
hello packets
AppleTalk Enhanced IGRP P2R-53
IP Enhanced IGRP
interval between P1R-303
valid time P1R-304
IPX Enhanced IGRP P2R-277
IS-IS for IP, setting interval P1R-331
ISO CLNS
configuration time P3R-200
hold time P3R-211
Net/One P3R-329, P3R-360
help, user-level commands FR-12
help command FR-xv, FR-14
helper addresses
IP FR-157, P1R-25, P1R-83
IPX P2R-280
history command FR-16
history for RTR
buckets kept FR-352
displaying FR-435
filters FR-362
lives kept FR-369
samples kept FR-394
history size command FR-18
hold character
changing for session FR-86
configuring for line FR-61
hold queue, X.25 packet WR-333
hold time
AppleTalk Enhanced IGRP P2R-53
IP Enhanced IGRP P1R-304
IPX Enhanced IGRP P2R-283
hold-character command FR-61
holding-time command XR-189
hold-queue command DR-18, IR-110
hop count, DECnet P3R-127
hops-of-statistics-kept command FR-366
host configuration file FR-202
changing FR-202
copying from a server using rcp FR-254
example FR-260
default filename FR-211
loading from a server FR-202, FR-211
host name
defining X.25 DR-548
router FR-633
VINES, displaying entries P3R-28
X.25, defining WR-335
host-failed message DR-366
hostname command FR-633
Hot Standby Router Protocol
burned-in address P1R-189
enabling P1R-178, P1R-180
hello time P1R-173
hold time P1R-173
interfaces, tracking P1R-187
MAC address P1R-180
MAC refresh interval P1R-182
password, configuring P1R-177
preemption P1R-183
preemption delay P1R-183
prioritize by tracking other interfaces P1R-187
priority P1R-183
status, displaying P1R-172
timers, setting P1R-185
tracking interfaces for priority P1R-187
virtual MAC address P1R-180
hours-of-statistics-kept command FR-368
HP Probe Proxy, name requests P1R-69
hpr command
APPN control point BR-606
APPN link station BR-607
APPN port BR-608
hpr retries command BR-610
hpr sap command BR-611
hpr timers liveness command BR-612
hpr timers path-switch command BR-613
hpr-max-sessions command BR-609
HSA
automatic synchronization mode, starting FR-315
configuration synchronization
automatic FR-315
manual FR-319
configuring default slave RSP FR-316
master and slave, ensuring identical configurations FR-315
reload slave RSP card FR-318

slave image
reloading FR-318
specifying FR-317
synchronizing configurations
automatically FR-315
manually FR-319
hssi external-loop-request command IR-112
hssi internal-clock command IR-113
http
//www.cisco.com/univercd/cc/td/doc/product/software
/ios120/12cgcr/ibm_r/brprt1/brsrb.htm IR-250
hub command IR-114
hub ports
automatic receiver polarity reversal IR-20
clearing hub counters IR-39
enabling IR-114
hub statistics, displaying IR-257
link test function IR-142
resetting IR-38
shutting down IR-374
source address control IR-379

I

ICMP Router Discovery Protocol (IRDP), enabling P1R-37
ICMP subnet masks P1R-14
icpif command VR-27
idle interval, changing BR-49
idle time DR-57, DR-506
idle time, DDR
setting for line DR-689
setting for map-class DR-718
idle timer, multilink PPP and dialer-load threshold DR-599,
DR-689, DR-696, DR-797
idle-terminal message, enabling FR-146
idle-time command BR-765
idle-timeout command WR-72
IDP, encapsulation format P2R-205
IEEE 802-encapsulated packets
assigning an access list to filter on input BR-176
assigning an access list to filter on output BR-182
filtering on input BR-29
filtering on output BR-36
IEEE spanning-tree protocol, specifying use BR-52
IETF, Frame Relay encapsulation WR-171
I-frames, size limitations for LLC2 BR-439
ignore command VR-111
ignore-dcd command DR-248, IR-115
ignore-lsp-errors command P3R-242
IGRP
enabling P1R-220
offsets for routing metrics P1R-218
offsets, applying P1R-218
traffic distribution, controlling P1R-225, P1R-322
IKE
algorithms
encryption, specifying SR-405
encryption, specifying (example) SR-405
hash, specifying SR-407
hash, specifying (example) SR-407
authentication, methods, specifying SR-391
connections
clearing SR-393
clearing (example) SR-393
description, feature SR-387
DH, group identifier, specifying SR-406
disabling SR-394
(example) SR-394
enabling SR-394
group identifier, specifying SR-406
specifying (example) SR-406
ISAKMP identity, configuring (example) SR-395
negotiations, states SR-415
policies
configuration (example) SR-400
multiple SR-399
parameters, specifying SR-399
parameters, viewing SR-414
viewing SR-414
requirements, IPSec peers SR-394
ILMI, keepalives, (example) WR-18
imli manage command WR-74
impedance command VR-113
inarp command WR-75
incoming connections, definition FR-114
information (I) frames, size limitations for LLC2 BR-439
informs, operation, enabling FR-455
initialization-vector size command SR-329
input gain command VR-115
input-queue command P1R-195
insecure command FR-62
integrated routing and bridging
bridge-group virtual interface (BVI), creating BR-61
bridging a protocol in a bridge group, enabling BR-11
display configuration for each IRB interface BR-73
enabling BR-47
interarea routing
DECnet
hop count P3R-127
maximum route cost P3R-126
interface, virtual template, configuring DR-763, DR-776
interface alias address, configuring WR-325
interface atm command WR-76
interface bri command DR-198, DR-860
X.25 traffic on D channel DR-860
interface bvi command BR-61
interface cbr command WR-78
interface channel command, CMCC adapters, specifying
channel attach interface BR-767

interface command IR-117
interface configuration commands VR-80
atm compression VR-9
ces cell-loss-integration-period VR-174
ces clockmode synchronous VR-176
ces connect VR-177
ces initial-delay VR-179
ces max-buf-size VR-180
ces partial-fill VR-182
ces service VR-184
clock rate line VR-11
clock rate network-clock command VR-12
encapsulation atm-ces VR-186
fr-atm connect dlci VR-26
ip trigger-authentication (interface configuration) SR-33
ppp accounting SR-78
ppp authentication SR-39
ppp chap hostname SR-41
ppp chap password SR-43
ppp chap refuse SR-45
ppp chap wait SR-47
ppp pap sent-username SR-49
ppp use-tacacs SR-51
interface configuration mode, summary FR-xx
interface dialer command DR-708, DR-731, IR-121
interface fastethernet command IR-122
interface fr-atm command VR-28
interface group-async command IR-123
interface outage, LAPB timer WR-294
interface port-channel command IR-124
interface serial multipoint command WR-264
interface vg-anylan command IR-126
interface virtual-template command DR-763, DR-776, DR-778
interface virtual-tokenring command BR-548
interfaces
addresses, secondary P1R-14
asynchronous, DDR dialer maps, configuring DR-699
backup, configuring DR-741, DR-748
circuit type, IS-IS for IP, specifying P1R-329
counters, clearing IR-375
descriptive name, adding DR-245, DR-285
dial backup, Dialer Profiles DR-747
E1-G.703/G.704, enabling framed mode IR-399
G.703-E1
clock source IR-51, IR-53, IR-54
CRC IR-67
CRC4 DR-242
enabling framed mode DR-252, IR-399
time slot 16 DR-255, IR-402
ISDN, configuring for DDR DR-343, DR-346, DR-699
low-speed serial IR-168
PA-E3 clock source IR-51
placing in STUN group BR-350
restarting IR-375
RSVP configuration statistics (table) QR-65
serial, dialer maps, configuring for DDR DR-698
shutting down IR-375
STUN frames
forwarding BR-360, BR-361
fowarding BR-359
Token Ring BR-548
unit numbers IR-33, IR-35, IR-40, IR-117
internal buffer, message logging to FR-508
internal network number P2R-289
IPX P2R-217, P2R-287, P2R-340
internal node number
IPX P2R-217, P2R-287, P2R-340
international bit command IR-127
international character sets, supporting FR-95
international command FR-150
interrupt characters, configuring faster response DR-373
interrupt-switched command BR-614
intra-area routing, DECnet, hop count P3R-141
invalidated system images FR-274
Inverse ARP
AppleTalk, setting WR-193
Frame Relay
clearing maps WR-170
configuring WR-193
protocols supported WR-193
invert data command IR-128, IR-390
invert rxclock command IR-130
invert txclock command DR-249, IR-132
IP
access lists
applying on inbound or outbound interfaces P1R-127
definition of extended P1R-127
extended, creating P1R-98, P1R-127
extended, creating dynamic P1R-119
named P1R-129
setting on virtual terminal lines P1R-96
standard P1R-108, P1R-115, P1R-154
standard named P1R-129
violations, accounting of P1R-131
violations, logging P1R-101, P1R-117, P1R-121, P1R-157
accounting
access list violations, displaying P1R-162
database, displaying P1R-162
addresses
assigning to TCP port DR-372
pooling, show settings DR-610
pools, defining local DR-583
pools, enabling DR-579
primary P1R-14
secondary P1R-14
subnet mask on SMDS WR-276

broadcasts
flooding P1R-28
transparent bridging spanning-tree protocol P1R-28
CEF operation, enabling XR-36
description of P1R-3
Easy IP, commands DR-876
fast switching, enabling XR-13
local policy routing, identifying the route map P1R-489
named access list P1R-129
NetFlow switching, enabling XR-15
policy routing
enabling P1R-526
packet length, matching P1R-510
route map, identifying P1R-491
precedence P1R-541, QR-52
primary address, setting P1R-14
redistribution, matching
a tag P1R-516
BGP autonomous system path access list P1R-391
BGP community list P1R-393
interface P1R-501
IP address P1R-503
metric of a route P1R-512
next hop router address P1R-506
route source P1R-508
route type P1R-514
redistribution, setting
as-path P1R-436
BGP origin code P1R-448
BGP weight P1R-450
community P1R-440, P1R-446, P1R-448
default interface P1R-533
default next hop P1R-537
interface P1R-535
level for importing routes P1R-543
metric P1R-221, P1R-312, P1R-547
metric type P1R-549
next hop P1R-444, P1R-539, P1R-551
preference for autonomous system P1R-545
tag P1R-442, P1R-531
tag of destination routing protocol P1R-553
routing
displaying status of interfaces FR-156, FR-446, P1R-82
enabling P1R-71
local-area mobility P1R-39
secondary address, specifying P1R-14
SMDS
configuring over WR-275
multiple subnetworks WR-264
source IP address, validating P1R-209
switching, controlling the route cache XR-13
UDP datagrams
flooding P1R-30
speeding up flooding P1R-30
ip access-group command DR-19, DR-624, P1R-127
ip access-list command P1R-129
ip access-list extended (encryption) command SR-264
ip accounting command P1R-131
ip accounting-list command P1R-133
ip accounting-threshold command P1R-134
ip accounting-transits command P1R-135
ip address command DR-625, P1R-14
ip address negotiated command DR-876
ip address-pool command DR-579
ip alias command DR-372
ip as-path access-list command P1R-386
with regular expressions DR-902, DR-907
ip authentication key-chain eigrp command P1R-300
ip authentication mode eigrp command P1R-301
ip bandwidth-percent eigrp command P1R-302
ip bootp server command FR-634
ip broadcast-address command P1R-16
ip cache-invalidate-delay command XR-7
ip cef accounting command XR-31
ip cef command XR-29
ip cef distributed command XR-29
ip cef traffic-statistics command P1R-17, XR-32
ip cgmp command P1R-586
ip classless command P1R-19
ip community-list command P1R-389
ip default-gateway command P1R-20
ip default-network command P1R-487
ip dhcp-server command DR-581
ip directed-broadcast command P1R-21
ip domain-list command P1R-22
ip domain-lookup command P1R-23
ip domain-lookup nsap command P3R-243
ip domain-name command P1R-24
ip drp access-group command P1R-136
ip drp authentication key-chain command P1R-137
ip drp server command P1R-138
ip dvmrp accept-filter command P1R-588
ip dvmrp auto-summary command P1R-590
ip dvmrp default-information command P1R-591
ip dvmrp metric command P1R-592
ip dvmrp metric-offset command P1R-594
ip dvmrp output-report-delay command P1R-595
ip dvmrp reject-non-pruners command P1R-596
ip dvmrp routehog-notification command P1R-597
ip dvmrp route-limit command P1R-598
ip dvmrp summary-address command P1R-599
ip dvmrp unicast-routing command P1R-600
IP Enhanced IGRP
administrative distance, setting P1R-297
authentication, enabling P1R-300
bandwidth P1R-302
default routes P1R-294
disabling P1R-311

enabling P1R-311
filters
routes in updates P1R-483
routes in updates, advertising P1R-485
routing updates, preventing P1R-519
interfaces, displaying P1R-314
load balancing P1R-323
metric offset P1R-310
metrics, adjusting P1R-295
neighbor adjacency changes, logging P1R-299
offsets, applying P1R-205
redistribution, metrics for P1R-295
route authentication P1R-300
route feasibility, determining P1R-323
route redistribution P1R-294, P1R-295
route summarization P1R-192, P1R-292, P1R-358
split horizon, enabling P1R-305
timers, adjusting P1R-303, P1R-304
ip flow-export command XR-9, XR-11
ip forward-protocol any-local-broadcast command P1R-27
ip forward-protocol command P1R-25
ip forward-protocol spanning-tree command P1R-28
ip forward-protocol turbo-flood command P1R-30
ip ftp passive command FR-324
ip ftp password command FR-325
ip ftp source-interface command FR-326
ip ftp username command FR-327
ip hello-interval eigrp command P1R-303
ip helper-address command P1R-32
ip hold-time eigrp command P1R-304
ip host command P1R-34
ip host-routing command P1R-35
ip hp-host command P1R-36
ip http access-class command FR-19
ip http authentication command FR-20
ip http port command FR-21
ip http server command FR-22
ip icmp rate-limit unreachable command P1R-139
ip identd command SR-426
ip igmp access-group command P1R-601
ip igmp helper-address command P1R-602
ip igmp join-group command P1R-604
ip igmp query-interval command P1R-606
ip igmp query-max-response-time command P1R-608
ip igmp query-timeout command P1R-609
ip igmp static-group command P1R-610
ip igmp version command P1R-611
ip inspect (interface configuration) command SR-178
ip inspect audit trail command SR-176
ip inspect dns-timeout command SR-177
ip inspect max-incomplete high command SR-179
ip inspect max-incomplete low command SR-181
ip inspect name (global configuration) command SR-183
ip inspect one-minute high command SR-188
ip inspect one-minute low command SR-190
ip inspect tcp finwait-time command SR-192
ip inspect tcp idle-time command SR-193
ip inspect tcp max-incomplete host command SR-194
ip inspect tcp synwait-time command SR-196
ip inspect udp idle-time command SR-197
ip irdp command P1R-37
ip irdp holdtime command P1R-37
ip irdp maxadvertinterval command P1R-37
ip irdp multicast command P1R-37
ip local policy route-map command P1R-489
ip local pool command DR-583
ip mask-reply command P1R-140
ip mobile arp command P1R-39
ip mroute command P1R-612
ip mroute-cache command XR-112
ip mtu command DR-20, P1R-141
ip multicast boundary command P1R-614
ip multicast cache-headers command P1R-615
ip multicast helper-map command P1R-617
ip multicast rate-limit command P1R-619
IP multicast routing
access lists P1R-601
Auto-RP, cache, clearing P1R-580
CGMP
clearing P1R-576
enabling P1R-586
proxy P1R-586
desktop conferencing session P1R-648
DVMRP
advertising to neighbors P1R-591
auto-summarization P1R-590
delay between reports P1R-595
reject non-pruning neighbors P1R-596
route hog notification P1R-597
route threshold P1R-597
summary address P1R-599
tunneling P1R-96
unicast routing P1R-600
fast-switching cache, displaying XR-116
IGMP
cache P1R-578
helper address P1R-602
host-query message interval P1R-606
query response time P1R-608
query timeout P1R-609
statically connected router member P1R-610
version P1R-611
IP multicast routing table
clearing P1R-579
displaying P1R-665
MDS
enabling globally XR-114
enabling on interface XR-112
interface status, displaying XR-120
line card packet counts, clearing XR-111

line card packet counts, displaying XR-121
MFIB table summary, displaying XR-123
MFIB table, clearing XR-110
MFIB table, displaying XR-118
packet statistics, displaying XR-115
switched packet counts, displaying XR-125
mrinfo P1R-649
mroute, configuring P1R-612
mrouted P1R-649
multicast groups
displaying P1R-657
hosts joining P1R-601
joining P1R-604
multicast information, displaying P1R-659
multicast tree, tracing P1R-650, P1R-652
packet headers, storing P1R-615
PIM
dense mode, enabling P1R-623
enabling P1R-623
filtering P1R-633
information, displaying P1R-673
NBMA mode P1R-632
neighbors, displaying P1R-675
preventing P1R-633
shortest path tree, delaying use P1R-641
sparse mode, enabling P1R-623
sparse-dense mode, enabling P1R-623
PIM sparse mode
join-and-prune message timer P1R-629
router-query messages P1R-634
timers P1R-629
rendezvous point (RP), configuring address P1R-625, P1R-635
Reverse Path Forwarding (RPF), displaying P1R-683
RP
assigning to a group P1R-635
Auto-RP, groups covered P1R-639
Auto-RP, mapping agent P1R-640
displaying P1R-677
filter RP announcements P1R-637
RPF P1R-665
displaying P1R-683
sdr
displaying cache P1R-686
listener support P1R-648
session advertisements P1R-648
Session Directory Protocol P1R-648
sparse mode, enabling P1R-623
static route, configuring P1R-612
stub multicast routing P1R-602, P1R-633
Token Ring MAC address mapping P1R-622
TTL, configuring P1R-621
whiteboard applications P1R-648
ip multicast ttl-threshold command P1R-621
ip multicast use-functional command P1R-622
ip multicast-routing command XR-114
ip name-server command P1R-41
ip nat command P1R-42
ip nat inside destination command P1R-44
ip nat inside source command DR-877, P1R-46
ip nat outside source command P1R-48
ip nat pool command P1R-50
ip nat translation command P1R-52
ip netmask-format command P1R-54
ip nhrp authentication command P1R-55
ip nhrp holdtime command P1R-56
ip nhrp interest command P1R-57
ip nhrp map command P1R-58
ip nhrp map multicast command P1R-59
ip nhrp max-send command P1R-60
ip nhrp network-id command P1R-61
ip nhrp nhs command P1R-62
ip nhrp record command P1R-63
ip nhrp responder command P1R-64
ip nhrp server-only command P1R-65
ip nhrp trigger-svc command P1R-66
ip nhrp use command P1R-67
ip ospf authentication command P1R-247
ip ospf authentication-key command P1R-248
ip ospf cost command P1R-249
ip ospf database-filter all out command P1R-250
ip ospf dead-interval command P1R-251
ip ospf demand-circuit command P1R-252
ip ospf hello-interval command P1R-253
ip ospf message-digest-key command P1R-254
ip ospf name-lookup command P1R-256
ip ospf network command P1R-257
ip ospf priority command P1R-259
ip ospf retransmit-interval command P1R-260
ip ospf transmit-delay command P1R-261
ip pim accept-rp command P1R-625
ip pim border command P1R-626
ip pim bsr-candidate command P1R-627
ip pim command P1R-623
ip pim message-interval command P1R-629
ip pim minimum-vc-rate command P1R-630
ip pim multipoint-signalling command P1R-631
ip pim nbma-mode command P1R-632
ip pim neighbor-filter command P1R-633
ip pim query-interval command P1R-634
ip pim rp-address command P1R-635
ip pim rp-announce-filter command P1R-637
ip pim rp-candidate command P1R-638
ip pim send-rp-announce command P1R-639
ip pim send-rp-discovery command P1R-640
ip pim spt-threshold command P1R-641
ip pim vc-count command P1R-642
ip pim version command P1R-643
ip policy route-map command P1R-491
ip precedence command BR-769

ip probe proxy command P1R-69
ip proxy-arp command P1R-70
ip radius source-interface command SR-88
ip rarp-server command FR-328
ip rcmd domain-lookup command FR-330
ip rcmd rcp-enable command FR-331, FR-337
ip rcmd remote-host command FR-332
ip rcmd remote-username command FR-335
ip rcmd rsh-enable command FR-337
ip redirects command P1R-142
ip reflexive-list timeout command SR-150
ip rip authentication key-chain command P1R-196
ip rip authentication mode command P1R-197
ip rip receive version command P1R-198
ip rip send version command P1R-199
ip route command P1R-493
ip route-cache cef command XR-36
ip route-cache command XR-13
ip route-cache flow command XR-15
ip router isis command P1R-328
ip routing command P1R-71
ip rsvp bandwidth command QR-13
ip rsvp neighbors command QR-15
ip rsvp reservation command QR-17
ip rsvp sender command QR-19
ip rsvp udp-multicast command QR-21
ip rtp compression-connections command P1R-644
ip rtp header-compression command P1R-645
ip rtp reserve command DR-585
ip sdr cache-timeout command P1R-647
ip sdr listen command P1R-648
ip security add command SR-446
ip security aeso command SR-448
ip security allow-reserved command SR-463
ip security dedicated command SR-449
ip security eso-info command SR-451
ip security eso-max command SR-452
ip security eso-min command SR-454
ip security extended-allowed command SR-456
ip security first command SR-457
ip security ignore-authorities command SR-458
ip security implicit-labelling command SR-459
ip security multilevel command SR-461
ip security strip command SR-465
ip source-route command P1R-143
ip split-horizon (RIP) command P1R-200
ip split-horizon command P1R-212
ip split-horizon eigrp command P1R-305
ip subnet-zero command P1R-72
ip summary-address eigrp command P1R-306
ip tacacs source-interface command SR-109
ip tcp async-mobility server command DR-626
ip tcp chunk-size command DR-373, P1R-144
ip tcp compression-connections command P1R-145
ip tcp header-compression command DR-627, P1R-146
ip tcp intercept connection-timeout command SR-156
ip tcp intercept drop-mode command SR-157
ip tcp intercept finrst-timeout command SR-159
ip tcp intercept list command SR-160
ip tcp intercept max-incomplete high command SR-161
ip tcp intercept max-incomplete low command SR-163
ip tcp intercept mode command SR-165
ip tcp intercept one-minute high command SR-166
ip tcp intercept one-minute low command SR-168
ip tcp intercept watch-timeout command SR-170
ip tcp path-mtu-discovery command P1R-147
ip tcp queuemax command P1R-148
ip tcp selective-ack command P1R-149
ip tcp synwait-time command P1R-150
ip tcp timestamp command P1R-151
ip tcp window-size command P1R-152
ip telnet source-interface command FR-635
ip tftp source-interface command FR-636
ip tos command BR-770
ip trigger-authentication (global configuration) command SR-31
ip trigger-authentication (interface configuration) command SR-33
ip udp checksum command VR-29
ip unnumbered command DR-629, P1R-73
ip unreachables command P1R-153
ip wccp enable command FR-151
ip wccp redirect-list command FR-153
ip web-cache redirect command FR-155
IPC connections, VINES
  blocks, deleting P3R-21
  information, displaying P3R-32
  port numbers (table) P3R-56, P3R-60
ip-pool translate option, mapping to virtual interface template command DR-515, DR-536
IPSec
  crypto access lists, specifying SR-266, SR-331
  crypto map entries
    creating SR-250, SR-321
    lifetime values, overriding SR-341
    specifying a peer SR-335
  crypto maps
    applying SR-325
    dynamic, creating SR-312
    dynamic, priorities SR-323
    dynamic, viewing SR-354
    interfaces, identifying SR-327
    purpose SR-322
    viewing SR-355
  description SR-309
  lifetimes, viewing SR-352
  requirements, IKE SR-394
  SAs
    clearing SR-310
    lifetimes, changing SR-315

requesting SR-339
viewing SR-349
session keys, manually specifying SR-344
transform sets
defining SR-317
mode, changing SR-333
specifying SR-347
viewing SR-353
transforms
allowed combinations SR-318
changing SR-320
initialization vector SR-329
selecting SR-319
IPSO
authorities and bit patterns
(table) SR-450
definition SR-450
basic, configuring SR-446
extended
configuring SR-448
defaults SR-451
maximum sensitivity levels SR-452
minimum sensitivity levels SR-454
labels, definition SR-450
levels and bit patterns
(table) SR-449
definition SR-449
IPTalk
/etc/services file P2R-63
IP encapsulation, configuring P2R-61
UDP port numbers P2R-63
IPX
access control P2R-210
access lists
creating for NLSP route aggregation P2R-213
extended P2R-206, P2R-229, P2R-411
named P2R-248
extended P2R-248
NLSP route aggregation P2R-248
SAP P2R-248
standard P2R-248
NetBIOS P2R-408
SAP P2R-216, P2R-234, P2R-418
standard P2R-210, P2R-236, P2R-414
summary P2R-232, P2R-416
accounting
configuring P2R-250
database entries, deleting P2R-221
database threshold P2R-254
disabling P2R-250
enabling P2R-250
filters P2R-252
maximum transit entries P2R-255
all-nets flooding P2R-278
bandwidth-percent eigrp command P2R-259
broadcasts
forwarding P2R-278, P2R-280
type 20 packets P2R-278, P2R-392, P2R-393, P2R-394
client, connecting to asynchronous interface over PPP DR-631
clock ticks P2R-270
compression on PPP links DR-630
disabling P2R-272
encapsulations P2R-304, P2R-352
ARPA P2R-304
definitions P2R-304
Ethernet_802.2 P2R-304
Ethernet_802.3 P2R-304
Ethernet_II P2R-304
Ethernet_Snap P2R-304
FDDI raw P2R-304
HDLC P2R-304
multiple, configuring P2R-304
Novell-Ether P2R-304
SAP P2R-304
SNAP P2R-304
Enhanced IGRP
backup server table P2R-258
disabling P2R-410
enabling P2R-359, P2R-410
hello packets P2R-277
hold time P2R-283
hold-down time P2R-282
interface statistics P2R-430
neighbors, displaying P2R-432
queries P2R-258
query packets P2R-378, P2R-380
redistribution P2R-421
SAP updates P2R-370
split horizon P2R-378, P2R-380
topology table P2R-434
update packets P2R-378, P2R-380
Enhanced IGRP filters, route updates P2R-238, P2R-240
fast switching
cache entries, deleting P2R-223
cache entries, displaying P2R-429
disabling P2R-352
enabling P2R-352
inactivity timeout P2R-354
update timeout P2R-357
filters
broadcast P2R-280
generic P2R-246
generic, applying to interface P2R-246
GNS, applying to interface P2R-332
routing table P2R-361
floating-static routes
definition P2R-350

redistributing P2R-422
general RIP/SAP query, sending P2R-296
GNS
filters P2R-332
requests P2R-376
requests, responding to P2R-276
helper addresses P2R-280
interfaces, displaying status P2R-439
internal network numbers P2R-379
IPXWAN
disabling P2R-290
enabling P2R-290
failed link, handling P2R-293
IPX network numbers P2R-291
link delay, controlling P2R-291
option negotiations P2R-291
static routing, disabling P2R-294
static routing, enabling P2R-294
keepalives P2R-399
SPX P2R-383
load sharing P2R-298
per host P2R-343
log-neighbor-changes P2R-402
loopback interfaces DR-511, DR-520, DR-529
maximum paths, setting P2R-298
multiple logical networks P2R-305
named access lists P2R-248
NetBIOS messages, filtering P2R-300, P2R-302
NetWare internal network numbers P2R-379
network numbers, repairing corrupted P2R-379
NLSP
filters, route updates P2R-240
OS/2 Requestors P2R-379
over PPP DR-631
clients connecting to virtual terminal lines DR-511, DR-520, DR-529
packets, padding P2R-342
parallel paths, choosing between P2R-298
protocol numbers (table) P2R-208
restarting P2R-272
RIP
delay field P2R-270
enabling P2R-359, P2R-365
updates P2R-334
updates, timers P2R-396, P2R-398
RIP, enabling P2R-365
route-cache, limiting entries P2R-356
routing
disabling P2R-304
enabling P2R-304, P2R-365
enabling on multiple networks (example) P2R-306
phantom SAPs P2R-368
SAP entries, from best path to destination network P2R-368
SAP loop P2R-368
Service Information, unnecessary SAP updates, reducing number of P2R-377
routing table entries
adding P2R-285
deleting P2R-227
displaying P2R-455
routing table, updating P2R-396
SAP
access lists, creating P2R-216
broadcast, sending P2R-398
definition P2R-205
enabling P2R-365
filters P2R-216
routes in updates, processing P2R-242
interpacket delay on a single interface, setting P2R-338
interpacket delay on all interfaces, setting P2R-263
maximum queue length, setting P2R-376
messages
filtering P2R-287, P2R-340, P2R-363
messages, filtering P2R-287
table, adding static entries P2R-366
triggered updates, setting interpacket delay on a single interface P2R-388
SAP split horizon P2R-372
secondary networks P2R-304
servers
displaying P2R-460
internal network number P2R-217, P2R-287, P2R-340
internal node number P2R-217, P2R-287, P2R-340
Service Information, split horizon checking P2R-377
service types (table) P2R-217
SMDS, configuring over WR-275
socket numbers (table) P2R-208
SPF log P2R-453
spoofing P2R-399
static routes
adding to routing table P2R-349
floating P2R-350
subinterfaces P2R-305
configuring (example) P2R-306
tick count P2R-270
traffic statistics P2R-464
type 20 packets
accepting P2R-392
forwarding P2R-393, P2R-394
watchdog packets P2R-399
ipx access-group command P2R-246
ipx access-list command P2R-248
ipx accounting command P2R-250
ipx accounting-list command P2R-252
ipx accounting-threshold command P2R-254

ipx accounting-transits command P2R-255
ipx advertise-default-route-only command P2R-256
ipx backup-server-query-interval command P2R-258
ipx bandwidth-percent eigrp command P2R-259
ipx broadcast-fastswitching command P2R-260
ipx default-output-rip-delay command P2R-261
ipx default-output-sap-delay command P2R-263
ipx default-route command P2R-265
ipx default-triggered-rip-delay command P2R-266
ipx default-triggered-sap-delay command P2R-268
ipx delay command P2R-270
ipx down command P2R-272
ipx gns-reply-disable command P2R-274
ipx gns-response-delay command P2R-275
ipx gns-round-robin command P2R-276
ipx hello-interval eigrp command P2R-277
ipx helper-address command P2R-278
ipx helper-list command P2R-280
ipx hold-down eigrp command P2R-282
ipx hold-time eigrp command P2R-283
ipx input-network-filter command P2R-285
ipx input-sap-filter command P2R-287
ipx internal-network command P2R-289
ipx ipxwan command P2R-290
ipx ipxwan error command P2R-293
ipx ipxwan static command P2R-294
ipx link-delay command P2R-295
ipx linkup-request command P2R-296
ipx loopback translate option, mapping to virtual interface template command DR-515, DR-536
ipx maximum-hops command P2R-297
ipx maximum-paths command P2R-298
ipx nasi-server enable command DR-754
ipx netbios input-access-filter command P2R-300
ipx netbios output-access-filter command P2R-302
ipx network command (extended) P2R-304
ipx nhrp authentication command P2R-308
ipx nhrp holdtime command P2R-309
ipx nhrp interest command P2R-310
ipx nhrp map command P2R-311
ipx nhrp max-send command P2R-312
ipx nhrp network-id command P2R-313
ipx nhrp nhs command P2R-314
ipx nhrp record command P2R-315
ipx nhrp responder command P2R-316
ipx nhrp use command P2R-317
ipx nlsp csnp-interval command P2R-319
ipx nlsp enable command P2R-320
ipx nlsp hello-interval command P2R-322
ipx nlsp hello-muliplier command P2R-324
ipx nlsp lsp-interval command P2R-325
ipx nlsp metric command P2R-326
ipx nlsp multicast command P2R-327
ipx nlsp priority command P2R-328
ipx nlsp retransmit-interval command P2R-329
ipx nlsp rip command P2R-330
ipx nlsp sap command P2R-331
ipx output-gns-filter command P2R-332
ipx output-network-filter command P2R-334
ipx output-rip-delay command P2R-336
ipx output-sap-delay command P2R-338
ipx output-sap-filter command P2R-340
IPX over PPP, on VTY lines DR-541
ipx pad-process-switched-packets command P2R-342
ipx per-host-load-share command P2R-343
ipx ping-default command P2R-344
ipx ppp-client command DR-631
ipx rip-max-packetsize command P2R-346, P2R-374
ipx rip-multiplier command P2R-347
ipx rip-response-delay command P2R-348
ipx route command P2R-349
ipx route-cache command P2R-352
ipx route-cache inactivity-timeout command P2R-354
ipx route-cache max-size command P2R-356
ipx route-cache update-timeout command P2R-357
ipx router command P2R-359
ipx router-filter command P2R-361
ipx router-sap-filter command P2R-363
ipx routing command P2R-365
ipx sap command P2R-366
ipx sap follow-route-path command P2R-368
ipx sap-incremental command P2R-370
ipx sap-incremental split-horizon command P2R-372
ipx sap-multiplier command P2R-375
ipx sap-queue-maximum command P2R-376
ipx server-split-horizon-on-serverpaths command P2R-377
ipx source-network-update command P2R-379
ipx split-horizon eigrp command P2R-378, P2R-380
ipx spx-idle-time command P2R-381
ipx spx-spoof command P2R-383
ipx throughput command P2R-385
ipx triggered-rip-delay command P2R-386
ipx triggered-sap-delay command P2R-388
ipx type-20-helpered command P2R-390
ipx type-20-input-checks command P2R-392
ipx type-20-output-checks command P2R-393
ipx type-20-propagation command P2R-394
ipx update interval command P2R-396
ipx update sap-after-rip command P2R-398
ipx watchdog-spoof command P2R-399
IRDP, enabling P1R-37
ISDN
  active calls DR-331
  active calls, displaying DR-229, DR-353
  Advice of Charge
    short-hold timer DR-341
    static idle timer and short-hold timer (example) DR-341
  B channel, order selection DR-294
  B1 channel SPID, defining DR-210

B2 channel SPID, defining DR-212
Basic Rate Interface (BRI)
over leased-lines, treated as synchronous serial DR-348
subinterface, configuring DR-198
BRI subinterface, configuring DR-860
call history DR-331
call history, displaying DR-229, DR-353
call speed, origin and delivery mismatch DR-208, DR-302
called-party number verification DR-200
caller ID callback DR-819–DR-823
calling number identification DR-203
channel service states, displaying DR-349
channelized T1, PRI timeslots DR-315
configuring static TEI DR-863
dialer maps, configuring for DDR DR-699
dialer maps, configuring for legacy DDR DR-343, DR-346
encapsulation, automatic detection DR-258, DR-338
Layer 2 and Layer 3 timers DR-229, DR-331, DR-353
leased-line service, 128 kbps DR-348
memory pool statistics DR-229, DR-331, DR-353
Multiple ISDN Switch Types, restrictions DR-305
NFAS
DDR configuration, needed on primary D channel only DR-351
group, members and channels, displaying DR-355
primary and backup D channels, on separate T1 controllers DR-351
outbound calls, identifying best line DR-704
outgoing calls, Sending Complete information element DR-209
PRI interface, channel status, displaying DR-353
Primary Rate Interface (PRI)
called-party number verification DR-292
calling number identification DR-296
channel status DR-331
services DR-331
status DR-333
switch types (table) DR-305
timeslots DR-315
semipermanent connections (Germany) DR-697, DR-719
subinterfaces, BRI DR-198, DR-860
switch types, service provider (table) DR-214
timers (table) DR-231
V.120 detection DR-258, DR-338
isdn all-incoming-calls-v120 command DR-643
isdn answer1 command DR-200, DR-292
isdn answer2 command DR-200, DR-292
isdn bchan-number-order command DR-294
isdn caller command DR-202, DR-295, DR-822
ISDN caller ID callback DR-819
isdn calling-number command DR-203, DR-296
isdn incoming-voice modem command DR-301
isdn leased-line bri 128 command DR-348
isdn negotiate-bchan command DR-207
isdn not-end-to-end command DR-208, DR-302
isdn nsf-service command DR-303
ISDN PRI
B channel, order selection DR-294
Multiple ISDN Switch Types, restrictions DR-305
isdn sending-complete command DR-209
isdn service command DR-349
b_channel 0 DR-349
isdn spid1 command DR-210
isdn spid2 command DR-212
ISDN subaddress, specifying in dialer string DR-679
ISDN subaddress, specifying DR-705
isdn switch-type command DR-214, DR-305, DR-869
isdn tei command DR-216
isdn x25 dchannel command DR-862
isdn x25 static-tei command DR-863
isdn-subaddress for multipoint connections DR-342, DR-345, DR-698
isis adjacency-filter command P3R-244
isis circuit-type command P1R-329
isis csnp-interval command P1R-330
IS-IS for CLNS
adjacency changes, logging P3R-247
enabling P3R-230
Level 1 routing table, displaying P3R-290
link-state
packet, setting MTU P3R-248
PDU, discarding P3R-242
routing information, redistributing P3R-257
IS-IS for IP
adjacency, specifying P1R-329, P1R-330
area passwords, configuring P1R-324
conditional default origination P1R-325
default route, generating P1R-242, P1R-325
designated router election, specifying P1R-338
domain passwords, configuring P1R-327
enabling P1R-343
interface password, assigning P1R-337
link state metrics, configuring P1R-336
password authentication, configuring P1R-324
retransmission level, setting P1R-339
router support, specifying level P1R-341
isis hello-interval command P1R-331
isis hello-multiplier command P1R-333
isis lsp-interval command P1R-335
isis metric command P1R-336
isis password command P1R-337
isis priority command P1R-338
isis retransmit-interval command P1R-339
isis retransmit-throttle-interval command P1R-340
ISO CLNS
addresses, DNS queries P3R-243

adjacency, logging changes P3R-247
checksums P3R-198
CLNS neighbors, removing P3R-187
congestion information, transmitting over Frame Relay WR-216
congestion threshold P3R-201
DECnet cluster alias configuration P3R-199
destination routing table, displaying P3R-332
DNS queries P3R-243
ES neighbors
displaying P3R-272, P3R-280
removing P3R-185
fast switching P3R-224
filter expressions, displaying filter sets P3R-274, P3R-275
general information, displaying P3R-267
hello messages, specifying P3R-200, P3R-211
interfaces
displaying information P3R-276
enabling P3R-203
IS neighbors
displaying P3R-278, P3R-280
removing P3R-186
IS-IS routing, enabling P3R-230
link-state
packets, setting MTU P3R-248
PDUs, discarding P3R-242
MTU, maximum P3R-215
neighbors, listing P3R-206, P3R-214
OSI model P3R-183
packet lifetime P3R-219
redistribution P3R-257
address match P3R-249
interface match P3R-252
level set P3R-261
metric match P3R-253
metric set P3R-263
metric-type set P3R-265
next-hop match P3R-250
route-source match P3R-251
route-type match P3R-254
tag set P3R-266
routing cache
clearing P3R-184
displaying entries P3R-269
reinitializing P3R-184
routing table, clearing entries from P3R-188
routing, enabling P3R-232
security-option packets, allowing to pass P3R-233
SMDS, configuring over WR-274
traffic statistics, displaying P3R-287
ISO IGRP
border routers P3R-257
filters
aliases P3R-238
ES adjacencies, applying to P3R-194
expressions, combining P3R-207
frames, applying to P3R-192
IS adjacencies, applying to P3R-194
IS-IS adjacencies, applying to P3R-244
ISO IGRP adjacencies, applying to P3R-246
templates P3R-209
metric adjustments P3R-255
preferred routes P3R-259
router level, specifying P3R-231
routing information redistribution P3R-257
routing processes, displaying P3R-282
split horizon, enabling P3R-236
timing parameter adjustments P3R-331
iso-igrp adjacency-filter command P3R-246
ISR, enabling BR-614
is-type command P1R-341

K

keepalive (ATM) command WR-236
keepalive command BR-772, IR-134
keepalive interval, LMI
defining WR-236
setting, example WR-236
keepalive packets, generating FR-534, FR-535
keepalive timer, ATM (example) WR-149
keepalive timer, setting rate, LAT DR-391
keepalive translate option, mapping to virtual interface template command DR-515, DR-536
keepalives P2R-381
IPX P2R-399
SPX P2R-383
keepalive-time command XR-190
kerberos clients mandatory command SR-127
kerberos crednetials forward command SR-128
kerberos instance map command SR-129
kerberos local-realm command SR-130
kerberos preauth command SR-131
kerberos realm command SR-132
kerberos server command SR-133
kerberos srvtab command SR-134
kerberos srvtab remote command SR-136
key chain command P1R-497
key command P1R-495
key config-key command SR-137
unrecoverable DES key, (caution) SR-137
keymap command DR-374
keymaps
custom, creating DR-376
default DR-377
special characters DR-376
specifying for session FR-87
syntax DR-376

keymap-type command DR-381
keys, pre-shared
configuration (example) SR-391
deleting SR-397
specifying SR-397
specifying (example) SR-397
key-string (IKE) command SR-408
key-string command P1R-499
Kinetics IPTalk

L

lan command BR-774
LAN Extender interface
access list filtering
on Ethernet packets IR-137
on MAC address IR-136
access-list (standard) command IR-3
burned-in MAC address IR-135
downloading
from Flash IR-64
from TFTP server IR-65
priority output queuing IR-138
rebooting IR-33
retry count IR-139
show statistics IR-301
timeout IR-140
lan-dest-address command BR-615
LANE
ATM addresses
automatic assignment XR-137
configuration server XR-137
fixed assignment XR-150
manual assignment XR-144
templates
ESI XR-140
prefix XR-140
broadcast-and-unknown server
manually specifying ATM address XR-139
providing different address to client XR-139
client
activating on subinterface XR-141
adding address to database XR-133
ATM address, providing manually XR-142
exiting and rejoining emulated LAN XR-128
one per subinterface XR-141
configuration server, ATM address
assigning XR-137
identifying to server and client XR-144
specifying XR-144
default LAN name in configuration server database XR-135
emulated LAN
client exiting and rejoining XR-128
forcing client to join new XR-131
one per subinterface XR-141
LE ARP table, clearing entries XR-128, XR-129
LECS, specifying a list of LECS addresses to use XR-152
MPOA, ELAN ID XR-159
simple LANE service replication XR-162
lane auto-config-atm-address command XR-137
lane bus-atm-address command XR-139
lane client command XR-141
lane client mpoa client name command XR-191
lane client mpoa server name command XR-192
lane client-atm-address command XR-142
lane config database command XR-146
lane config-atm-address command XR-144
lane database command XR-148
lane fixed-config-atm-address command XR-150
lane global-lecs-address command XR-152
lane le-arp command XR-153
lane server-atm-address command XR-155
lane server-bus command XR-157
lan-name command BR-511
Lanoptics Hub Networking Management IR-143
LAPB
compression DR-240, IR-58, IR-60
encapsulation WR-290
frame retransmssion parameter (N2 frame) WR-299
hardware outage WR-294
idle timer (T4 parameter) WR-302
interface outage timer WR-294
interface statistics, displaying IR-339
modulo, description WR-296
outstanding frames
acknowledgment (modulo parameter) WR-296
maximum number (window parameter) WR-295
N1 bits WR-297
retransmission timer (T1 parameter) WR-301
unsignaled link failure WR-302
window size (k parameter) WR-295
lapb interface-outage command WR-294
lapb k command WR-295
lapb modulo command WR-296
lapb n1 command WR-297
lapb n2 command WR-299
lapb t1 command WR-301
lapb t4 command WR-302
LAT
access control
assigning names to group lists DR-387
defining a group list DR-393
on connections DR-364
specifying access conditions to nodes DR-384
associating a command with a service DR-398, P3R-165
associating a rotary group with a service DR-406

compression, specifying BR-32
deleting entry from connection queue DR-367
description DR-382
enabling DR-386
group code filtering, configuring BR-48
group code mask, specifying DR-400
inbound connections, enabling DR-399
keepalive timer, setting DR-391
learned services DR-430
listing, available services DR-382, DR-430
making a connection DR-382–DR-383
maximum number of sessions, setting DR-408
node name, changing DR-392
opening multiple connections DR-382
password for a service, setting DR-403
protocol translation options DR-519, DR-528
proxy node, configuring DR-405
receive buffers
setting for host DR-389
setting for server DR-396
retransmission limit, setting DR-395
service advertisement timer DR-407
service announcements
configuring DR-397
reenabling DR-397
service groups
permitting access based on BR-28
specifying for filtering BR-27
service identification, setting DR-402
static service rating, setting DR-404
transmission interval, setting DR-409
viewing
active sessions DR-431
learned LAT services DR-430
lat access-list command DR-384
lat command DR-382
lat enabled command DR-386
lat group-list command DR-387
lat host-buffers command DR-389
lat host-delay command DR-390, P3R-164
lat ka-timer command DR-391
lat node command DR-392
lat out-group command DR-393
lat remote-modification command DR-394
lat retransmit-limit command DR-395
lat server-buffers command DR-396
lat service autocommand DR-398
lat service autocommand command P3R-165
lat service enabled command DR-399
lat service ident command DR-402
lat service password command DR-403
lat service rating command DR-404
lat service rotary command DR-406
lat service timer command DR-407
lat service-announcements command DR-397, DR-400, DR-407
lat service-group command DR-408
lat service-responder command DR-407
lat vc-sessions command DR-408
lat vc-timer command DR-409
Layer 2 Forwarding, tunnel information, displaying DR-838
LDAP protocol support, specifying SR-384
LE ARP table, dynamic entries, clearing XR-129
length command FR-63
lex burned-in-address command IR-135
lex input-address-list command IR-136
lex input-type-list command IR-137
lex priority-group command IR-138
lex retry-count command IR-139
lex timeout command IR-140
lifetime (IKE policy) command SR-410
limited-resource command, APPN
link station BR-616
port BR-617
limiting LU sessions BR-749
line
characteristics, modifying remotely DR-394
console port, configuring DR-22
folding, X.3 DR-896
number, absolute DR-22
virtual terminal DR-22
line coding, T1 IR-390
line coding format DR-250, IR-167
line command DR-21
line configuration commands
accounting SR-76
arap authentication SR-28
authorization SR-65
login authentication SR-34
login tacacs SR-36
nasi authentication SR-37
timeout login response SR-56
line configuration mode, entering DR-21
line feed
insertion, X.3 PAD parameters DR-897
padding, X.3 PAD parameters DR-898
line number
auxiliary DR-22
relative DR-21
virtual terminal DR-22
line speed
receive speed, changing for session FR-94
transmit and receive speed, changing for session FR-96
transmit speed, changing for session FR-106
line types DR-22
linecode command DR-307, IR-141
line-code type, selecting DR-307, IR-141
lines
disconnecting DR-371

displaying information about DR-57, DR-506
sending messages to FR-143
link command BR-776
Link Quality Monitoring (LQM)
enabling DR-605
link state metrics
IS-IS for IP, configuring P1R-336
link traps, disabling FR-479
link-queuing command BR-618
link-state PDU
discarding P3R-242
MTU, setting P3R-248
link-test command IR-142
lives-of-history-kept command FR-369
LLC2
CMNS support BR-369
connection information, displaying BR-424
display
active connections BR-800
local acknowledgment, enabling for SNA traffic prioritization BR-222
polling frequency, configuring BR-379
wait interval for an acknowledgment, configuring BR-375
XID transmissions, specifying frequency of BR-391
llc2 ack-delay-time command BR-375
llc2 ack-max command BR-377
llc2 dynwind command BR-549
llc2 idle-time command BR-379
llc2 local-window command BR-380
llc2 n2 command BR-381
llc2 nw command BR-383
llc2 recv-window command BR-384
llc2 send-window command BR-385
llc2 t1-time command BR-386
llc2 tbusy-time command BR-387
llc2 tpf-time command BR-388
llc2 trej-time command BR-390
llc2 xid-neg-val-time command BR-391
llc2 xid-retry-time command BR-392
LMI
ANSI T1.617 Annex D WR-209
CCITT Q.933 Annex A WR-209
Cisco Group 4 WR-209
Frame Relay type, selecting WR-209
general statistics, displaying IR-320, WR-246
keepalive interval WR-236
type, displaying WR-209
LMI DCE
error threshold WR-204
monitored events count WR-206
polling verification timer WR-208
LMI DTE
error threshold WR-205
full status polling interval WR-203
monitored event count WR-207
LMI NNI
error threshold WR-204, WR-205
monitored events count WR-206, WR-207
polling verification timer WR-208
LNM
configuration report server BR-99
displaying information
for one or more interfaces BR-152
for one or more stations BR-156
for one or more Token Rings BR-155
ring error monitor BR-106
ring parameter server BR-107
lnm alternate command BR-97
lnm crs command BR-99, BR-100, BR-105
lnm express-buffer command BR-101
lnm loss-threshold command BR-102
lnm password command BR-103
lnm rem command BR-106
lnm rps command BR-107
lnm snmp-only command BR-108
lnm softerr command BR-109
load balancing, IP Enhanced IGRP P1R-323
load sharing
Apollo Domain P3R-5
IPX P2R-298
XNS P3R-353
load statistics, interval FR-637
loading the configuration file FR-204
load-interval command FR-637
locaddr-priority command BR-208
locaddr-priority-list command BR-210
local acknowledgment
current state of, displaying BR-449
for LLC2 BR-232
source-bridge remote-peer tcp command, using with BR-232
for SDLLC connections, enabling BR-454
local preference value, BGP, setting P1R-545
local-area mobility P1R-39
local-lnm command IR-143
local-sap command BR-619
LocalTalk P2R-1
locate-queuing command BR-620
location command FR-64
location string, setting FR-465
lock command DR-410
lockable command FR-65
lock-and-key
idle timeouts SR-142
temporary entries
clearing manually SR-142, SR-145
creating manually SR-143
enabling SR-142
lock-and-key access

absolute timeout P1R-99, P1R-119
creating dynamic access list P1R-98, P1R-119
log-adjacency-changes (IPX) command P2R-400
log-adjacency-changes (ISO CLNS) command P3R-247
logging, VPDN, events DR-848
logging buffer, clearing FR-490
logging buffered command FR-508
logging command FR-507
logging console command FR-510
logging facility command FR-512
facility-type keywords (table) FR-512
logging history command FR-514
logging history size command FR-514, FR-516
logging in
as specific user DR-411
to change login username DR-411
logging linecard command FR-517
logging monitor command FR-519
logging on command FR-521
logging source-interface command FR-523
logging synchronous command FR-524
logging syslog-server command FR-699
logging trap command FR-526
login authentication command DR-177, SR-34
using list-names (caution) SR-34
login command DR-411
login command (line subcommand) DR-175, DR-413
login tacacs command SR-36
login-string command DR-415
log-neighbor-changes command P1R-299, P2R-402
logout, warning users of impending FR-66
logout-warning command FR-66
loop detection buffer
clearing table P3R-190
displaying table P3R-298
setting timer P3R-310
loopback
ATM packets (example) WR-79
channelized T1 or E1 channel-group DR-310
DS-3, channelized T1 link DR-312
dte IR-153
from MIP over dedicated T1 link DR-311
MCI serial card IR-144
over DS-3 or channelized T1 link IR-156, IR-157
SCI serial card IR-144
T1 line DR-309
through CSU/DSU IR-154
X.21 DTE limitation IR-144
loopback (ATM) command WR-79
loopback (E3/T3 interface) command IR-146
loopback (interface) command IR-144
loopback (T1 interface) command IR-148
loopback (T3 controller) command IR-151
loopback applique command IR-152
loopback command (E1 controller) DR-308
loopback dte command IR-153
loopback interfaces IR-119
assigning IPX network to DR-631
assigning virtual terminal lines to DR-541
loopback line command IR-154
loopback local command (interface) DR-310
loopback local command (T1 controller) DR-309
loopback remote (interface) command IR-156
loopback remote command (controller) DR-311
loopback remote command (interface) DR-312
loop-detect command VR-30
low-speed serial interfaces, physical layer IR-168
LQM DR-605
lsap command BR-778
lsp-gen-interval command P2R-403
lsp-mtu (IPX) command P2R-404
lsp-mtu (ISO CLNS) command P3R-248
lsp-refresh-interval command P2R-405
LU address
logical units, mapping to queuing priorities based on BR-210
priority list, specifying BR-213
LU sessions, limiting BR-749
LZS compression algorithm IR-58

M

MAC address P1R-180
mapping to IP address FR-328
mac-address command BR-110
MacIP
addresses, allocating P2R-67, P2R-71
clients, displaying P2R-139
server, establishing P2R-69
servers, displaying P2R-140
traffic statistics P2R-144
manual booting
from Flash FR-282
from ROM FR-282
map class, dialer map DR-313
map-class command DR-732
map-class dialer command DR-313, DR-732, DR-808
map-class frame-relay command WR-237
map-group command, Frame Relay WR-238
map-list command
Frame Relay WR-239
source and destination addresses, E.164 or X.121 WR-239
mapping
MAC address-to-IP address FR-328
name-to-NSAP address P3R-212
NSAP-to-SNPA address P3R-206, P3R-214
NSAP-to-TID, mapping P3R-319
TID-to-NSAP address P3R-304, P3R-312

masks, format in displays P1R-54, P1R-95
master bundle interface host DR-771
match address (CET) command SR-266
match address (IPSec) command SR-331
match as-path command P1R-391
match clns address command P3R-249
match clns next-hop command P3R-250
match clns route-source command P3R-251
match community-list command P1R-393
match interface (ISO CLNS) command P3R-252
match interface command P1R-501, P3R-252
match ip address command P1R-503
match ip next-hop command P1R-506
match ip route-source command P1R-508
match length command P1R-510
match metric (ISO CLNS) command P3R-253
match metric command P1R-512
match route-type (ISO CLNS) command P3R-254
match route-type command P1R-514
match tag command P1R-516
max-cached-entries command BR-621
max-cached-trees command BR-622
maximum paths
  Apollo Domain P3R-5
  IPX P2R-298
  XNS P3R-353
maximum transmission unit, Path MTU Discovery P1R-147
maximum-lus command BR-781
maximum-memory command BR-623
maximum-paths command P1R-518
max-link-stations command BR-624
max-llc2-sessions command BR-780
max-lsp-lifetime command P2R-406
max-rcv-btu-size command BR-626
M-bit, X.25 more data bit WR-339, WR-359
MCI interface card
  loopback on serial IR-144
  pulsing DTR signal DR-251, IR-181
MD5 authentication
  IP Enhanced IGRP P1R-301
  on TCP connections between BGP peers P1R-408
  OSPF P1R-228
  RIP P1R-497
mdl command IR-159
media-type command IR-161
members command DR-24
memory usage, Certification Authority Interoperability SR-366
memory-size iomem command FR-266
menu (EXEC) command FR-24
menu clear-screen command FR-125
menu command FR-126
  resume FR-127
menu default command FR-128
menu line-mode command FR-129
menu options command FR-130
menu prompt command FR-131
menu single-space command FR-132
menu status-line command FR-133
menu text command FR-134
menu title command FR-136
message
  front panel LED display FR-219
  specifying front panel LED FR-238
message logging
  console FR-510
  enabling FR-521
  history table size FR-516
  monitor FR-519
  SNMP trap FR-514
  UNIX syslog server FR-507
message queue length, SNMP FR-471
messages
  busy FR-142
  displaying debug FR-89
  failed connection DR-366
  length FR-143
  line activation, displaying FR-112
  line-in-use FR-142
  login DR-366, DR-415
  redirecting system error FR-521
  sending to other terminals FR-143
  successful connection DR-366, DR-415
  vacant terminal FR-146
metric adjustments, ISO IGRP P3R-255
metric holddown command P1R-214
metric maximum-hops command P1R-215
metric weights (ISO CLNS) command P3R-255
metric weights command P1R-307
metrics
  assigning for redistribution P1R-194, P1R-244, P1R-383
  IP Enhanced IGRP, adjusting P1R-295
  routing
    Net/One P3R-329, P3R-360
    VINES P3R-72, P3R-80
    XNS P3R-329, P3R-360
MIB
  Cisco Round-Trip Time Monitor FR-383
  RMON FR-376, FR-380
microcode
  loading Cisco IOS image FR-231
  loading from Flash memory FR-229
  reloading FR-233
microcode (Cisco IOS image) command FR-231
microcode command FR-229
microcode reload command FR-233
MID, per VC (example) WR-24
mid command WR-80
minimum-memory command BR-627

MIP, CT3IP external port IR-386
mkdir command FR-179
mls rp ip command XR-100
mls rp management-interface command XR-101
mls rp nde-address command XR-102
mls rp vlan-id command XR-103
mls rp vtp-domain command XR-104
MLSP XR-100
mobile remote node DR-485
mode
    framed DR-252, IR-399
    unframed DR-252, IR-399
mode (IPSec) command SR-333
mode (Voice over ATM) command VR-31
modem
    chat script DR-672, DR-881
    dialer hold queue DR-688
    EC/compression DR-881
    scripts (examples) DR-884
    settings
        AUX (table) DR-882
        EC/compression (table) DR-881
        platform-specific (table) DR-882
    troubleshooting DR-884
modem answer-timeout command DR-79, DR-186
modem at-mode command DR-80
modem at-mode-permit command DR-82
modem attributes DR-51
modem autoconfigure command DR-83
modem autoconfigure discovery command DR-83
modem autoconfigure type command DR-84
modem autotest command DR-85
modem bad command DR-88
modem buffer-size command DR-90
modem busyout command DR-91
modem callin command DR-25
modem callout command DR-26, DR-36
modem chat scripts
    DDR DR-672
    default DR-672
modem country mica command DR-93
modem country microcom_hdms command DR-96
modem cts-required command DR-36
modem dialin line command DR-28
modem dtr-active command DR-29
modem hold-reset command DR-99
modem inout command DR-31
modem poll retry command DR-101
modem poll time command DR-102
modem printer command DR-32
modem reconnection, forcing a waiting period DR-813
modem recovery action command DR-103
modem recovery maintenance command DR-104
modem recovery threshold command DR-106
modem recovery-time command DR-107
modem ri-is-cd command
modem shutdown command DR-108
modem startup-test command DR-109
modem status-poll command DR-110
modem, specifying capabilities of DR-112
modemcap edit command DR-111
modemcap entries, using templates to join DR-52
modemcap entry command DR-112
modem-pool command DR-113
modes
    ca-identity, enabling SR-371
    certificate chain configuration, enabling SR-364
    query, enabling SR-366
    RA, enabling SR-378
monitor, message logging to FR-519
MOP
    controlling sysid messages DR-424
    enabling an interface to support IR-162
    enabling for an interface DR-424
    server
        booting automatically FR-290
        forwarding boot requests FR-339
mop device-code command FR-338
mop enabled command DR-424, IR-162
mop retransmit-timer command FR-339
mop sysid command DR-424, IR-163
more FR-235
more command FR-180
more data bit, X.25 WR-339, WR-359
more flh:logfile command FR-235
MOTD banner, configuring FR-117
motd-banner command FR-139
MPOA, LANE client XR-159
mpoa client config name command XR-193
mpoa client name command XR-194
mpoa server config name command XR-195
mpoa server name command XR-196
mpoa server name trigger ip-address command XR-197
mrinfo command P1R-649
mrouted P1R-649
mrouted, description P1R-591
mstat command P1R-650
mtrace command P1R-652
MTU
    Cisco defaults and limits for packet WR-263
    default values by media type (table) IR-164
    ISO CLNS, maximum P3R-215
    setting IS-IS link-state PDU P3R-248
mtu command IR-164
mtu translate option, mapping to virtual interface template command DR-515, DR-536
multicast addresses, ATM, SMDS (example) WR-25
multicast command P2R-407
multicast group, joining P1R-604

multicast source addresses, configuring bridging support for BR-50
multilink bundle interface, defining template to use DR-586
Multilink PPP, bundle information, displaying DR-612, DR-802
multilink virtual-template command DR-586
Multiple ISDN Switch Types, restrictions DR-305
multiple logical IP subnetworks, on SMDS WR-264, WR-277, WR-279
multiple-character patterns
  anchoring DR-905
  creating DR-904
  description DR-902
  using multipliers DR-904
multipliers DR-904
  using in regular expressions DR-904
multipoint intervals, ATM, configuring, (example) WR-26
multiprotocol virtual circuit, X.25 WR-344
multiring all command BR-112
multiring command BR-111
multiring trcrf-vlan command BR-202
music-threshold command VR-117

N

name caching, enabling for NetBIOS BR-117
name command BR-783
name display facility, AppleTalk P2R-74
  configuring P2R-65
name elan-id command XR-159
name local-seg-id command XR-161
name mapping, CLNS
  NETs P3R-212
  NSAPs P3R-212
name preempt command XR-160
name server-atm-address command XR-162
name-connection command FR-141
named IP access list P1R-129
named IPX access lists P2R-248
named-key command SR-412
NASI
  clients, enabling DR-754
  connection status, displaying DR-755
  TTY lines, connecting through DR-754
  VTY lines, connecting through DR-754
nasi authentication command SR-37
  using list-names, (caution) SR-37
NAT
  clearing translations P1R-10
  enabling P1R-42
  inside destination address translation P1R-44
  inside source address translation P1R-46
  outside source address translation P1R-48
  pool of addresses, defining P1R-50
  statistics, displaying P1R-87
  translations, displaying P1R-89
national bit command IR-166
NBF, viewing sessions DR-55
NBMA network
  mapping IP-to-NBMA addresses P1R-58
  mapping IPX-to-NBMA addresses P2R-311
  network identifier P1R-61, P2R-313
NBP
  access lists
    creating P2R-8
    other NBPs P2R-15
  AppleTalk P2R-65, P2R-74
  name registration table P2R-148
  named entities P2R-8
  packet type P2R-8
  services, displaying P2R-146
  tests P2R-201
NCIA
  circuits
    clearing BR-722
    status information, displaying BR-732
  client
    active connection, terminating BR-723
    configuring BR-726
    status information, displaying BR-734
  registered client control block, releasing BR-724
  server
    configuring BR-730
    RSRB ring, configuring BR-728
    starting and stopping BR-725
    status information, displaying BR-736
ncia client command BR-726
ncia command BR-725
ncia rsrb command BR-728
ncia server command BR-730
negative-caching command BR-628
neighbor command, IGRP, RIP P1R-202
neighbor advertise-map non-exist-map command P1R-396
neighbor command
  advertisement-interval P1R-395
  distribute-list P1R-400, P1R-413
  EGBP-multihop P1R-402
  EGP, IGRP, RIP P1R-216
  filter-list P1R-403
  maximum-prefix P1R-405
  next-hop-self P1R-407
  OSPF P1R-262
  remote-as P1R-415
  remove-private-as P1R-417
  route-map P1R-419
  update-source P1R-427
  version P1R-428
  weight P1R-429
neighbor database-filter command P1R-264

neighbor default-originate command P1R-397
neighbor description command P1R-399
neighbor password command P1R-408
neighbor peer-group command
assigning members P1R-410
creating P1R-411
neighbor remove-private-as P1R-417
neighbor resets, logging P1R-373
neighbor route-reflector-client command P1R-420
neighbor send-community command P1R-422
neighbor shutdown command P1R-423
neighbor soft-reconfiguration inbound command P1R-424
neighbor table, VINES
deleting P3R-22
displaying P3R-34
static paths, creating P3R-75
net command P1R-342
Net/One
emulation mode P3R-348, P3R-360
hello packets P3R-329, P3R-360
metrics, routing P3R-329, P3R-360
routing
enabling P3R-348, P3R-360
updates P3R-360
NetBEUI
connection information, displaying DR-55
remote node, configuring DR-34
NetBIOS
IPX, filtering messages P2R-300, P2R-302
session table
global DR-55
interface DR-55
netbios access-list bytes command BR-113
netbios access-list command P2R-408
netbios access-list host command BR-115
netbios enable-name-cache command BR-117
netbios input-access-filter bytes command BR-118
netbios input-access-filter host command BR-119
netbios name-cache command BR-120
netbios name-cache name-len command BR-122
netbios name-cache proxy-datagram command BR-124
netbios name-cache query-timeout command BR-126
netbios name-cache recognized-timeout command BR-127
netbios name-cache timeout command BR-128
netbios nbf command DR-34
netbios output-access-filter bytes command BR-129
netbios output-access-filter host command BR-130
NetBIOS, IBM
access list filter
assigning to interface BR-118, BR-119
defining for outgoing messages BR-129, BR-130
byte offset access lists BR-189
byte offsets, configuring BR-113
cache, displaying entries in BR-158
clearing dynamically learned names BR-90
name caching
configuring the "dead time" for BR-126, BR-127
defining a static entry BR-120
enabling BR-117, BR-128
NetFlow Switching
description XR-16
exporting cache entries XR-11
flow switching XR-11
IP, enabling XR-15
netmask, definition P1R-54
NETs for CLNS
algorithm for choosing P3R-217
name mapping P3R-212
static address, assigning P3R-217
network area command P1R-265
network command P2R-410
backdoor P1R-433
BGP P1R-431
IGRP P1R-217, P1R-309
RIP P1R-203
network configuration file FR-204
copying from a server using rcp FR-254
example FR-260
default filename FR-211
changing FR-204
loading from a server FR-211
network management hub IR-143
network masks, format P1R-95
network services, tailoring use of FR-534, FR-535
network timing services, displaying information WR-144
network weight command P1R-434
network-clock base-rate command VR-33
network-clock-select (ATM) command WR-81
network-clock-select (MC3810) command VR-34
network-clock-switch command VR-36
network-id command XR-198
NHRP, IPX
access lists P2R-310
authentication P2R-308
authoritative response P2R-309
cache clearing P2R-224
static entries P2R-311
cache, displaying P2R-444
controlling requests P2R-310
dynamic cache entries P2R-224
enabling P2R-313
holdtime P2R-309
initiation, controlling P2R-317
loop detection P2R-315, P2R-316
network identifier P2R-313
packet rate P2R-312
record and reverse record options P2R-315
requests, triggering P2R-317
Responder Address option P2R-316
security P2R-308

server addresses P2R-314
static IPX-to-NBMA address mapping P2R-311
traffic statistics P2R-446
triggering requests P2R-310
NHRP for IP
access list P1R-57
authentication P1R-55
authoritative response P1R-56
cache, clearing
dynamic entries P1R-12
static entries P1R-58
cache, displaying P1R-91
enabling P1R-61
holdtime P1R-56
initiation, controlling P1R-67
loop detection P1R-63, P1R-64
network identifier P1R-61
Next Hop Server address P1R-62
packet rate P1R-60
record and reverse record options, suppressing P1R-63
requests, triggering P1R-57, P1R-67
Responder Address option P1R-64
security P1R-55
server-only mode P1R-65
static IP-to-NBMA address mapping P1R-58
SVC set-up and teardown
thresholds P1R-66
time interval P1R-17
traffic statistics, displaying P1R-93
NLSP
area network numbers, setting P2R-219
CSNP interval, specifying P2R-319
database, displaying P2R-448
default routes
advertising P2R-256
specifying P2R-265
designated router, specifying election priority P2R-328
disabling on an interface P2R-320
enabling P2R-359
on an interface P2R-320
filters, route updates P2R-238
GNS queries, replying to P2R-274
hello interval, specifying P2R-322, P2R-324
holddown period between partial route calculations, controlling P2R-420
hop count, maximum from RIP updates P2R-297
internal network number
definition P2R-289
setting P2R-289
IPX
SPF log P2R-453
link delay, specifying P2R-295
logging adjacency changes P2R-400
LSP
generation interval P2R-403
MTU, maximum size P2R-404
refresh interval P2R-405
retransmission interval, specifying P2R-329
setting maximum lifetime P2R-406
transmission interval P2R-325
metric, specifying P2R-326
multicast addressing
interface configuration P2R-327
router configuration P2R-407
neighbors, displaying P2R-451
redistribution P2R-421
RIP entries, aging out P2R-347
RIP packets
maximum size P2R-346
processing P2R-330
SAP entries, aging P2R-375
SAP packets
maximum size P2R-374
processing P2R-331
shortest path first algorithm (SPF) calculation interval, controlling P2R-469
subinterfaces P2R-305
configuring (example) P2R-306
throughput, specifying P2R-385
NNI
and DCE
error threshold WR-204
monitored events count WR-206
polling verification timer WR-208
and DTE
error threshold WR-205
monitored events count WR-207
Frame Relay PVC switching
interface type WR-192
no form of a command, using FR-xxi
no ip inspect command SR-199
no menu command FR-138
node name, changing LAT DR-392
node-row command BR-630
non-linear command VR-118
non-return to zero inverted (NRZI), enabling DR-250
nonvolatile RAM file compression FR-209
notes, usage in text v
notify command DR-416, FR-67
NRZI, enabling IR-167
nrzi-encoding command DR-250, IR-167
NSAP address
(example) WR-29
ATM WR-28
NSAPs for CLNS
cluster alias P3R-199
media address mapping P3R-206, P3R-214
name mapping P3R-212
SNPA mapping P3R-206, P3R-214
static address assignment P3R-217

TID mapping P3R-319
NSSA P1R-232
ntp access-group command FR-639
ntp authenticate command FR-641
ntp authentication-key command FR-642
ntp broadcast client command FR-645
ntp broadcast command FR-644
ntp broadcastdelay command FR-646
ntp clock-period command FR-647
ntp disable command FR-648
ntp master command FR-649
ntp peer command FR-651
ntp server command FR-653
ntp source command FR-655
ntp trusted-key command FR-656
ntp update-calendar command FR-657
null bytes, end of string FR-68, FR-91
null-xid-poll command BR-632
num-exp command VR-37
NVRAM file compression FR-209

O

o command FR-300
OAM, ATM, cell flush (example) WR-30
oam retry command WR-85
oam-pvc command WR-83
oam-svc command WR-87
ODR, enabling P1R-188
offload (backup) command BR-787
offload command BR-784
offset-list (IGRP) command P1R-218
offset-list (IP Enhanced IGRP) command P1R-310
offset-list (RIP) command P1R-204
offsets
  IP Enhanced IGRP P1R-310
  RIP P1R-204
offsets, applying P1R-205
offsets, IGRP P1R-218
oid command FR-701
on-hook detection WR-52
open connections, displaying DR-486, DR-565
operation command VR-119
OSPF
  address range for a single route, specifying P1R-233
  aggregate addresses, creating P1R-293
  area ID P1R-265
  authentication for an area, enabling P1R-228
  authentication type P1R-247
  auto cost P1R-267
  broadcasts
    over Frame Relay WR-211
    over X.25 BR-81, BR-456, WR-346, WR-350
  compatible command P1R-241
  consolidate routes at a boundary P1R-233
  cost P1R-249
  cost to the default external route, assigning P1R-230
  database, displaying information P1R-275
  dead interval P1R-251
  default metric values, setting P1R-244
  default metrics P1R-267
  default route, generate P1R-242
  default summary route cost P1R-230
  demand circuit P1R-252
  designated router P1R-259
  distance P1R-245
  distances P1R-245
  DNS names P1R-256
  enabling P1R-271
  enabling router-id P1R-270
  hello interval P1R-253
  hello packet interval P1R-251
  ignore MOSPF LSA packets P1R-268
  interface information, displaying P1R-284
  interfaces P1R-265
  IRDP advertisements to multicast address, sending P1R-38
  link state advertisement retransmissions P1R-260
  LSA group pacing P1R-295
  MD5 authentication P1R-254
  MOSPF packets, ignoring P1R-268
  neighbor information, displaying P1R-286
  neighbor state changes, viewing P1R-269
  network type P1R-257
  not so stubby area P1R-232
  NSSA P1R-232
  over X.25 network WR-345
  password P1R-248
  priority of router P1R-259
  retransmit interval P1R-260
  route calculation timers, configuring P1R-296
  routers interconnecting to nonbroadcast networks P1R-262
  routing processes, displaying information P1R-272
  routing table entries, displaying P1R-274
  stub area, defining P1R-235
  summarize routes at a boundary P1R-233
  timers P1R-296
  transmit delay P1R-261
  virtual link P1R-237
  virtual links, displaying P1R-291
ospf auto-cost command P1R-267
ospf ignore lsa mospf command P1R-268
ospf log-adj-changes command P1R-269
OUI code, choosing type to use over translational bridges BR-94
output attenuation command VR-120
output notification
  configuring for session FR-90

setting for line FR-67
output-delay command P1R-205
outstanding frames, LAPB
acknowledgment (modulo parameter) WR-296
maximum number (window parameter) WR-295
owner command FR-371
owning-cp command BR-634

P

P1024B protocol BR-929
packet
compressed packet-by-packet BR-81, BR-456, WR-346, WR-349
compressed TCP header WR-354
maximum size, establishing FR-469
SNMP, filtering FR-469
X.25
acknowledgment, configuring WR-393
input, setting size of WR-339
output, setting size of WR-359
packet dispatch character
changing for session FR-80
setting for line FR-53
packet lifetime, ISO CLNS P3R-219
packet-by-packet compression, X.25 BR-81, BR-456, WR-349
packet-by-packet compression, X.25 WR-346
PAD
connections between devices DR-561, WR-303, WR-360
Macintosh connecting through DR-509, DR-518, DR-527
mapping WR-356
parameters, changing DR-557–DR-559, DR-566
profile scripts, creating WR-399
pad command DR-554
PAD profile scripts DR-550
padding
changing for session FR-91
configuring for line FR-68
padding command FR-68
PAP, authentication method DR-590
parallel paths
Apollo Domain P3R-5
IPX, choosing between P2R-298
XNS P3R-353
parallel router P1R-15
parameter-setting command DR-894
parentheses, using in regular expressions DR-906
parity
changing for session FR-92
setting for line FR-69
parity command FR-69
partition command FR-267
partition flash command FR-267
passive-interface command P1R-519
password command DR-179, SR-427
passwords
assigning for a line DR-179
clear-text version DR-654
IS-IS for IP
area, assigning on P1R-324
authentication P1R-324
domain, assigning on P1R-327
interface, assigning on P1R-337
LNM, setting for BR-103
path command BR-790
Path MTU Discovery
enabling P1R-147
RFC 1191 P1R-147
paths
selection, DECnet P3R-142
source-route bridging, modifying default cost for BR-194
transparent bridging, modifying default cost for BR-40
paths-of-statistics-kept command FR-372
pattern matching symbols, LAT (table) DR-384
peer default IP address command DR-587
peer default ip address command DR-633
peer neighbor routes, dialer interface, effect on DR-589
peer neighbor-route command DR-589
Performance Data Collection
configuring FR-705
enabling FR-695
SNMP data FR-717, FR-732
transfer method FR-736
period (.) character, ping command output FR-529
permanent rate queues
ATM
(example) WR-34
configuring WR-33
permit (IPX extended) command P2R-411
permit (IPX standard) command P2R-414
permit (NLSP route aggregation summarization) command P2R-416
permit (reflexive) command SR-152
permit (SAP filtering) command P2R-418
permit command P1R-154, SR-268
IPX
extended P2R-411
NLSP route aggregation summarization P2R-416
SAP filtering P2R-418
standard P2R-414
PFS, specifying SR-337
Phase IV/Phase V, DECnet, designing network P3R-130
physical channel interface monitoring BR-880
physical-layer command DR-35, IR-168
ping (privileged) command FR-528

ping (user) command FR-531
ping command FR-204
  LAPB T1 value, determining WR-301
  test characters (table) FR-528, FR-531
  test connectivity FR-528, FR-531
playout-delay command VR-122
plus character in regular expressions DR-904
point-to-multipoint signaling, ATM, (example) WR-27
policy propagation via BGP QR-4
policy routing
  based on address P1R-504
  based on packet length P1R-510
  enabling P1R-526
  local P1R-489
    route map, identifying P1R-489
  route map, identifying P1R-491
  to a default next hop P1R-537
  to a next hop P1R-444, P1R-539
  to an interface P1R-535
  to default interface P1R-533
poll bit, sending for LLC2 BR-388
poll timer, ATM (example) WR-151
poll-interval command FR-703
pool-range command DR-115
Poor Man's Routing
  DECnet P3R-136
port (voice) command VR-38
port command IR-170
  APPN
    connection network BR-635
    link station BR-636
port numbers
  TCP services (table) QR-30
  UDP services (table) QR-30
port numbers, Telnet DR-36
port queue, retry interval FR-93
pos flag command IR-171
pos framing command IR-172
pos report command IR-174
pos scramble-atm command IR-176
pos threshold command IR-178
PPP DR-635–DR-636
  APPN remote SAP, specifying BR-637
  authentication
    CHAP or PAP, order requested DR-590
    incoming calls only DR-590
    remote CHAP, common secret DR-597
    remote PAP, username sent DR-603
  BACP DR-781–DR-803
    callback configuration DR-783
    dialer load threshold DR-790
    dropping links, no response DR-785
    links, removing from multilink bundle DR-785
    retransmissions, setting limits DR-788
    telephone number negotiation DR-791
    telephone number, local, configuring DR-791
    transmit queue threshold DR-790
    type of link, adding or dropping DR-787
  callback
    enabling on non-DTR dialer interface DR-809
    secure DR-806
  CHAP
    common hostname DR-596
    common secret DR-597
  client, calling back DR-814
  common secret, remote CHAP authentication DR-597
  compression IR-58
  encapsulation IR-80
    changing dynamically DR-258, DR-338
    enabling on interface DR-578
  IPX packet compression over DR-630
  Multilink PPP, enabling for BACP DR-796
  PAP
    remote authentication (example) DR-603
    remote, username and password sent DR-603
  session, automatic startup DR-620
  wide-area networking DR-575–DR-616
ppp accounting command SR-78
ppp authentication command DR-590, SR-39
  CHAP DR-590
  PAP DR-590
  using list-names, (caution) SR-39
ppp bap call command DR-782
ppp bap callback command DR-783
ppp bap drop command DR-785
ppp bap link types command DR-787
ppp bap max command DR-788
ppp bap monitor load command DR-790
ppp bap number command DR-791, DR-866
ppp bap timeout command DR-794
ppp bridge appletalk command DR-592
ppp bridge ip command DR-593
ppp bridge ipx command DR-594
ppp callback command DR-313, DR-808, DR-809, DR-814
ppp chap hostname command DR-596, SR-41
ppp chap password command DR-597, SR-43
ppp chap refuse command SR-45
ppp chap wait command SR-47
ppp command DR-635
ppp lcp fast-start command DR-637
ppp multilink command DR-599
  BACP, enabling DR-796
ppp multilink fragment-delay command DR-601
ppp multilink idle-link command DR-869
ppp multilink interleave command DR-602
ppp pap sent-username command DR-603, SR-49
ppp quality command DR-605
ppp use-tacacs command SR-51
  single-line option, (caution) SR-51
ppp use-tacacs translate option

mapping to virtual interface template command DR-515, DR-536
ppp-dest-address command BR-637
prc-interval command P2R-420
predictor compression DR-576, IR-58, IR-59, IR-60
predictor compressor DR-240
preference command VR-40
preferred routes, specifying with ISO IGRP P3R-259
preferred-nnserver command BR-792
prefix command VR-41
pri-group command DR-315, IR-180
pri-group timeslots nfas_d command DR-351
primary address, IP, setting P1R-14
primary SDLC station, configuring routing device as BR-371
printer command (LPD) FR-70
priority list, assigning QR-22
priority queueing
configuration information, displaying QR-74
establishing QR-28
packet limits (table) QR-32
priority levels (table) QR-29
priority-group command QR-22
priority-list command BR-208, BR-213
priority-list default command QR-24
priority-list interface command QR-26
priority-list protocol bstun command BR-332
priority-list protocol command QR-28
priority-list protocol ip tcp command BR-333
priority-list queue-limit command QR-32
priority-list stun address command BR-335
private command FR-72
privilege level (global) command SR-428
privilege level (line) command SR-430
privileged EXEC command mode, entering FR-8
privileged EXEC commands
clear ip trigger-authentication SR-30
clear kerberos creds SR-126
show accounting SR-79
show ip trigger-authentication SR-53
show kerberos creds SR-138
show ppp queues SR-54
privileged EXEC mode, summary FR-xx
prompt, customizing FR-658
prompt command FR-658
prompts, system FR-xx
propagation-delay command
APPN link station BR-638
APPN port BR-639
protocol addresses, mapping (example) WR-65
protocol command WR-89
protocol groups, creating BR-354
protocol numbers, IPX (table) P2R-208
protocol translation
global options DR-511, DR-520, DR-529, DR-535
LAT DR-514
TCP DR-524
X.25 DR-535
global translation options DR-511, DR-520, DR-529
LAT options DR-519, DR-528
outgoing options, mapping to virtual interface template commands DR-515, DR-536
SLIP and PPP options DR-510, DR-519, DR-528
Telnet DR-509, DR-517, DR-523, DR-528
Telnet/TCP DR-509, DR-517, DR-523, DR-528
Telnet/TCP options DR-517, DR-523
X.25 options DR-509, DR-519
protocols, selecting terminal transport DR-467
proxy explorers
configuring BR-184
enabling for NetBIOS name caching BR-117
proxy network numbers, assigning P2R-79
proxy, configuring for LAT DR-405
pseudobroadcasting, SMDS static map WR-281
pu command (direct) BR-793
public key configuration mode, enabling SR-403, SR-412
pulse-time command DR-251, IR-181
pu-type-20 command BR-641
PVC
ATM, discovery (example) WR-19
resetting XOT WR-288
X.25
address maps, displaying WR-310
encapsulation, establishing WR-361
HIC WR-331
HOC WR-332
HTC WR-336
LIC WR-340
LOC WR-342
LTC WR-343
serial interfaces on (example) WR-365
states WR-320
switched WR-364
switched options (table) WR-367
tunneled WR-369
pvc command WR-92
pwd command FR-182

Q

QLLC
APPN
configuring BR-706
partner node, specifying BR-705
configured for DLSw BR-455, BR-459
data link
defining, SNA host BR-520
enabling, SNA BR-515
qllc accept-all-calls command BR-424

qllc dlsw command BR-285
qllc npsi-poll command BR-427
qllc partner command BR-429
qllc sap command BR-431
qllc srb command BR-433
qllc xid command BR-435
QoS group ID QR-54
query mode, enabling SR-366
query url command SR-384
question command FR-xv
queue
  byte count QR-40
  custom QR-5
  length limit QR-42
  maximum packets QR-32
  packet priorities QR-26, QR-36
  priorities, assigning QR-34
  priority QR-24
  protocol priorities QR-28, QR-38
  status QR-74
  weighted fair queueing QR-7
queue size, exponential weight factor QR-45
queued host-initiated connections, deleting entries from, LAT DR-367
queue-list default command QR-34, QR-36
queue-list interface command QR-36
queue-list protocol bstun command BR-337
queue-list protocol command QR-38
queue-list protocol ip tcp command BR-338
queue-list queue byte-count command QR-40
queue-list queue limit command QR-42
queues
  holding packets for modem connection DR-688
  length, SNMP trap queues FR-471
queuing priorities
  BSTUN
    based on header BR-332
    based on TCP port BR-333
  configuring BR-210, BR-213
  STUN
    based on a TCP port BR-333
    based on address BR-335

R

R2 signaling DR-265
RA mode, enabling SR-378
radius-server attribute nas-port extended command SR-89
radius-server configure-nas command SR-90
radius-server deadtime command SR-91
radius-server extended-portnames command SR-92
radius-server host command SR-93
radius-server host non-standard command SR-96
radius-server key command SR-98
radius-server optional passwords command SR-97
radius-server timeout command SR-101
radius-server vsa send command SR-102
RAND compression algorithm DR-240, DR-576, IR-58, IR-59, IR-60
random-detect command QR-43
random-detect exponential-weighting-constant command QR-45
random-detect precedence command QR-47
RARP, router, configuring as server FR-328
RAs
  configuration, (example) SR-378
  enabling SR-378
rate-limit command QR-50
raw queue size, ATM
  example) WR-35
  configuring WR-35
rcp
  configuring FR-332, FR-336
  copying files FR-331
  DNS, enabling security FR-330
  remote username FR-293
RDPDU
  configuring for sending, ISO CLNS P3R-235
  interval to disable P3R-220
Real-time Transport Protocol, Multilink PPP interleaving DR-585
rearranging entries in BOOT environment variable FR-293
receive buffers
  setting for host, LAT DR-389
  setting for server, LAT DR-396
receiver not ready (RNR) frames BR-387
receiver ready (RR) frames BR-379, BR-387
redirect messages, VINES P3R-79
redistribute (IPX) command P2R-421
redistribute (ISO CLNS) command P3R-257
redistribute command P1R-521, P2R-421
redistribute static clns command P3R-257
redistribute static ip command P1R-521
redistribution
  AppleTalk, Enhanced IGRP P2R-83
  assigning metrics for P1R-194, P1R-244, P1R-383
    IP address P1R-526
  IP Enhanced IGRP
    metrics for P1R-295
    of default routes P1R-294
  IP redistribution P1R-525
  IPX Enhanced IGRP P2R-421
  IS-IS P3R-257
  ISO IGRP P3R-257
  match criteria
    address P3R-249
    interface P3R-252
    metric P3R-253
    next-hop P3R-250

route source P3R-251
route-type P3R-254
NLSP P2R-421
one protocol to another P1R-525
one routing domain into another P1R-521
routes, using same metric value P1R-194, P1R-244, P1R-383
routing information P1R-440, P1R-446, P1R-448, P3R-251
set criteria
level P3R-261
metric P3R-263
metric-type P3R-265
tag P3R-266
using route maps P1R-440, P1R-446, P1R-448
references and recommended reading FR-747
Reflexive Access Lists
configuring, (examples) SR-149, SR-153
temporary entries, characteristics SR-153
timeouts, global, (examples) SR-150
refuse-message command FR-142
regular expressions
alternative DR-905
characters with special meaning (table) DR-903
creating DR-902
using multipliers DR-904
using parentheses for recall DR-906
with anchoring DR-905
description DR-901
examples DR-907
recalling DR-906
special characters
anchoring (table) DR-905
multipliers (table) DR-904
reject timer BR-390
relative line number DR-21
reload command FR-302
reloading the operating system FR-302
remote peer, specifying frame size BR-230, BR-232
remote username, rcp requests
default values FR-293
overriding default value FR-293
rename command FR-183
reporting link number, specifying threshold BR-97
req-qos command VR-42
request-data-size command FR-374
reserved-inbound command BR-642
reserved-outbound command BR-643
response-data-size command FR-375
resume command DR-417, DR-557, DR-896, FR-127
retransmission interval, setting for IP IS-IS P1R-339
retransmission limit, LAT DR-395
retry count, LLC2 BR-381
retry interval, terminal port queue FR-93
retry-limit command
APPN link station BR-644
APPN port BR-645
reverse connections DR-26, DR-30
Reverse Path Forwarding (RPF) P1R-665
displaying P1R-683
RFC 1034, domain name servers FR-323
RFC 1035, domain names FR-633
RFC 1042
ARP packets P1R-5
SNAP P1R-81
RFC 1045, Ethernet type code for Versatile Message Translation Protocol BR-939
RFC 1084
BootP extensions DR-4
BOOTP requests for asynchronous interfaces FR-322
RFC 1144
TCP header compression P1R-146
TCP/IP header compression DR-640, WR-354
RFC 1178, choosing a name for your computer FR-633
RFC 1191, Path MTU Discovery P1R-147
RFC 1195, IP addresses P1R-73
RFC 1247
authentication P1R-228
poll interval P1R-262
RFC 1293 WR-193
RFC 1323, TCP timestamp P1R-151
RFC 1334, PPP PAP authentication DR-575
RFC 1356 BR-81, WR-350
X.25 and ISDN multiprotocol interconnect BR-456, WR-344
X.25 encapsulation WR-292
X.25 PVC encapsulation WR-362
RFC 1406 WR-131
RFC 1406, degraded minute calculation IR-244
RFC 1407, calculating unavailable seconds IR-243
RFC 1447, predefined SNMP views FR-477
RFC 1490 WR-171
RFC 1516 FR-456
RFC 1531, DHCP P1R-26, P1R-32
RFC 1570, PPP callback DR-805
RFC 1577, classical IP over ATM WR-7
RFC 1661, PPP DR-575
RFC 1717, MLP DR-575
RFC 1757
RMON alarm group FR-379
RMON MIB FR-376, FR-380
RFC 1994, PPP CHAP DR-575
RFC 2018, TCP selective acknowledgment P1R-149
RFC 2125, BACP DR-781
RFC 2281, Cisco Hot Standby Router Protocol (HSRP) P1R-180
RFC 742, Finger protocol FR-664
RFC 826, ARP P1R-5
RFC 865, Quote of the Day servers FR-323
RFC 868, time servers FR-322

RFC 877 BR-81
IP datagram transmission BR-456, WR-346, WR-350
RFC 887, RLP servers FR-323
RFC 903, RARP FR-329
RFC 950, subnet masks FR-322
RFCs, Cisco-supported (table) FR-753
RIF
cache contents, displaying BR-160
enabling BR-202
for routed protocols BR-111
information, enabling collection of BR-111
ring groups, establishing BR-131
static information, entering BR-131
rif command BR-131
rif timeout command BR-133
rif validate-age command BR-134
rif validate-enable command BR-135
rif validate-enable-age command BR-137
rif validate-enable-route-cache command BR-138
ring cadence command VR-123
ring frequency command VR-125
ring number command VR-127
ring-speed command IR-182
RIP
IP
adjust input queue P1R-195
administrative distance P1R-298, P1R-480
automatic summarization P1R-192, P1R-292
default metric values, setting P1R-194, P1R-383
default network P1R-487
delay between packets in update P1R-205
enabling P1R-206
metric offset P1R-204
offsets, applying P1R-204
redistribution P1R-483, P1R-485
version, global P1R-210
version, interface basis, receiving P1R-198
version, interface basis, sending P1R-199
IP authentication
accept lifetime P1R-478, P1R-495, P1R-497, P1R-499
clear text P1R-197
displaying key information P1R-573
enabling P1R-196
key P1R-495
key chain P1R-497
key string P1R-499
MD5 P1R-197
send lifetime P1R-529
IPX
delay field P2R-270
enabling P2R-365
updates P2R-334
XNS
enabling P3R-359
update timers P3R-362
updates, advertising P3R-355
updates, receiving P3R-348
rlogin
connections to server DR-419, DR-421, DR-422
description DR-419
login string DR-415
rlogin username DR-421
rlogin command DR-419
rlogin trusted-localuser-source local command DR-421
rlogin trusted-remoteuser-source local command DR-422
rmdir command FR-184
RMON
agent status, displaying FR-403
alarms, enabling FR-378
enabling FR-382
event table FR-380
interface, enabling FR-376
rmon alarm command FR-378
rmon command FR-376
rmon event command FR-380
rmon queuesize command FR-382
RNR frames BR-387
ROA lists BR-82, BR-457, WR-351
role command
APPN link station BR-646
APPN port BR-647
ROM monitor mode, summary FR-xx
ROM, booting automatically FR-290
root bridge, configuring BR-51
rotary command DR-36
rotary groups
and DDR dialer hold queues DR-688
DDR group leader IR-121
in-use message FR-146
services and port numbers (table) DR-36
rotary line configuration DR-36
route map, BGP, applying to incoming and outgoing routes P1R-419
route reflector P1R-365, P1R-366, P1R-420
route summarization
automatic P1R-192, P1R-292, P1R-358
IS-IS addresses P1R-293, P1R-352
OSPF addresses P1R-233
route-aggregation command P2R-424
route-map (ISO CLNS) command P3R-259
route-map command P1R-525
router, host name FR-633
router bgp command P1R-435
router configuration commands
bgp bestpath med-confed P1R-362
neighbor shutdown P1R-423
router eigrp command P1R-311
router igrp command P1R-220
router isis command P1R-343

router iso-igrp command P3R-260
router odr command P1R-188
router ospf command P1R-271
router rip command P1R-206
router, parallel P1R-15
router-additional-resistance command BR-648
router-idf command P1R-270
routes
  poisoned P2R-158, P2R-160
  static
    Apollo Domain P3R-7
    IPX P2R-349
    VINES P3R-80
    XNS P3R-356
routing
  and bridging, concurrent BR-16
  and bridging, integrated BR-47
  manual configuration on asynchronous interfaces DR-9
routing cache
  ISO CLNS
    clearing P3R-184
    displaying entries P3R-269
    reinitializing P3R-184
routing information, ISO CLNS P3R-257
routing table
  Apollo Domain
    entries, adding P3R-7
    updating P3R-9
  AppleTalk
    entries, displaying P2R-156
    timers, changing P2R-95
    update timers, setting P2R-95
  DECnet P3R-142
  default network in IP P1R-487
  IPX P2R-227, P2R-285
  VINES
    deleting P3R-23
    displaying P3R-38
    static routes, creating P3R-80
  XNS P3R-352
routing translate option, mapping to virtual interface
    template command DR-515, DR-536
RPF P1R-665, P1R-683
RR frames BR-379, BR-387
RSA encrypted nonces, requirements SR-391
RSA keys
  deleting SR-376
    (example) SR-376
  general purpose keys SR-374, SR-401
    (example) SR-375
  generating SR-373, SR-401
    (example) SR-374, SR-375, SR-402
    sample times required SR-374, SR-402
  IP address, specifying SR-388
  manually specifying SR-403
    (example) SR-403, SR-408, SR-413
  modulus length SR-374, SR-402
  pairs SR-373, SR-401
  public key record SR-362
  remote peer, specifying SR-408
  special usage keys SR-373, SR-401
    (example) SR-374
    generating SR-401
    specifying SR-389
  specifying SR-389, SR-412
    (example) SR-388, SR-390
  viewing SR-417, SR-418
    (example) SR-417, SR-418
RSA signatures, requirements SR-391
rsh command FR-341
rsh server
  (example) FR-342
  access, granting FR-332
  commands, executing FR-337, FR-341
  DNS, enabling security FR-330
RSRB
  combining transport methods BR-452
  FRAS, DLCI number BR-537
  size of the backup queue, modifying BR-234
  transport methods, combining BR-229
rsrb remote-peer lsap-output-list command BR-215
rsrb remote-peer netbios-output-list command BR-216
rsrb-virtual-station command BR-649
RSVP
  configuration statistics (table) QR-63
  enabling for IP QR-13
  fair queueing QR-9
  filters information, displaying QR-63
  interface information, displaying QR-65
  neighbor reservation, allowing QR-15
  neighbors, displaying QR-66
  receiver information (table) QR-69
  request information, displaying QR-67
  reservation statistics (table) QR-66, QR-67
  sender information (table) QR-71
  UDP-encapsulated multicasts, generating QR-21
RSVP PATH, message reception, simulating QR-19
RSVP RESV, message reception, simulating QR-17
RTMP
  routes, advertising P2R-81
  routing table update timers, changing P2R-95
  routing updates, disabling transmission P2R-89
  stub mode, enabling P2R-87
  touring updates, strict checking P2R-94
RTP header compression
  and TCP header compression, enabling P1R-584
  connections supported P1R-644
  enabling P1R-645
  Frame Relay encapsulation, using P1R-585
  Frame Relay statistics, displaying P1R-654

Frame Relay, enabling for maps P1R-583
statistics
clearing P1R-581
displaying P1R-684
Frame Relay P1R-654
RTR
application information, displaying FR-427
configuration information, displaying FR-432
history
collection FR-352
displaying FR-435
filters FR-362
lives kept FR-369
samples kept FR-394
operational state, displaying FR-437
probe
configuring FR-383
frequency FR-364
owner FR-371
scheduling FR-392
type FR-486
reaction trigger
configuring FR-388, FR-390
displaying FR-439
request data size FR-374
resetting FR-391
response data size FR-375
statistics
displaying FR-429, FR-433, FR-480
hops kept FR-366
hours kept FR-368
kept FR-360
paths kept FR-372
tags FR-482
threshold FR-483
timeout FR-484
verify data FR-487
rtr command FR-383
rtr reaction-configuration command FR-386
rtr reaction-trigger command FR-390
rtr reset command FR-391
rtr schedule command FR-392
running configuration file
backing up on the server FR-254
copying to the server (example) FR-260
rxboot ROM, streamlined setup facility FR-37
rxspeed command DR-180

S

safe-store-cycle command BR-650
safe-store-host command BR-651
safe-store-interval command BR-652
samples command FR-705
samples-of-history-kept command FR-394
SAP
access list, named P2R-248
broadcast, sending P2R-398
definition P2R-205
delay between packets
setting on a single interface P2R-338
setting on all interfaces P2R-263
filters, creating P2R-216, P2R-287, P2R-340
maximum queue length, setting P2R-376
table, adding static entries P2R-366
triggered updates, setting delay between packets on a single interface P2R-388
update interval, setting P2R-396
updates P2R-370
sap-priority command BR-218
sap-priority-list command BR-219
SAs
lifetimes, configuring SR-410
parameters SR-399
viewing SR-415
(example) SR-415
saving configuration changes FR-xxi
scheduler allocate command FR-660
scheduler-interval command FR-661
SCI cards, loopback on IR-144
scramble command IR-183
scrambling, DS3, (example) WR-10
screen
length
changing for session FR-88
setting for line FR-63
output, pausing FR-61
width
changing for session FR-108
setting for line FR-109
script activation DR-38
script arap-callback command DR-815
script callback command DR-817
script connection DR-40
script dialer command DR-672
regular expressions DR-902
script reset command DR-42
script startup command DR-44
SDLC
APPN
configuring BR-654
partner node, specifying BR-653
broadcast, enabling BR-340
configuring routing device
as a primary SDLC station BR-371
as a secondary SDLC station BR-373
local acknowledgment for STUN, enabling BR-354, BR-361
maximum incoming frame size, setting BR-401

multidrop configuration BR-412
secondary descriptions (table) IR-266
secondary stations, assigning to serial link BR-393
T1 timer BR-418
sdlc address command BR-393
sdlc address FF ack-mode command BR-395
sdlc dlsw command BR-287
sdlc dte-timeout command BR-396
sdlc frmr-disable command BR-397
sdlc holdq command BR-398
sdlc k command BR-399
sdlc n2 command BR-402
sdlc partner command BR-403
sdlc poll-limit-value command BR-405
sdlc poll-wait-timeout command BR-409
sdlc qllc-prtnr command BR-411
sdlc role command BR-412
sdlc saps command BR-414
sdlc simultaneous command BR-416
sdlc slow-poll command BR-417
sdlc t1 command BR-418
sdlc test serial command BR-419
sdlc virtual multidrop command BR-340
sdlc vmac command BR-421
sdlc xid command BR-422
sdlc xid-pause-timer command BR-423
sdlc-dest-address command BR-653
sdlc-sec-addr command BR-654
SDLLC
device-initiated connections, enabling BR-437
enabling use of BR-443
local acknowledgment, enabling BR-454
on serial interfaces, configuring BR-443
sdllc partner command BR-437
sdllc ring-largest-frame command BR-439
sdllc sap command BR-441
sdllc sdlc-largest-frame command BR-442
sdllc traddr command BR-443
sdllc xid command BR-445
SDP, system controller FR-721
secondary address, IP, using P1R-14
secondary networks, IPX P2R-304
secondary SDLC stations
assigning to serial link BR-393
configuring routing device as a BR-373
security command, APPN
link station BR-655
port BR-656
selective acknowledgment, TCP P1R-149
send command FR-143
send-lifetime command P1R-529
serial device, location, setting FR-64
serial interfaces
clearing IR-40
DTR signal pulsing DR-251, IR-181
LAT compression BR-32
loopback IR-144
low-speed IR-168
low-speed, Cisco 2520 through 2523 routers DR-35
media type IR-161
monitoring synchronous IR-340
server connections
LAT DR-382–DR-383
PPP DR-635–DR-636
rlogin DR-419, DR-421–DR-459
SLIP DR-640–DR-641
Telnet DR-457–DR-460
TN3270 DR-468
XRemote DR-487, DR-491, DR-495
service advertisement timer DR-407
service announcements, reenabling LAT DR-397
service compress-config command FR-209
service config command FR-204, FR-211
service decimal-tty command FR-662
service exec-callback command DR-818
service exec-wait command FR-663
service finger command FR-664
service hide-telnet-address command FR-665
service linenumber command FR-144
service nagle command FR-666
service old-slip-prompts command DR-638
service pad command DR-561, WR-303
service pad from-xot command WR-305
service pad to-xot command WR-306
service password-encryption command SR-432
security level, (caution) SR-432
service prompt config command FR-667
service pt-vty-logging command DR-498
service slave-log command FR-533
service tcp-keepalives-in command FR-534
service tcp-keepalives-out command FR-535
service tcp-small-servers command FR-668
service telnet-zero-idle command FR-669
service timestamps command FR-536
service types
AppleTalk (table) P2R-65
IPX (table) P2R-217
service udp-small-servers command FR-670
service-any command BR-657
service-module 56k clock rate command IR-184
service-module 56k clock source command IR-186
service-module 56k data-coding command IR-187
service-module 56k network-type command IR-188
service-module 56k remote-loopback command IR-190
service-module t1 clock source command IR-192
service-module t1 data-coding command IR-193
service-module t1 framing command IR-195
service-module t1 lbo command IR-196
service-module t1 linecode command IR-197
service-module t1 remote-alarm-enable command IR-198

service-module t1 remote-loopback command IR-199
service-module t1 timeslots command IR-201
services, tailoring your network FR-534, FR-535
serving-nn command BR-658
session protocol command VR-44
session target command VR-45
session-limit command DR-181
sessions, limiting number per line DR-181
session-timeout command DR-182
set algorithm 40-bit-des command SR-273
set algorithm des command SR-275
set as-path command P1R-436
set automatic-tag command P1R-531
set card-message command FR-238
set community command P1R-440
set dampening command P1R-442
set default interface command P1R-533
set interface command P1R-535
set ip default next-hop command P1R-537
set ip next-hop (BGP) command P1R-444
set ip next-hop command P1R-539
set ip precedence command P1R-541, QR-52
set ip qos-group command QR-54
set level (ISO CLNS) command P3R-261
set level command P1R-543
set local-preference command P1R-545
set metric command P3R-263
set metric command (IP Enhanced IGRP) P1R-221, P1R-312
set metric command (protocol-independent) P1R-547
set metric-type (ISO CLNS) command P3R-265
set metric-type command P1R-549
set metric-type internal command P1R-446
set next-hop command P1R-551
set origin command P1R-448, P1R-553
set peer (CET) command SR-277
set peer (IPSec) command SR-335
set peer command SR-335
set pfs command SR-337
set security-association level per-host command SR-339
set security-association lifetime command SR-341
set session-key command SR-344
set tag (ISO CLNS) command P3R-266
set tag command P1R-553
set transform-set command SR-347
set weight command P1R-450
setenv command DR-488, DR-490
set-overload-bit command P1R-345
setup command facility FR-36
  asynchronous interfaces
    configuration (examples) FR-39–FR-40
    default client IP address (examples) FR-39–FR-40
  configuration, (example) FR-38–FR-42
  configuration command script, (example) FR-40
  configuration file, saving FR-37, FR-42
  entering FR-36
  entering after erasing configuration FR-37
  global parameters, configuration (example) FR-38
  interface parameters, configuration (example) FR-38–FR-42
  interface summary, viewing FR-38
  prerequisite knowledge FR-36
  sample configuration FR-38–FR-42
  System Configuration Dialog FR-36
    (example) FR-38
    returning to privileged EXEC prompt FR-37
  terminating the configuration FR-38
sgbp group command DR-768
sgbp member command DR-769
sgbp seed-bid command DR-771
shelf
  attributes FR-715, FR-734, FR-735
  discovered FR-709
  managed polling FR-719
  starting a session on FR-694
  type selection FR-707
shelf-type command FR-707
shortcut-frame-count command XR-199
shortcut-frame-time command XR-200
show FR-180
show (Flash file system) command FR-269
show access-expression command BR-139
show access-lists command P1R-159
show access-lists rate-limit command QR-55
show accounting command SR-79
show adjacency command XR-38
show aliases command FR-671
show alps ascu command BR-930
show alps circuits command BR-931
show alps peers command BR-933
show apollo arp command P3R-11
show apollo interface command BR-409, P3R-12
show apollo route command P3R-14
show apollo traffic command P3R-16
show appletalk access-lists command P2R-110
show appletalk adjacent-routes command P2R-112
show appletalk arp command P2R-114
show appletalk aurp events command P2R-116
show appletalk aurp topology command P2R-117
show appletalk cache command P2R-119
show appletalk domain command P2R-121
show appletalk eigrp interfaces command P2R-123
show appletalk eigrp neighbors command P2R-125
show appletalk eigrp topology command P2R-127
show appletalk globals command P2R-132
show appletalk interface command P2R-135
show appletalk macip-clients command P2R-139
show appletalk macip-servers command P2R-140
show appletalk macip-traffic command P2R-144
show appletalk name-cache command P2R-146

show appletalk nbp command P2R-148
show appletalk neighbors command P2R-125, P2R-150
show appletalk remap command P2R-153
show appletalk route command P2R-156
show appletalk sockets command P2R-162
show appletalk static command P2R-164
show appletalk traffic command P2R-166
show appletalk zone command P2R-173
show appn class-of-service command BR-659
show appn connection-network command BR-662
show appn directory command BR-664
show appn dlur-lu command BR-666
show appn dlur-pu command BR-668
show appn dlus command BR-670
show appn intermediate-session command BR-672
show appn link-station command BR-674
show appn mode command BR-677
show appn node command BR-678
show appn port command BR-680
show appn rtp command BR-683
show appn session command BR-685
show appn topology command BR-687
show aps command IR-202
show arap command DR-658
show arp command P1R-75
show async status command DR-46
show async-bootp command FR-343
show atm arp-server command WR-94
show atm class-links command WR-96
show atm interface atm command WR-97
show atm map command WR-100
show atm pvc command WR-103
show atm svc command WR-109
show atm traffic command WR-115
show atm vc command WR-117
show atm vp command WR-124
show bootflash command FR-270
show bootvar command FR-305
show bridge circuit group command BR-65
show bridge command BR-62
show bridge group command BR-67, IR-204
show bridge multicast command BR-68
show bridge vlan command BR-70
show bsc command BR-341
show bstun command BR-346
show buffers command FR-621
show c2600 command FR-538
show c7200 command FR-542, VR-244
show cable burst-profile command VR-219
show cable modem command VR-221
show cable modulation-profile command VR-223
show cable privacy command VR-225
show cable qos command VR-227
show cable spectrum group command VR-228
show calendar command FR-676
show call active voice command VR-48
show call history voice command VR-52
show cdp command FR-396
show cdp entry command FR-397
show cdp interface command FR-399
show cdp neighbors command FR-400
show cdp traffic command FR-402
show cef command XR-40
show cef interface command XR-42
show cef linecard command XR-44
show ces circuit command WR-126
show ces interface cbr command WR-129
show ces status command WR-132
show clns cache command P3R-269
show clns command P3R-267
show clns es-neighbors command P3R-272
show clns filter-expr command P3R-274
show clns filter-set command P3R-275
show clns interface command P3R-276
show clns is-neighbors command P3R-278
show clns neighbors command P3R-280
show clns protocol command P3R-282
show clns route command P3R-285
show clns traffic command P3R-287
show clock command FR-677
show cmns command WR-307
show compress command IR-205
show context command FR-547
show context command (for Cisco 2600 Series routers) FR-545
show controllers (GRP image) command FR-549
show controllers (line card image) command FR-552
show controllers bri command DR-218
show controllers cable command VR-230
show controllers call-counters command DR-320, DR-322, DR-326, DR-328
show controllers cbus command IR-207
Cisco 7000 IR-210
Cisco 7500 IR-208
show controllers channel command BR-796
show controllers e1 command DR-317
show controllers ethernet command IR-213
show controllers fastethernet command IR-216
show controllers fddi command IR-220
show controllers lex command IR-221
show controllers logging command FR-558
show controllers mci command IR-223
show controllers pcbus command IR-225
show controllers pos command IR-226
show controllers serial command DR-324, IR-230
show controllers t1 command DR-324, IR-234
show controllers t3 command IR-237
show controllers tech-support command FR-559
show controllers token (IBM) BR-140
show controllers token command IR-245

show controllers token (ibm) command BR-140
show controllers vg-anylan command IR-251
show crypto algorithms command SR-278
show crypto ca certificates command SR-385
show crypto card command SR-279
show crypto cisco algorithms command SR-281
show crypto cisco connections command SR-282
show crypto cisco key-timeout command SR-284
show crypto cisco pregen-dh-pairs command SR-285
show crypto connections command SR-287
show crypto dynamic- map command SR-354
show crypto engine brief command SR-288
show crypto engine configuration command SR-290
show crypto engine connections active command SR-292
show crypto engine connections dropped-packets command SR-294
show crypto ipsec sa command SR-349, SR-352
show crypto ipsec security-association lifetime command SR-352
show crypto ipsec transform-set command SR-353
show crypto isakmp policy command SR-414
show crypto isakmp sa command SR-415
show crypto key mypubkey dss command SR-295
show crypto key mypubkey rsa command SR-417
show crypto key pubkey-chain dss command SR-296
show crypto key pubkey-chain rsa command SR-418
show crypto key-timeout command SR-298
show crypto map (CET) command SR-299
show crypto map (IPSec) command SR-355
show crypto mypubkey command SR-302
show crypto pregen-dh-pairs command SR-303
show crypto pubkey command SR-304
show crypto pubkey name command SR-305
show crypto pubkey serial command SR-306
show dbconn connection command BR-715
show dbconn license command BR-717
show dbconn ports command BR-718
show dbconn server command BR-719
show debugging command FR-561
show decnet accounting command P3R-168
show decnet command P3R-166
show decnet interface command P3R-170
show decnet map command P3R-174
show decnet neighbors command P3R-175
show decnet route command P3R-176
show decnet static command P3R-178
show decnet traffic command P3R-180
show dhcp command DR-608
show diag command FR-562, IR-253, VR-242
show diagbus command IR-255
show dialer command DR-222, DR-709, DR-733
display for active connection DR-223, DR-712, DR-736
display for DTR dialing DR-711, DR-735
show dialer interface async command DR-711, DR-735
show dialer interface bri command DR-222, DR-709, DR-733
show dialer map command DR-798
show dial-peer voice command VR-55
show dialplan incall number command VR-58
show dialplan number command VR-59
show dlsw capabilities command BR-288
show dlsw circuits command BR-290
show dlsw fastcache command BR-292
show dlsw peers command BR-293
show dlsw reachability command BR-296
show dlsw statistics command BR-299
show dnsix command SR-466
show drip command BR-203
show dspu command BR-512
show dxi map command WR-133
show dxi pvc command WR-134
show entry command DR-424
show environment command FR-564
show extended channel backup command BR-797
show extended channel cmpc command BR-798
show extended channel connection-map llc2 command BR-800
show extended channel csna command BR-801
show extended channel icmp-stack command BR-805
show extended channel ip-stack command BR-807
show extended channel lan command BR-810
show extended channel llc2 command BR-812
show extended channel max-llc2-sessions command BR-821
show extended channel packing names command BR-823
show extended channel packing stats command BR-825
show extended channel statistics command BR-827
show extended channel subchannel command BR-831
show extended channel tcp-connections command BR-837
show extended channel tcp-stack command BR-840
show extended channel tg command BR-843
show extended channel tn3270-serve pu lu command BR-867
show extended channel tn3270-server client-ip-address command BR-851
show extended channel tn3270-server command BR-848
show extended channel tn3270-server dlur command BR-855
show extended channel tn3270-server dlurlink command BR-859
show extended channel tn3270-server nailed-ip command BR-861
show extended channel tn3270-server pu command BR-863
show extended channel udp-listeners command BR-871
show extended channel udp-stack command BR-872
show file descriptors command FR-186
show file information command FR-187
show file systems command FR-188
show flash command FR-270

show flash summary command FR-277
show flh-log command FR-240
show frame-relay ip rtp header-compression command P1R-654
show frame-relay ip tcp header-compression command WR-242
show frame-relay lapf command WR-244
show frame-relay lmi command WR-246
show frame-relay map command WR-248
show frame-relay pvc command WR-250
show frame-relay qos-autosense command WR-254
show frame-relay route command WR-256
show frame-relay svc maplist command WR-257
show frame-relay traffic command WR-260
show fras command BR-550
show fras map command BR-554
show fras-host command BR-552
show gsr command FR-578
show gt64010 command FR-579
show history command FR-26
show hosts command P1R-77
show hub command IR-257
show interface cable command VR-234
show interface cable-signal quality command VR-239
show interface cbr command WR-136
show interface stats command XR-115
show interfaces
  configuring interfaces IR-275
  custom queuing, output display IR-263
  disabled IR-268
  displaying configuration statistics IR-262
  displaying SDLC information IR-341
show interfaces accounting command IR-264
show interfaces atm command WR-139
show interfaces bri command DR-225
show interfaces cable sid command VR-240
show interfaces channel command BR-874
show interfaces command DR-198, DR-860, IR-261
  channelized E1 DR-290
  channelized T1 DR-290
  clearing counters IR-35
  configuring interfaces WR-76
  DDR interface DR-712, DR-736
show interfaces crb command BR-71
show interfaces ethernet accounting command IR-269
show interfaces ethernet command IR-269
show interfaces fair-queue command QR-57
show interfaces fastethernet command IR-275
show interfaces fddi accounting command IR-285
show interfaces fddi command IR-285
show interfaces hssi command IR-294
show interfaces ip-brief command IR-300
show interfaces irb command BR-73
show interfaces lex command IR-301
show interfaces loopback command IR-307
show interfaces port-channel command IR-311
show interfaces pos command IR-316
show interfaces random-detect command QR-59
show interfaces rate-limit command QR-61
show interfaces serial accounting command IR-320
show interfaces serial command IR-320
show interfaces tokenring command IR-346
  show interfaces tokenring (ibm) command BR-145
show interfaces tunnel command IR-352
show interfaces vg-anylan command IR-356
show interfaces virtual-access command DR-500
show ip access-list command P1R-161
show ip accounting command P1R-162
show ip aliases command P1R-79
show ip arp command P1R-80
show ip bgp cidr-only command P1R-455
show ip bgp command P1R-452
show ip bgp community command P1R-457
show ip bgp community-list command P1R-459
show ip bgp dampened-paths command P1R-461
show ip bgp filter-list command P1R-462
show ip bgp flap-statistics command P1R-464
show ip bgp inconsistent-as command P1R-466
show ip bgp neighbors command P1R-467
show ip bgp paths command P1R-472
show ip bgp peer-group command P1R-473
show ip bgp regexp command P1R-474
show ip bgp summary command P1R-475
show ip cache command XR-17
show ip cache flow command XR-20
show ip cef command XR-46
show ip drp command P1R-165
show ip dvmrp route command P1R-656
show ip eigrp interfaces command P1R-314
show ip eigrp neighbors command P1R-316
show ip eigrp topology command P1R-318
show ip eigrp traffic command P1R-320
show ip igmp groups command P1R-657
show ip igmp interface command P1R-659
show ip inspect command SR-200
show ip interface command FR-156, IR-360, P1R-82
show ip irdp command P1R-85
show ip local policy command P1R-556
show ip local pool command DR-610
show ip masks command P1R-86
show ip mcache command P1R-662, XR-116
show ip mds forwarding command XR-118
show ip mds interface command XR-120
show ip mds stats command XR-121
show ip mds summary command XR-123
show ip mpacket command P1R-663
show ip mroute command P1R-665
show ip nat statistics command P1R-87
show ip nat translations command P1R-89
show ip nhrp command P1R-91

show ip nhrp traffic command P1R-93
show ip ospf border-routers command P1R-274
show ip ospf command P1R-272
show ip ospf database command P1R-275
show ip ospf interface command P1R-284
show ip ospf neighbor command P1R-286
show ip ospf request-list command P1R-288
show ip ospf retransmission-list command P1R-289
show ip ospf summary-addresst command P1R-290
show ip ospf virtual-links command P1R-291
show ip pim bsr command P1R-671
show ip pim interface command P1R-673
show ip pim interface count command XR-125
show ip pim neighbor command P1R-675
show ip pim rp command P1R-677
show ip pim rp-hash command P1R-679
show ip pim vc command P1R-681
show ip policy command P1R-558
show ip protocols command P1R-560
show ip redirects command P1R-166
show ip route command P1R-565
show ip route summary command P1R-571
show ip route supernets-only command P1R-572
show ip rpf command P1R-683
show ip rsvp installed command QR-63
show ip rsvp interface command QR-65
show ip rsvp neighbor command QR-66
show ip rsvp request command QR-67
show ip rsvp reservation command QR-69
show ip rsvp sender command QR-71
show ip rtp header-compression command P1R-684
show ip sdr command P1R-686
show ip tcp header-compression command P1R-167
show ip traffic command P1R-169
show ip traffic-engineering command XR-50
show ip traffic-engineering configuration command XR-53
show ip traffic-engineering routes command XR-55
show ip trigger-authentication command SR-53
show ip wccp command FR-159
show ip wccp web-caches command FR-161
show ipx access-list command P2R-426
show ipx accounting command P2R-427
show ipx cache command P2R-429
show ipx eigrp interfaces command P2R-430
show ipx eigrp neighbors command P2R-432
show ipx eigrp topology command P2R-434
show ipx interface command P2R-439
show ipx nasi connections command DR-755
show ipx nhrp command P2R-444
show ipx nhrp traffic command P2R-446
show ipx nlsp database command P2R-448
show ipx nlsp neighbors command P2R-451
show ipx nlsp spf-log command P2R-453
show ipx route command P2R-455
show ipx servers command P2R-460
show ipx spx-protocol command DR-757
show ipx spx-spoof command P2R-462
show ipx traffic command P2R-464
show isdn active command
  field descriptions (table) DR-230, DR-332, DR-354
  output display DR-229, DR-331, DR-353
show isdn command DR-229, DR-331, DR-353
show isdn history command
  field descriptions (table) DR-230, DR-332, DR-354
  output display DR-230, DR-332, DR-354
show isdn nfas group command DR-355
  field descriptions (table) DR-356
show isdn service command DR-358
  field descriptions (table) DR-333, DR-358
  output display DR-333
show isdn status command DR-349
  field descriptions (table) DR-335
  output display DR-333
show isis database command P1R-346
show isis routes command P3R-290
show isis spf-log command P1R-350
show kerberos creds command SR-138
show key chain command P1R-573
show keymap command DR-425
show lane bus command XR-168
show lane client command XR-170
show lane command XR-164
show lane config command XR-173
show lane database command XR-176
show lane default-atm-addresses command XR-178
show lane le-arp command XR-180
show lane server command XR-182
show lat advertised command DR-426
show lat groups command DR-427
show lat nodes command DR-428
show lat services command DR-430
show lat sessions command DR-431
show lat traffic command DR-435
show line command DR-48
show llc2 command BR-424
show lnm bridge command BR-149
show lnm config command BR-150
show lnm interface command BR-152
show lnm ring command BR-155
show lnm station command BR-156, BR-158
show local-ack command BR-220, BR-449
show logging command FR-510, FR-514, FR-526, FR-581
show memory command FR-585
show microcode command FR-241
show mls rp command XR-105
show mls rp vtp-domain command XR-107
show modem at-mode command DR-125
show modem call-stats command DR-126
show modem command DR-117
show modem configuration command DR-131

show modem connect-speeds command DR-135
show modem cookie command DR-139
show modem csm command DR-140
show modem log command DR-142
show modem mapping command DR-149
show modem operational-status command DR-156
show modem summary command DR-159
show modem test command DR-160
show modem version command DR-161
show modemcap command DR-51, DR-112
show modem-pool command DR-166
show mpoa client cache command XR-203
show mpoa client command XR-201
show mpoa client statistics command XR-205
show mpoa default-atm-addresses command XR-206
show mpoa server cache command XR-210
show mpoa server name command XR-208
show mpoa server statistics command XR-212
show nbf cache command DR-54
show nbf sessions command DR-55
show ncia circuits command BR-732
show ncia client command BR-734
show ncia server command BR-736
show netbios-cache command BR-158
show network-clocks command WR-144
show node command DR-437
show ntp associations command FR-678
show ntp status command FR-682
show num-exp command VR-62
show pas eswitch address command IR-363
show pci command FR-589
show pci hardware command FR-591
show ppp bap command DR-800
show ppp multilink command DR-612, DR-771, DR-802
show ppp queues command SR-54
show privilege command SR-434
show processes command FR-593
show processes memory command FR-596
show protocols command FR-598
show qllc command BR-447
show queue command QR-72
show queueing command QR-74
show reload command FR-308
show rif command BR-160, IR-364
show rmon alarms command FR-405
show rmon capture command FR-407
show rmon command FR-403
show rmon events command FR-410
show rmon filter command FR-412
show rmon history command FR-415
show rmon hosts command FR-418
show rmon matrix command FR-420
show rmon statistics command FR-422
show rmon topn command FR-425
show route-map command P1R-574, P3R-291
show rtr application command FR-427
show rtr collection-statistics command FR-429
show rtr configuration command FR-431
show rtr distribution-statistics command FR-433
show rtr history command FR-435
show rtr operational-state command FR-437
show rtr reaction-trigger command FR-439
show rtr totals-statistics command FR-440
show running-config command FR-214
show service command DR-440
show sgbp command DR-773
show sgbp queries command DR-772, DR-774
show smds addresses command WR-265
show smds map command WR-266
show smds traffic command WR-267
show smrp forward command P2R-175
show smrp globals command P2R-177
show smrp group command P2R-179
show smrp mcache command P2R-181
show smrp neighbor command P2R-183
show smrp port command P2R-185
show smrp route command P2R-187
show smrp traffic command P2R-189
show sna command BR-514
show snapshot command DR-828
show snmp command FR-442
show snmp pending command FR-446
show snmp sessions command FR-447
show sntp command FR-684, IR-371
show source-bridge command BR-162
show span command BR-165, BR-169, BR-192
show sscop command WR-146
show sse summary command P1R-172, P2R-468
show stacks command FR-599
show standby command P1R-172
show stun command BR-348
show subsys command FR-601
show syscon discover command FR-709
show syscon mibpoll command FR-712
show syscon monitor command FR-715
show syscon perfdata command FR-717
show syscon sdp command FR-719, FR-721
show syslog-server command FR-723
show tag-switching atm-tdp bindings command XR-56
show tag-switching atm-tdp cabability command XR-58
show tag-switching forwarding-table command XR-62
show tag-switching interfaces command XR-65
show tag-switching tdp bindings command XR-67
show tag-switching tdp discovery command XR-70
show tag-switching tdp neighbors XR-71
show tag-switching tdp parameters command XR-73
show tag-switching tsp-tunnels command XR-75
show tarp blacklisted-adjacencies command P3R-295
show tarp command P3R-293
show tarp host command P3R-296

show tarp interface command P3R-297
show tarp ldb command P3R-298
show tarp map command P3R-299
show tarp static-adjacencies command P3R-300
show tarp tid-cache command P3R-301
show tarp traffic command P3R-303
show tcp brief command DR-448, FR-608
show tcp command DR-443, FR-603
show tcp intercept connections command SR-171
show tcp intercept statistics command SR-173
show tcp statistics command P1R-175
show tdm connections command FR-609
show tdm connections motherboard command
    channel output, interpreting FR-609
show tdm data command FR-610
show tech-support command FR-611
show tech-support rsvp command QR-76
show terminal command DR-183
show traffic-shape command QR-77
show traffic-shape statistics command QR-79
show translate command DR-504
show ttycap command DR-451
show users command DR-57, DR-506
show version command FR-309
show vines access command P3R-25
show vines cache command P3R-26
show vines host command P3R-28
show vines interface command P3R-29
show vines ipc command P3R-32
show vines neighbor command P3R-34
show vines route command P3R-38
show vines service command P3R-42
show vines traffic command P3R-45
show vlans command BR-78
show voice call command VR-63
show voice dsp command VR-65
show voice port command VR-67
show vpdn command DR-838
show vpdn history failure command DR-840
show whoami command FR-73
show x25 interface command WR-309
show x25 map command WR-310
show x25 pad command DR-563
show x25 remote-red command WR-312
show x25 route command WR-313
show x25 services command WR-314
show x25 vc command WR-315
show x25 xot command WR-322
show xns cache command P3R-335
show xns interface command P3R-336
show xns route command P3R-338
show xns traffic command P3R-340
show xremote command DR-452
show xremote line command DR-455
shows sessions command DR-442
shutdown, enabling for SNMP FR-472
shutdown (controller) command IR-373
shutdown (dial-peer configuration) command VR-74
shutdown (DS 1 link) command VR-75
shutdown (hub) command IR-374
shutdown (interface) command IR-375
shutdown (voice-port configuration) command VR-129
shutdown command BR-878
signal command VR-130
signals
    Break DR-896
    pulsing DTR DR-251, IR-181
SIG-TS-001/1991 standard WR-270
single DDR telephone number, specifying DR-679
single DDR telephone number, specifying DR-705, DR-729
single-character patterns
    anchoring DR-905
    creating DR-902
    description DR-902
    using multipliers DR-904
slave auto-sync config command FR-315
slave default-slot command FR-316
slave image command FR-317
slave reload command FR-318
slave sync config command FR-319
slave terminal command FR-320
SLIP
    connections to server DR-640–DR-641
    session, automatic startup DR-620
slip command DR-640
SMDS
    address resolution (ARP) WR-274
    address specification WR-269
    addresses
        bridging's effect on WR-269
        broadcast WR-274, WR-276
        multicast WR-274, WR-276
    AppleTalk on WR-274
    ARP WR-272
    assigned address display WR-265, WR-266
    ATM WR-39
    bridging WR-277
    broadcast ARP messages WR-276
    DECnet on WR-274
    disabling split horizon P1R-200, P1R-212
    DXI 3.2 with heartbeat WR-270
    dynamic routing WR-273
    enabling via encapsulation WR-263
    fast switched IPX P2R-352
    general statistics WR-267
    IP address and subnet mask on WR-276
    IP on WR-275
    IPX on WR-275
    ISO CLNS on WR-274
    maximum packet size WR-263

multiple logical IP subnetworks WR-264, WR-277, WR-279
protocols supported WR-274
static routing table
configuring WR-281
displaying WR-266
protocols supported WR-281
subinterfaces for multiple IP subnetworks WR-264
VINES on WR-275
smds address command WR-269
smds dxi command WR-270
smds enable-arp command WR-272
smds glean command WR-273
smds multicast arp command WR-276
smds multicast bridge command WR-277
smds multicast command WR-274
smds multicast ip command WR-279
smds static-map command WR-281
smds-dest-address command BR-690
SMRP P2R-198
fast switching, enabling P2R-196
forwarding table P2R-175
fields (table) P2R-176
global information P2R-177
group address P2R-179
group table
displaying P2R-179
field descriptions (table) P2R-180
multicast services over AppleTalk, enabling P2R-198
neighbor P2R-183
neighbor table
displaying P2R-184
field descriptions (table) P2R-184
port table P2R-185
displaying P2R-185
field descriptions (table) P2R-186
routing table
displaying P2R-187
field descriptions (table) P2R-188
traffic table
displaying P2R-189
field descriptions (table) P2R-191
smrp mroute-cache protocol appletalk command P2R-196
smrp protocol appletalk command P2R-198
smrp routing command P2R-200
smt-queue-threshold command IR-376
SNA
monitoring BR-514
Service Point
activating BR-529
Ethernet interface, defining BR-524
Ethernet interface, enabling BR-517
Frame Relay interface, defining BR-518
Frame Relay interface, enabling BR-517
monitoring BR-514
QLLC data link
defining BR-520
enabling BR-515
RSRB
activating BR-528
connection BR-524
service access point, enabling BR-527
SDLC data link
defining BR-522
enabling BR-516
Token Ring interface
defining BR-524
enabling BR-517
virtual data link control connection
activating BR-533
configuration (example) BR-530
service access point, enabling for upstream host BR-532
virtual ring, defining BR-530
traffic prioritization, configuring BR-222
sna enable-host
sna enable-host (FDDI) command BR-517
sna enable-host command
sna enable-host (Ethernet) command BR-517
sna enable-host (Frame Relay) command BR-517
sna enable-host (QLLC) command BR-515
sna enable-host (SDLC) command BR-516
sna enable-host (Token Ring) command BR-517
sna host command
sna host (Ethernet) command BR-524
sna host (FDDI) command BR-524
sna host (Frame Relay) command BR-518
sna host (QLLC) command BR-520
sna host (RSRB) command BR-524
sna host (SDLC) command BR-522
sna host (Token Ring) command BR-524
sna host (VDLC) command BR-524
sna rsrb command BR-526
sna rsrb enable-host command BR-527
sna rsrb start command BR-528
sna start command BR-529
sna vdlc command BR-530
sna vdlc enable-host command BR-532
sna vdlc start command BR-533
SNAP packet encapsulation
assigning access list to filter
on input BR-177
on output BR-183
filtering
frames on output BR-183
on input BR-31
filtering on output BR-39
snapshot client command DR-830
snapshot routing DR-825–DR-832
dialer map, defining for DDR DR-827

quiet period, ending DR-826
when to use DR-825
snapshot server command DR-832
SNMP
configuration parameters, displaying FR-581
message queue length FR-471
packet filtering FR-469
system contact, setting FR-453
system location, setting FR-465
system shutdown, enabling FR-472
trap address violation IR-377
trap message
source, setting FR-475
timeout FR-476
snmp enable peer-trap poor-qov command VR-76
SNMP server
informs, enbling FR-455
system location, setting FR-459
trap operation
enabling FR-455
recipient FR-459
snmp trap illegal-address command IR-377
snmp trap link-status command FR-479
snmp-server access-policy command FR-449
snmp-server chassis-id command FR-450
snmp-server community command FR-451
snmp-server contact command FR-453
snmp-server context command FR-454
snmp-server enable command FR-455
snmp-server enable trap command FR-514
snmp-server host command FR-459
snmp-server informs command FR-463
snmp-server location command FR-465
snmp-server manager command FR-466
snmp-server manager session-timeout command FR-467
snmp-server packet-size command FR-469
snmp-server party FR-470
snmp-server party command FR-470
snmp-server queue-length command FR-471
snmp-server system-shutdown command FR-472
snmp-server tftp-server-list command FR-473
snmp-server trap-authentication command FR-474
snmp-server trap-source command FR-475
snmp-server trap-timeout command FR-476
snmp-server view command FR-477
SNPA
cluster alias P3R-199
NSAP, mapping P3R-206, P3R-214
sntp broadcast client command FR-686
sntp server command FR-688
socket numbers (table) P2R-208
soft reconfiguration P1R-424
software compression IR-58, WR-211, WR-221
configuring DR-240
displaying IR-205
PPP, configuring DR-576
software configuration boot register FR-295, FR-297
software flow control
changing for session FR-85
changing start character FR-97
configuring for a line DR-15
SONET PLIM, ATM
(example) WR-40
configuring WR-40
source-address command IR-379
source-bridge command BR-166
source-bridge connection-timeout command BR-168
source-bridge cos-enable command BR-222
source-bridge enable-80d5 command BR-169
source-bridge explorer-dup-ARE-filter command BR-171
source-bridge explorer-fastswitch command BR-172
source-bridge explorer-maxrate command BR-173
source-bridge explorerq-depth command BR-174
source-bridge fst-peername command BR-223
source-bridge input-address-list command BR-175
source-bridge input-lsap-list command BR-176
source-bridge input-type-list command BR-177
source-bridge keepalive command BR-224
source-bridge largest-frame command BR-225
source-bridge max-hops command BR-178
source-bridge max-in-hops command BR-179
source-bridge max-out-hops command BR-180
source-bridge output-address-list command BR-181
source-bridge output-lsap-list command BR-182
source-bridge output-type-list command BR-183
source-bridge passthrough command BR-226
source-bridge proxy-explorer command BR-184
source-bridge proxy-netbios-only command BR-185
source-bridge qllc-local-ack command BR-451
source-bridge remote-peer frame-relay command (direct encapsulation) BR-228
source-bridge remote-peer fst command BR-230
source-bridge remote-peer interface command BR-452
source-bridge remote-peer tcp command BR-232
source-bridge ring-group command BR-186
source-bridge route-cache cbus command BR-189
source-bridge route-cache command BR-188
source-bridge route-cache sse command BR-191
source-bridge sap-80d5 command BR-192
source-bridge sdllc-local-ack command BR-454
source-bridge spanning command
source-bridge spanning (automatic) command BR-194
source-bridge spanning (manual) command BR-195
source-bridge tcp-queue-max command BR-234
source-bridge transparent command BR-196
source-bridge transparent fastswitch command BR-198
source-bridge trcrf-vlan command BR-204
spanning explorer packets, definition BR-195
spanning explorers, enabling BR-194, BR-195
spanning tree

domain
assigning BR-17
multiple bridge loops with BR-17
protocol
defining type to use BR-52
disabling BR-42
special characters
activation character FR-46, FR-543
changing for session FR-80
character width
changing for session FR-95
configuring for line FR-74
defining default FR-51
disconnect character FR-52
dispatch character, setting for line FR-53
escape character
changing for session FR-83
setting for line FR-58
hold character
changing for session FR-86
configuring for line FR-61
special-character-bits command FR-74
Specifically FR-251
speed command DR-187, IR-380
spf-interval command P2R-469
split horizon
AppleTalk Enhanced IGRP P2R-52
IP Enhanced IGRP P1R-305
IPX Enhanced IGRP P2R-378, P2R-380
ISO IGRP P3R-236
VINES P3R-89
spoofing
DDR DR-712, DR-736
IPX P2R-399
SPX
enabling P2R-383
setting the idle time P2R-381
watchdog packets P2R-381, P2R-383, P2R-399
SPX
enable, connections spoofing P2R-462
spoofing
enabling P2R-383
setting the idle time P2R-381
squeeze command FR-190
squelch command IR-382
SR/TLB
enabling BR-196
fast-switching mode, disabling BR-198
SRB
configuration, displaying BR-162
connection timeout interval, setting BR-168
explorer packets, configuring BR-195
hops, limiting the number of BR-178, BR-179, BR-180
information about, displaying BR-145
SSCOP
ATM WR-146
connection control timer (example) WR-148
receiver window, (example) WR-152
retry count (example) WR-150
transmitter window (example) WR-153
sscop cc-timer command WR-148
sscop keepalive-timer command WR-149
sscop max-cc command WR-150
sscop poll-timer command WR-151
sscop receive-window command WR-152
sscop send-window command WR-153
SSE fast switching
SRB BR-191
transparent bridging BR-44
SSP, reinitializing BR-93
stack group
bid value on system, displaying DR-774
bidding
default across stack members DR-771
offload server DR-771
overriding offload or default DR-772
configuration (example) DR-769
create and name DR-768
master bundle interface, host DR-771
member
assigning DR-768
host name DR-769
IP address DR-769
receiver, first call, master bundle interface host DR-771
Stacker compression IR-58
standard access list, IP P1R-108
named P1R-129
standard access list, IPX
named P2R-248
standard OUI form, specifying BR-94
standby ip command P1R-178
standby mac-address command P1R-180
standby mac-refresh command P1R-182
standby preempt command P1R-183
standby priority command P1R-183
standby timers command P1R-185
standby track command P1R-187
standby use-bia command P1R-189
start character
changing flow control FR-97
changing for session FR-97
configuring for a line DR-59, DR-188
default DR-15
start-character command DR-59, DR-188
start-chat command DR-60
startup configuration file FR-260
state-machine command FR-75
state-tracks-signal command BR-880

static maps, ATM, displaying WR-100
static routes
  Apollo Domain P3R-7
  AppleTalk P2R-90, P2R-92
  CLNS
    interface P3R-221
    redistributing P3R-257
    TARP mapping P3R-312, P3R-323
  configuring P1R-493
  IP
    establishing P1R-493
    redistributing P1R-521
  IPX P2R-349
  SMDS
    configuring WR-281
    displaying WR-266
  VINES P3R-80
  XNS P3R-356
static TEI DR-863
statistics for RTR
  displaying FR-429, FR-433, FR-480
  distributions kept FR-360
  hops kept FR-366
  hours kept FR-368
  paths kept FR-372
statistics-distribution-interval command FR-480
stop bits
  changing for session FR-98
  configuring for line FR-77
stop character
  changing flow control FR-99
  changing for session FR-99
  configuring for a line DR-62
  default DR-15
stopbits command FR-77
stop-character command DR-62
streamlined setup facility FR-37
  (example) FR-43
  booting from network server, interface IP parameters, configuring FR-43
  configuration register FR-37
  configuration, corrupted startup FR-37
  rxboot ROM FR-37
string
  setting system location FR-459
  SNMP community access, setting FR-451
  system contact, setting FR-453
  system location, setting FR-465
stub IP multicast routing P1R-602
STUN
  connection status, displaying BR-346, BR-348
  frames, forwarding BR-359, BR-360
  interface, configuring BR-329
    placing in a group BR-350
  IP addresses, enabling BR-353
  non-SDLC protocol, defining BR-365
  peer connection BR-352
stun group command BR-350
stun keepalive-count command BR-352
stun peer-name command BR-353
stun protocol-group command BR-354, BR-356
stun remote-peer-keepalive command BR-358
stun route address interface dlci command BR-359
stun route address interface serial command BR-360
stun route address tcp command BR-361
stun route all interface serial command BR-363
stun route all tcp command BR-364, BR-367
stun schema offset length format command BR-365
stun sdlc-role primary command BR-367
stun sdlc-role secondary command BR-368
subinterface configuration mode, summary FR-xx
subinterfaces
  BRI multipoint, point-to-point DR-860
  configuring IR-117, IR-118, IR-120
  IPX P2R-305
  ISDN BRI DR-198, DR-860
    multipoint, point-to-point DR-198
  NLSP P2R-305
    configuring (example) P2R-306
subnet masks, using ICMP P1R-14
summary address, IP Enhanced IGRP P1R-306
summary-address (IS-IS) command P1R-352
summary-address command P1R-293
supervisory disconnect command VR-132
SVC
  clearing XOT WR-288
  disabling
    (example) WR-37
    description WR-37
svc command WR-154
switching
  autonomous XR-13
  fast XR-13
  flow XR-13
  flow switching XR-11, XR-13
  Frame Relay, specifying static route for WR-229
  IP, controlling the route cache XR-13
  NetFlow XR-2, XR-16
    enabling XR-15
  specifying static route for WR-229
  VIP distributed XR-13
switching feature (example) DR-907
synchronization command P1R-477
synchronization, definition P1R-477
syscon address command FR-725
syscon community command FR-726
syscon monitor command FR-727
syscon monitor traps command FR-729
syscon password command FR-731
syscon poll-group command FR-732

syscon shelf-id command FR-734
syscon source-interface command FR-735
Syslog Disk Logging, syslog server subfiles FR-699, FR-723
syslog history table FR-581
system contact string, setting FR-453
system controller
  configuring FR-725
  data collection FR-701, FR-703, FR-707
  shelf configuration FR-731
  shelf session FR-694
  SNMP community string FR-726
system error messages, redirecting FR-521
system ID messages, controlling MOP DR-424
system image file, copying from server to Flash (example) FR-256
system images
  checksum, verifying FR-193
  compressed FR-293
  copying from a server using rcp FR-293
  copying using Xmodem FR-244
  copying using Ymodem FR-244
  default filename FR-292
  invalidated FR-274
system location string, setting FR-465
system shutdown, enabling for SNMP FR-472
system software
  booting FR-290, FR-292
  displaying version of FR-309

T

t1 bert command IR-383
t1 clock source command IR-385
T1 controller, adding descriptive name IR-71
t1 external command IR-386
t1 fdl ansi command IR-388
t1 framing command IR-389
t1 linecode command IR-390
t1 test command IR-392
T1 timer, SDLC BR-418
t1 timeslot command IR-394
t1 yellow command IR-396
T3
  bert test IR-383
  cable length IR-23
  clock source IR-47
  configuration IR-63
  display controllers IR-237
  display interface IR-336
  external port IR-386
  FDL performance report IR-388, IR-396
  framing IR-100
  line coding IR-390
  performance report IR-388, IR-396
  T1 clock source IR-385
  T1 framing IR-389
  T1 test IR-392
  T1 timeslots IR-394
Tab key, command completion FR-xv
table-map command P1R-478
TACACS
  command comparison SR-103
  username authentication for extended mode DR-615
tacacs-server attempts command SR-110
tacacs-server authenticate command SR-111
tacacs-server directed request command SR-113
tacacs-server extended command SR-114
tacacs-server host command SR-115
tacacs-server key command SR-117
tacacs-server last-resort command SR-118
tacacs-server login-timeout command SR-119
tacacs-server notify command SR-120
tacacs-server optional passwortds command SR-121
tacacs-server retransmit command SR-122
tacacs-server timeout command SR-123
tag command FR-482
tag-switching advertise-tags command XR-77
tag-switching atm allocation-mode command XR-79
tag-switching atm control-vc command XR-80
tag-switching atm vc-merge command XR-83
tag-switching atm vpi command XR-84
tag-switching ip (configuration) command XR-85
tag-switching ip (interface) command XR-86, XR-87
tag-switching tag-range downstream command XR-89
tag-switching tdp discovery command XR-90
tag-switching tdp holdtime command XR-91
tag-switching tsp-tunnels command XR-92, XR-93
TARP
  blacklist adjacency
    listing P3R-295
    setting P3R-306
  cache
    enabling P3R-304
    setting timer P3R-307
  counters, clearing P3R-189
  enabling P3R-325
  global parameters, displaying P3R-293
  host, displaying P3R-296
  interface
    displaying P3R-297
    enabling propagation P3R-316
  loop detection buffer
    clearing table P3R-190
    displaying table P3R-298
    setting timer P3R-310
  NSAP-to-TID, querying map P3R-319
  N-selector type, setting P3R-313
  packet lifetime, setting P3R-311

PDUs
global propagation P3R-309
originating P3R-314
protocol, specifying P3R-318
sequence number, setting P3R-326
static adjacency
displaying P3R-300
setting P3R-323
static map
displaying P3R-299
setting P3R-312
TID
assigning P3R-329
cache, displaying P3R-301
clearing table P3R-191
timeouts
type 1, setting P3R-327
type 2, setting P3R-315, P3R-328
type 5, setting P3R-305
traffic, displaying P3R-303
URC bit, setting P3R-330
tarp allow-caching command P3R-304
tarp arp-request-timer command P3R-305
tarp blacklist-adjacency command P3R-306
tarp cache-timer command P3R-307
tarp enable command P3R-308, P3R-316
tarp global-propagate command P3R-309
tarp ldb-timer command P3R-310
tarp lifetime command P3R-311
tarp map command P3R-312
tarp nselector-type command P3R-313
tarp originate command P3R-314
tarp post-t2-response-timer command P3R-315
tarp propagate command P3R-316
tarp protocol-type command P3R-318
tarp query command P3R-319
tarp resolve command P3R-321
tarp route-static command P3R-323
tarp run command P3R-325
tarp sequence-number command P3R-326
tarp t1-response-timer command P3R-327
tarp t2-response-timer command P3R-328
tarp tid command P3R-329
tarp urc command P3R-330
TCP
common services (table) QR-30
connection
enabling MD5 authentication for BGP P1R-408
enabling Path MTU Discovery P1R-147
setting connection-attempt time P1R-150
connections, clearing FR-119
description of P1R-3
encapsulation
configuring SRB for BR-232
enabling use on STUN interface BR-364
specifying for STUN BR-361
header compression, disabling conflicting features P1R-149, P1R-151
keepalive protocol, activating FR-535
maximum read size P1R-144
outgoing queue size P1R-148
packet dispatch state machine FR-54
port numbers (table) QR-30
protocol translation DR-509, DR-510, DR-517, DR-519, DR-523, DR-528
selective acknowledgment P1R-149
timestamp P1R-151
window size P1R-152
TCP idle timeout, specifying SR-193
TCP Intercept
enabling SR-160
modes
intercept mode SR-165
watch mode SR-165
timeouts SR-159
TCP/IP
rlogin connections DR-419, DR-421, DR-422
Telnet connections DR-457
TCP/IP header compression
on interface WR-195
inheritance, effect on all IP maps WR-195
on IP map WR-217
inheriting compression from interface WR-217
overriding compression from interface WR-217
on X.25 WR-354
TCP/IP, description P1R-3
tcp-port command BR-881
tdm-group command VR-77
technical publications and standards FR-750
technical support information, displaying FR-611
telephone delta, in PPP BACP negotiations DR-791
Telnet
addresses, suppressing FR-665
changing end-of-line characters FR-104
connections DR-457–DR-460
configuring a line DR-463
description DR-458
generating Break signal DR-461
login string DR-415
notification of pending output DR-416, FR-67
protocol translation DR-509, DR-510, DR-517, DR-519, DR-523, DR-528
Remote Echo option DR-462, FR-101
special commands (table) DR-459
Suppress Go Ahead option DR-462, FR-101
telnet break-on-ip command DR-461
telnet command DR-457
telnet refuse-negotiations command DR-462
telnet speed command DR-463
telnet sync-on-break command DR-464

telnet transparent command DR-465
term ip netmask-format command P1R-95
terminal DR-187
  absolute timeout interval, setting DR-172
  activation character, setting FR-46, FR-543
  baud rate
    receive, configuring for a line DR-180
    transmit, configuring for a line DR-195
  changing
    escape character FR-83
    line speed FR-96
    screen length FR-88
    stop character FR-99
  character
    data bits FR-79
    padding FR-91
  character padding, configuring for line FR-68
  displaying, debug messages FR-89
  end-of-line character FR-104
  escape character, defining for a line FR-58
  file download mode FR-82
  flow control FR-85
  line speed FR-96, FR-106
  location, recording FR-64
  locking FR-65
  locking access to DR-410
  message length FR-143
  output notification FR-90
  packet dispatch character FR-80
  parameter settings, displaying DR-183
  parity bit FR-92
  pausing output to screen FR-61
  port queue FR-93
  receive speed FR-94
  screen length
    changing for session FR-88
    configuring for line FR-63
  screen width
    changing for session FR-108
    configuring for line FR-109
  selecting a transport protocol DR-467
  session limits, setting DR-181
  session timeout interval, setting DR-182
  settings, saving FR-72
  specifying type FR-105
  start character FR-97
  type, configuring for a line FR-107
terminal databits command FR-78
terminal data-character-bits command FR-79
terminal dispatch-character command DR-894, FR-80
terminal dispatch-timeout command FR-81
terminal download command FR-82
terminal editing command FR-28
terminal escape-character command FR-83
terminal exec-character-bits command FR-84
terminal flowcontrol command FR-85
terminal full-help command FR-31
terminal history command FR-33
terminal hold-character command FR-86
terminal international command FR-163
terminal keymap-type command FR-87
terminal lat out-group command DR-466
terminal length command FR-88
terminal monitor command FR-89
terminal notify command FR-90
terminal padding command FR-91
terminal parity command FR-92
terminal port queue, retry interval FR-93
terminal rxspeed command FR-94, FR-106
terminal services DR-171
terminal sessions, closing FR-11
terminal special-character-bits command FR-95
terminal speed command FR-96
terminal start-character command FR-97
terminal stopbits command FR-98
terminal stop-character command FR-99
terminal telnet break-on-ip command FR-100
terminal telnet refuse-negotiations command FR-101
terminal telnet speed command FR-102
terminal telnet sync-on-break command FR-103
terminal telnet transparent command FR-104
terminal terminal-type command FR-105
terminal transport preferred command DR-467
terminal txspeed command FR-106
terminal width command FR-108
terminal-queue command FR-93
terminal-type command FR-107
test appletalk command P2R-201
test crypto initiate-session command SR-307
test flash command FR-614
test interface fastethernet command IR-397
test interfaces command FR-615
test memory command FR-616
test modem back-to-back command DR-168
test service-module command IR-398
test T1 IR-392
Texas Instruments Token Ring MAC firmware, known defect BR-110
TFTP
  port number BR-213
  server
    booting automatically FR-290
    router, configuring to function as FR-344
tftp FR-347
tftp-server command FR-344
tg command BR-882
tg-number command BR-691
tg-row command BR-692
threshold command FR-483
THT, FDDI IR-94

tick count, IPX P2R-270
TID
displaying cache P3R-301
NSAP
mapping, enabling P3R-304
querying P3R-319
NSAP-to-TID, mapping P3R-312
router, assigning P3R-329
table, clearing P3R-191
time limit, setting for a session DR-653
time-division multiplexing, clock source IR-49, IR-53
timeout command FR-484
timeout interval FR-81
ARP P1R-7
EXEC process, setting DR-14, FR-124
terminal character dispatch FR-56
trap message FR-476
timeout login response command SR-56
timeouts
absolute DR-172
session, setting DR-182
setting for DDR interface DR-684
timeouts initial command VR-133
timeouts interdigit command VR-134
timeouts wait-release command VR-135
timers
AppleTalk Enhanced IGRP P2R-53
BGP, adjusting P1R-480
DECnet P3R-133, P3R-162
Frame Relay, keepalive (ATM) WR-236
IP Enhanced IGRP, adjusting P1R-303, P1R-304
ISO IGRP, adjusting P3R-331
LAPB
interface outage WR-294
link failure (T4) WR-302
T1 retransmission WR-301
T4 relation to T1 WR-302
service advertisement, setting DR-407
TARP
cache entries P3R-307
loop detection buffer table P3R-310
type 1 response P3R-327
type 2 response P3R-315, P3R-328
type 5 timeout P3R-305
token holding IR-94
X.25
call request (t21) WR-390
clear indication (t13) WR-388
clear request (t23) WR-392
hold timer, setting WR-334
incoming call (t11) WR-386
reset indication (t12) WR-387
reset request (t22) WR-391
restart indication (t10) WR-385
restart request (t20) WR-389
timers active-time command P1R-321
timers basic (ISO CLNS) command P3R-331
timers basic command P1R-189, P1R-207, P1R-223
timers bgp command P1R-480
timers lsa-group-pacing command P1R-295
timers spf command P1R-296
timeslot command DR-252, IR-399
timeslots
T1 IR-394
timestamp
TCP P1R-151
timing clear-wait command VR-136
timing delay-duration command VR-138
timing delay-start command VR-140
timing delay-with-integrity command VR-142
timing dialout-delay command VR-146
timing dial-pulse min-delay command VR-144
timing digit command VR-148
timing inter-digit command VR-150
timing percentbreak command VR-152
timing pulse command VR-154
timing pulse-interdigit command VR-156
timing wink-duration command VR-158
timing wink-wait command VR-160
timing-mark command BR-885
TN3270
character mapping
creating DR-471
determining DR-449
displaying DR-450
connections to server DR-468
data character bits, setting DR-469, DR-470
default keymaps DR-377
description DR-468
display size DR-363
international characters
displaying DR-449
printing DR-471
null processing handling DR-476
require reset after user error DR-478
special characters DR-376
tn3270 8bit display command DR-469
tn3270 8bit transparent-mode command DR-470
tn3270 command DR-468
tn3270 null-processing command DR-476
tn3270 optimize-cursor-move command DR-477
tn3270 reset-required command DR-478
TN3270 server
defining, TOS values BR-770
LU nailing, client command BR-751
TOS
ip precedence command BR-769
ip tos command BR-770
tn3270 status-message command DR-479
tn3270 typeahead command DR-480

tn3270-server command BR-884
Token Ring
  APPN partner node, specifying BR-615
  controller, displaying information about BR-140
  DECnet encapsulation over P3R-132
  functional address P1R-622
  interface, displaying information about BR-145
  IP multicast routing over P1R-622
  LNM information for, displaying BR-155
  logical configuration of, monitoring BR-99
  polling frequency, configuring BR-379
  wait interval for an acknowledgment, configuring BR-375
  XID transmissions, specifying frequency of BR-391
TokenTalk P2R-1
topology table
  AppleTalk Enhanced IGRP P2R-127
  IPX Enhanced IGRP P2R-434
trace
  common problems FR-621
  terminating FR-621
  tracing IP routes FR-622
trace (privileged) command FR-617
trace (user) command FR-621
trace (VINES) command P3R-51
trace command
  common problems FR-617
  extended test FR-617
  IP, routes FR-618
  privileged, overview FR-617
  terminating FR-617
  user, overview FR-621
TraceRoute function, VINES P3R-51
traffic priority management, weighted fair queueing QR-8
traffic shaping
  access lists, using QR-85
  configuration information (table) QR-77
  FECN/BECN messages QR-83
  interfaces QR-86, QR-88
  outbound QR-87
  statistics (table) QR-79
  strict (example) WR-38
  strict, enabling WR-38
traffic-engineering filter command XR-94
traffic-engineering route command XR-95
traffic-shape adaptive command QR-81
traffic-shape fecn-adapt command QR-83
traffic-shape group command QR-85
traffic-shape rate command QR-87
traffic-share command P1R-225, P1R-322
transfer-mode command FR-736
transition states, FDDI IR-287
translate command DR-508, DR-517, DR-526
translate lat command DR-514
translate tcp command DR-523
translate x25 command DR-534
translation options
  LAT DR-508, DR-514, DR-518, DR-527
  outgoing options, mapping to virtual interface template commands DR-515, DR-536
  prevent service advertisements DR-508, DR-514
  swap outgoing X.25 connections DR-529, DR-535
  TCP
    binary mode DR-523
    incoming address DR-523
  TCP/IP
    PPP DR-509, DR-518, DR-527
    SLIP DR-508, DR-518, DR-527
    Telnet DR-508, DR-517, DR-527
  Telnet binary mode DR-517
  X.25 DR-508, DR-518, DR-526, DR-534
translational bridging IR-87
transmission-priority command BR-694
transmit clock signal, inverting DR-249, IR-132
transmit-clock-internal command DR-253, IR-400
transmit-interface command P1R-190
transmitter-delay command DR-254, IR-401
transparent bridging
  access-list (type-code) command IR-4
  constrained multicast flooding
    enabling BR-15
    multicast state information, clearing BR-58
    multicast state information, displaying BR-68
  interface restrictions BR-20
  on FDDI interface IR-87
  SMDS WR-277
  type-code IR-4
transport input command DR-189
transport mode SR-334
transport output command DR-191
transport preferred command DR-193
transport protocol, selecting DR-467
trap
  host, setting message queue length FR-471
  message
    address violation IR-377
    establishing timeout FR-476
    source interface FR-475
  operation, enabling FR-455
  recipient, specifying FR-459
triggers for RTR
  configuring FR-388, FR-390
  displaying FR-439
TRIP, displaying information about IR-245
TRISL
  commands
    clear drip BR-200
    encapsulating BR-201
    multiring trcrf-vlan BR-202
    show drip BR-203

source-bridge trcrf-vlan BR-204
RIF, enabling BR-202
VLAN, attaching BR-204
VLANs, attaching BR-204
troubleshooting, modem access DR-884
TRT, FDDI IR-94
ts16 command DR-255, IR-402
ttycap command DR-481
ttycap support DR-482
tunnel, VPDN, shutting down, without unconfiguring DR-837
tunnel checksum command IR-403
tunnel command DR-485
tunnel destination command IR-404
tunnel key command IR-406
tunnel mode SR-333
tunnel mode command IR-407, P1R-96
tunnel mode tag-switching command XR-97
tunnel sequence-datagrams command IR-409
tunnel source command IR-410
tunnel tsp-hop command XR-98
tunneling
AppleTalk, Cayman IR-407
X.25, enabling WR-382
tunneling, AppleTalk, Cayman P1R-96
tx-queue-limit command IR-412
txspeed command DR-195
type (voice) command VR-162
type 20 packets, IPX, broadcasts P2R-278, P2R-392, P2R-393, P2R-394
type command FR-485

U

ubr command WR-155
ubr+ command WR-157
UDP
common services BR-213
common services (table) QR-30
datagrams
flooding P1R-30
speeding up flooding P1R-30
port numbers, IPTalk P2R-63
port numbers (table) QR-30
port prioritizing QR-30
UDP broadcasts
BOOTP forwarding agent P1R-26, P1R-32
DHCP P1R-26, P1R-32
UDP idle timeout, specifying SR-197
unbind-action command BR-887
undelete command FR-191
underscore character in regular expressions DR-906
UNI, version
(example) WR-42
configuring WR-42
unicast addresses, ATM WR-39
unit numbers, interface IR-33, IR-35, IR-40, IR-117
UNIX
compress command FR-293
Syslog Server, message logging to FR-507
uncompress command FR-293
unrecognized command message, help command FR-59
user EXEC commands, access-profile SR-25
user EXEC mode, summary FR-xx
user-defined-1 command
APPN link station BR-695
APPN port BR-696
user-defined-2 command
APPN link station BR-697
APPN port BR-698
user-defined-3 command
APPN link station BR-699
APPN port BR-700
username command DR-615, SR-435
username, authentication DR-615

V

V.120
answer all calls, static configuration DR-643
dynamic detection and setting DR-642
V.120, automatic detection DR-258, DR-338
V.25bis
DDR Options (table) DR-680, DR-706
options DR-680, DR-706
vacant-message command FR-146
vad (dial-peer configuration) command VR-79
vad (voice-port configuration) command VR-164
validate-update-source command P1R-209
variance command P1R-323
vbr-nrt command WR-159
vbr-rt command WR-161
VC
maximum, configuring WR-23
maximum, configuring (example) WR-23
vc-class atm command WR-163
vc-per-vp, (example) WR-43
vdlc command BR-701
verify bootflash command FR-242
verify command FR-193
verify flash command FR-243
verify-adjacent-node-type command BR-703
verify-data command FR-487
version command P1R-210
views, predefined, described in RFC 1447 FR-477
VINES
access control P3R-57–P3R-59
access lists

displaying P3R-25
extended, creating P3R-54
interface, applying to P3R-53
simple, creating P3R-57
standard, creating P3R-59
addresses P3R-64, P3R-68
application layer support, displaying P3R-42
ARP packets, processing P3R-62
bandwidth, determining P3R-72
Banyan distributed naming system P3R-68
broadcast packets P3R-89
broadcasts
encapsulation P3R-65
forwarding P3R-78
serverless networks P3R-86
zero-hop P3R-86
class field P3R-78
encapsulation P3R-65
fast switching
cache entries, deleting P3R-20
cache entries, displaying P3R-26
configuring P3R-82
filters
access lists
extended P3R-55
simple P3R-57
standard P3R-60
input network P3R-70
input router P3R-71
interface, applying to P3R-53
output network P3R-77
flash updates P3R-66
floating static routes P3R-80
hello messages P3R-101
hop count field P3R-78
host names
addresses, assigning P3R-68
entries, displaying P3R-28
interfaces, displaying status of P3R-29
IP header P3R-78
IPC connections
blocks, deleting P3R-21
displaying information P3R-32
port numbers (table) P3R-56, P3R-60
load sharing P3R-82
metrics
interface, specifying on P3R-72
routing, determining P3R-80
neighbor table
deleting P3R-22
displaying P3R-34
static paths, creating P3R-75
NIST clock P3R-99
NTP P3R-98, P3R-99
packet's path, determining P3R-51
protocol names P3R-54, P3R-59
router network address, redetermining P3R-84
routing
enabling P3R-84
on serverless networks P3R-86
single route P3R-88
routing table
deleting P3R-23
displaying P3R-38
routing updates P3R-89
filtering P3R-70, P3R-71, P3R-77
flash updates P3R-66
frequency P3R-103
propagation P3R-101
redirect messages P3R-79
split horizon P3R-66, P3R-89
RTP
enabling P3R-91
messages, redirecting P3R-79
serverless networks P3R-62
single route P3R-88
SMDS, configuring over WR-275
split horizon P3R-66, P3R-89
SRTP, enabling P3R-91
static paths P3R-75
static routes P3R-80
StreetTalk P3R-68
time
accepting updates P3R-57
synchronizing with network time P3R-98
synchronizing with router P3R-99
updates
accepting P3R-92
sending P3R-93
TraceRoute function P3R-51
traffic statistics
deleting P3R-24
displaying P3R-45
vines access-group command P3R-53
vines access-list (extended) command P3R-54
vines access-list (simple) command P3R-57
vines access-list (standard) command P3R-59
vines arp-enable command P3R-62
vines decimal command P3R-64
vines encapsulation command P3R-65
vines enhancements command P3R-66
vines host command P3R-68
vines input-network-filter command P3R-70, P3R-77
vines input-router-filter command P3R-71
vines metric command P3R-72
vines neighbor command P3R-75
vines output-network-filter command P3R-77
vines propagate command P3R-78
vines redirect command P3R-79
vines route command P3R-80

vines route-cache command P3R-82
vines routing command P3R-84
vines serverless command P3R-86
vines single-route command P3R-88
vines split-horizon command P3R-89
vines srtp-enabled command P3R-91
vines time access-group command P3R-92
vines time destination command P3R-93
vines time participate command P3R-94
vines time services command P3R-96
vines time set-system command P3R-98
vines time use-system command P3R-99
vines update deltas command P3R-101
vines update interval command P3R-103
virtual access interfaces, VTY line on which created, identifying DR-500
virtual asynchronous lines, configuring authentication DR-510, DR-520, DR-529
virtual circuits, X.25
  displaying address map WR-310
  facility handling WR-403
virtual data link control
  APPN
    port, defining BR-570
    ring group, specifying BR-701
    virtual MAC address option, specifying BR-701
  SNA Service Point configuration (example) BR-530
virtual interface template
  translate lat command, using with DR-514
  translate tcp command, using with DR-524
  translate x25 command, using with DR-535
virtual interfaces
  loopback interface IR-119
  Token Ring, creating BR-548
  tunnel interface IR-119
virtual MAC address P1R-180
virtual profiles DR-775–DR-778
virtual ring
  assigning BR-196, BR-198
  definition BR-186
virtual template
  configuration example DR-586
  configured as serial interface DR-763, DR-776
  multilink bundle interface, defining DR-586
  purpose DR-763, DR-776
virtual terminal lines DR-22
  configuring DR-22
virtual-profile aaa command DR-777
virtual-profile virtual-template command DR-778
VLANs, monitoring BR-78
voice confirmation-tone command VR-165
voice local-bypass command VR-83
voice-encap VR-80
voice-encap command VR-80
voice-group command VR-81
voice-port command VR-166
voice-port configuration commands
  auto-cut-through VR-90
  codec (voice-port configuration) VR-91
  comfort-noise VR-93
  compand-type VR-94
  condition VR-95
  connection VR-97
  cptone VR-100
  define VR-103
  description VR-105
  dial-type VR-106
  echo-cancel coverage VR-107
  echo-cancel enable VR-109
  ignore VR-111
  impedance VR-113
  input gain VR-115
  music-threshold VR-117
  non-linear VR-118
  operation VR-119
  output attenuation VR-120
  playout-delay VR-122
  ring cadence VR-123
  ring frequency VR-125
  ring number VR-127
  shutdown (voice-port configuration) VR-129
  signal VR-130
  supervisory disconnect VR-132
  timeouts initial VR-133
  timeouts interdigit VR-134
  timeouts wait-release VR-135
  timing clear-wait VR-136
  timing delay-duration VR-138
  timing delay-start VR-140
  timing delay-with-integrity VR-142
  timing dialout-delay VR-146
  timing dial-pulse min-delay VR-144
  timing digit VR-148
  timing inter-digit VR-150
  timing percentbreak VR-152
  timing pulse VR-154
  timing pulse-interdigit VR-156
  timing wink-duration VR-158
  timing wink-wait VR-160
  type (voice) VR-162
  vad (voice-port configuration) VR-164
  voice confirmation-tone VR-165
  voice-port VR-166
VPDN
  authenticating tunnel, remote host name and IP address DR-850
  connections, incoming DR-847
  connections, outgoing DR-850
  enabling DR-844
  history failure table

clearning DR-836
event logging DR-849
size DR-846
statistics DR-840
home gateway, CHAP challenge, issuing DR-845
information, displaying
logging, events DR-848
tunnel
authorization search order DR-852
local name, specifying DR-847
virtual templates DR-847
vpdn enable command DR-844
vpdn history failure table-size command DR-846
vpdn incoming command DR-847
vpdn logging command DR-848
vpdn outcoming command DR-850
vpdn search-order command DR-852
vrn command BR-888
VTY lines, assigned to loopback interfaces DR-511, DR-520, DR-529
vty-async command DR-537
vty-async dynamic-routing command DR-539
vty-async header-compression command DR-540
vty-async ipx ppp-client loopback command DR-541
vty-async keepalive command DR-542
vty-async mtu command DR-543
vty-async ppp authentication command DR-544
vty-async ppp use-tacacs command DR-545
vty-async virtual-template command DR-546

W

watchdog packets P2R-399
spoofing P2R-381
WFQ
configuration information, displaying QR-74
configuration statistics (table) QR-57, QR-72
effect of custom queueing on QR-7
effect of priority queueing on QR-7
enabling QR-7
Frame Relay switching QR-9
IP precedence weighting QR-9
traffic priority management QR-8
traffic stream discrimination (table) QR-8
where command DR-486, DR-565
which-route command P3R-332
whiteboard applications P1R-648
width command FR-109
wildcard command BR-704
word help, description FR-14
WRED
configuration information, displaying QR-74
configuration statistics (table) QR-59
hardware support QR-43, QR-46, QR-48
interface information QR-59
minimum threshold values (table) QR-47
parameters QR-47
write FR-172, FR-180, FR-279

X

X Window System, setting display location DR-487
X.121 address
DDN, caution not to change WR-293
Frame Relay SVC WR-239
numbers, codes and values WR-240
setting WR-324
suppressing
called address WR-383
calling address WR-384
use source WR-394
X.25
accept reverse charges WR-323
addresses
called, suppressing WR-383
calling
suppressing WR-384
updating WR-394
interface, setting on WR-324
protocol-to-remote host mapping WR-344
BFE
encapsulation WR-292
remote-red setting WR-371
Blacker Emergency Mode WR-326, WR-327
bridging on WR-283, WR-349
compressed packet header WR-354
configuring ISDN, static TEI DR-863
CUD, interpreting calls with unknown WR-328
DCE device WR-292
DDN encapsulation WR-292
default protocol, setting WR-328
directed broadcasts, configuring BR-81, BR-456, WR-346, WR-350
DTE device WR-292
encapsulation
BFE devices WR-293
DDN WR-293
methods supported BR-81, BR-456, WR-346, WR-350
facilities supported BR-456, WR-346, WR-349
facility handling WR-403
frames, bridging packets in BR-80, WR-349
hold timer, setting WR-334
hosts, limiting access DR-549, WR-397
input packet size
maximum, setting WR-339, WR-347, WR-350
PVC
encapsulation maximum WR-362

switched maximum WR-365, WR-367
tunnel maximum WR-370
window WR-395
input packet size, setting with x25 map command BR-82, BR-457
interface statistics, displaying IR-344
Interrupt packet DR-896
ISDN over D channel DR-862
isdn x25 static-tei command DR-863
maintaining WR-286
map options (table) BR-456
multiprotocol virtual circuits WR-344
network user ID BR-82, BR-457, WR-347, WR-351
OSPF BR-81, BR-456, WR-346, WR-350
output packet size BR-82, BR-457, WR-350
maximum, setting WR-347, WR-350
PVC
encapsulation maximum WR-362
switched maximum WR-365, WR-367
tunnel maximum WR-370
output window size WR-362, WR-396
packet acknowledgment policy WR-395, WR-396
packet hold queue WR-333
packet-by-packet compression BR-81, BR-456, WR-346, WR-349
packet-level restarts, forcing WR-341
pad connections, viewing DR-563
PAD link WR-356
precedence handling WR-338
protocol translation options DR-509, DR-519
protocols supported
routing WR-283
table WR-345
protocols supported (table) WR-362
PVC
displaying address map WR-310
options (table) WR-362
states WR-320
switched options (table) WR-365, WR-367
tunnel options (table) WR-370
restarting WR-286
ROA
lists BR-82, WR-351
name and number WR-372
routing
local switching WR-382
remote switching WR-382
supported protocols WR-283
routing table WR-373
creating WR-373
displaying WR-313
split horizon P3R-236
static host name map, defining DR-548, WR-335
subaddress, configuring BR-706
TEI restrictions DR-863
traffic over ISDN D channel (example) DR-861
translation options DR-534
tunneling WR-382
user facilities
accept reverse charging BR-81, BR-456, WR-323, WR-346, WR-350
closed user group BR-81, BR-456, WR-329, WR-347, WR-350
flow control parameter negotiation WR-329
network user ID BR-82, BR-457, WR-347, WR-351
reverse charging BR-81, BR-456, WR-329, WR-346, WR-350
ROA list name, specifying BR-82, BR-457
ROA per-call basis WR-330
ROA X.25 map options WR-347, WR-351
throughput class negotiation BR-82, BR-457, WR-329, WR-347, WR-351
transit delay BR-82, BR-457, WR-330, WR-347, WR-351
virtual circuits
clearing WR-337
displaying address map WR-310
setting number of BR-81, BR-456, WR-347, WR-350, WR-358
window modulus WR-357, WR-395, WR-396
window size BR-82, BR-457, WR-347, WR-350
PVC option WR-365
PVC tunnel option WR-370
x25 map options (table) WR-346, WR-349
X.29
access list, applying to a line WR-284
Indication of Break packet DR-896
PAD profile script, creating WR-399
X.25 hosts, limiting access DR-549, WR-397
X.29 SET PARAMETER packet DR-559, DR-566
X.3, parameter settings, viewing DR-563
X.3 PAD
description DR-566
making connections DR-566
parameters
changing dynamically DR-557
default values DR-559, DR-566
description DR-557–DR-559
setting DR-566
X.3 PAD parameters
action upon receipt of Break signal (7) DR-895
baud rate (11) DR-896
character delete (16) DR-898
data forward character (3) DR-894
description of DR-893
device control (5) DR-895
discard output (8) DR-896
echo mask (20) DR-899

edit PAD service signals (19) DR-899
editing (15) DR-898
escape from data transfer (1) DR-894
idle timer (4) DR-895
input flow control (12) DR-897
line delete (17) DR-898
line display (18) DR-899
Line Feed insertion (13) DR-897
Line Feed padding (14) DR-898
line folding (10) DR-896
local echo mode (2) DR-894
local editing (15) DR-898
PAD service signals (6) DR-895
page wait (22) DR-899
parity treatment (21) DR-899
return padding (9) DR-896
X.28 mode DR-569
x25 accept-reverse command WR-323
x25 address command WR-324
x25 alias command WR-325
x25 aodi command DR-870
x25 bfe-decision command WR-326
x25 bfe-emergency command WR-327
x25 default command WR-328
x25 facility command WR-329
x25 hic command WR-331
x25 hoc command WR-332
x25 hold-queue command WR-333
x25 hold-vc-timer command WR-334
x25 host command DR-548, WR-335
x25 htc command WR-336
x25 idle command WR-337
x25 ip-precedence command WR-338
x25 ips command WR-339
x25 lic command WR-340
x25 linkrestart command WR-341
x25 loc command WR-342
x25 ltc command WR-343
x25 map bridge command BR-80, WR-349
x25 map cmns command WR-353
x25 map command WR-344
x25 map compressedtcp command WR-354
x25 map pad command WR-356
x25 map ppp command DR-871
x25 map qllc command BR-455
x25 modulo command WR-357
x25 nvc command WR-358
x25 ops command WR-359
x25 pad-access command WR-360
x25 pvc (encapsulating) command, encapsulating WR-361
x25 pvc (switched PVC to SVC) command WR-366
x25 pvc (switched) command, switched WR-364
x25 pvc (XOT) command, tunnel WR-369
x25 pvc qllc command BR-459
x25 remote-red command WR-371
x25 roa command WR-372
x25 route command WR-373
regular expressions DR-902
(example) DR-907
x25 routing command WR-382
x25 subaddress command DR-568
x25 suppress-called-address command WR-383
x25 suppress-calling-address command WR-384
x25 t10 command WR-385
x25 t11 command WR-386
x25 t12 command WR-387
x25 t13 command WR-388
x25 t20 command WR-389
x25 t21 command WR-390
x25 t22 command WR-391
x25 t23 command WR-392
x25 threshold command WR-393
x25 use-source-address command WR-394
x25 win command WR-395
x25 wout command WR-396
x25-dest-address command BR-705
x25-subaddress command BR-706
x28 command DR-569
x29 access-list command DR-549, WR-397
x29 profile command DR-550, WR-399
x3 command DR-566
X3T9.5 specification IR-94
XDMCP, starting XRemote DR-495
XID
frames
frequency of transmission, controlling BR-391
value for the SDLC station, specifying BR-422
specifying for the SDLC station BR-445
xid-block-number command BR-707
xid-id-number command BR-708
xmodem command FR-244
XNS
3Com 3+ hosts P3R-343
access control
extended P3R-330
standard P3R-333
access lists, creating
extended P3R-330
standard P3R-333
broadcasts
all-nets P3R-344
flooding P3R-344, P3R-345, P3R-346
flooding in 3Com environment P3R-345
forwarding P3R-347, P3R-350
encapsulation on Token Ring P3R-343
fast switching P3R-357
cache, displaying entries in P3R-335
filters
enabling P3R-358
generic, enabling P3R-342

filters, routing table
accepting packets P3R-358
adding networks P3R-352
updates P3R-355
helpering, configuring P3R-347, P3R-350
IDP P2R-205
interfaces, displaying status P3R-336
load sharing P3R-353
metrics, routing P3R-329, P3R-360
Net/One routing, enabling P3R-348, P3R-360
network masks P3R-330
parallel paths, choosing between P3R-353
paths, setting maximum P3R-353
RIP
enabling P3R-359
updates
advertising P3R-355
receiving P3R-348
setting timers P3R-362
routes
delay metrics P3R-348, P3R-360
learning P3R-348
routing table
adding entries P3R-352
displaying entries P3R-338
updating P3R-362
SMDS, configuring over WR-275
standard routing, enabling P3R-354, P3R-359
static routes, adding to routing table P3R-356
Token Ring encapsulation P3R-343
traffic statistics, displaying P3R-340
xns access-group command P3R-342
xns encapsulation command P3R-343
xns flood broadcast allnets command P3R-344
xns flood broadcast net-zero command P3R-345
xns flood specific allnets command P3R-346
xns forward-protocol command P3R-347
xns hear-rip command P3R-348, P3R-360
xns helper-address command P3R-350
xns input-network-filter command P3R-352
xns maximum-paths command P3R-353
xns network command P3R-354
xns output-network-filter command P3R-355
xns route command P3R-356
xns route-cache command P3R-357
xns router-filter command P3R-358
xns routing command P3R-359
xns ub-emulation command P3R-360
xns update-time command P3R-362
XOT
clearing/terminating WR-288
VCs, displaying information WR-322
XRemote
automatic session startup DR-491–DR-495
buffer size, changing DR-492
connecting to host computer DR-487
connections to servers DR-487
connections, displaying DR-455
description DR-363, DR-487, DR-491, DR-495
font servers, identifying DR-493
manual session startup DR-487
reenabling manually DR-487
returning to EXEC prompt DR-487
sessions between servers DR-489
setting X display location DR-487
starting clients DR-487
terminal line statistics, displaying DR-455
terminating the session DR-487
xremote command DR-487
xremote lat command DR-491
XRemote terminal, configuring DR-488
xremote tftp buffersize command DR-492
xremote tftp host command DR-493
xremote tftp retries command DR-494
xremote xdm command DR-495

Z

ZIP
query interval P2R-99
reply filter, creating P2R-100
zones, NBP P2R-8