

Index

Numerics

802.1x See port authentication
802.2, Ethernet encapsulation 12-5

A

Access Control List 8-39
access control, encryption 23-6
access mode, MIB object 32-7
ACL 8-39
ACTIVATE FLASH COMPACTION command 6-9
activate mstp migrationcheck port 9-27
ACTIVATE MSTP MIGRATIONCHECK PORTcommand 9-27
ACTIVATE PORTAUTH PORT REAUTHENTICATE command 25-22
ACTIVATE SCRIPT command 36-6
ACTIVATE SWITCH PORT command 8-49
ACTIVATE TRIGGER command 37-4
adaptive learning 8-29
add 8-65
ADD ALIAS command 2-11, 6-10, 6-13, 6-19
ADD BGP AGGREGATE command 33-14 to 33-15
ADD BOOTP RELAY command 14-10
ADD DHCP POLICY command 14-13
ADD DHCP RANGE command 14-19
ADD IGMP FILTER command 17-41
ADD IGMP SNOOPING ROUTERADDRESS command 17-43
ADD IP ARP command 13-45
ADD IP FILTER command 13-48
ADD IP HELPER command 13-55
ADD IP HOST command 13-56
ADD IP INTERFACE command 13-57
ADD IP MVR command 17-45
ADD IP RIP command 18-6
ADD IP ROUTE command 13-62
ADD IP ROUTE FILTER command 20-14
ADD IP ROUTE TEMPLATE command 13-64
ADD IP TRUSTED command 18-8
ADD LOG OUTPUT command 38-10
ADD LOG RECEIVE command 38-14
ADD NTP PEER command 34-8
ADD OSPF AREA command 19-21
ADD OSPF HOST command 19-23
ADD OSPF INTERFACE command 19-24

ADD OSPF NEIGHBOUR command 19-28
ADD OSPF RANGE command 19-29
ADD OSPF STUB command 19-31
ADD OSPF SUMMARYADDRESS command 19-32
ADD PIM BSR CANDIDATE command 17-46
ADD PIM INTERFACE command 17-47
ADD PIM RPCANDIDATE command 17-49
ADD PING POLL command 31-7
ADD PKI CERTIFICATE command 29-15
ADD PKI CRL command 29-17
ADD PKI LDAPREPOSITORY command 29-18
ADD QOS FLOWGROUP command 22-18
ADD QOS POLICY command 22-19
ADD QOS TRAFFICCLASS command 22-20
ADD RADIUS SERVER command 23-32
ADD SCRIPT command 36-7
ADD SNMP COMMUNITY command 32-24
ADD SNMP GROUP command 32-26
ADD SNMP TARGETADDR command 32-27
ADD SNMP TARGETPARAMS command 32-28
ADD SNMP USER command 32-29
ADD SSH USER command 26-11
add stack interface command 35-17
ADD STP VLAN command 9-29
ADD SWITCH FILTER command 8-52
ADD SWITCH L3FILTER ENTRY command 8-56
ADD SWITCH L3FILTER MATCH command 8-59
ADD SWITCH TRUNK command 8-62
ADD TACACS SERVER command 23-33
ADD TRIGGER command 37-5
ADD USER command 23-35
ADD USER RSO command 23-37
ADD VLAN BRIDGE command 9-30
ADD VLAN PORT command 8-63
ADD VLANRELAY command 8-65
ADD VRRP IP command 30-11
ADD VRRP MONITOREDINTERFACE command 30-12
adding
aliases 2-11, 6-10, 6-13, 6-19
Certificate Revocation Lists 29-17
NTP peer 34-8
PKI certificates 29-15
PKI LDAP Repositories 29-18
route templates 13-64



- Address Resolution Protocol (ARP) 13-12
 - adding entries 13-12, 13-45
 - changing entries 13-100
 - deleting entries 13-66
 - displaying entries 13-133
 - modifying entries 13-100
 - proxy 13-16
 - setting entries 13-100
- address translation group, MIB-II MIB C-28
- addresses
 - Internet Protocol (IP) 13-5
 - classes 13-7
 - format 13-7
 - source 13-5
 - subnet 13-8
 - subnet 13-8
- addressless interfaces, OSPF 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
- adjacency, OSPF 19-5 to 19-6
- administrator name
 - displaying 4-49
 - setting 4-29
- Adopt VRRP IP address 30-6
- ageing timer 8-29
 - switch
 - disabling 8-78
 - enabling 8-86
 - setting 8-97
- Aggregation Port Debug group, Link Aggregation MIB C-40
- Aggregation Port group, Link Aggregation MIB C-40
- Aggregation Port Statistics group, Link Aggregation MIB C-40
- Aggregator group, Link Aggregation MIB C-40
- aging, OSPF 19-5, 19-78, 19-80
- Alarm group, RMON MIB C-44 to C-45
- aliases
 - adding 2-11, 6-10, 6-13, 6-19
 - deleting 2-13
 - displaying 2-15 to 2-16, 6-25
- alliedTelesis MIB object C-4
- Applications
 - disabling 10-9
- arBoardIndex MIB object C-18
- arBoardMaxIndex MIB object C-18
- arBoardTable MIB object C-18
- area
 - OSPF 19-3, 19-21, 19-29, 19-33, 19-36, 19-54, 19-62, 19-68
- area border router, OSPF 19-4
- arIfXIndex MIB object C-18
- arIfXTable MIB object C-18
- arInterfaceBoardIndex MIB object C-18
- arInterfacePosition MIB object C-18
- arInterfaces Group, Allied Telesis Enterprise MIB C-17
- arInterfaces MIB object C-9
- arInterfaceTable MIB object C-18
- arSlotBoardIndex MIB object C-18
- arSlotSlotIndex MIB object C-18
- arSlotTable MIB object C-18
- Assert message, PIM Sparse Mode 17-11
- asymmetric keys 29-2
- asymmetrical encryption algorithms 24-3
- asynchronous
 - ports
 - configuration 12-7, 12-15, 12-19 to 12-21
 - connecting to 12-15
 - disabling ports 12-15
 - resetting counters 12-20
 - resetting history 12-21
 - resetting ports 12-19
 - setting port characteristics 12-7, 12-22
- asynchronous port security 23-14
- asynchronous ports 12-6
- at_8624PoE MIB object C-8
- at_8624T2M MIB object C-8
- at_8624XL_80 MIB object C-7
- at_8648_2SP MIB object C-8
- at_8724MLB MIB object C-8
- at_8724SL_V2 MIB object C-8
- at_8724XL MIB object C-7
- at_8724XL_DC_NEBS MIB object C-8
- at_8724XLDC MIB object C-7
- at_8748XL MIB object C-7
- at_8748XL_80 MIB object C-7
- at_8748XLDC MIB object C-7
- at_8824 MIB object C-7
- at_8824_DC MIB object C-7
- at_8848 MIB object C-7
- at_8848_DC MIB object C-7
- at_8948EX MIB object C-8
- at_8948i MIB object C-8
- at_8948i_N MIB object C-8
- at_9812T MIB object C-7
- at_9812T_DC MIB object C-7
- at_9812TF MIB object C-7
- at_9816GB MIB object C-7
- at_9816GB_DC MIB object C-7
- at_9816GF MIB object C-7
- at_9924SP MIB object C-8
- at_9924SPi MIB object C-8
- at_9924SPsi MIB object C-8
- at_9924T MIB object C-8
- at_9924T_4SP MIB object C-8
- at_9924TEMC MIB object C-8
- at_9924Ti MIB object C-8
- at_9924Ts MIB object C-8
- at_9924Tsi MIB object C-8
- at_9924Tsi_N MIB object C-8
- at_AR410Router MIB object C-5
- at_AR410v2Router MIB object C-5
- at_AR410v3Router MIB object C-5
- at_AR415Router MIB object C-6
- at_AR415RouterDC MIB object C-6
- at_AR420Router MIB object C-6
- at_AR440Router MIB object C-6
- at_AR441Router MIB object C-6
- at_AR442Router MIB object C-6
- at_AR443Router MIB object C-6
- at_AR444Router MIB object C-6



at_AR450DualRouter MIB object C-5
 at_AR450Router MIB object C-5
 at_AR550Router MIB object C-6
 at_AR550SRouterDP MIB object C-6
 at_AR551Router MIB object C-6
 at_AR552Router MIB object C-6
 at_AR570Router MIB object C-6
 at_AR725Router MIB object C-5
 at_AR725RouterDC MIB object C-5
 at_AR740RouterDC MIB object C-5
 at_AR745Router MIB object C-5
 at_AR745RouterDC MIB object C-5
 at_AR750SRouterDP MIB object C-6
 at_AR770Router MIB object C-6
 at_Rapier16fMT MIB object C-6
 at_Rapier16fMTi MIB object C-6
 at_Rapier16fSC MIB object C-6
 at_Rapier16fSCi MIB object C-7
 at_Rapier16fVF MIB object C-6
 at_Rapier24 MIB object C-6
 at_Rapier24i MIB object C-7
 at_Rapier24i_DC_NEBS MIB object C-8
 at_Rapier48 MIB object C-6
 at_Rapier48i MIB object C-7
 at_Rapier48w MIB object C-8
 at_Rapier48w-AC MIB object C-9
 at_Rapier48wb MIB object C-9
 at_Rapier48wb-AC MIB object C-9
 at_Rapier8fMT MIB object C-6
 at_Rapier8fMTi MIB object C-6
 at_Rapier8fSC MIB object C-6
 at_Rapier8fSCi MIB object C-6
 at_Rapier8t8fMT MIB object C-6
 at_Rapier8t8fMTi MIB object C-6
 at_Rapier8t8fSC MIB object C-6
 at_Rapier8t8fSCi MIB object C-6
 at_RapierG6 MIB object C-6
 at_RapierG6LX MIB object C-6
 at_RapierG6MT MIB object C-7
 at_RapierG6SX MIB object C-6
 at_Switchblade4AC MIB object C-7
 at_Switchblade4DC MIB object C-7
 at_Switchblade8AC MIB object C-7
 at_Switchblade8DC MIB object C-7
 atAgents MIB object C-9
 atContactDetails MIB object C-17
 atIfIndex MIB object C-29
 atNetAddress MIB object C-29
 atPhysAddress MIB object C-29
 atrDot1xAuthConfigTable MIB object C-25
 atrDot1xAuthenticated trap message C-25
 atrDot1XAuthGuestVlan MIB object C-24
 atrDot1xAuthLastAuthReason MIB object C-24
 atrDot1XAuthMibReset MIB object C-24
 atrDot1xAuthPostAuthVlan MIB object C-24
 atrDot1xAuthPreAuthVlan MIB object C-24
 atrDot1XAuthSecureVlan MIB object C-24
 atrDot1xAuthStatsTable MIB object C-25
 atrDot1XAuthTrap MIB object C-24
 atrDot1XAuthVlanAssignment MIB object C-24

atrDot1xFailedAuth trap message C-25
 atrDot1xPaePortNumber MIB object C-25
 atrDot1xPaePortSuppMacAddress MIB object C-25
 atrDot1xPaePortTable MIB object C-25
 atrDot1xUnAuthenticated trap message C-25
 atrMacBasedAuthAuthenticated trap message C-25
 atrMacBasedAuthConfigTable MIB object C-25
 atrMacBasedAuthFailedAuth trap message C-25
 atrMacBasedAuthPaePortTable MIB object C-25
 atrMacBasedAuthUnAuthenticated trap message C-25
 atRouter MIB object C-9
 atRouter sub-tree, Allied Telesis Enterprise MIB C-9
 atrPaeMib MIB object C-24
 authentication
 OSPF 19-3, 19-21, 19-33, 19-54
 SNMPv1 and v2 32-17
 using RADIUS servers 23-8, 23-16, 23-32, 23-38, 23-62
 using TACACS servers 23-8, 23-19, 23-33, 23-38, 23-68
 using User Authentication Database 23-8 to 23-9, 23-35, 23-39, 23-42, 23-47, 23-49 to 23-51, 23-58, 23-73, 23-76
 auto-bauding 12-11
 autonegotiation
 duplex 8-7
 port speed 8-7
 autonomous systems 19-3

B

backbone, OSPF 19-18, 19-21, 19-33, 19-54
 base hardware serial number
 displaying 4-53
 bbrNvs MIB object C-17
 boards MIB object C-9
 booting the router 4-9, 5-37
 BOOTP relay agent 14-4 to 14-5
 bootstrap router, PIM Sparse Mode 17-9
 adding PIM BSR candidate, IPv4 17-13, 17-46
 deleting PIM BSR candidate, IPv4 17-13, 17-56
 setting PIM BSR candidate preference, IPv4 17-79
 Border Gateway Protocol version 4 (BGP-4)
 commands
 ADD BGP AGGREGATE 33-14 to 33-15
 Bridge MIB C-36
 bridgeRouter MIB object C-5
 Broadband MAU Basic Group, MAU MIB C-34 to C-35
 Broadband MAU Basic MIB table, MAU MIB C-34
 broadcast
 NTP entity 34-2
 broadcast forwarding 13-38
 broadcast packet limiting 8-12
 broadMauBasicTable object C-34
 BSR. See bootstrap router



C

CA. See Certificate Authority (CA)

cached sessions 27-4

centreCOM_AR120Router MIB object C-5

centreCOM_AR130SRouter MIB object C-5

centreCOM_AR130URouter MIB object C-5

centreCOM_AR140SRouter MIB object C-5

centreCOM_AR140URouter MIB object C-5

centreCOM_AR160Router MIB object C-5

centreCOM_AR300 MIB object C-5

centreCOM_AR300L MIB object C-5

centreCOM_AR300LU MIB object C-5

centreCOM_AR300U MIB object C-5

centreCOM_AR310 MIB object C-5

centreCOM_AR310U MIB object C-5

centreCOM_AR320Router MIB object C-5

centreCOM_AR330 MIB object C-5

centreCOM_AR350 MIB object C-5

centreCOM_AR370 MIB object C-5

centreCOM_AR370U MIB object C-5

centreCOM_AR390 MIB object C-5

centreCOM_AR395 MIB object C-5

centreCOM_AR720 MIB object C-5

centreCOM_AR740Router MIB object C-5

Certificate Authority (CA) 29-5

root 29-6, 29-8

Certificate Management Protocol (CMP) 29-9

Certificate Revocation List (CRL) 29-9

CRL Database 29-9

certificates 27-4, 29-3

Certificate Database 29-7

chains 29-6

deleting 29-22

destroying requests 29-23

requesting 29-9, 29-20

updating keypairs 29-10

validating 29-6, 29-8

X.509 29-3

chip68020Cpu MIB object C-16

chip68302Cpu MIB object C-16

chip68340Cpu MIB object C-16

chip68360Cpu MIB object C-16

chip860TCpu MIB object C-16

chipFlash1mb MIB object C-16

chipFlash2mb MIB object C-16

chipFlash3mb MIB object C-16

chipFlash4mb MIB object C-16

chipFlash6mb MIB object C-16

chipFlash8mb MIB object C-16

chipPem MIB object C-16

chipRam12mb MIB object C-16

chipRam16mb MIB object C-16

chipRam1mb MIB object C-16

chipRam20mb MIB object C-16

chipRam2mb MIB object C-16

chipRam32mb MIB object C-16

chipRam3mb MIB object C-16

chipRam4mb MIB object C-16

chipRam6mb MIB object C-16

chipRam8mb MIB object C-16

chipRtc1 MIB object C-16

chipRtc2 MIB object C-16

chipRtc3 MIB object C-16

chipRtc4 MIB object C-16

chips MIB object C-16

cipher 27-4

cipher suite

definition 27-4

ciphertext 24-2

Classifier Module

commands

CREATE CLASSIFIER 21-4

DESTROY CLASSIFIER 21-11

SET CLASSIFIER 21-12

CLEAR FLASH TOTALLY command 6-11

client

NTP entity 34-2, 34-4

clock

displaying 4-54

setting 4-32

clocks. See Network Time Protocol (NTP)

CMOT group, MIB-II MIB C-29

combined notation 32-6

command

editing 2-3

history 2-3

prompt 2-3

commands 5-62

ACTIVATE FLASH COMPACTION 6-9

ACTIVATE MSTP MIGRATIONCHECK PORT 9-27

ACTIVATE PORTAUTH PORT REAUTHENTICATE 25-22

ACTIVATE SCRIPT 36-6

ACTIVATE SWITCH PORT 8-49

ACTIVATE TRIGGER 37-4

ADD ALIAS 2-11, 6-10, 6-13, 6-19

ADD BGP AGGREGATE 33-14 to 33-15

ADD BOOTP RELAY 14-10

ADD DHCP POLICY 14-13

ADD DHCP RANGE 14-19

ADD IGMP FILTER 17-41

ADD IGMP Snooping RouterAddress 17-43

ADD IP ARP 13-45

ADD IP FILTER 13-48

ADD IP HELPER 13-55, 13-68

ADD IP HOST 13-56

ADD IP INTERFACE 13-57

ADD IP LOCAL 13-61

ADD IP MVR 17-45

ADD IP RIP 18-6

ADD IP ROUTE 13-62

ADD IP ROUTE FILTER 20-14

ADD IP ROUTE TEMPLATE 13-64

ADD IP TRUSTED 18-8

ADD LOG OUTPUT 38-10

ADD LOG RECEIVE 38-14

ADD NTP PEER 34-8

ADD OSPF AREA 19-21

ADD OSPF HOST 19-23

ADD OSPF INTERFACE 19-24

ADD OSPF NEIGHBOUR 19-28



ADD OSPF RANGE 19-29
 ADD OSPF STUB 19-31
 ADD OSPF SUMMARYADDRESS 19-32
 ADD PIM BSRCANDIDATE 17-46
 ADD PIM INTERFACE 17-47
 ADD PIM RPCANDIDATE 17-49
 ADD PING POLL 31-7
 ADD PKI CERTIFICATE 29-15
 ADD PKI CRL 29-17
 ADD PKI LDAPREPOSITORY 29-18
 ADD QOS FLOWGROUP 22-18
 ADD QOS POLICY 22-19
 ADD QOS TRAFFICCLASS 22-20
 ADD RADIUS SERVER 23-32
 ADD SCRIPT 36-7
 ADD SNMP COMMUNITY 32-24
 ADD SNMP GROUP 32-26
 ADD SNMP TARGETADDR 32-27
 ADD SNMP TARGETPARAMS 32-28
 ADD SNMP USER 32-29
 ADD SSH USER 26-11
 add stack interface 35-17
 ADD STP VLAN 9-29
 ADD SWITCH FILTER 8-52
 ADD SWITCH L3FILTER ENTRY 8-56
 ADD SWITCH L3FILTER MATCH 8-59
 ADD SWITCH TRUNK 8-62
 ADD TACACS SERVER 23-33
 ADD TRIGGER 37-5
 ADD USER 23-35
 ADD USER RSO 23-37
 ADD VLAN BRIDGE 9-30
 ADD VLAN PORT 8-63
 ADD VLANRELAY 8-65
 ADD VRRP IP 30-11
 ADD VRRP MONITOREDINTERFACE 30-12
 CLEAR FLASH TOTALLY 6-11
 CONNECT 39-12
 CONNECT ASYN 12-15
 CONNECT PORT 12-15
 CREATE CLASSIFIER 21-4
 CREATE CONFIG 5-22
 CREATE DHCP POLICY 14-20
 CREATE DHCP RANGE 14-21, 14-46
 CREATE ENCO KEY 24-7
 CREATE IGMP FILTER 17-50
 CREATE IP MVR 17-52
 CREATE LOG OUTPUT 38-16
 CREATE PKI ENROLLMENTREQUEST 29-20
 CREATE PKI KEYUPDATEREQUEST 29-21
 CREATE QOS FLOWGROUP 22-21
 CREATE QOS POLICY 22-22
 CREATE QOS TRAFFICCLASS 22-23
 CREATE SERVICE 39-14
 CREATE SNMP COMMUNITY 32-32, 32-34 to 32-35
 CREATE STP 9-32
 CREATE SWITCH TRUNK 8-66
 CREATE TRIGGER 37-6
 CREATE VLAN 8-68
 CREATE VLANRELAY 8-69
 CREATE VRRP 30-13
 DEACTIVATE SCRIPT 36-8
 DELETE ALIAS 2-13
 DELETE BOOTP RELAY 14-22
 DELETE DHCP POLICY 14-24
 DELETE DHCP RANGE 14-29
 DELETE FILE 6-14
 DELETE IGMP FILTER 17-53
 DELETE IGMP Snooping ROUTERADDRESS 17-53
 DELETE INSTALL 5-23
 DELETE IP ARP 13-66
 DELETE IP FILTER 13-67
 DELETE IP HOST 13-69
 DELETE IP INTERFACE 13-70
 DELETE IP LOCAL 13-71
 DELETE IP MVR 17-56
 DELETE IP RIP 18-9
 DELETE IP ROUTE 13-72
 DELETE IP ROUTE FILTER 20-17
 DELETE IP ROUTE TEMPLATE 13-73
 DELETE IP TRUSTED 18-9
 DELETE LACP PORT 8-70
 DELETE LOG OUTPUT 38-20
 DELETE LOG RECEIVE 38-20
 DELETE MAIL 4-15
 DELETE NTP PEER 34-8
 DELETE OSPF AREA 19-33
 DELETE OSPF HOST 19-33
 DELETE OSPF INTERFACE 19-34
 DELETE OSPF NEIGHBOUR 19-36
 DELETE OSPF RANGE 19-36
 DELETE OSPF STUB 19-38
 DELETE OSPF SUMMARYADDRESS 19-38
 DELETE PIM BSRCANDIDATE 17-56
 DELETE PIM INTERFACE 17-57
 DELETE PIM RPCANDIDATE 17-58
 DELETE PING POLL 31-10
 DELETE PKI CERTIFICATE 29-22
 DELETE PKI CRL 29-22
 DELETE PKI LDAPREPOSITORY 29-23
 DELETE QOS FLOWGROUP 22-25
 DELETE QOS POLICY 22-26
 DELETE QOS TRAFFICCLASS 22-27
 DELETE RADIUS SERVER 23-38
 DELETE SCRIPT 36-9
 DELETE SNMP COMMUNITY 32-34
 DELETE SNMP GROUP 32-35
 DELETE SNMP TARGETADDR 32-35
 DELETE SNMP TARGETPARAMS 32-36
 DELETE SNMP USER 32-36
 DELETE SNMP VIEW 32-37
 DELETE SSH USER 26-13
 delete stack interface 35-17
 DELETE STP VLAN 9-34
 DELETE SWITCH FILTER 8-70, 9-35
 DELETE SWITCH L3FILTER 8-71, 9-35
 DELETE SWITCH L3FILTER ENTRY 8-72, 9-35
 DELETE SWITCH TRUNK 8-73, 9-35
 DELETE TACACS SERVER 23-38
 DELETE TCP 13-73



DELETE TRIGGER 37-12	DISABLE LOG OUTPUT 38-22
DELETE USER 23-39	DISABLE LOG RECEPTION 38-22
DELETE USER RSO 23-40	DISABLE MAIL DEBUG 4-17
DELETE VLAN BRIDGE 9-35	DISABLE MSTP 9-44
DELETE VLAN PORT 8-74, 9-35	DISABLE NTP 34-9
DELETE VLANRELAY 8-75	DISABLE OSPF 19-39
DELETE VRRP IP 30-16	DISABLE OSPF DEBUG 19-39
DELETE VRRP MONITOREDINTERFACE 30-17	DISABLE OSPF INTERFACE 19-40
Denial of Service (DoS) attack prevention 28-16	DISABLE OSPF LOG 19-40
DESTROY CLASSIFIER 21-11	DISABLE PIM 17-63
DESTROY DHCP POLICY 14-29	DISABLE PIM DEBUG 17-64
DESTROY DHCP RANGE 14-30	DISABLE PING POLL 31-10 to 31-11
DESTROY ENCO KEY 24-9	DISABLE PING POLL DEBUG 31-11
DESTROY IGMP FILTER 17-59	DISABLE PKI DEBUG 29-24
DESTROY IP MVR 17-60	DISABLE PORT 12-15
DESTROY LOG OUTPUT 38-21	DISABLE PORTAUTH 25-23
DESTROY PKI ENROLLMENTREQUEST 29-23	DISABLE PORTAUTH DEBUG PORT 25-24
DESTROY PKI KEYUPDATEREQUEST 29-24	DISABLE PORTAUTH PORT 25-25
DESTROY QOS FLOWGROUP 22-28	DISABLE QOS DEBUG 22-29
DESTROY QOS POLICY 22-28	DISABLE RELEASE 5-26
DESTROY QOS TRAFFICCLASS 22-29	DISABLE SNMP 32-38
DESTROY SERVICE 39-15	DISABLE SNMP AUTHENTICATE_TRAP 32-39
DESTROY SNMP COMMUNITY 32-38	DISABLE SNMP COMMUNITY 32-39
DESTROY STP 9-35	DISABLE SNMP COMMUNITY TRAP 32-40
DESTROY SWITCH TRUNK 8-76	DISABLE SSH SERVER 26-14, 26-19
DESTROY TRIGGER 37-12	DISABLE SSH USER 26-15
DESTROY VLAN 8-76	DISABLE SSL DEBUG 27-8
DESTROY VLANRELAY 8-77	disable stack 35-18
DESTROY VRRP 30-17	disable stack debug 35-19
DISABLE ASYN 12-15	DISABLE STP 9-40
DISABLE BOOTP RELAY 14-30	DISABLE STP DEBUG 9-41
DISABLE ENCO DEBUGGING 24-10	DISABLE STP PORT 9-43
DISABLE FEATURE 5-24	DISABLE SWITCH AGEINGTIMER 8-78
DISABLE GARP 10-9	DISABLE SWITCH DEBUG 8-79
DISABLE GARP DEBUG 10-10	DISABLE SWITCH L3FILTER 8-81
DISABLE GARP GIP 10-11	DISABLE SWITCH LEARNING 8-81
DISABLE GUI 5-25	DISABLE SWITCH MIRROR 8-82
DISABLE HTTP DEBUG 5-25	DISABLE SWITCH PORT 8-83
DISABLE HTTP SERVER 5-25	DISABLE SYSTEM SECURITY_MODE 23-41
DISABLE IGMP SNOOPING 17-60	DISABLE TELNET SERVER 13-83
DISABLE INTERFACE 12-16	DISABLE TEST INTERFACE 40-6
DISABLE IP 13-74	DISABLE TRIGGER 37-13
DISABLE IP DEBUG 13-75	DISABLE USER 23-42
DISABLE IP DNSRELAY 13-76	DISABLE USER RSO 23-43
DISABLE IP ECHOREPLY 13-76	DISABLE VLAN DEBUG 8-84
DISABLE IP FOFILTER 13-77	DISABLE VLANRELAY 8-84, 9-44
DISABLE IP FORWARDING 13-78	DISABLE VLANRELAY DEBUG 8-85, 9-44
DISABLE IP HELPER 13-78	DISABLE VRRP 30-18
DISABLE IP IGMP 17-61	DISABLE VRRP DEBUG 30-18
DISABLE IP IGMP INTERFACE 17-62	DISCONNECT 39-16
DISABLE IP INTERFACE 13-80	DUMP 4-18
DISABLE IP MVR 17-63	EDIT 6-15, 36-3
DISABLE IP MVR DEBUG 17-63	ENABLE BOOTP RELAY 14-32
DISABLE IP REMOTEASSIGN 13-81	ENABLE ENCO DEBUGGING 24-10
DISABLE IP ROUTE 13-81	ENABLE GARP 10-12
DISABLE IP SRCROUTE 13-82	ENABLE GARP DEBUG 10-13
DISABLE LACP 8-77	ENABLE GARP GIP 10-15
DISABLE LACP DEBUG 8-78	ENABLE GUI 3-20
DISABLE LOG 38-21	ENABLE HTTP DEBUG 5-28, 26-14 to 26-15, 26-18
DISABLE LOG GENERATION 38-21	ENABLE HTTP SERVER 5-28



ENABLE IGMP Snooping 17-65
 ENABLE INTERFACE LINKTRAP 12-18
 ENABLE IP 13-83
 ENABLE IP DEBUG 13-85
 ENABLE IP DNSRELAY 13-86
 ENABLE IP ECHOREPLY 13-86
 ENABLE IP FOFILTER 13-87
 ENABLE IP FORWARDING 13-88
 ENABLE IP HELPER 13-88
 ENABLE IP IGMP 17-65
 ENABLE IP IGMP INTERFACE 17-67
 ENABLE IP INTERFACE 13-89
 ENABLE IP MVR 17-67
 ENABLE IP MVR DEBUG 17-68
 ENABLE IP REMOTEASSIGN 13-91
 ENABLE IP ROUTE 13-91
 ENABLE IP SRCROUTE 13-81 to 13-82, 13-92 to 13-93
 ENABLE LOG 38-23
 ENABLE LOG GENERATION 38-23
 ENABLE LOG OUTPUT 38-24
 ENABLE LOG RECEPTION 38-24
 ENABLE MAIL DEBUG 4-21
 ENABLE MSTP CIST PORT 9-45
 ENABLE NTP 34-9
 ENABLE OSPF 19-41
 ENABLE OSPF DEBUG 19-42
 ENABLE OSPF INTERFACE 19-44
 ENABLE OSPF LOG 19-45
 ENABLE PIM 17-64, 17-68 to 17-69
 ENABLE PIM DEBUG 17-69
 ENABLE PING POLL 31-11
 ENABLE PING POLL DEBUG 31-12
 ENABLE PKI DEBUG 29-25
 ENABLE PORTAUTH 25-26
 ENABLE PORTAUTH DEBUG PORT 25-27
 ENABLE QOS DEBUG 22-30
 ENABLE RELEASE 5-30
 ENABLE SNMP 32-40
 ENABLE SNMP AUTHENTICATE_TRAP 32-41
 ENABLE SNMP COMMUNITY 32-41 to 32-42
 ENABLE SSH SERVER 26-16
 ENABLE SSH USER 26-17
 ENABLE SSL DEBUG 27-8
 enable stack 35-19
 enable stack debug 35-20
 ENABLE STP 9-50
 ENABLE STP DEBUG 9-51
 ENABLE STP PORT 9-53
 ENABLE SWITCH AGEINGTIMER 8-86
 ENABLE SWITCH BIST 8-87
 ENABLE SWITCH DEBUG 8-88
 ENABLE SWITCH L3FILTER 8-90
 ENABLE SWITCH LEARNING 8-90
 ENABLE SWITCH MIRROR 8-90
 ENABLE SWITCH PORT 8-91
 ENABLE SYSTEM SECURITY_MODE 23-45
 ENABLE TELNET SERVER 13-93
 ENABLE TEST INTERFACE 40-7
 ENABLE TRIGGER 37-14
 ENABLE USER 23-47
 ENABLE USER RSO 23-48
 ENABLE VLAN DEBUG 8-92
 ENABLE VLANRELAY 8-93
 ENABLE VLANRELAY DEBUG 8-93, 9-54
 ENABLE VRRP 30-19
 ENABLE VRRP DEBUG 30-19
 FINGER 13-94
 FLUSH LOG OUTPUT 38-25
 HELP 2-13
 host-directed commands (HDC) 35-16
 Internet Protocol (IP) 13-43 to 13-179, 18-6
 LOAD 5-31, 36-3 to 36-4
 LOGIN 23-49
 LOGOFF 23-50
 MAIL 4-22
 MODIFY 4-24
 PING 13-95
 PURGE ASYN 12-19
 PURGE BOOTP RELAY 14-35
 PURGE IP 13-97
 PURGE LOG 38-25
 PURGE NTP 34-9
 PURGE OSPF 19-48
 PURGE PIM 17-70
 PURGE PKI 29-26
 PURGE PORTAUTH PORT 25-34
 PURGE QOS 22-30
 PURGE SNMP 32-42
 PURGE STP 9-55
 PURGE TRIGGER 37-14
 PURGE USER 23-50
 RECONNECT 39-17
 RENAME 6-18
 RESET CPU UTILISATION 4-25
 RESET ENCO COUNTERS 24-11
 RESET GARP 10-16
 RESET HTTP SERVER 5-36
 RESET INTERFACE COUNTER 12-21
 RESET IP 13-97
 RESET IP INTERFACE 13-98
 RESET LACP PORT COUNTER 8-94, 9-55
 RESET LOADER 5-36
 RESET MSTP COUNTER PORT 9-55
 RESET NTP 34-10
 RESET OSPF 19-48
 RESET OSPF COUNTER 19-49
 RESET OSPF INTERFACE 19-49
 RESET OSPF SPF 19-50
 RESET PIM INTERFACE 17-70
 RESET PING POLL 31-12
 RESET PORT 12-19
 RESET PORT COUNTERS 12-20
 RESET PORT HISTORY 12-21
 RESET PORTAUTH PORT MULTIMIB 25-36
 RESET STP 9-56
 RESET SWITCH 8-94, 9-56
 RESET SWITCH PORT 8-95, 9-56
 RESET TEST INTERFACE 40-8
 RESET USER 23-51
 RESTART 5-37



SET ASYN 12-22
 SET BOOTP MAXHOPS 14-35
 SET CLASSIFIER 21-12
 SET CONFIG 5-38
 SET DHCP POLICY 14-40
 SET ENCO KEY 24-12
 SET GARP PORT 10-17
 SET GARP TIMER 10-19
 SET HELP 2-15
 SET HTTP SERVER 5-39
 SET IGMP FILTER 17-71
 SET IGMP Snooping FASTLEAVE 17-72
 SET IGMP Snooping ROUTERMODE 17-73
 SET INSTALL 5-40
 SET INTERFACE TRAPLIMIT 12-27
 SET IP ARP 13-100
 SET IP ARP TIMEOUT 13-101
 SET IP DNSRELAY 13-106
 SET IP FILTER 13-107
 SET IP HOST 13-111
 SET IP IGMP 17-74
 SET IP IGMP INTERFACE 17-75
 SET IP INTERFACE 13-112
 SET IP LOCAL 13-116
 SET IP NAMESERVER 13-118
 SET IP RIP 18-10
 SET IP RIPTIMER 18-13
 SET IP ROUTE 13-119
 SET IP ROUTE FILTER 20-19
 SET IP ROUTE TEMPLATE 13-122
 SET IP SECONDARYNAMESERVER 13-123
 SET LACP PRIORITY 8-97, 9-57
 SET LOADER 5-42
 SET LOG OUTPUT 38-26
 SET LOG RECEIVE 38-32
 SET LOG UTCOFFSET 38-33
 SET MAIL 4-26
 SET MANAGER PORT 23-52
 SET NTP UTCOFFSET 34-10
 SET OSPF 19-51
 SET OSPF AREA 19-54
 SET OSPF HOST 19-56
 SET OSPF INTERFACE 19-57
 SET OSPF NEIGHBOUR 19-61
 SET OSPF RANGE 19-62
 SET OSPF STUB 19-64
 SET OSPF SUMMARYADDRESS 19-65
 SET PASSWORD 23-53 to 23-54
 SET PIM 17-77
 SET PIM BSRCANDIDATE 17-79
 SET PIM INTERFACE 17-80
 SET PIM RPCANDIDATE 17-82
 SET PING 13-124
 SET PING POLL 31-13
 SET PKI 29-27
 SET PKI CERTIFICATE 29-28
 SET PKI CRL 29-29
 SET PKI LDAPREPOSITORY 29-30
 SET PORT 12-22
 SET PORTAUTH PORT 25-37
 SET PORTAUTH PORT SUPPLICANTMAC 25-43
 SET PORTAUTH USERNAME 25-46
 SET QOS FLOWGROUP 22-31
 SET QOS POLICY 22-34
 SET QOS PORT 22-35
 SET QOS TRAFFICCLASS 22-36
 SET QOS VLANREMAP 22-33
 SET SCRIPT 36-11
 SET SERVICE 39-18
 SET SNMP ASNBERPADDING 32-43
 SET SNMP COMMUNITY 32-44, 32-56
 SET SNMP ENGINEID 32-45
 SET SNMP GROUP 32-46
 SET SNMP LOCAL 32-47
 SET SNMP TARGETADDR 32-48
 SET SNMP TARGETPARAMS command 32-49
 SET SNMP USER 32-51
 SET SSH USER 26-21
 SET SSL 27-9
 set stack authentication 35-21
 set stack stackid 35-22
 SET STP 9-65
 SET STP PORT 9-68
 SET SWITCH AGEINGTIMER 8-97
 SET SWITCH L3FILTER ENTRY 8-102
 SET SWITCH L3FILTER MATCH 8-105
 SET SWITCH MIRROR 8-107
 SET SWITCH PORT 8-108
 SET SWITCH QOS 8-113
 SET SWITCH TRUNK 8-114
 SET SYSTEM CONTACT 4-29
 SET SYSTEM LOCATION 4-30
 SET SYSTEM NAME 4-31
 SET TELNET 39-19
 SET TIME 4-32
 SET TRACE 13-126
 SET TRIGGER 37-15
 SET TTY 39-21
 SET USER 23-58
 SET VLAN PORT 8-115
 SET VLAN VIRTACTIVE 8-116
 SET VRRP 30-20
 SHOW ALIAS 2-15 to 2-16, 6-25
 SHOW BOOTP RELAY 14-47
 SHOW BUFFER 4-34
 SHOW CONFIG 5-46
 SHOW CONFIG DYNAMIC 5-48
 SHOW CPU 4-38
 SHOW DEBUG 4-40
 SHOW DHCP 14-50
 SHOW DHCP CLIENT 14-52
 SHOW DHCP POLICY 14-54
 SHOW DHCP RANGE 14-56
 SHOW ENCO CHANNEL 24-14
 SHOW ENCO COUNTERS 24-18
 SHOW ENCO KEY 24-29
 SHOW EXCEPTION 4-45
 SHOW FEATURE 5-52
 SHOW FFILE 6-20, 6-22
 SHOW FLASH 6-26



SHOW FLASH PHYSICAL 6-28
 SHOW GARP 10-21
 SHOW GARP COUNTER 10-23
 SHOW GARP DB 10-26
 SHOW GARP DEBUG 10-27
 SHOW GARP GIP 10-28
 SHOW GARP MACHINE 10-29
 SHOW HTTP CLIENT 5-54
 SHOW HTTP DEBUG 5-55
 SHOW HTTP SERVER 5-56
 SHOW HTTP SESSION 5-57
 SHOW IGMP FILTER 17-83
 SHOW IGMP SNOOPING 17-85
 SHOW IGMP SNOOPING COUNTERS 17-88
 SHOW IGMP SNOOPING ROUTER ADDRESS 17-90
 SHOW INSTALL 5-58
 SHOW INTERFACE 12-36, 12-39
 SHOW IP ARP 13-133
 SHOW IP DEBUG 13-144
 SHOW IP FILTER 13-148
 SHOW IP HELPER 13-150
 SHOW IP HOST 13-152
 SHOW IP IGMP 17-91
 SHOW IP IGMP COUNTER 17-94
 SHOW IP INTERFACE 13-154
 SHOW IP MVR 17-98
 SHOW IP MVR COUNTER 17-99
 SHOW IP RIP 18-14
 SHOW IP RIP COUNTER 18-15
 SHOW IP RIPTIMER 18-17
 SHOW IP ROUTE 13-158
 SHOW IP ROUTE FILTER 20-22
 SHOW IP ROUTE MULTICAST 13-162
 SHOW IP ROUTE TEMPLATE 13-164
 SHOW IP TRUSTED 18-18
 SHOW IP UDP 13-166
 SHOW LACP 8-117
 SHOW LACP PORT 8-118, 8-120 to 8-121
 SHOW LACP TRUNK 8-121
 SHOW LOG 38-34 to 38-35
 SHOW LOG COUNTERS 38-40
 SHOW LOG OUTPUT 38-42, 38-44
 SHOW LOG QUEUE 38-46, 38-49
 SHOW LOG RECEIVE 38-47
 SHOW LOG STATUS 38-49
 Logging Facility 38-49
 SHOW MAIL 4-46
 SHOW MANAGER PORT 23-61
 SHOW MSTP 9-72, 9-75
 SHOW MSTP CIST PORT 9-77
 SHOW MSTP CONFIGID 9-74
 SHOW MSTP COUNTER PORT 9-79
 SHOW MSTP DEBUG MSTI 9-81
 SHOW MSTP TABLE 9-88
 SHOW NTP 34-11
 SHOW OSPF 19-66
 SHOW OSPF AREA 19-68
 SHOW OSPF DEBUG 19-70
 SHOW OSPF HOST 19-71
 SHOW OSPF INTERFACE 19-73

SHOW OSPF LSA 19-77
 SHOW OSPF NEIGHBOURS 19-83
 SHOW OSPF RANGE 19-84
 SHOW OSPF ROUTE 19-87
 SHOW OSPF STUB 19-89
 SHOW OSPF SUMMARY ADDRESS 19-90
 SHOW PATCH 5-64
 SHOW PIM 17-100
 SHOW PIM BSRC CANDIDATE 17-101
 SHOW PIM COUNTERS 17-103
 SHOW PIM DEBUG 17-107
 SHOW PIM INTERFACE 17-108
 SHOW PIM NEIGHBOUR 17-110
 SHOW PIM ROUTE 17-111
 SHOW PIM RPC CANDIDATE 17-117
 SHOW PIM RPSET 17-118
 SHOW PIM STATE REFRESH 17-120
 SHOW PIM TIMER 17-121
 SHOW PING 13-168
 SHOW PING POLL 31-15
 SHOW PKI 29-32
 SHOW PKI CERTIFICATE 29-39
 SHOW PKI CRL 29-42
 SHOW PKI ENROLLMENT REQUEST 29-45
 SHOW PKI KEY UPDATE REQUEST 29-47
 SHOW PKI LDAP REPOSITORY 29-49
 SHOW PORT AUTH 25-48
 SHOW PORT AUTH PORT 25-53
 SHOW PORT AUTH PORT MULTISUPPLICANT 25-60
 SHOW PORT AUTH TIMER 25-65
 SHOW QOS FLOW GROUP 22-38
 SHOW QOS POLICY 22-41
 SHOW QOS TRAFFIC CLASS 22-43
 SHOW QOS VLAN PRIORITY REMAPPING 22-39
 SHOW RADIUS 23-62
 SHOW RELEASE 5-65
 SHOW SCRIPT 36-13
 SHOW SERVICE 39-23
 SHOW SESSION 39-24
 SHOW SNMP 32-52, 32-56
 SHOW SNMP COMMUNITY 32-56
 SHOW SNMP GROUP 32-58
 SHOW SNMP TARGET ADDR 32-59
 SHOW SNMP TARGET PARAMS 32-60
 SHOW SNMP USER 32-61
 SHOW SNMP VIEW 32-62
 SHOW SSH 26-23
 SHOW SSH SESSIONS 26-32
 SHOW SSH USER 26-35
 SHOW SSL 27-10
 SHOW SSL COUNTERS 27-12
 SHOW SSL SESSIONS 27-20
 show stack 35-24
 SHOW STARTUP 4-47
 SHOW STP 9-89
 SHOW STP COUNTER 9-93
 SHOW STP DEBUG 9-95
 SHOW STP PORT 9-96, 9-99
 SHOW SWITCH 8-122
 SHOW SWITCH COUNTER 8-124



- SHOW SWITCH DEBUG 8-126
- SHOW SWITCH FDB 8-127
- SHOW SWITCH FILTER 8-129
- SHOW SWITCH L3FILTER 8-133
- SHOW SWITCH MSTP 8-135
- SHOW SWITCH PORT 8-137
- SHOW SWITCH PORT COUNTER 8-141
- SHOW SWITCH PORT INTRUSION 8-144
- SHOW SWITCH QOS 8-145
- SHOW SWITCH STP 8-146
- SHOW SWITCH TRUNK 8-148
- SHOW SYSTEM 4-49
- SHOW SYSTEM SERIALNUMBER 4-53
- SHOW TACACS SERVER 23-68
- SHOW TCP 13-170
- SHOW TEST 40-9
- SHOW TIME 4-54
- SHOW TRACE 13-175
- SHOW TRIGGER 37-19
- SHOW TTY 39-26
- SHOW USER 23-73
- SHOW USER CONFIGURATION 23-76
- SHOW USER RSO 23-79
- SHOW VLAN 8-149
- SHOW VLAN DEBUG 8-151
- SHOW VLANRELAY 8-152
- SHOW VRRP 30-23
- Simple Network Management Protocol (SNMP) 32-24 to 32-63
- SSH 26-37
- STOP PING 13-177
- STOP TRACE 13-177
- Switch 8-49 to 8-152, 21-4
- TELNET 39-30
- terminal server 39-12, 39-19
- TRACE 13-178
- UPLOAD 5-66
- WAIT 36-10, 36-14
- Common and Internal Spanning Tree (CIST)
 - Trunks and Spanning Trees 9-26
 - Vectors 9-24
- COMMUNITY command 32-34
- community, SNMP 32-11
- compacting FLASH memory 6-7
- compression
 - commands
 - DELETE USER RSO 23-40
 - DISABLE USER RSO 23-43
 - ENABLE USER RSO 23-48
 - SHOW USER RSO 23-79
- compression. *See* Compression and Encryption Services; Link Compression and Encryption; IP Security (IPsec)
- Compression and Encryption Services 24-1 to 24-30
 - See also* Link Compression and Encryption; IP Security (IPsec)
 - See also* IP Security (IPsec)
- access control 24-6
- asymmetrical encryption algorithms 24-3
- channels
 - ENCO 24-14
- checksum 24-2
- Cipher Block Chaining (CBC) encryption algorithm 24-3
- Cipher Feedback (CFB) encryption algorithm 24-3
- cipher text 24-2
- commands
 - CREATE ENCO KEY 24-7
 - DESTROY ENCO KEY 24-9
 - DISABLE ENCO DEBUGGING 24-10
 - ENABLE ENCO DEBUGGING 24-10
 - RESET ENCO COUNTERS 24-11
 - SET ENCO KEY 24-12
 - SHOW ENCO CHANNEL 24-14
 - SHOW ENCO COUNTERS 24-18
 - SHOW ENCO KEY 24-29
- counters
 - displaying 24-18
 - resetting 24-11
- creating
 - encryption keys 24-7
- data encryption 24-2
- debugging
 - disabling ENCO 24-10
 - enabling ENCO 24-10
- decommissioning 24-6
- DES encryption 24-2
- disabling
 - debugging 24-10
- displaying
 - ENCO counters 24-18
- displaying counters 24-18
- Electronic Code Book (ECB) encryption algorithm 24-2
- enabling
 - debugging 24-10
- ENCO channels 24-14
- ENCO services 24-4 to 24-6, 24-14
- encryption
 - asymmetrical 24-3
 - Cipher Block Chaining (CBC) 24-3
 - Cipher Feedback (CFB) 24-3
 - ciphertext 24-2
 - creating keys 24-7
 - decommissioning 24-6
 - DES 24-2
 - Electronic Code Book (ECB) 24-2
 - key formats 24-5
 - Output Feedback (OFB) 24-3
 - plaintext 24-2
 - services 24-4
 - symmetrical 24-2
- formats, encryption keys 24-5
- key creation and storage 24-4, 24-7
- key formats, encryption 24-5
- Output Feedback (CFB) encryption algorithm 24-3
- plain text 24-2
- resetting
 - ENCO counters 24-11
- resetting counters 24-11
- security 24-6



- services 24-4 to 24-6, 24-14
 - encryption 24-4
 - key creation and storage 24-4
 - symmetrical encryption algorithms 24-2
- configFile MIB object C-20
- configFileExist MIB object C-20
- configFileExistTrap trap message C-20
- configuration
 - asynchronous ports 12-7
 - Denial of Service (DoS) attack prevention 28-13
 - examples 28-13
 - displaying 5-46
 - displaying dynamic 5-48
 - examples
 - Denial of Service (DoS) attack prevention 28-13
 - Internet Protocol (IP) 18-4
 - Internet Protocol (IP) 18-4
 - examples 18-4
 - OSPF 19-16, 19-66
 - saving dynamic 5-22
 - setting default 5-38
- configuration example 27-6
- configuration examples
 - asynchronous services 39-8
 - DHCP 14-7
 - IGMP 17-32
 - IPv4 Multicasting 17-32
 - mail subsystem 4-11
 - PKI 29-11 to 29-14
 - enrollment with CMP 29-13
 - manual enrollment 29-11
 - Protocol Independent Multicasting (PIM), IPv4 17-32
 - Secure Shell 26-7
 - services 39-8
 - SNMP 32-23
 - switching 8-41 to 8-48
 - terminal server 39-8
 - VLAN 8-41 to 8-48
- configuring
 - DHCP 14-7
 - NTP 34-4
- CONNECT ASYN command 12-15
- CONNECT command 39-12
- CONNECT PORT command 12-15
- contact name
 - displaying 4-49
 - setting 4-29
- control structures, in scripts 36-5, 36-10
- conventions, file naming 6-2, 6-5
- coprocessor engine
 - commands
 - DELETE USER RSO 23-40
 - DISABLE USER RSO 23-43
 - ENABLE USER RSO 23-48
 - SHOW USER RSO 23-79
- Counter
 - displaying 10-23
- counters
 - displaying
 - ENCO 24-18
 - STP 9-93
 - switch 8-124, 8-127
 - switch port 8-141
 - ENCO
 - displaying 24-18
 - resetting 24-11
 - OSPF 19-49
 - resetting
 - ENCO 24-11
 - STP 9-93
 - switch 8-124
 - switch port 8-141
- counters MIB object C-26
- cpu MIB object C-17
- CPU utilisation 4-8, 4-38
 - resetting 4-25
- CREATE CLASSIFIER command 21-4
- CREATE CONFIG command 5-22
- CREATE DHCP POLICY command 14-20
- CREATE DHCP RANGE command 14-21, 14-46
- CREATE ENCO KEY command 24-7
- CREATE IGMP FILTER command 17-50
- CREATE IP MVR command 17-52
- CREATE LOG OUTPUT command 38-16
- CREATE PKI ENROLLMENTREQUEST command 29-20
- CREATE PKI KEYUPDATEREQUEST command 29-21
- CREATE QOS FLOWGROUP command 22-21
- CREATE QOS POLICY command 22-22
- CREATE QOS TRAFFICCLASS command 22-23
- CREATE SERVICE command 39-14
- CREATE SNMP COMMUNITY command 32-32
- CREATE STP command 9-32
- CREATE SWITCH TRUNK command 8-66
- CREATE TRIGGER command 37-6
- CREATE VLAN command 8-68
- CREATE VLANRELAY command 8-69
- CREATE VRRP command 30-13
- createConfigFile MIB object C-20
- creating
 - encryption keys 24-7
 - files 6-4
 - PKI enrollment requests 29-20
 - PKI Key Update requests 29-21
- CRL. See Certificate Revocation List (CRL)
- currentConfigFile MIB object C-20



D

data encryption. See *Compression and Encryption Services Database*

displaying 10-26

date

displaying 4-54

setting 4-32

DB

displaying 10-26

DEACTIVATE SCRIPT command 36-8

debug

STP

disabling 9-41

displaying 9-95

enabling 9-51

switch

disabling 8-79

displaying 8-126

enabling 8-88

VLAN

disabling 8-84

displaying 8-151

enabling 8-92

Debugging

disabling 10-10

displaying 10-27

enabling 10-13

debugging 4-10

disabling

ENCO 24-10

enabling

ENCO 24-10

ENCO

disabling 24-10

enabling 24-10

mail 4-21

OSPF 19-39, 19-42

router 4-40

debugging, Internet Protocol (IP) 13-35 to 13-36, 13-75, 13-85, 13-144

decommissioning, encryption hardware 24-6

default configuration, setting 5-38

DELETE ALIAS command 2-13

DELETE BOOTP RELAY command 14-22

DELETE DHCP POLICY command 14-24

DELETE DHCP RANGE command 14-29

DELETE FILE command 6-14

DELETE IGMP FILTER command 17-53

DELETE IGMP Snooping Router Address command 17-53

DELETE INSTALL command 5-23

DELETE IP ARP command 13-66

DELETE IP FILTER command 13-67

DELETE IP HELPER command 13-68

DELETE IP HOST command 13-69

DELETE IP INTERFACE command 13-70

DELETE IP MVR command 17-56

DELETE IP RIP command 18-9

DELETE IP ROUTE command 13-72

DELETE IP ROUTE FILTER command 20-17

DELETE IP ROUTE TEMPLATE command 13-73

DELETE IP TRUSTED command 18-9

DELETE LACP PORT command 8-70

DELETE LOG OUTPUT command 38-20

DELETE LOG RECEIVE command 38-20

DELETE MAIL command 4-15

DELETE NTP PEER command 34-8

DELETE OSPF AREA command 19-33

DELETE OSPF HOST command 19-33

DELETE OSPF INTERFACE command 19-34

DELETE OSPF NEIGHBOUR command 19-36

DELETE OSPF RANGE command 19-36

DELETE OSPF STUB command 19-38

DELETE OSPF SUMMARY ADDRESS command 19-38

DELETE PIM BSR CANDIDATE command 17-56

DELETE PIM INTERFACE command 17-57

DELETE PIM RPCANDIDATE command 17-58

DELETE PING POLL command 31-10

DELETE PKI CERTIFICATE command 29-22

DELETE PKI CRL command 29-22

DELETE PKI LDAPREPOSITORY command 29-23

DELETE QOS FLOWGROUP command 22-25

DELETE QOS POLICY command 22-26

DELETE QOS TRAFFICCLASS command 22-27

DELETE RADIUS SERVER command 23-38

DELETE SCRIPT command 36-9

DELETE SNMP COMMUNITY command 32-34

DELETE SNMP GROUP command 32-35

DELETE SNMP TARGETADDR command 32-35

DELETE SNMP TARGETPARAMS command 32-36

DELETE SNMP USER command 32-36

DELETE SNMP VIEW command 32-37

DELETE SSH USER command 26-13

delete stack interface command 35-17

DELETE STP VLAN command 9-34

DELETE SWITCH FILTER command 8-70, 9-35

DELETE SWITCH L3FILTER command 8-71, 9-35

DELETE SWITCH L3FILTER ENTRY command 8-72, 9-35

DELETE SWITCH TRUNK command 8-73, 9-35

DELETE TACACS SERVER command 23-38

DELETE TCP command 13-73

DELETE TRIGGER command 37-12

DELETE USER command 23-39

DELETE USER RSO command 23-40

DELETE VLAN BRIDGE command 9-35

DELETE VLAN PORT command 8-74, 9-35

DELETE VLANRELAY command 8-75

DELETE VRRP IP command 30-16

DELETE VRRP MONITOREDINTERFACE command 30-17

deleting

aliases 2-13

files 6-14

FLASH files 6-14

install information 5-23

mail messages 4-10, 4-15

NTP peer 34-8

PKI Certificates 29-22

PKI LDAP repositories 29-23

route templates 13-73



- Denial of Service (DoS) attack prevention
 - commands 28-16
 - configuration 28-13
 - examples 28-13
 - examples 28-13
- deprecated status 32-8
- DES encryption
 - algorithm 24-2
- descriptor 32-6
- descriptor, MIB object 32-6
- designated bridge 9-3
- designated router, OSPF 19-5, 19-7, 19-25 to 19-26, 19-28, 19-36, 19-59, 19-61, 19-73
- designated router, PIM Sparse Mode 17-9
 - setting PIM DR priority, IPv4 17-80
- destination lookup failure packet limiting 8-12
- DESTROY CLASSIFIER command 21-11
- DESTROY DHCP POLICY command 14-29
- DESTROY DHCP RANGE command 14-30
- DESTROY ENCO KEY command 24-9
- DESTROY IGMP FILTER command 17-59
- DESTROY IP MVR command 17-60
- DESTROY LOG OUTPUT command 38-21
- DESTROY PKI ENROLLMENTREQUEST command 29-23
- DESTROY PKI KEYUPDATEREQUEST command 29-24
- DESTROY QOS FLOWGROUP command 22-28
- DESTROY QOS POLICY command 22-28
- DESTROY QOS TRAFFICCLASS command 22-29
- DESTROY SERVICE command 39-15
- DESTROY SNMP COMMUNITY command 32-38
- DESTROY STP command 9-35
- DESTROY SWITCH TRUNK command 8-76
- DESTROY TRIGGER command 37-12
- DESTROY VLAN command 8-76
- DESTROY VLANRELAY command 8-77
- DESTROY VRRP command 30-17
- destroying
 - PKI Enrollment Requests 29-23
- DHCP client 13-17, 13-58, 13-76, 13-86, 13-113
- DHCP group, Allied Telesis Enterprise MIB C-22
- dhcp MIB object C-22
- DHCP. See Dynamic Host Configuration Protocol (DHCP)
- dhcpRangeExhaustedGateway MIB object C-22
- dhcpRangeExhaustedInterface MIB object C-22
- dhcpRangeTable MIB object C-22
- dhcpTrapVariable MIB object C-22
- digital certificates. See certificates
- digital signatures 29-2
- directory of files 6-4
- disable
 - OSPF 19-39
- DISABLE ASYNCommand 12-15
- DISABLE BOOTP RELAY command 14-30
- DISABLE ENCO DEBUGGING command 24-10
- DISABLE FEATURE command 5-24
- DISABLE GARP command 10-9
- DISABLE GARP DEBUG command 10-10
- DISABLE GARP GIP command 10-11
- DISABLE GUI command 5-25
- DISABLE HTTP DEBUG command 5-25
- DISABLE HTTP SERVER command 5-25
- DISABLE IGMP Snooping command 17-60
- DISABLE INTERFACE command 12-16
- DISABLE IP command 13-74
- DISABLE IP DEBUG command 13-75
- DISABLE IP DNSRELAY command 13-76
- DISABLE IP ECHOREPLY command 13-76
- DISABLE IP FOFILTER command 13-77
- DISABLE IP FORWARDING command 13-78
- DISABLE IP HELPER command 13-78
- DISABLE IP IGMP command 17-61
- DISABLE IP IGMP INTERFACE command 17-62
- DISABLE IP INTERFACE command 13-80
- DISABLE IP MVR command 17-63
- DISABLE IP MVR DEBUG command 17-63
- DISABLE IP REMOTEASSIGN command 13-81
- DISABLE IP ROUTE command 13-81
- DISABLE IP SRCROUTE command 13-82
- DISABLE LACP command 8-77
- DISABLE LACP DEBUG 8-78
- DISABLE LACP DEBUG command 8-78
- DISABLE LOG command 38-21
- DISABLE LOG GENERATION command 38-21
- DISABLE LOG OUTPUT command 38-22
- DISABLE LOG RECEPTION command 38-22
- DISABLE MAIL DEBUG command 4-17
- DISABLE MSTP command 9-44
- DISABLE NTP command 34-9
- DISABLE OSPF command 19-39
- DISABLE OSPF DEBUG command 19-39
- DISABLE OSPF INTERFACE command 19-40
- DISABLE OSPF LOG command 19-40
- DISABLE PIM command 17-63
- DISABLE PIM DEBUG command 17-64
- DISABLE PING POLL command 31-10 to 31-11
- DISABLE PING POLL DEBUG command 31-11
- DISABLE PKI DEBUG command 29-24
- DISABLE PORT command 12-15
- DISABLE PORTAUTH command 25-23
- DISABLE PORTAUTH DEBUG PORT command 25-24
- DISABLE PORTAUTH PORT command 25-25
- DISABLE QOS DEBUG command 22-29
- DISABLE RELEASE command 5-26
- DISABLE SNMP AUTHENTICATE_TRAP command 32-39
- DISABLE SNMP command 32-38
- DISABLE SNMP COMMUNITY command 32-39
- DISABLE SNMP COMMUNITY TRAP command 32-40
- DISABLE SSH SERVER command 26-14, 26-19
- DISABLE SSH USER command 26-15
- DISABLE SSL DEBUG command 27-8
- disable stack command 35-18
- disable stack debug command 35-19
- DISABLE STP command 9-40
- DISABLE STP DEBUG command 9-41
- DISABLE STP PORT command 9-43
- DISABLE SWITCH AGEINGTIMER command 8-78
- DISABLE SWITCH DEBUG command 8-79
- DISABLE SWITCH L3FILTER command 8-81
- DISABLE SWITCH LEARNING command 8-81
- DISABLE SWITCH MIRROR command 8-82



DISABLE SWITCH PORT command 8-83
 DISABLE SYSTEM SECURITY_MODE command 23-41
 DISABLE TELNET SERVER command 13-83
 DISABLE TEST INTERFACE command 40-6
 DISABLE TRIGGER command 37-13
 DISABLE USER command 23-42
 DISABLE USER RSO command 23-43
 DISABLE VLAN DEBUG command 8-84
 DISABLE VLANRELAY command 8-84, 9-44
 DISABLE VLANRELAY DEBUG command 8-85, 9-44
 DISABLE VRRP command 30-18
 DISABLE VRRP DEBUG command 30-18

Disabling

- applications 10-9
- debugging 10-10
- GARP GIP 10-11
- MSTP 9-44

disabling

- debugging
 - ENCO 24-10
- ENCO debugging 24-10
- hardware tests 40-6
- mail debugging 4-17
- NTP 34-9
- security mode 23-41
- software releases 5-26
- special feature licences 5-24
- tests 40-6

Disabling GARP 10-9

disabling GUI 5-25

DISCONNECT command 39-16

Displaying

- counter 10-23
- database 10-26
- DB 10-26
- debugging 10-27
- GARP 10-21
- GIP 10-28
- machine state 10-29

displaying

- aliases 2-15 to 2-16, 6-25
- clock 4-54
- configuration 5-46
- counters
 - ENCO 24-18
- date 4-54
- directory of FLASH files 6-7
- dynamic configuration 5-48
- files 6-22
- FLASH files 6-20, 6-22
- hardware test results 40-9
- install information 5-58
- interfaces table, MIB-II 12-13, 12-36, 12-39
- intrusion 8-144
- mail 4-10
- mail status 4-46
- memory contents 4-18
- NTP configuration 34-11
- QOS 8-145
- route templates 13-164

semipermanent manager port 23-61

software releases 5-65

special feature licences 5-52

STP 9-89

STP counters 9-93

STP debug 9-95

STP ports 9-96, 9-99

switch configuration 8-122

switch debug 8-126

switch port counters 8-141

switch ports 8-137

system clock 4-54

system date 4-54

system information 4-54

system time 4-54

test results 40-9

time 4-54

trunk groups 8-148

VLAN debug 8-151

VLANs 8-149

Distance Vector Multicast Routing Protocol (DVMRP)

interoperability with PIM 17-5

DNS relay agent 13-76, 13-86, 13-106

dot1dBase group, Bridge MIB C-36

dot1dBaseNumPorts MIB object C-37

dot1dBridge MIB object C-36

dot1dSr group, Bridge MIB C-36

dot1dStatic group, Bridge MIB C-36

dot1dStp group, Bridge MIB C-36

dot1dTp group, Bridge MIB C-36

dot1qBase group, Virtual Bridge (VLAN) MIB C-38

dot1qConstraintSetDefault MIB object C-39

dot1qConstraintTypeDefault MIB object C-39

dot1qFdbTable MIB object C-38

dot1qForwardAllTable MIB object C-39

dot1qForwardUnregisteredTable MIB object C-39

dot1qLearningConstraintsTable MIB object C-39

dot1qNextFreeLocalVlanIndex MIB object C-39

dot1qPortVlanHCStatisticsTable MIB object C-39

dot1qPortVlanStatisticsTable MIB object C-39

dot1qPortVlanTable MIB object C-39

dot1qStatic group, Virtual Bridge (VLAN) MIB C-38 to C-39

dot1qTp group, Virtual Bridge (VLAN) MIB C-38 to C-39

dot1qTpFdbTable MIB object C-38

dot1qTpGroupTable MIB object C-39

dot1qVlan group, Virtual Bridge (VLAN) MIB C-38 to C-39

dot1qVlanCurrentTable MIB object C-39

dot1qVlanNumDeletes MIB object C-38

dot1qVlanStaticTable MIB object C-39

dot1xAuthAdminControlledDirections MIB object C-43

dot1xAuthConfigTable MIB object C-43

dot1xAuthDiagTable MIB object C-43

dot1xAuthKeyTxEnabled MIB object C-43

dot1xAuthSessionStatsTable MIB object C-43

dot1xAuthStatsTable MIB object C-43

dot1xPaePortTable MIB object C-43

dot1xSuppConfigTable MIB object C-43

dot1xSuppStatsTable MIB object C-43

dot3 MIB object C-33

dot3adAggCollectorMaxDelay MIB object C-41



- dot3adAggIndex MIB object C-40
- dot3adAggPortActorAdminState MIB object C-41
- dot3adAggPortActorOperKey MIB object C-41
- dot3adAggPortPartnerAdminKey MIB object C-41
- dot3adAggPortPartnerAdminPort MIB object C-41
- dot3adAggPortPartnerAdminPortPriority MIB object C-41
- dot3adAggPortPartnerAdminState MIB object C-41
- dot3adAggPortPartnerAdminSystemID MIB object C-41
- dot3adAggPortPartnerAdminSystemPriority MIB object C-41
- dot3adAggPortStatsMarkerPDUsRx MIB object C-41
- dot3adAggPortStatsMarkerPDUsTx MIB object C-41
- dot3adAggPortStatsMarkerResponsePDUsRx MIB object C-41
- dot3adAggPortStatsMarkerResponsePDUsTx MIB object C-41
- dot3BroadMauBasicGroup MIB object C-34 to C-35
- dot3IfMauAutoNegGroup MIB object C-35
- dot3IfMauBasicGroup MIB object C-34 to C-35
- dot3MauType MIB object C-34 to C-35
- dot3RpMauBasicGroup MIB object C-34 to C-35
- Dotted notation 32-6
- downloading
 - files 5-36, 5-42, 5-62, 5-66, 6-4
- DS3 group, Allied Telesis Enterprise MIB C-24
- ds3module MIB object C-24
- ds3TrapTable MIB object C-24
- dump
 - memory 4-18
- DUMP command 4-18
- duplex mode, autonegotiation 8-7
- DVMRP. See Distance Vector Multicast Routing Protocol (DVMRP)
- dynamic configuration
 - displaying 5-48
 - saving 5-22
- Dynamic Host Configuration Protocol (DHCP)
 - adding
 - policy options 14-13
 - ranges 14-19
 - address allocation 14-3
 - automatic 14-3
 - dynamic 14-3
 - static 14-4
 - automatic address allocation 14-3
 - BOOTP 14-2 to 14-3
 - clients 14-52
 - commands
 - ADD DHCP POLICY 14-13
 - ADD DHCP RANGE 14-19
 - CREATE DHCP POLICY 14-20
 - CREATE DHCP RANGE 14-21, 14-46
 - DELETE DHCP POLICY 14-24
 - DELETE DHCP RANGE 14-29
 - DESTROY DHCP POLICY 14-29
 - DESTROY DHCP RANGE 14-30
 - SET DHCP POLICY 14-40
 - SHOW DHCP 14-50
 - SHOW DHCP CLIENT 14-52
 - SHOW DHCP POLICY 14-54
 - SHOW DHCP RANGE 14-56

- configuring 14-7
- creating
 - policies 14-20
 - ranges 14-21, 14-46
- deleting
 - policy options 14-24
 - ranges 14-29
- destroying
 - policies 14-29
 - ranges 14-30
- displaying
 - clients 14-52
 - policies 14-54
 - ranges 14-56
 - status 14-50
- dynamic address allocation 14-3
- example configuration 14-7
- lease time for IP addresses 14-3
- modifying policy options 14-40
- policies
 - adding options 14-13
 - creating 14-20
 - deleting options 14-24
 - destroying 14-29
 - displaying 14-54
 - modifying options 14-40
- policy 14-3
- range 14-3
- ranges
 - adding 14-19
 - creating 14-21, 14-46
 - deleting 14-29
 - destroying 14-30
 - displaying 14-56
- reuse IP addresses 14-3
- server 14-2
- static address allocation 14-4
- status 14-50

E

- EDIT command 6-15, 36-3
- editing
 - files 6-4, 6-15
- editor 6-5, 6-15
- EGP group, MIB-II MIB C-29
- egpNeighEventTrigger MIB object C-29
- egress rules 8-30
- enable
 - OSPF 19-39, 19-41
- ENABLE BOOTP RELAY command 14-32
- ENABLE ENCO DEBUGGING command 24-10
- ENABLE GARP command 10-12
- ENABLE GARP DEBUG command 10-13
- ENABLE GARP GIP command 10-15
- ENABLE GUI command 3-20
- ENABLE HTTP DEBUG command 5-28, 26-14 to 26-15, 26-18
- ENABLE HTTP SERVER command 5-28
- ENABLE IGMP Snooping command 17-65
- ENABLE INTERFACE LINKTRAP command 12-18
- ENABLE IP command 13-83



ENABLE IP DEBUG command 13-85
 ENABLE IP DNSRELAY command 13-86
 ENABLE IP ECHOREPLY command 13-86
 ENABLE IP FOFILTER command 13-87
 ENABLE IP FORWARDING command 13-88
 ENABLE IP HELPER command 13-88
 ENABLE IP IGMP command 17-65
 ENABLE IP IGMP INTERFACE command 17-67
 ENABLE IP INTERFACE command 13-89
 ENABLE IP MVR command 17-67
 ENABLE IP MVR DEBUG command 17-68
 ENABLE IP REMOTEASSIGN command 13-91
 ENABLE IP ROUTE command 13-91
 ENABLE IP SRCROUTE command 13-81 to 13-82,
 13-92 to 13-93
 ENABLE LOG command 38-23
 ENABLE LOG GENERATION command 38-23
 ENABLE LOG OUTPUT command 38-24
 ENABLE LOG RECEPTION command 38-24
 ENABLE MAIL DEBUG command 4-21
 ENABLE MSTP CIST PORT command 9-45
 ENABLE NTP command 34-9
 ENABLE OSPF command 19-41
 ENABLE OSPF DEBUG command 19-42
 ENABLE OSPF INTERFACE command 19-44
 ENABLE OSPF LOG command 19-45
 ENABLE PIM command 17-64, 17-68 to 17-69
 ENABLE PIM DEBUG command 17-69
 ENABLE PING POLL command 31-11
 ENABLE PING POLL DEBUG command 31-12
 ENABLE PKI DEBUG command 29-25
 ENABLE PORTAUTH command 25-26
 ENABLE PORTAUTH DEBUG PORT command 25-27
 ENABLE QOS DEBUG command 22-30
 ENABLE RELEASE command 5-30
 ENABLE SNMP AUTHENTICATE_TRAP command 32-41
 ENABLE SNMP command 32-40
 ENABLE SNMP COMMUNITY command 32-41 to 32-42
 ENABLE SSH SERVER command 26-16
 ENABLE SSH USER command 26-17
 ENABLE SSL DEBUG command 27-8
 enable stack command 35-19
 enable stack debug command 35-20
 ENABLE STP command 9-50
 ENABLE STP DEBUG command 9-51
 ENABLE STP PORT command 9-53
 ENABLE SWITCH AGEINGTIMER command 8-86
 ENABLE SWITCH BIST command 8-87
 ENABLE SWITCH DEBUG command 8-88
 ENABLE SWITCH L3FILTER command 8-90
 ENABLE SWITCH LEARNING command 8-90
 ENABLE SWITCH MIRROR command 8-90
 ENABLE SWITCH PORT command 8-91
 ENABLE SYSTEM SECURITY_MODE command 23-45
 ENABLE TELNET SERVER command 13-93
 ENABLE TEST INTERFACE command 40-7
 ENABLE TRIGGER command 37-14
 ENABLE USER command 23-47
 ENABLE USER RSO command 23-48
 ENABLE VLAN DEBUG command 8-92

ENABLE VLANRELAY command 8-93
 ENABLE VLANRELAY DEBUG command 8-93, 9-54
 ENABLE VRRP command 30-19
 ENABLE VRRP DEBUG command 30-19
 Enabling
 debugging 10-13
 GARP 10-12
 enabling
 debugging
 ENCO 24-10
 ENCO debugging 24-10
 graphical user interface 3-16
 hardware tests 40-7
 mail debugging 4-21
 NTP 34-9
 security mode 23-45
 software releases 5-30
 tests 40-7
 Enabling GIP 10-15
 enabling GUI 3-20
 encapsulation
 802.2 12-5
 Ethernet 12-4
 SNAP 12-5
 ENCO. See Compression and Encryption Services
 encryption
 access control 23-6
 adding
 Remote Security Officer 23-37
 asymmetrical and symmetrical 27-2
 commands
 DELETE USER RSO 23-40
 DISABLE USER RSO 23-43
 ENABLE USER RSO 23-48
 SHOW USER RSO 23-79
 definition 27-2
 deleting
 Remote Security Officer 23-40
 disabling
 Remote Security Officer 23-43
 displaying
 Remote Security Officer 23-79
 enabling
 Remote Security Officer 23-48
 Remote Security Officer 23-6
 adding 23-37
 deleting 23-40
 disabling 23-43
 displaying 23-79
 enabling 23-48
 encryption. See Compression and Encryption Services; Link
 Compression and Encryption; IP Security (IPsec)
 End Entity 29-5
 entering commands 2-3
 enterprise MIB C-4
 envMon MIB object C-17
 epsr MIB object C-26
 Ethernet 12-3
 encapsulation 12-4
 interface on router 12-3



- Ethernet group, Allied Telesis Enterprise MIB C-18
- ethernet MIB object C-18
- Ethernet-like Collision Statistics group, Ethernet-like Interface Types MIB C-33
- Ethernet-like Interface Types MIB C-33
- Ethernet-like Statistics group, Ethernet-like Interface Types MIB C-33
- ethIntTable MIB object C-18
- Event group, RMON MIB C-45
- event logging 4-7
 - See also Logging Facility
- example configurations
 - asynchronous services 39-8
 - DHCP 14-7
 - PKI 29-11 to 29-14
 - enrollment with CMP 29-13
 - manual enrollment 29-11
 - services 39-8
 - SNMP 32-23
 - switching 8-41 to 8-48
 - terminal server 39-8
 - VLAN 8-41 to 8-48
- examples
 - Denial of Service (DoS) attack prevention configuration 28-13
 - Internet Protocol (IP) configuration 18-4
 - mail subsystem 4-11
 - OSPF configuration 19-16
 - Secure Shell 26-7
- exceptions 4-9, 4-45
- exclusion filters
 - Internet Protocol (IP) 13-48, 13-67, 13-107, 13-148
- expansion options
 - testing 40-1
- external routes, OSPF 19-3

F

- fanAndPs MIB object C-17
- fatal errors 4-9, 4-45
- fault diagnosis 4-6
- File group, Allied Telesis Enterprise MIB C-21
- file MIB object C-21
- file naming conventions 6-2
 - using wildcards 6-5
- file subsystem
 - creating files 6-4
 - deleting files 6-14
 - displaying directory 6-4
 - displaying files 6-22
 - downloading files 5-36, 5-42, 5-62, 5-66, 6-4
 - editing files 6-4, 6-15
 - file types 6-2
 - naming conventions 6-2
 - renaming files 6-18
 - wildcards 6-5
- file types 6-2
- fileNumbers MIB object C-21
- files
 - creating 6-4
 - deleting 6-14

- displaying 6-22
- downloading 5-36, 5-42, 5-62, 5-66, 6-4
- editing 6-4, 6-15
- renaming 6-18
- fileTable MIB object C-21
- Filter group, RMON MIB C-44
- filtering
 - Layer 2 8-30, 8-32, 9-5
 - Layer 3 8-34
- filtering, IGMP 17-21
- filters
 - exclusion
 - Internet Protocol (IP) 13-48, 13-67, 13-107, 13-148
 - fragment offset
 - Internet Protocol (IP) 13-77, 13-87
 - inclusion
 - Internet Protocol (IP) 13-48, 13-67, 13-107, 13-148
 - Internet Protocol (IP) 13-77, 13-87
 - exclusion 13-48, 13-67, 13-107, 13-148
 - fragment offset 13-77, 13-87
 - inclusion 13-48, 13-67, 13-107, 13-148
 - routing information 20-14, 20-17, 20-19, 20-22
 - routing information
 - Internet Protocol (IP) 13-25, 20-14, 20-17, 20-19, 20-22
- switch
 - adding Layer 2 8-32, 8-52
 - adding Layer 3 8-34, 8-56, 8-59
 - deleting Layer 2 8-70, 9-35
 - deleting Layer 3 8-71 to 8-72, 9-35
 - disabling Layer 3 8-81
 - displaying Layer 2 8-129
 - displaying Layer 3 8-133
 - enabling Layer 3 8-90
 - modifying Layer 3 8-102, 8-105
- traffic
 - Internet Protocol (IP) 13-33
- finger client 13-37, 13-94
- FINGER command 13-94
- FLASH File System (FFS)
 - displaying files 6-20
- FLASH files 6-7
 - deleting 6-14
 - displaying 6-20, 6-22
 - displaying directory 6-7
 - downloading 5-36, 5-42, 5-62, 5-66
 - editing 6-15
 - renaming 6-18
- Flash group, Allied Telesis Enterprise MIB C-18
- FLASH memory 6-6
 - compacting 6-7
 - displaying 6-6, 6-26, 6-28
- flash MIB object C-18
- flashCheckFailure MIB object C-19
- flashCloseFailure MIB object C-19
- flashCompactFailure MIB object C-19
- flashCompleteFailure MIB object C-19
- flashCreateFailure MIB object C-19
- flashDeleteFailure MIB object C-19
- flashEraseFailure MIB object C-19



flashFailureTrap trap message C-18
 flashGetFailure MIB object C-19
 flashOpenFailure MIB object C-19
 flashPutFailure MIB object C-19
 flashReadFailure MIB object C-19
 flashVerifyFailure MIB object C-19
 flashWriteFailure MIB object C-19
 flooding 8-30, 9-5
 FLUSH LOG OUTPUT command 38-25
 format of file names 6-2, 6-5
 format, SNMP messages 32-9 to 32-10, 32-13
 Forwarding Database 8-29 to 8-30, 8-32, 9-5
 displaying 8-127
 forwarding process 8-30, 9-5
 fragment offset filter
 Internet Protocol (IP) 13-77, 13-87
 frame storage 8-30, 9-5
 framework, for network management 32-3

G

GARP
 disabling 10-9
 disabling debugging 10-10
 displaying 10-21
 displaying counter 10-23
 displaying database 10-26
 enabling 10-12
 enabling debugging 10-13
 resetting 10-16
 setting ports 10-17
 setting timer 10-19
 GARP Information Declaration (GID) 10-2
 GARP Information Propagation (GIP) 10-2
 GARP VLAN Registration Protocol (GVRP) 10-2
 Generic Receive Address table, Interface Extensions MIB
 C-30 to C-31
 Generic VLAN Registration Protocol (GVRP) 10-5
 get-bulk-request PDU 32-9
 get-next PDU 32-9
 get-request PDU 32-9
 get-response PDU 32-9
 GIP
 disabling 10-11
 displaying 10-28
 enabling 10-15
 Graphical User Interface
 disabling 5-25
 enabling 3-20
 GROUP command 32-35
 Groups, MIB
 address translation C-28
 Aggregation Port C-40
 Aggregation Port Debug C-40
 Aggregation Port Statistics C-40
 Aggregator C-40
 Alarm C-44 to C-45
 arInterfaces C-17
 Broadband MAU Basic C-34 to C-35
 CMOT C-29
 DHCP C-22
 dot1dBase C-36
 dot1dSr C-36
 dot1dStatic C-36
 dot1dStp C-36
 dot1dTp C-36
 dot1qBase C-38
 dot1qStatic C-38 to C-39
 dot1qTp C-38 to C-39
 dot1qVlan C-38 to C-39
 DS3 C-24
 EGP C-29
 Ethernet C-18
 Ethernet-like Collision Statistics C-33
 Ethernet-like Statistics C-33
 Event C-45
 File C-21
 Filter C-44
 Flash C-18
 History C-44 to C-45
 Host C-44
 Host Resources Device C-46 to C-47
 Host Resources Installed Software C-46 to C-47
 Host Resources Running Software C-46 to C-47
 Host Resources Running Software Performance
 C-46 to C-47
 Host Resources Storage C-46 to C-47
 Host Resources System C-46 to C-47
 HostTopN C-44
 ICMP C-28
 IGMP C-26 to C-27
 Install C-20
 Interface MAU Autonegotiation C-35
 Interface MAU Basic C-34 to C-35
 interfaces C-28, C-37
 IP C-28, C-32
 Load Balancer C-24
 Loader C-20
 Matrix C-44
 Modules C-18
 Objects C-9
 Packet Capture C-45
 PAE Authenticator C-43
 PAE Supplicant C-43
 PAE System C-42 to C-43
 PIM4 C-23
 Ping C-21
 Port Authentication C-24
 QoS C-23
 Repeater MAU Basic C-34 to C-35
 SNMP C-29
 Stack C-25
 Statistics C-44 to C-45
 Switch C-22
 sysinfo C-17
 system C-28, C-37
 TCP C-28
 Transmission C-29, C-33
 traps C-16
 Trigger C-21
 TTY C-19
 UDP C-29
 GUI
 disable 5-25
 enable 3-20



H

- handshake
 - definition 27-4
- hardware
 - testing 40-1
- header, Internet Protocol (IP) 13-5
- Hello message
 - PIM Sparse Mode 17-10
- Hello packets, OSPF 19-5, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
- help
 - displaying 1-3, 2-8, 2-13
 - setting system help file 2-15
- HELP command 2-13
- History group, RMON MIB C-44 to C-45
- history, command recall 2-3
- homepage
 - setting HTTP server 5-39
- host
 - adding Internet Protocol (IP) 13-56
 - adding OSPF 19-23
 - changing Internet Protocol (IP) 13-111
 - deleting Internet Protocol (IP) 13-69
 - deleting OSPF 19-33
 - displaying Internet Protocol (IP) 13-152
 - displaying OSPF 19-71
 - modifying Internet Protocol (IP) 13-111
 - modifying OSPF 19-56
 - setting Internet Protocol (IP) 13-111
- Host group, RMON MIB C-44
- host MIB object C-46
- Host Resources Device group, Host Resources MIB C-46 to C-47
- Host Resources Installed Software group, Host Resources MIB C-46 to C-47
- Host Resources MIB C-46
- Host Resources Running Software group, Host Resources MIB C-46 to C-47
- Host Resources Running Software Performance group, Host Resources MIB C-46 to C-47
- Host Resources Storage group, Host Resources MIB C-46 to C-47
- Host Resources System group, Host Resources MIB C-46 to C-47
- host-directed commands (HDC) for stacking 35-16
- hostId MIB object C-17
- HostTopN group, RMON MIB C-44
- hrDeviceDiskStorage MIB object C-47
- hrDeviceEntry MIB object C-47
- hrDeviceID MIB object C-9, C-47
- hrDeviceType MIB object C-47
- hrDiskStorageTable MIB object C-47
- hrFSTable MIB object C-47
- hrNetworkTable MIB object C-47
- hrPrinterTable MIB object C-47
- hrStorageAllocationUnits MIB object C-47
- hrSWRunTable MIB object C-46
- hrSystemDate MIB object C-47
- hrSystemInitialLoadDevice MIB object C-47
- hrSystemInitialLoadParameters MIB object C-47

- hrSystemMaxProcesses MIB object C-47
- hrSystemNumUsers MIB object C-47
- hrSystemProcesses MIB object C-47
- HTTP server 5-9
 - disabling 5-25
 - disabling debugging 5-25
 - displaying client status 5-54
 - displaying debugging status 5-55
 - displaying session information 5-57
 - displaying status 5-56
 - enabling 5-28
 - enabling and disabling the GUI 3-16
 - enabling debugging 5-28, 26-14 to 26-15, 26-18
 - resetting 5-36
 - setting homepage 5-39

I

- ICMP group, MIB-II MIB C-28
- identifier, instance 32-6
- identifier, MIB object 32-6
 - combined notation 32-6
 - dotted notation 32-6
 - textual notation 32-6
- IEEE 802.2, Ethernet encapsulation 12-5
- ieee8021paeMIB MIB object C-42
- if..then..else..endif, in scripts 36-5, 36-10
- ifaceAsyn MIB object C-15
- ifaceBri MIB object C-15
- ifaceEth MIB object C-15
- ifaceGBIC MIB object C-15
- ifacePots MIB object C-15
- ifacePri MIB object C-15
- ifaceSyn MIB object C-15
- ifAdminStatus MIB object C-29
- ifExtnsRcvAddrTable MIB object C-30
- ifExtnsTable MIB object C-30
- ifIndex MIB object C-18, C-34, C-40
- ifJackTable MIB object C-34
- ifMauAutoNegAdminStatus MIB object C-35
- ifMauAutoNegCapAdvertised MIB object C-35
- ifMauAutoNegRestart MIB object C-35
- ifMauAutoNegTable MIB object C-35
- ifMauDefaultType MIB object C-35
- ifMaulfIndex MIB object C-34
- ifMauStatus MIB object C-35
- ifMauTable MIB object C-34
- ifMIB MIB object C-30
- ifName MIB object C-16
- ifNumber MIB object C-30 to C-31
- ifPromiscuousMode MIB object C-31
- ifRcvAddressAddress MIB object C-31
- ifRcvAddressStatus MIB object C-31
- ifRcvAddressTable MIB object C-30 to C-31
- ifRcvAddressType MIB object C-31
- ifSpecific MIB object C-33
- ifStackStatus MIB object C-31
- ifStackTable MIB object C-30 to C-31
- ifTable MIB object C-30 to C-31, C-40
- ifTableLastChange MIB object C-30
- ifTestTable MIB object C-30 to C-31



- ifType MIB object C-33
- ifTypes MIB object C-15
- ifXTable MIB object C-30 to C-31
- IGMP. See Internet Group Management Protocol (IGMP)
- IGMP filtering 17-21
- IGMP group, Allied Telesis Enterprise MIB C-26 to C-27
- IGMP proxy 17-19
- IGMP snooping 17-24, 17-85, 17-88
 - disabling 17-60
 - enabling 17-65
- IGMP throttling 17-23
- igmpGeneralQueryNotReceivedEvent trap message C-16
- igmpInterfaceTable MIB object C-26
- igmpIntGroupTable MIB object C-26
- igmpIntInfo MIB object C-26
- igmpIntMember MIB object C-26
- igmpIntStatsTable MIB object C-26
- igmpSnoopAdminEnabled MIB object C-26
- igmpSnoopAdminInfo MIB object C-26
- igmpSnoopGroupTable MIB object C-26
- igmpSnoopHostTable MIB object C-26
- igmpSnooping MIB object C-26
- igmpSnoopPortTable MIB object C-26
- igmpSnoopVlanTable MIB object C-26
- inclusion filters
 - Internet Protocol (IP) 13-48, 13-67, 13-107, 13-148
- ingress filtering 8-28
- ingress rules 8-28
- Install group, Allied Telesis Enterprise MIB C-20
- install information 5-13
 - deleting 5-23
 - displaying 5-58
 - setting 5-40
- install MIB object C-20
- installHistoryTable MIB object C-20
- installTable MIB object C-20
- instance 12-3
- instance identifier, MIB object 32-6
- instance, MIB object 32-6
- Interface Extensions table, Interface Extensions MIB C-30 to C-31
- Interface Jack Table, MAU MIB C-34
- Interface MAU Autonegotiation Group, MAU MIB C-35
- Interface MAU Autonegotiation MIB table, MAU MIB C-35
- Interface MAU Basic Group, MAU MIB C-34 to C-35
- Interface MAU MIB table, MAU MIB C-34
- Interface Stack table, Interface Extensions MIB C-30 to C-31
- Interface Test table, Interface Extensions MIB C-30 to C-31
- Interfaces
 - link up/down traps 12-13, 12-16, 12-18, 12-27
 - managing with SNMP 12-14
- interfaces
 - adding
 - Internet Protocol (IP) 13-57
 - OSPF 19-24
 - addressless
 - OSPF 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 - asynchronous ports 12-6

- changing
 - Internet Protocol (IP) 13-116
- commands
 - CONNECT ASYN 12-15
 - DISABLE ASYN 12-15
 - DISABLE INTERFACE 12-16
 - ENABLE INTERFACE LINKTRAP 12-18
 - SET INTERFACE TRAPLIMIT 12-27
 - SHOW INTERFACE 12-36, 12-39
- configuration
 - asynchronous ports 12-6
- defined 12-2
- deleting
 - Internet Protocol (IP) 13-70
 - OSPF 19-34
- disabling
 - Internet Protocol (IP) 13-80
 - OSPF 19-40
- displaying
 - Internet Protocol (IP) 13-154
 - OSPF 19-73
- displaying MIB 12-13, 12-36, 12-39
- enabling
 - Internet Protocol (IP) 13-89
 - OSPF 19-44
- instance 12-3
- Internet Protocol (IP)
 - adding 13-57
 - changing 13-116
 - deleting 13-70
 - disabling 13-80
 - displaying 13-154
 - enabling 13-89
 - modifying 13-112, 13-116
 - resetting 13-98
 - setting 13-116
- modifying
 - Internet Protocol (IP) 13-112, 13-116
 - OSPF 19-57
- naming 12-3
- OSPF 19-7, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 - adding 19-24
 - addressless 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 - deleting 19-34
 - disabling 19-40
 - displaying 19-73
 - enabling 19-44
 - modifying 19-57
 - resetting 19-49
- resetting
 - Internet Protocol (IP) 13-98
 - OSPF 19-49
- setting
 - Internet Protocol (IP) 13-116
- testing 40-1
- types 12-3
- Interfaces Group MIB C-30
- Interfaces group, MIB-II C-37
- interfaces group, MIB-II C-28, C-37



Interfaces table, Interface Extensions MIB C-30 to C-31

Internet 13-5

Internet Control Message Protocol (ICMP) 13-18
router advertisements 13-19

Internet Group Management Protocol (IGMP)

adding

filters 17-41

commands

ADD IGMP FILTER 17-41

ADD IGMP Snooping Router Address 17-43

CREATE IGMP FILTER 17-50

DELETE IGMP FILTER 17-53

DELETE IGMP Snooping Router Address 17-53

DESTROY IGMP FILTER 17-59

DISABLE IGMP Snooping 17-60

DISABLE IP IGMP Interface 17-62

ENABLE IGMP Snooping 17-65

ENABLE IP IGMP 17-65

ENABLE IP IGMP Interface 17-67

SET IGMP FILTER 17-71

SET IGMP Snooping FastLeave 17-72

SET IGMP Snooping Router Mode 17-73

SET IP IGMP 17-74

SET IP IGMP Interface 17-75

SHOW IGMP FILTER 17-83

SHOW IGMP Snooping 17-85

SHOW IGMP Snooping Counters 17-88

SHOW IGMP Snooping Router Address 17-90

SHOW IP IGMP 17-91

SHOW IP IGMP Counter 17-94

creating

filters 17-50

deleting

filters 17-53

destroying

filters 17-59

disabling 17-61

disabling interfaces 17-62

displaying 17-91

filters 17-83

displaying counters 17-94

enabling 17-65

enabling interfaces 17-67

filtering 17-21

filters

adding 17-41

creating 17-50

deleting 17-53

destroying 17-59

displaying 17-83

modifying 17-71

introduction 17-16

modifying

filters 17-71

proxy 17-19

setting timers 17-74 to 17-75

snooping 17-24

throttling 17-23

Internet Protocol (IP)

adding

ARP entries 13-12, 13-45

BOOTP relay destination 14-10

exclusion filters 13-48

filters 13-48

hosts 13-56

inclusion filters 13-48

interfaces 13-57

metric boosts 13-25

proxy ARPs 13-16

RIP addresses 18-2, 18-6

route templates 13-64

routes 13-22, 13-62, 18-6

routing filters 20-14

trusted routers 18-8

address assignment

remote 13-40, 13-81, 13-91

using DHCP 13-17, 13-76, 13-86

address classes 13-7

address format 13-7

Address Resolution Protocol (ARP)

adding entries 13-12, 13-45

changing entries 13-100

deleting entries 13-66

displaying entries 13-133

modifying entries 13-100

proxy 13-16

setting entries 13-100

addresses 13-5, 13-7, 13-40, 13-81, 13-91

agent, SNMP

displaying 32-56

authentication, SNMPv1 and v2 32-17

boosts 13-25

BOOTP relay agent 14-4, 14-10, 14-22, 14-30, 14-32, 14-47

broadcast forwarding 13-38, 13-55, 13-68, 13-78, 13-88, 13-150

changing

ARP entries 13-100

hosts 13-111

interfaces 13-116

RIP addresses 18-10

RIP timers 18-13

routes 13-119, 18-10

commands 13-43, 18-6

ADD BOOTP RELAY 14-10

ADD IP ARP 13-45

ADD IP FILTER 13-48

ADD IP HELPER 13-55

ADD IP HOST 13-56

ADD IP INTERFACE 13-57

ADD IP RIP 18-6

ADD IP ROUTE 13-62

ADD IP ROUTE FILTER 20-14

ADD IP ROUTE TEMPLATE 13-64

ADD IP TRUSTED 18-8

DELETE BOOTP RELAY 14-22

DELETE IP ARP 13-66

DELETE IP FILTER 13-67



- DELETE IP HELPER 13-68
- DELETE IP HOST 13-69
- DELETE IP INTERFACE 13-70
- DELETE IP RIP 18-9
- DELETE IP ROUTE 13-72
- DELETE IP ROUTE FILTER 20-17
- DELETE IP ROUTE TEMPLATE 13-73
- DELETE IP TRUSTED 18-9
- DELETE TCP 13-73
- DISABLE BOOTP RELAY 14-30
- DISABLE IP 13-74
- DISABLE IP DEBUG 13-75
- DISABLE IP DNSRELAY 13-76
- DISABLE IP ECHOREPLY 13-76
- DISABLE IP FOFILTER 13-77
- DISABLE IP FORWARDING 13-78
- DISABLE IP HELPER 13-78
- DISABLE IP INTERFACE 13-80
- DISABLE IP REMOTEASSIGN 13-81
- DISABLE IP ROUTE 13-81
- DISABLE IP SRCROUTE 13-82
- ENABLE BOOTP RELAY 14-32
- ENABLE IP 13-83
- ENABLE IP DEBUG 13-85
- ENABLE IP DNSRELAY 13-86
- ENABLE IP ECHOREPLY 13-86
- ENABLE IP FOFILTER 13-87
- ENABLE IP FORWARDING 13-88
- ENABLE IP HELPER 13-88
- ENABLE IP INTERFACE 13-89
- ENABLE IP REMOTEASSIGN 13-91
- ENABLE IP ROUTE 13-91
- ENABLE IP SRCROUTE 13-81 to 13-82, 13-92 to 13-93
- FINGER 13-94
- PING 13-95
- PURGE BOOTP RELAY 14-35
- PURGE IP 13-97
- RESET IP 13-97
- RESET IP INTERFACE 13-98
- SET BOOTP MAXHOPS 14-35
- SET IP ARP 13-100
- SET IP ARP TIMEOUT 13-101
- SET IP DNSRELAY 13-106
- SET IP FILTER 13-107
- SET IP HOST 13-111
- SET IP INTERFACE 13-112
- SET IP LOCAL 13-116
- SET IP NAMESERVER 13-118
- SET IP RIP 18-10
- SET IP RIPTIMER 18-13
- SET IP ROUTE 13-119
- SET IP ROUTE FILTER 20-19
- SET IP ROUTE TEMPLATE 13-122
- SET IP SECONDARYNAMESERVER 13-123
- SET PING 13-124
- SET TRACE 13-126
- SHOW BOOTP RELAY 14-47
- SHOW IP ARP 13-133
- SHOW IP DEBUG 13-144
- SHOW IP FILTER 13-148
- SHOW IP HELPER 13-150
- SHOW IP HOST 13-152
- SHOW IP INTERFACE 13-154
- SHOW IP RIP 18-14
- SHOW IP RIP COUNTER 18-15
- SHOW IP RIPTIMER 18-17
- SHOW IP ROUTE 13-158
- SHOW IP ROUTE FILTER 20-22
- SHOW IP ROUTE MULTICAST 13-162
- SHOW IP ROUTE TEMPLATE 13-164
- SHOW IP TRUSTED 18-18
- SHOW IP UDP 13-166
- SHOW PING 13-168
- SHOW SNMP 32-56
- SHOW SNMP COMMUNITY 32-56
- SHOW TCP 13-170
- SHOW TRACE 13-175
- STOP PING 13-177
- STOP TRACE 13-177
- TRACE 13-178
- communities, SNMP 32-16
 - displaying 32-56
- configuration 18-4
 - examples 18-4
- connection vs. connectionless mode 13-5
- control functions 13-35
- counters 18-15
- debugging functions 13-35 to 13-36, 13-75, 13-85, 13-144
- definition 13-5
- deleting
 - ARP entries 13-66
 - BOOTP relay destination 14-22
 - exclusion filters 13-67
 - filters 13-67
 - hosts 13-69
 - inclusion filters 13-67, 13-107
 - interfaces 13-70
 - metric boosts 13-25
 - RIP addresses 18-9
 - route templates 13-73
 - routes 13-72, 18-9
 - routing filters 20-17
 - TCP sessions 13-73
 - trusted routers 18-9
- destination address 13-5
- DHCP client 13-17, 13-58, 13-76, 13-86, 13-113
- disabling
 - BOOTP relay agent 14-30
 - fragment offset filter 13-77
 - interfaces 13-80
 - routes 13-81
- displaying
 - ARP entries 13-133
 - BOOTP relay destination 14-47
 - counters 18-15
 - exclusion filters 13-148
 - hosts 13-152
 - inclusion filters 13-148



- interfaces 13-154
- metric boosts 13-25
- proxy ARPs 13-16
- RIP addresses 18-2, 18-14
- RIP counters 18-15
- RIP timers 18-17
- route templates 13-164
- routes 13-24, 13-158
- routing filters 20-22
- TCP sessions 13-170
- trusted routers 18-18
- UDP sessions 13-166
- DNS relay agent 13-76, 13-86, 13-106
- echo reply
 - disabling 13-76
 - enabling 13-86
- enabling
 - BOOTP relay agent 14-32
 - fragment offset filter 13-87
 - interfaces 13-89
 - routes 13-91
- examples 18-4
- exclusion filters 13-48, 13-67, 13-107, 13-148
- filters 13-25, 13-33, 13-48, 13-67, 13-77, 13-87, 13-107, 13-148
- finger client 13-37, 13-94
- fragment offset filter 13-77, 13-87
- gateway 13-41, 13-74, 13-78, 13-83, 13-88
- header 13-5
- hosts 13-56, 13-69, 13-111, 13-152
- inclusion filters 13-48, 13-67, 13-107, 13-148
- interfaces
 - adding 13-57
 - changing 13-116
 - deleting 13-70
 - disabling 13-80
 - displaying 13-154
 - enabling 13-89
 - modifying 13-112, 13-116
 - resetting 13-98
 - setting 13-116
- Internet Control Message Protocol (ICMP) 13-18
- local interface 13-116
- metrics 13-25
- MIB 13-35, 32-1
- modifying
 - ARP entries 13-100
 - hosts 13-111
 - interfaces 13-112, 13-116
 - route templates 13-122
 - routes 13-119
 - routing filters 20-19
- multicasting 13-39
- multihoming 13-10
- name server 13-118, 13-123
- Open Shortest Path First (OSPF) 13-25
- ping function 13-36, 13-95, 13-124, 13-168, 13-177
- primary name server 13-118
- proxy ARPs 13-16
- purge configuration database 13-97
- reinitialise module 13-97
- remote address assignment 13-40, 13-81, 13-91
- resetting
 - interfaces 13-98
- restart module 13-97
- RIP timers
 - displaying 18-17
 - setting 18-13
- route templates 13-28
 - adding 13-64
 - deleting 13-73
 - displaying 13-164
 - modifying 13-122
- router type 13-41, 13-74, 13-78, 13-83, 13-88
- routes 13-21
 - adding 13-22, 13-62
 - changing 13-119
 - deleting 13-72
 - disabling 13-81
 - displaying 13-24, 13-158
 - enabling 13-91
 - modifying 13-119
 - setting 13-119
 - tracing 13-126, 13-175, 13-177 to 13-178
- routing 13-21
- routing filters 20-14
 - deleting 20-17
 - displaying 20-22
 - modifying 20-19
- routing information filters 13-25
- Routing Information Protocol (RIP) 13-25, 18-6, 18-9 to 18-10, 18-13 to 18-15, 18-17
- routing protocols
 - Open Shortest Path First (OSPF) 13-25
 - Routing Information Protocol (RIP) 13-25, 18-6, 18-9 to 18-10, 18-13, 18-17
- routing table 13-22, 13-158
- secondary name server 13-123
- security options 13-38, 13-77, 13-87
- server 13-41, 13-74, 13-78, 13-83, 13-88
- Server selection 13-33
- setting
 - ARP entries 13-100
 - displaying 13-148
 - exclusion filters 13-107
 - filters 13-107
 - hosts 13-111
 - interfaces 13-116
 - routes 13-119
- SNMP 13-35, 32-1
- SNMP agent
 - displaying 32-56
- SNMP authenticationv1 and v2 32-17
- SNMP communities 32-16
 - displaying 32-56
- source address 13-5
- subnet 13-8
- subnet mask 13-8
- TCP sessions 13-73, 13-170
- Telnet server 13-41, 13-74, 13-78, 13-83, 13-88



timers
 RIP 18-13, 18-17
 trace route 13-126, 13-175, 13-177 to 13-178
 traffic filters 13-33
 trusted routers 18-8 to 18-9, 18-18
 UDP sessions 13-166
 Internet-standard MIB 32-5
 Internet-standard Network Management Framework 32-3
 Introduction 15-2, 30-2
 IP address 13-58, 13-113
 from DHCP 13-17, 13-76, 13-86
 IP CIDR Route table, IP Forwarding Table MIB C-32
 IP Forwarding Table MIB C-32
 IP Forwarding table, IP Forwarding Table MIB C-32
 IP group, MIB-II MIB C-28, C-32
 IP Multicasting
 displaying route 13-162
 static multicast forwarding 13-39
 ipCidrRouteNumber MIB object C-32
 ipCidrRouteTable MIB object C-32
 ipForward MIB object C-32
 ipForwardNumber MIB object C-32
 ipForwardTable MIB object C-32
 ipNetToMediaIflIndex MIB object C-29
 ipNetToMediaNetAddress MIB object C-29
 ipNetToMediaPhysAddress MIB object C-29
 ipNetToMediaType MIB object C-29
 ipRouteAge MIB object C-29
 ipRouteIflIndex MIB object C-29
 ipRouteMask MIB object C-29
 ipRouteMetric1 MIB object C-29
 ipRouteMetric2 MIB object C-29
 ipRouteMetric3 MIB object C-29
 ipRouteMetric4 MIB object C-29
 ipRouteMetric5 MIB object C-29
 ipRouteNextHop MIB object C-29
 ipRouteType MIB object C-29
 IPv4 Multicasting 17-4
 See *also* Distance Vector Multicast Routing Protocol (DVMRP)
 See *also* Internet Group Management Protocol (IGMP)
 See *also* Protocol Independent Multicast (PIM)
 Multicast Border Router 17-5

K

keys
 creating 24-7

L

Layer 2 Filtering 8-30, 8-32, 9-5
 Layer 2 Switching 8-1, 8-28
 ageing timer 8-29
 commands
 ACTIVATE SWITCH PORT 8-49
 ADD STP VLAN 9-29
 ADD SWITCH FILTER 8-52
 ADD SWITCH TRUNK 8-62
 ADD VLAN BRIDGE 9-30
 ADD VLAN PORT 8-63
 CREATE STP 9-32
 CREATE SWITCH TRUNK 8-66

CREATE VLAN 8-68
 DELETE STP VLAN 9-34
 DELETE SWITCH FILTER 8-70, 9-35
 DELETE SWITCH TRUNK 8-73, 9-35
 DELETE VLAN BRIDGE 9-35
 DELETE VLAN PORT 8-74, 9-35
 DESTROY STP 9-35
 DESTROY SWITCH TRUNK 8-76
 DESTROY VLAN 8-76
 DISABLE STP 9-40
 DISABLE STP DEBUG 9-41
 DISABLE STP PORT 9-43
 DISABLE SWITCH AGEINGTIMER 8-78
 DISABLE SWITCH DEBUG 8-79
 DISABLE SWITCH LEARNING 8-81
 DISABLE SWITCH MIRROR 8-82
 DISABLE SWITCH PORT 8-83
 DISABLE VLAN DEBUG 8-84
 ENABLE MSTP CIST PORT 9-45
 ENABLE STP 9-50
 ENABLE STP DEBUG 9-51
 ENABLE STP PORT 9-53
 ENABLE SWITCH AGEINGTIMER 8-86
 ENABLE SWITCH DEBUG 8-88
 ENABLE SWITCH LEARNING 8-90
 ENABLE SWITCH MIRROR 8-90
 ENABLE SWITCH PORT 8-91
 ENABLE VLAN DEBUG 8-92
 PURGE STP 9-55
 RESET MSTP COUNTER PORT 9-55
 RESET STP 9-56
 RESET SWITCH 8-94, 9-56
 RESET SWITCH PORT 8-95, 9-56
 SET STP 9-65
 SET STP PORT 9-68
 SET SWITCH AGEINGTIMER 8-97
 SET SWITCH MIRROR 8-107
 SET SWITCH PORT 8-108
 SET SWITCH QOS 8-113
 SET SWITCH TRUNK 8-114
 SET VLAN PORT 8-115
 SET VLAN VIRTACTIVE 8-116
 SHOW MSTP 9-75
 SHOW MSTP COUNTER PORT 9-79
 SHOW MSTP DEBUG MSTI 9-81
 SHOW STP 9-89
 SHOW STP COUNTER 9-93
 SHOW STP DEBUG 9-95
 SHOW STP PORT 9-96, 9-99
 SHOW SWITCH 8-122
 SHOW SWITCH COUNTER 8-124
 SHOW SWITCH DEBUG 8-126
 SHOW SWITCH FDB 8-127
 SHOW SWITCH FILTER 8-129
 SHOW SWITCH PORT 8-137
 SHOW SWITCH PORT COUNTER 8-141
 SHOW SWITCH PORT INTRUSION 8-144
 SHOW SWITCH QOS 8-145
 SHOW SWITCH TRUNK 8-148
 SHOW VLAN 8-149
 SHOW VLAN DEBUG 8-151



- egress rules 8-30
- Forwarding Database 8-32
- ingress rules 8-28
- Quality of Service (QoS) 8-31
- switch learning 8-29
- switch ports 8-5
- triggers 8-40
- VLAN tagging 8-30
- Layer 3 Filtering 8-34
- Layer 3 filters
 - IGMP snooping 17-24
- Layer 3 Switching 8-1
 - commands
 - ADD SWITCH L3FILTER ENTRY 8-56
 - ADD SWITCH L3FILTER MATCH 8-59
 - DELETE SWITCH L3FILTER 8-71, 9-35
 - DELETE SWITCH L3FILTER ENTRY 8-72, 9-35
 - DISABLE SWITCH L3FILTER 8-81
 - ENABLE SWITCH L3FILTER 8-90
 - SET SWITCH L3FILTER ENTRY 8-102
 - SET SWITCH L3FILTER MATCH 8-105
 - SHOW SWITCH L3FILTER 8-133
- lb MIB object C-24
- lbShowAffTable MIB object C-24
- lbShowConTable MIB object C-24
- lbShowGlobalTable MIB object C-24
- lbShowResPoolTable MIB object C-24
- lbShowResTable MIB object C-24
- lbShowVirtBalTable MIB object C-24
- LDAP. See Lightweight Directory Access Protocol (LDAP)
- learning
 - switch
 - disabling 8-81
 - enabling 8-90
- Learning Process 8-29
- licenceTable MIB object C-20
- Lightweight Directory Access Protocol (LDAP) 29-5, 29-9
 - PKI repositories
 - adding 29-18
 - deleting 29-23
- Link 8-11
- Link Aggregation Control Protocol 8-11
- Link Aggregation MIB C-40
- link state advertisements, OSPF 19-5, 19-77
- link up/down traps 12-13, 12-16, 12-18, 12-27
- linkagg MIB object C-40
- LINKDOWN trigger 8-40
- LINKUP trigger 8-40
- lldpConfiguration MIB object C-50
- lldpLocalSystemData MIB object C-50
- lldpMIB MIB object C-50
- lldpNotifications MIB object C-50
- lldpRemoteSystemsData MIB object C-50
- lldpStatistics MIB object C-50
- Load Balancer group, Allied Telesis Enterprise MIB C-24
- LOAD command 5-31, 36-3 to 36-4
- Loader group, Allied Telesis Enterprise MIB C-20
- loader MIB object C-20
- loadStatus MIB object C-20
- loadTable MIB object C-20

- location
 - displaying 4-49
 - setting 4-30
- logging
 - OSPF 19-40, 19-45
- Logging Facility 38-1 to 38-49
 - adding log filters 38-8, 38-10
 - changing log filters 38-8, 38-26
 - changing output definitions 38-8, 38-26
 - changing reception of log messages 38-32
 - commands
 - ADD LOG OUTPUT 38-10
 - ADD LOG RECEIVE 38-14
 - CREATE LOG OUTPUT 38-16
 - DELETE LOG OUTPUT 38-20
 - DELETE LOG RECEIVE 38-20
 - DESTROY LOG OUTPUT 38-21
 - DISABLE LOG 38-21
 - DISABLE LOG GENERATION 38-21
 - DISABLE LOG OUTPUT 38-22
 - DISABLE LOG RECEPTION 38-22
 - ENABLE LOG 38-23
 - ENABLE LOG GENERATION 38-23
 - ENABLE LOG OUTPUT 38-24
 - ENABLE LOG RECEPTION 38-24
 - FLUSH LOG OUTPUT 38-25
 - PURGE LOG 38-25
 - SET LOG OUTPUT 38-26
 - SET LOG RECEIVE 38-32
 - SET LOG UTCOFFSET 38-33
 - SHOW LOG 38-34 to 38-35
 - SHOW LOG COUNTERS 38-40
 - SHOW LOG OUTPUT 38-42, 38-44
 - SHOW LOG QUEUE 38-46, 38-49
 - SHOW LOG RECEIVE 38-47
 - SHOW LOG STATUS 38-49
 - comparison operators 38-9, 38-26
 - configuring 38-49
 - counters 38-40
 - creating output definitions 38-8, 38-16
 - deleting log filters 38-9
 - deleting output definitions 38-8, 38-20 to 38-21
 - destinations 38-4, 38-6, 38-16, 38-25 to 38-26, 38-44
 - disabling 38-21, 38-49
 - disabling generation of log messages 38-21
 - disabling output definitions 38-8, 38-22, 38-42
 - disabling reception of log messages 38-22
 - displaying counters 38-40
 - displaying log filters 38-42
 - displaying log messages 38-34 to 38-35
 - displaying log queues 38-46, 38-49
 - displaying output definitions 38-8, 38-44
 - displaying reception of log messages 38-47
 - enabling 38-23, 38-49
 - enabling generation of log messages 38-23
 - enabling output definitions 38-8, 38-24
 - enabling reception of log messages 38-24
 - fields in log message 38-3
 - filters 38-4, 38-10, 38-26, 38-42
 - format of log messages 38-3



- forwarding to another router via SRLP 38-6, 38-26
- forwarding to syslog server 38-6, 38-26
- forwarding via email 38-6
- forwarding via SRLP 38-26
- message filter comparison operators 38-9, 38-26
- message filters 38-4, 38-8, 38-10, 38-26, 38-42
- message ID 38-3
- message reference 38-3
- message severity 38-3 to 38-4
- message subtype 38-3 to 38-4
- message text 38-3
- message type 38-3 to 38-4
- modifying log filters 38-8, 38-26
- modifying output definitions 38-8, 38-26
- module ID 38-3
- Net Manage protocol 38-2, 38-4, 38-14, 38-20, 38-22, 38-24, 38-32 to 38-33, 38-47
- output definitions 38-4, 38-8, 38-16, 38-20 to 38-22, 38-24 to 38-26, 38-42, 38-44
- output to asynchronous port 38-6
- output to RAM or NVS 38-6
- PERMANENT output definition 38-5
- processing of log messages 38-4
- purging 38-25
- queues 38-5, 38-25, 38-46, 38-49
- reception via Net Manage 38-14, 38-20, 38-22, 38-24, 38-32, 38-47
- reception via SRLP 38-14, 38-20, 38-22, 38-24, 38-32, 38-47, 38-49
- secure router logging protocol (SRLP) 38-2, 38-4, 38-6, 38-14, 38-22, 38-24, 38-32, 38-47
- source file 38-3
- source line 38-3
- status 38-49
- syslog server 38-6
- TEMPORARY output definition 38-5
- Universal Coordinated Time (UTC) 38-3, 38-33
- logging in and out 23-8, 23-49 to 23-50
- LOGIN command 23-49
- loginFailureAttempts MIB object C-19
- loginFailureIPAddress MIB object C-19
- loginFailureTrap trap message C-19
- loginFailureUser MIB object C-19
- LOGOFF command 23-50
- loopback plugs
 - for testing 40-2
- loops 9-3

M

- MAC (message authentication code)
 - definition 27-2

- Machine state
 - displaying 10-29

- MAIL command 4-22

- mail subsystem 4-10
 - configuration examples 4-11
 - debugging 4-10
 - deleting mail messages 4-10, 4-15
 - disabling debugging 4-17
 - displaying mail 4-10
 - displaying status 4-46
 - enabling debugging 4-21

- sending mail 4-10, 4-22
 - setting host name 4-26
- managed devices, SNMP 32-3
- Management Information Base C-49
 - See *also* Tables, MIB
 - See *also* Groups, MIB
 - access mode 32-7
 - Allied Telesis Enterprise MIB C-4
 - atRouter subtree, Allied Telesis Enterprise MIB C-9
 - Bridge MIB C-36
 - combined notation 32-6
 - deprecated status 32-8
 - dotted notation 32-6
 - enterprise MIB C-4
 - Ethernet-like Interface Types MIB C-33
 - get-bulk-request PDU 32-9
 - get-next PDU 32-9
 - get-request PDU 32-9
 - get-response PDU 32-9
 - Host Resources MIB C-46
 - instance identifier 32-6
 - Interfaces Group MIB C-30
 - Internet-standard MIB 32-5
 - IP Forwarding Table MIB C-32
 - Link Aggregation MIB C-40
 - Management Target MIB C-49
 - mandatory status 32-8
 - Medium Attachment Unit (MAU) MIB C-34
 - Message Processing and Dispatching MIB C-49
 - mib-2 C-28
 - MIB-II MIB C-28
 - not-accessible access mode 32-7
 - object descriptor 32-6
 - object identifier 32-6
 - object instance 32-6
 - object syntax 32-7
 - obsolete status 32-8
 - optional status 32-8
 - Port Access Control MIB C-42
 - Products subtree, Allied Telesis Enterprise MIB C-5
 - read-only access mode 32-7
 - read-write access mode 32-7
 - RMON MIB C-44
 - set PDU 32-9
 - SNMP Framework MIB C-49
 - SNMPv3 MIBs C-49
 - status 32-8
 - textual notation 32-6
 - trap PDU 32-9
 - User-based Security MIB C-49
 - Virtual Bridge (VLAN) MIB C-38
 - write-only access mode 32-7
- Management Information Base (MIB)
 - Internet Protocol (IP) 13-35, 32-1
- Management Target MIB C-49
- management, using Telnet 39-7
- manager port, semipermanent 23-4, 23-16, 23-52, 23-61
- MANAGER privilege 23-4
- mandatory status 32-8
- mask, OSPF 19-3, 19-21, 19-33, 19-54
- Matrix group, RMON MIB C-44
- MAU MIB. See Medium Attachment Unit (MAU) MIB



Medium Attachment Unit (MAU) MIB C-34

memory

- displaying
 - contents 4-9, 4-18
 - free 4-9, 4-34
- modifying
 - contents 4-9, 4-24

memory MIB object C-17

meshed network 9-3

message format

- NTP 34-3

message format, SNMP protocol 32-9 to 32-10, 32-13

Message Processing and Dispatching MIB C-49

metrics

- boosts 13-25
- Internet Protocol (IP) 13-25

MIB. See Management Information Base

mib-2 MIB C-28

MIB-II MIB C-28

MIOX circuits 1-20

mirror ports

- disabling 8-82
- enabling 8-90
- modifying 8-107

mirroring

- switch ports 8-12

MODIFY command 4-24

modifying

- passwords 23-53 to 23-54
- route templates 13-122

Modules group, Allied Telesis Enterprise MIB C-18

modules MIB object C-9

monitoring operation 4-6

MSTP

- disabling 9-44

mstp MIB object C-52

mstpNewRootBridge trap message C-52

mstpNewRootPort trap message C-52

mstpTopologyChange trap message C-52

mstpXstId MIB object C-52

mstpXstPortIndex MIB object C-52

mstpXstPortState MIB object C-52

Multicast Border Router

- IPv4 17-5

multicast packet limiting 8-12

multicast switching, IPv4

- between VLANs 17-28

Multicast VLAN Registration (MVR) 17-28

- commands
 - ADD IP MVR 17-45
 - CREATE IP MVR 17-52
 - DELETE IP MVR 17-56
 - DESTROY IP MVR 17-60
 - DISABLE IP MVR 17-63
 - DISABLE IP MVR DEBUG 17-63
 - ENABLE IP MVR 17-67
 - ENABLE IP MVR DEBUG 17-68
 - SHOW IP MVR 17-98
 - SHOW IP MVR COUNTER 17-99

multicasting

- displaying IP route 13-162

multicasting, IP 13-39

Multicasting, IPv4. See IPv4 Multicasting

multihoming, Internet Protocol (IP) 13-10

Multiple Spanning Tree Protocol

- displaying 9-72, 9-74, 9-88

Multiple Spanning Tree Protocol (MSTP CIST PORT)

- enabling 9-45

Multiple Spanning Tree Protocol (MSTP COUNTER PORT)

- displaying 9-79
- resetting 9-55

Multiple Spanning Tree Protocol (MSTP)

- Bridge Protocol Data Units (BPDUs) 9-14
- Compatibility with previous versions 9-15
- Configuring 9-16
- MSTI
 - Path selection 9-21
 - Root bridge selection 9-20
- Regions 9-13

Multiple Spanning Tree Protocol (SHOW MSTP DEBUG MSTI)

- displaying 9-81

Multiple Spanning Tree Protocol (SHOW MSTP)

- displaying 9-75

MVR. See Multicast VLAN Registration (MVR)

N

name

- displaying 4-49
- setting 4-31

name server 13-118, 13-123

name server, Internet Protocol (IP) 13-118

Names, MIB objects 32-6

naming files 6-2

- using wildcards 6-5

naming interfaces 12-3

neighbour

- OSPF 19-28, 19-36, 19-61, 19-83

Net Manage protocol 38-2, 38-4

network classes 13-7

network management protocol 32-3

Network Management Station (NMS) 32-3

Network Time Protocol (NTP) 34-1 to 34-12

- adding peer 34-8
- broadcast mode 34-2
- client mode 34-2, 34-4
- commands
 - ADD NTP PEER 34-8
 - DELETE NTP PEER 34-8
 - DISABLE NTP 34-9
 - ENABLE NTP 34-9
 - PURGE NTP 34-9
 - RESET NTP 34-10
 - SET NTP UTCOFFSET 34-10
 - SHOW NTP 34-11
- configuring 34-4
- deleting peer 34-8
- disabling 34-9
- displaying configuration 34-11



enabling 34-9
 message format 34-3
 operating modes 34-2
 operation 34-4
 peer 34-2
 adding 34-8
 deleting 34-8
 purging 34-9
 reference clocks 34-2
 resetting 34-10
 server mode 34-2, 34-4
 setting
 UTC offset 34-10
 symmetric mode 34-2
 time servers 34-2
 UTC offset 34-10
 network types, OSPF 19-4
 normal mode operation 23-41, 23-45
 not-accessible, MIB object 32-7
 notation, MIB object identifiers
 combined 32-6
 dotted 32-6
 textual 32-6
 NTP See Network Time Protocol (NTP)

O

object descriptor 32-6
 object identifier 32-6
 combined notation 32-6
 dotted notation 32-6
 textual notation 32-6
 object instance 32-6
 object syntax 32-7
 object, MIB
 access mode 32-7
 deprecated 32-8
 mandatory 32-8
 not-accessible 32-7
 obsolete 32-8
 optional 32-8
 read-only 32-7
 read-write 32-7
 status 32-8
 write-only 32-7
 Objects group, Allied Telesis Enterprise MIB C-9
 objects MIB object C-9
 obsolete status 32-8
 online help 2-13
 setting system help file 2-15
 Open Shortest Path First (OSPF) 19-3
 adding
 areas 19-21, 19-29
 hosts 19-23
 interfaces 19-24
 neighbours 19-28
 ranges 19-29
 stubs 19-31
 summary addresses 19-32
 addresses, summary 19-32, 19-38, 19-65, 19-90

addressless interfaces 19-24, 19-34, 19-40, 19-44,
 19-49, 19-57
 adjacency 19-5 to 19-6
 aging 19-5, 19-78, 19-80
 area 19-3, 19-21, 19-29, 19-33, 19-36, 19-54, 19-62,
 19-68
 area border router 19-4
 authentication 19-3, 19-21, 19-33, 19-54
 autonomous systems 19-3
 backbone 19-18, 19-21, 19-33, 19-54
 commands 19-21
 ADD OSPF AREA 19-21
 ADD OSPF HOST 19-23
 ADD OSPF INTERFACE 19-24
 ADD OSPF NEIGHBOUR 19-28
 ADD OSPF STUB 19-31
 ADD OSPF SUMMARYADDRESS 19-32
 DELETE OSPF AREA 19-33
 DELETE OSPF HOST 19-33
 DELETE OSPF INTERFACE 19-34
 DELETE OSPF NEIGHBOUR 19-36
 DELETE OSPF STUB 19-38
 DELETE OSPF SUMMARYADDRESS 19-38
 DISABLE OSPF 19-39
 DISABLE OSPF DEBUG 19-39
 DISABLE OSPF INTERFACE 19-40
 DISABLE OSPF LOG 19-40
 ENABLE OSPF 19-41
 ENABLE OSPF DEBUG 19-42
 ENABLE OSPF INTERFACE 19-44
 ENABLE OSPF LOG 19-45
 PURGE OSPF 19-48
 RESET OSPF 19-48
 RESET OSPF COUNTERS 19-49
 RESET OSPF INTERFACE 19-49
 RESET OSPF SPF 19-50
 SET OSPF 19-51
 SET OSPF AREA 19-54
 SET OSPF HOST 19-56
 SET OSPF INTERFACE 19-57
 SET OSPF NEIGHBOUR 19-61
 SET OSPF STUB 19-64
 SET OSPF SUMMARYADDRESS 19-65
 SHOW OSPF 19-66
 SHOW OSPF AREA 19-68
 SHOW OSPF DEBUG 19-70
 SHOW OSPF HOST 19-71
 SHOW OSPF INTERFACE 19-73
 SHOW OSPF LSA 19-77
 SHOW OSPF NEIGHBOURS 19-83
 SHOW OSPF RANGE 19-84
 SHOW OSPF ROUTE 19-87
 SHOW OSPF STUB 19-89
 SHOW OSPF SUMMARYADDRESS 19-90
 configuration 19-66
 examples 19-16
 counters
 resetting 19-49
 debugging 19-39, 19-42



- deleting
 - areas 19-33, 19-36
 - hosts 19-33
 - interfaces 19-34
 - neighbours 19-36
 - ranges 19-36
 - stubs 19-38
 - summary addresses 19-38
 - designated router 19-5, 19-7, 19-26, 19-28, 19-36, 19-59, 19-61, 19-73
 - disable 19-39
 - disabling
 - interfaces 19-40
 - displaying
 - areas 19-68
 - configuration 19-66
 - hosts 19-71
 - interfaces 19-73
 - link state advertisements 19-77
 - neighbours 19-83
 - ranges 19-84
 - router configuration 19-66
 - routes 19-87
 - status 19-66
 - stubs 19-89
 - summary addresses 19-90
 - enable 19-39, 19-41
 - enabling
 - interfaces 19-44
 - examples 19-16
 - external routes 19-3
 - features 19-3
 - Hello packets 19-5, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 - hosts 19-23, 19-33, 19-56, 19-71
 - interface to RIP 19-13, 19-51
 - interfaces 19-7, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57, 19-73
 - adding 19-24
 - addressless 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 - deleting 19-34
 - disabling 19-40
 - displaying 19-73
 - enabling 19-44
 - modifying 19-57
 - resetting 19-49
 - link state advertisements 19-5, 19-77
 - logging 19-40, 19-45
 - mask 19-3, 19-21, 19-33, 19-54
 - modifying
 - areas 19-54, 19-62
 - hosts 19-56
 - interfaces 19-57
 - neighbours 19-61
 - ranges 19-62
 - stubs 19-64
 - summary addresses 19-65
 - neighbour 19-28, 19-36, 19-61, 19-83
 - network types 19-4
 - packet types 19-6
 - path types 19-9
 - purge 19-48
 - ranges 19-29, 19-36, 19-62, 19-84
 - reset 19-48
 - resetting
 - interfaces 19-49
 - route table 19-50
 - resetting counters 19-49
 - RIP interface 19-13, 19-51
 - router id 19-51
 - router status 19-66
 - router types 19-4, 19-21, 19-33, 19-54
 - routes 19-9, 19-87
 - routing 19-9
 - state 19-39, 19-41
 - states 19-7
 - status 19-66
 - stub areas 19-4, 19-21, 19-33, 19-54
 - stubs 19-31, 19-38, 19-64, 19-89
 - summary addresses 19-32, 19-38, 19-65, 19-90
 - transit network 19-6, 19-18
 - virtual links 19-18, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
- Operation
- adding
 - users 23-35
 - administrator name
 - displaying 4-49
 - setting 4-29
 - asynchronous port security 23-14
 - base hardware serial number
 - displaying 4-53
 - booting the router 4-9, 5-37
 - changing
 - passwords 23-53 to 23-54
 - command
 - editing 2-3
 - history 2-3
 - commands
 - ADD ALIAS 2-11, 6-10, 6-13, 6-19
 - ADD RADIUS SERVER 23-32
 - ADD TACACS SERVER 23-33
 - ADD USER 23-35
 - ADD USER RSO 23-37
 - CREATE CONFIG 5-22
 - DELETE ALIAS 2-13
 - DELETE FILE 6-14
 - DELETE INSTALL 5-23
 - DELETE MAIL 4-15
 - DELETE RADIUS SERVER 23-38
 - DELETE TACACS SERVER 23-38
 - DELETE USER 23-39
 - DISABLE FEATURE 5-24
 - DISABLE GUI 5-25
 - DISABLE HTTP DEBUG 5-25
 - DISABLE HTTP SERVER 5-25
 - DISABLE MAIL DEBUG 4-17
 - DISABLE RELEASE 5-26
 - DISABLE SYSTEM SECURITY_MODE 23-41



DISABLE USER 23-42
 DUMP 4-18
 EDIT 6-15
 ENABLE GUI 3-20
 ENABLE HTTP DEBUG 5-28, 26-14 to 26-15, 26-18
 ENABLE HTTP SERVER 5-28
 ENABLE MAIL DEBUG 4-21
 ENABLE RELEASE 5-30
 ENABLE SYSTEM SECURITY_MODE 23-45
 ENABLE USER 23-47
 HELP 2-13
 LOAD 5-31
 LOGIN 23-49
 LOGOFF 23-50
 MAIL 4-22
 MODIFY 4-24
 PURGE USER 23-50
 RENAME 6-18
 RESET CPU UTILISATION 4-25
 RESET HTTP SERVER 5-36
 RESET LOADER 5-36
 RESET USER 23-51
 RESTART 5-37
 SET CONFIG 5-38
 SET HELP 2-15
 SET HTTP SERVER 5-39
 SET INSTALL 5-40
 SET LOADER 5-42
 SET MAIL 4-26
 SET MANAGER PORT 23-52
 SET PASSWORD 23-53 to 23-54
 SET SYSTEM CONTACT 4-29
 SET SYSTEM LOCATION 4-30
 SET SYSTEM NAME 4-31
 SET TIME 4-32
 SET USER 23-58
 SHOW ALIAS 2-15 to 2-16, 6-25
 SHOW BUFFER 4-34
 SHOW CONFIG 5-46
 SHOW CONFIG DYNAMIC 5-48
 SHOW CPU 4-38
 SHOW DEBUG 4-40
 SHOW EXCEPTION 4-45
 SHOW FEATURE 5-52
 SHOW FFILE 6-20, 6-22
 SHOW FLASH 6-26
 SHOW FLASH PHYSICAL 6-28
 SHOW HTTP CLIENT 5-54
 SHOW HTTP DEBUG 5-55
 SHOW HTTP SERVER 5-56
 SHOW HTTP SESSION 5-57
 SHOW INSTALL 5-58
 SHOW LOADER 5-62
 SHOW MAIL 4-46
 SHOW MANAGER PORT 23-61
 SHOW PATCH 5-64
 SHOW RADIUS 23-62
 SHOW RELEASE 5-65
 SHOW STARTUP 4-47
 SHOW SYSTEM 4-49
 SHOW SYSTEM SERIALNUMBER 4-53
 SHOW TACACS SERVER 23-68
 SHOW TIME 4-54
 SHOW USER 23-73
 SHOW USER CONFIGURATION 23-76
 UPLOAD 5-66
 configuration
 displaying 5-46
 displaying dynamic 5-48
 saving dynamic 5-22
 setting default 5-38
 contact name
 displaying 4-49
 setting 4-29
 counters 23-16
 CPU utilisation 4-8, 4-38
 resetting 4-25
 creating
 files 6-4
 debugging 4-9, 4-40
 debugging mail 4-10
 default configuration, setting 5-38
 deleting
 files 6-14
 FLASH files 6-14
 install information 5-23
 mail messages 4-10, 4-15
 users 23-39
 disabling
 mail debugging 4-17
 security mode 23-41
 software releases 5-26
 users 23-42
 displaying
 administrator name 4-49
 base hardware serial number 4-53
 clock 4-54
 configuration 5-46
 contact name 4-49
 date 4-54
 directory of files 6-4
 dynamic configuration 5-48
 exceptions 4-9, 4-45
 file downloads 5-62
 files 6-22
 FLASH files 6-22
 FLASH memory 6-6, 6-26, 6-28
 free memory 4-9, 4-34
 help 1-3, 2-8, 2-13
 install information 5-58
 location 4-49
 mail 4-10
 mail system 4-46
 memory contents 4-9, 4-18
 name 4-49
 patches 5-64
 semipermanent manager port 23-61
 software releases 5-65
 special feature licences 5-52
 startup status 4-9, 4-47



- system clock 4-54
- system date 4-54
- system information 4-49
- system location 4-49
- system name 4-49
- system territory 4-49
- system time 4-54
- territory 4-49
- time 4-54
- user configuration 23-76
- users 23-73
- download files 5-31
- downloading files 5-36, 5-42, 5-62, 6-4
- dynamic configuration
 - displaying 5-48
 - saving 5-22
- editing files 6-4, 6-15
- editor 6-5, 6-15
- enabling
 - mail debugging 4-21
 - security mode 23-45
 - software releases 5-30
 - users 23-47
- entering commands 2-3
- event logging 4-7
- exceptions, displaying 4-9, 4-45
- fatal errors 4-9, 4-45
- fault diagnosis 4-6
- file naming conventions 6-2
- file types 6-2
- files
 - creating 6-4
 - deleting 6-14
 - displaying 6-22
 - displaying directory 6-4
 - downloading 5-36, 5-42, 5-62, 6-4
 - editing 6-4, 6-15
 - renaming 6-18
 - uploading 5-66
- FLASH files 6-7
 - deleting 6-14
 - displaying 6-20, 6-22
 - displaying directory 6-7
 - downloading 5-36, 5-42, 5-62
 - editing 6-15
 - renaming 6-18
 - uploading 5-66
- FLASH memory 6-6
 - compaction 6-7
 - displaying 6-26, 6-28
- GUI
 - enabling and disabling 3-16
- help
 - displaying 2-13
 - setting system help file 2-15
- help file 1-3, 2-8
- HTTP server 5-9
 - disabling 5-25
 - disabling debugging 5-25
 - displaying client status 5-54
 - displaying debugging status 5-55
 - displaying session information 5-57
 - displaying status 5-56
 - enabling 5-28
 - enabling debugging 5-28, 26-14 to 26-15, 26-18
 - resetting 5-36
 - setting homepage 5-39
- install information 5-13
 - deleting 5-23
 - displaying 5-58
 - setting 5-40
- location
 - displaying 4-49
 - setting 4-30
- logging events 4-7
- logging in and out 23-8, 23-49 to 23-50
- mail 4-22
- mail subsystem 4-10
 - configuration 4-11
 - deleting mail messages 4-15
 - displaying mail status 4-46
 - sending mail messages 4-22
 - setting mail host name 4-26
- manager port, semipermanent 23-4, 23-16, 23-52, 23-61
- MANAGER privilege 23-4
- memory
 - displaying 4-9
 - displaying contents 4-18
 - displaying FLASH 6-6
 - displaying free 4-9, 4-34
 - FLASH 6-6, 6-26, 6-28
 - FLASH compaction 6-7
 - modifying 4-9, 4-24
- modifying
 - memory 4-9, 4-24
 - passwords 23-53 to 23-54
 - users 23-58
- monitoring 4-6
- name
 - displaying 4-49
 - setting 4-31
- normal mode 23-41, 23-45
- online help 1-3, 2-8, 2-13
- passwords 23-10 to 23-11
 - changing 23-53 to 23-54
 - recovering 23-14
- patches
 - displaying 5-64
 - downloading 5-36, 5-42, 5-62
- power supply monitoring 4-10
- purging
 - users 23-50
- RADIUS servers 23-8, 23-16, 23-32, 23-38, 23-62
- recovering passwords 23-14
- remote management 39-7
- remote power supply (RPS) monitoring 4-10
- renaming
 - files 6-18
 - FLASH files 6-18
- resetting
 - users 23-51
- restarting the router 4-9, 5-37
- saving default configuration 5-38



- saving dynamic configuration 5-22
- security mode
 - disabling 23-41
 - enabling 23-45
- security timer 23-5
- semipermanent manager port 23-4, 23-16, 23-52, 23-61
- sending mail 4-10, 4-22
- setting
 - administrator name 4-29
 - clock 4-32
 - contact name 4-29
 - date 4-32
 - install information 5-40
 - location 4-30
 - mail host name 4-26
 - name 4-31
 - semipermanent manager port 23-52
 - system clock 4-32
 - system date 4-32
 - system help file 2-15
 - system information 4-29 to 4-31
 - system location 4-30
 - system name 4-31
 - system time 4-32
 - time 4-32
- snapshot 4-9, 4-40
- software releases
 - deleting 5-23
 - disabling 5-26
 - displaying 5-58, 5-65
 - downloading 5-36, 5-42, 5-62
 - enabling 5-30
 - setting 5-40
- special feature licences 5-16
 - disabling 5-24
 - displaying 5-52
- startup status 4-9, 4-47
- system information
 - displaying 4-49
 - setting 4-29 to 4-31
- system location
 - displaying 4-49
 - setting 4-30
- system name
 - displaying 4-49
 - setting 4-31
- system territory
 - displaying 4-49
- TACACS servers 23-8, 23-19, 23-33, 23-38, 23-68
- Telnet 39-7
- Telnet from the router 23-15
- territory
 - displaying 4-49
- text editor 6-5, 6-15
- uploading files 5-66
- User Authentication Database 23-8 to 23-9
 - adding users 23-10, 23-35
 - counters 23-16
 - deleting users 23-10, 23-39
 - disabling users 23-42
 - displaying configuration 23-76
 - displaying users 23-10, 23-73
 - enabling users 23-47
 - logging in and out 23-8, 23-49 to 23-50
 - modifying users 23-10, 23-58
 - passwords 23-10 to 23-11
 - purging users 23-50
 - recovering passwords 23-14
 - resetting users 23-51
- User Authentication Facility 23-7
 - asynchronous port security 23-14
 - semipermanent manager port 23-16
 - Telnetting from the router 23-15
- user configuration
 - displaying 23-76
- USER privilege 23-3
- users
 - adding 23-35
 - deleting 23-39
 - disabling 23-42
 - displaying 23-73
 - enabling 23-47
 - modifying 23-58
 - purging 23-50
 - resetting 23-51
- wildcards, in file names 6-5
- Operations 27-2
- optional status 32-8
- ospf MIB object C-51
- ospfAddressLessIf MIB object C-51
- ospfIfIpAddress MIB object C-51
- ospfIfState MIB object C-51
- ospfIfStateChange trap message C-51
- ospfNbrAddressLessIndex MIB object C-51
- ospfNbrAddr MIB object C-51
- ospfNbrRtrId MIB object C-51
- ospfNbrState MIB object C-51
- ospfNbrStateChange trap message C-51
- ospfRouterId MIB object C-51
- ospfVirtIfAreaId MIB object C-51
- ospfVirtIfNeighbor MIB object C-51
- ospfVirtIfState MIB object C-51
- ospfVirtIfStateChange trap message C-51
- ospfVirtNbrArea MIB object C-51
- ospfVirtNbrRtrId MIB object C-51
- ospfVirtNbrState MIB object C-51
- ospfVirtNbrStateChange trap message C-51



P

- Packet Capture group, RMON MIB C-45
- packet storm protection 8-12
- packet types, OSPF 19-6
- PAE Authenticator group, Port Access Control MIB C-43
- PAE Supplicant group, Port Access Control MIB C-43
- PAE System group, Port Access Control MIB C-42 to C-43
- parameters, in scripts 36-4
- passwords 23-10 to 23-11
 - changing 23-53 to 23-54
 - recovering 23-14
- patches
 - displaying 5-64
 - downloading 5-36, 5-42, 5-62, 5-66
- path types, OSPF 19-9
- peer
 - adding NTP 34-8
 - deleting NTP 34-8
 - NTP 34-2
- periodic triggers 37-2
- PIM Dense Mode, See Protocol Independent Multicast (PIM)
- PIM Sparse Mode, See Protocol Independent Multicast (PIM)
- PIM4 group, Allied Telesis Enterprise MIB C-23
- pim4ErrorTrap trap message C-23
- pim4ErrorTrapType MIB object C-23
- pim4Events MIB object C-23
- pim4InterfaceDownTrap trap message C-23
- pim4InterfaceUpTrap trap message C-23
- pim4NeighbourAddedTrap trap message C-23
- pim4NeighbourDeletedTrap trap message C-23
- PING 13-36, 13-95, 13-124, 13-168, 13-177
- PING command 13-95
- Ping group, Allied Telesis Enterprise MIB C-21
- ping MIB object C-21
- Ping Polling of Device Reachability
 - commands
 - ADD PING POLL 31-7
 - DELETE PING POLL 31-10
 - DISABLE PING POLL 31-10 to 31-11
 - DISABLE PING POLL DEGBUG 31-11
 - ENABLE PING POLL 31-11
 - ENABLE PING POLL DEBUG 31-12
 - RESET PING POLL 31-12
 - SET PING POLL 31-13
 - SHOW PING POLL 31-15
- pingIndex MIB object C-21
- pingStatistics MIB object C-21
- pingStatus MIB object C-21
- pingTable MIB object C-21
- pingTrap trap message C-21
- PKI. See Public Key Infrastructure (PKI)
- plaintext 24-2
- polling, SNMP protocol 32-11
- Port Access Control MIB C-42
- port authentication (802.1x)
 - 802.1x Port Based Network Access Control 25-2
 - authentication process 25-8
 - authentication server 25-7
 - Authenticator PAE 25-6
 - Command Reference 25-22
 - commands
 - ACTIVATE PORTAUTH PORT REAUTHENTICATE 25-22
 - DISABLE PORTAUTH 25-23
 - DISABLE PORTAUTH DEBUG PORT 25-24
 - DISABLE PORTAUTH PORT 25-25
 - ENABLE PORTAUTH 25-26
 - ENABLE PORTAUTH DEBUG PORT 25-27
 - PURGE PORTAUTH PORT 25-34
 - RESET PORTAUTH PORT MULTIMIB 25-36
 - SET PORTAUTH PORT 25-37
 - SET PORTAUTH PORT SUPPLICANTMAC 25-43
 - SET PORTAUTH USERNAME 25-46
 - SHOW PORTAUTH 25-48
 - SHOW PORTAUTH PORT 25-53
 - SHOW PORTAUTH PORT MULTISUPPLICANT 25-60
 - SHOW PORTAUTH TIMER 25-65
 - configuration example
 - authenticator 25-19
 - supplicant 25-20
 - Configuration Examples 25-19
 - configure a multi-supplicant system 25-17
 - debug 802.1x 25-17
 - enable 802.1x 25-14
 - multi-supplicant system 25-4, 25-10
 - port authentication control overview 25-5
 - Authenticator PAE 25-6
 - Supplicant PAE 25-7
 - reauthenticate supplicants 25-16
 - set global username and password 25-17
 - single supplicant system 25-3
 - supplicant and authenticator configuration 25-5
 - Supplicant PAE 25-7
- Port Authentication group, Allied Telesis Enterprise MIB C-24
- Port Authentication. See 802.1x
- port speed, autonegotiation 8-7
- port-based VLANs 8-19
- Ports
 - setting 10-17
- ports
 - STP
 - disabling 9-43
 - displaying 9-96, 9-99
 - enabling 9-53
 - modifying 9-68
- switch 8-5
 - activating 8-49
 - autonegotiation 8-7
 - blocking 9-7
 - disabling 8-5, 8-83
 - displaying 8-137
 - displaying counters 8-141
 - enabling 8-5, 8-91
 - ingress rules 8-28
 - intrusion 8-144
 - mirroring 8-12
 - modifying 8-108
 - packet storm protection 8-12



resetting 8-95, 9-56
 security 7-3, 8-13, 8-108
 STP ports 9-3
 triggers 8-40
 VLAN
 adding 8-63
 deleting 8-74, 9-35
 power supply monitoring 4-10
 ppr8624xl80 MIB object C-10
 ppr8948EX MIB object C-13
 ppr8948i MIB object C-13
 ppr8948iN MIB object C-15
 ppr9812T MIB object C-13
 ppr9812TDC MIB object C-13
 ppr9812TF MIB object C-12
 ppr9816GB MIB object C-13
 ppr9816GBDC MIB object C-13
 ppr9816GF MIB object C-12
 ppr9924SP MIB object C-14
 ppr9924T MIB object C-14
 ppr9924T4SP MIB object C-14
 ppr9924TEMC MIB object C-14
 ppr9924Ts MIB object C-14
 ppr9924TsiN MIB object C-15
 pprA35LXSC MIB object C-10
 pprA35SXSC MIB object C-10
 pprA36MTRJ MIB object C-10
 pprA37VF45 MIB object C-10
 pprA38LC MIB object C-10
 pprA39Tx MIB object C-10
 pprA40MTRJ MIB object C-13
 pprA40SC MIB object C-13
 pprA41MTRJ MIB object C-13
 pprA41SC MIB object C-13
 pprA42GBIC MIB object C-13
 pprA46Tx MIB object C-14
 pprA50 MIB object C-13
 pprA51 MIB object C-13
 pprA52 MIB object C-13
 pprA53 MIB object C-13
 pprAr010 MIB object C-10
 pprAr011 MIB object C-10
 pprAr012 MIB object C-10
 pprAr120 MIB object C-10
 pprAr130s MIB object C-10
 pprAr130u MIB object C-10
 pprAr140s MIB object C-10
 pprAr140u MIB object C-10
 pprAr160su MIB object C-10
 pprAr300 MIB object C-10
 pprAr300L MIB object C-10
 pprAr300Lu MIB object C-10
 pprAr300u MIB object C-10
 pprAr310 MIB object C-10
 pprAr310u MIB object C-10
 pprAr320 MIB object C-10
 pprAr330 MIB object C-10
 pprAr350 MIB object C-10
 pprAr370 MIB object C-10
 pprAr370u MIB object C-10

pprAr390 MIB object C-10
 pprAr395 MIB object C-10
 pprAr410 MIB object C-12
 pprAr410v2 MIB object C-13
 pprAr410v3 MIB object C-13
 pprAR415S MIB object C-15
 pprAR415SDC MIB object C-15
 pprAR420 MIB object C-14
 pprAR440 MIB object C-14
 pprAR441 MIB object C-14
 pprAR442 MIB object C-14
 pprAR443 MIB object C-14
 pprAR444 MIB object C-14
 pprAr450 MIB object C-13
 pprAr450Dual MIB object C-13
 pprAR550 MIB object C-14
 pprAR550SDP MIB object C-15
 pprAR551 MIB object C-14
 pprAR552 MIB object C-14
 pprAR570 MIB object C-14
 pprAr720 MIB object C-10
 pprAr725 MIB object C-13
 pprAr725DC MIB object C-13
 pprAr740 MIB object C-10
 pprAr740DC MIB object C-10
 pprAr745 MIB object C-13
 pprAr745DC MIB object C-13
 pprAR770 MIB object C-15
 pprAr816fMT MIB object C-11
 pprAr816fMTi MIB object C-11
 pprAr816fSC MIB object C-11
 pprAr816fSCi MIB object C-11
 pprAr824 MIB object C-11
 pprAr824i MIB object C-11
 pprAr88fMT MIB object C-11
 pprAr88fMTi MIB object C-11
 pprAr88fSC MIB object C-11
 pprAr88fSCi MIB object C-11
 pprAr88t8fMT MIB object C-11
 pprAr88t8fMTi MIB object C-11
 pprAr88t8fSC MIB object C-11
 pprAr88t8fSCi MIB object C-11
 pprAT-8624PoE MIB object C-14
 pprAt8624T2M MIB object C-14
 pprAt86482SP MIB object C-14
 pprAt8724XL MIB object C-11
 pprAt8724XLDC MIB object C-11
 pprAt8724XLDC-NEBS MIB object C-12
 pprAt8748XL MIB object C-11
 pprAt8748XLDC MIB object C-11 to C-12
 pprAt8824 MIB object C-11
 pprAt8824DC MIB object C-12
 pprAt8824R MIB object C-15
 pprAt8824XLDC MIB object C-12
 pprAt8848 MIB object C-12
 pprAt8848DC MIB object C-12
 pprAtFan01 MIB object C-14
 pprAtPwr01AC MIB object C-14
 pprAtPwr01DC MIB object C-14
 pprAtXum10G MIB object C-14



pprAtXum10Gi MIB object C-15
 pprAtXum12SFP MIB object C-15
 pprAtXum12SFPi MIB object C-15
 pprAtXum12T MIB object C-14
 pprAtXum12TiN MIB object C-15
 pprC8724MLB MIB object C-14
 pprFan01R MIB object C-14
 pprFanA01 MIB object C-13
 pprlcmAr020 MIB object C-10
 pprlcmAr021s MIB object C-9
 pprlcmAr021u MIB object C-10
 pprlcmAr021v2s MIB object C-13
 pprlcmAr022 MIB object C-9
 pprlcmAr023 MIB object C-9
 pprlcmAr024 MIB object C-9
 pprlcmAr025 MIB object C-9
 pprlcmAr026 MIB object C-12
 pprlcmAr027 MIB object C-13
 pprNsm0404Pic MIB object C-10
 pprNsm0418BRI MIB object C-10
 pprNsm0428BRI MIB object C-12
 pprNsm048DS3 MIB object C-13
 pprPwr01RAC MIB object C-14
 pprPwr02AC MIB object C-14
 pprPwr02RAC MIB object C-14
 pprRapier16fMT MIB object C-11
 pprRapier16fMTi MIB object C-11
 pprRapier16fSC MIB object C-10
 pprRapier16fSCi MIB object C-11
 pprRapier24 MIB object C-10
 pprRapier24i MIB object C-11
 pprRapier24iDC-NEBS MIB object C-12
 pprRapier48 MIB object C-12
 pprRapier48i MIB object C-12
 pprRapier48w MIB object C-15
 pprRapier48wAC MIB object C-15
 pprRapier48wb MIB object C-15
 pprRapier48wbAC MIB object C-15
 pprRapier8fMT MIB object C-11
 pprRapier8fMTi MIB object C-11
 pprRapier8fSC MIB object C-11
 pprRapier8fSCi MIB object C-11
 pprRapier8t8fMT MIB object C-11
 pprRapier8t8fMTi MIB object C-11
 pprRapier8t8fSC MIB object C-11
 pprRapier8t8fSCi MIB object C-11
 pprRapierG6 MIB object C-11
 pprRapierG6LX MIB object C-11
 pprRapierG6MT MIB object C-11
 pprRapierG6SX MIB object C-11
 pprSb1XFP MIB object C-14
 pprSb24RJ MIB object C-14
 pprSb24SFP MIB object C-15
 pprSb32fMT MIB object C-12
 pprSb32fSC MIB object C-12
 pprSb48t MIB object C-12
 pprSb8fLXMT MIB object C-12
 pprSb8fLXSC MIB object C-12
 pprSb8fRJ MIB object C-12
 pprSb8fSXMT MIB object C-12
 pprSb8fSXSC MIB object C-12

pprSb8GBIC MIB object C-13
 pprSb96t MIB object C-12
 pprSbChassis16AC MIB object C-12
 pprSbChassis16DC MIB object C-12
 pprSbChassis4AC MIB object C-12
 pprSbChassis4DC MIB object C-12
 pprSbChassis8AC MIB object C-12
 pprSbChassis8DC MIB object C-12
 pprSbControl MIB object C-12
 pprSbControlDTM MIB object C-12
 pprSbExpander MIB object C-13
 pprX90048FS MIB object C-15
 primary clock source 34-2
 primary name server 13-118
 private keys 29-2
 privilege levels
 MANAGER 23-4
 USER 23-3
 products MIB object C-5
 Products subtree, Allied Telesis Enterprise MIB C-5
 Protocol Independent Multicast (PIM)
 Assert message, Sparse Mode 17-11
 bootstrap router candidate 17-9, 17-13
 adding, IPv4 17-46
 deleting, IPv4 17-56
 displaying, IPv4 17-101
 setting preference, IPv4 17-79
 commands, IPv4
 ADD PIM BSRCANDIDATE 17-46
 ADD PIM INTERFACE 17-47
 ADD PIM RPCANDIDATE 17-49
 DELETE PIM BSRCANDIDATE 17-56
 DELETE PIM INTERFACE 17-57
 DELETE PIM RPCANDIDATE 17-58
 DISABLE PIM 17-63
 DISABLE PIM DEBUG 17-64
 ENABLE PIM 17-64, 17-68 to 17-69
 ENABLE PIM DEBUG 17-69
 PURGE PIM 17-70
 RESET PIM INTERFACE 17-70
 SET PIM 17-77
 SET PIM BSRCANDIDATE 17-79
 SET PIM INTERFACE 17-80
 SET PIM RPCANDIDATE 17-82
 SHOW PIM 17-100
 SHOW PIM BSRCANDIDATE 17-101
 SHOW PIM COUNTERS 17-103
 SHOW PIM DEBUG 17-107
 SHOW PIM INTERFACE 17-108
 SHOW PIM NEIGHBOUR 17-110
 SHOW PIM ROUTE 17-111
 SHOW PIM RPCANDIDATE 17-117
 SHOW PIM RPSET 17-118
 SHOW PIM STATEREFRRESH 17-120
 SHOW PIM TIMER 17-121
 configuration
 displaying, IPv4 17-102
 example, IPv4 17-32
 counters
 displaying, IPv4 17-103



- debugging
 - disabling, IPv4 17-64
 - displaying, IPv4 17-107
 - enabling, IPv4 17-69
- Dense Mode
 - introduction 17-6
- designated router 17-9
- disabling, IPv4 17-63
- displaying, IPv4 17-100, 17-118
- enabling, IPv4 17-64, 17-68 to 17-69
- example configuration, IPv4 17-32
- interfaces 17-7, 17-12
 - adding, IPv4 17-47
 - deleting, IPv4 17-57
 - displaying, IPv4 17-108
 - resetting, IPv4 17-70
 - setting parameters, IPv4 17-80
- interoperability with DVMRP 17-5
- neighbours
 - displaying, IPv4 17-110
- overview 17-5
- purging, IPv4 17-70
- Rendezvous Point candidate 17-9, 17-13
 - adding, IPv4 17-49
 - deleting, IPv4 17-58
 - displaying information about, IPv4 17-117
 - setting priority, IPv4 17-82
- Rendezvous Point tree 17-10
- Rendezvous Point, static 17-14
- routing table
 - displaying, IPv4 17-111
- shortest path tree 17-11
- Sparse Mode
 - introduction 17-8
- State Refresh, IPv4 17-7, 17-120
- timers
 - displaying, IPv4 17-121
 - setting, IPv4 17-77
- protocols
 - OSPF 13-25
 - RIP 13-25
- protocols MIB object C-9
- proxy ARP 13-16
- public key encryption 29-2
- Public Key Infrastructure (PKI) 29-1
 - alternative name 29-10
 - Certificate Authority (CA) 29-5
 - root 29-6, 29-8
 - Certificate Database 29-7
- certificates 29-3
 - adding 29-7
 - chains 29-6
 - deleting 29-22
 - fingerprint 29-8
 - modifying information about 29-8
 - requesting 29-9
 - retrieving 29-7, 29-9
 - storage limits 29-10
 - updating 29-10
 - updating keypairs 29-21
 - validating 29-6, 29-8
- CMP 29-9
- commands
 - ADD PKI CERTIFICATE 29-15
 - ADD PKI CRL 29-17
 - ADD PKI LDAPREPOSITORY 29-18
 - CREATE PKI ENROLLMENTREQUEST 29-20
 - CREATE PKI KEYUPDATEREQUEST 29-21
 - DELETE PKI CERTIFICATE 29-22
 - DELETE PKI CRL 29-22
 - DELETE PKI LDAPREPOSITORY 29-23
 - DESTROY PKI ENROLLMENTREQUEST 29-23
 - DESTROY PKI KEYUPDATEREQUEST 29-24
 - DISABLE PKI DEBUG 29-24
 - ENABLE PKI DEBUG 29-25
 - PURGE PKI 29-26
 - SET PKI 29-27
 - SET PKI CERTIFICATE 29-28
 - SET PKI CRL 29-29
 - SET PKI LDAPREPOSITORY 29-30
 - SHOW PKI 29-32
 - SHOW PKI CERTIFICATE 29-39
 - SHOW PKI CRL 29-42
 - SHOW PKI ENROLLMENTREQUEST 29-45
 - SHOW PKI KEYUPDATEREQUEST 29-47
 - SHOW PKI LDAPREPOSITORY 29-49
- configuration examples 29-11
- CRL
 - adding 29-17
 - update frequency 29-10
- CRL Database 29-9
- End Entity 29-5
- enrollment 29-9, 29-20
 - removing requests 29-23
 - retry number 29-10
 - updating keypairs 29-10
- implementing 29-7
- ISAKMP
 - interaction with 29-8
- Key Update requests
 - destroying 29-24
- LDAP 29-5, 29-9
- overview 29-2
- PKCS #10 29-9
- PKIX 29-9
- repositories 29-5, 29-9
- retrieving certificates 29-7
- X.509 29-3
- purge
 - Internet Protocol (IP) configuration 13-97
 - OSPF 19-48
- PURGE ASYN command 12-19
- PURGE BOOTP RELAY command 14-35
- PURGE IP command 13-97
- PURGE LOG command 38-25
- PURGE NTP command 34-9
- PURGE OSPF command 19-48
- PURGE PIM command 17-70
- PURGE PKI command 29-26
- PURGE PORTAUTH PORT command 25-34
- PURGE QOS command 22-30
- PURGE SNMP command 32-42



PURGE STP command 9-55
 PURGE TRIGGER command 37-14
 PURGE USER command 23-50
 purging
 NTP 34-9
 users 23-50

Q

qBridgeConformance MIB object C-39
 qBridgeMIBObjects MIB object C-38
 QoS group, Allied Telesis Enterprise MIB C-23
 qosSwitch MIB object C-23
 qosSwitch8948 MIB object C-23
 qosSwitch8948PortTable MIB object C-23
 qosSwitch8948TrafficClassCountersTable MIB object C-23
 qosSwitchPolicyTable MIB object C-23
 qosSwitchPortTable MIB object C-23
 qosSwitchTrafficClassTable MIB object C-23
 Quality of Service (QoS) 8-31
 displaying 8-145
 modifying 8-113
 Quality of Service (QoS)
 commands
 ADD QOS FLOWGROUP 22-18
 ADD QOS POLICY 22-19
 ADD QOS TRAFFICCLASS 22-20
 CREATE QOS FLOWGROUP 22-21
 CREATE QOS POLICY 22-22
 CREATE QOS TRAFFICCLASS 22-23
 DELETE QOS FLOWGROUP 22-25
 DELETE QOS POLICY 22-26
 DELETE QOS TRAFFICCLASS 22-27
 DESTROY QOS FLOWGROUP 22-28
 DESTROY QOS POLICY 22-28
 DESTROY QOS TRAFFICCLASS 22-29
 DISABLE QOS DEBUG 22-29
 ENABLE QOS DEBUG 22-30
 PURGE QOS 22-30
 SET QOS FLOWGROUP 22-31
 SET QOS POLICY 22-34
 SET QOS PORT 22-35
 SET QOS TRAFFICCLASS 22-36
 SET QOS VLANREMAP 22-33
 SHOW QOS FLOWGROUP 22-38
 SHOW QOS POLICY 22-41
 SHOW QOS TRAFFICCLASS 22-43
 SHOW QOS VLANPRIORITYREMAPING 22-39
 queues
 transmission 8-30, 9-5

R

RADIUS authentication 23-16, 23-32, 23-38, 23-62
 ranges, OSPF 19-29, 19-36, 19-62, 19-84
 read-only, MIB object 32-7
 read-write, MIB object 32-7
 realTimeClockStatus MIB object C-17
 reboot
 triggers 37-2
 RECONNECT command 39-17
 reference clock 34-2

reinitialise
 Internet Protocol (IP) module 13-97
 remote management 39-7
 remote power supply (RPS) monitoring 4-10
 Remote Security Officer, encryption 23-6
 removing
 PKI Enrollment Requests 29-23
 RENAME command 6-18
 renaming
 files 6-18
 FLASH files 6-18
 Rendezvous Point (RP) 17-9
 adding PIM RP candidate, IPv4 17-13, 17-49
 deleting PIM RP candidate, IPv4 17-13, 17-58
 RP tree 17-10
 static 17-14
 Repeater Jack Table, MAU MIB C-34
 Repeater MAU Basic Group, MAU MIB C-34 to C-35
 Repeater MAU MIB table, MAU MIB C-34
 repositories 29-5, 29-9
 reset 12-21
 OSPF 19-48
 RESET CPU UTILISATION command 4-25
 RESET ENCO COUNTERS command 24-11
 RESET GARP command 10-16
 RESET HTTP SERVER command 5-36
 RESET IP command 13-97
 RESET IP INTERFACE command 13-98
 RESET LACP PORT COUNTER command 8-94, 9-55
 RESET LOADER command 5-36
 RESET MSTP COUNTER PORT command 9-55
 RESET NTP command 34-10
 RESET OSPF command 19-48
 RESET OSPF COUNTERS command 19-49
 RESET OSPF INTERFACE command 19-49
 RESET OSPF SPF command 19-50
 RESET PIM INTERFACE command 17-70
 RESET PING POLL command 31-12
 RESET PORT command 12-19
 RESET PORT COUNTERS command 12-20
 RESET PORT HISTORY command 12-21
 RESET PORTAUTH PORT MULTIMIB command 25-36
 RESET STP command 9-56
 RESET SWITCH command 8-94, 9-56
 RESET SWITCH PORT command 8-95, 9-56
 RESET TEST INTERFACE command 40-8
 RESET USER command 23-51
 resetting
 counters
 ENCO 24-11
 hardware tests 40-8
 NTP 34-10
 OSPF counters 19-49
 tests 40-8
 Resetting GARP 10-16
 restart
 Internet Protocol (IP) module 13-97
 RESTART command 5-37
 restartGroup MIB object C-17
 restarting the router 4-9, 5-37



RMON MIB C-44
 rmon MIB object C-44
 root bridge 9-3
 route templates
 adding 13-64
 deleting 13-73
 displaying 13-164
 modifying 13-122
 route templates, IP 13-28
 router advertisements (ICMP) 13-19
 Router Discovery 13-19
 router id
 OSPF 19-51
 router status
 OSPF 19-66
 router type
 Internet Protocol (IP) 13-74, 13-78, 13-83, 13-88
 router types
 OSPF 19-4, 19-21, 19-33, 19-54
 routerSwitch MIB object C-5 to C-6
 routes
 adding Internet Protocol (IP) 13-22, 13-62
 changing Internet Protocol (IP) 13-119
 deleting Internet Protocol (IP) 13-72
 disabling Internet Protocol (IP) 13-81
 displaying Internet Protocol (IP) 13-24, 13-158
 enabling Internet Protocol (IP) 13-91
 Internet Protocol (IP) 13-21, 13-62, 13-72, 13-81,
 13-91, 13-119
 modifying Internet Protocol (IP) 13-119
 OSPF 19-9
 setting Internet Protocol (IP) 13-119
 routes, OSPF 19-87
 routing
 information filters 13-25
 information filters, Internet Protocol (IP) 20-14, 20-17,
 20-19, 20-22
 Internet Protocol (IP) 13-21
 OSPF 19-9
 protocols
 Routing Information Protocol (RIP) 13-25
 Routing Information Protocol (RIP) 13-25, 18-6,
 18-9 to 18-10, 18-13 to 18-15, 18-17
 interface to OSPF 19-13, 19-51
 OSPF interface 19-13, 19-51
 routing table, Internet Protocol (IP) 13-22, 13-158
 rpJackTable MIB object C-34
 rpMauTable object C-34
 RSO. See Remote Security Officer

S

saving dynamic configuration 5-22
 scripting. See scripts
 scripts 36-1
 activating by trigger 36-2
 activating from command line 36-2, 36-6
 adding 36-7
 calling other scripts 36-4
 commands
 ACTIVATE SCRIPT 36-6

 ADD SCRIPT 36-7
 DEACTIVATE SCRIPT 36-8
 DELETE SCRIPT 36-9
 SET SCRIPT 36-11
 SHOW SCRIPT 36-13
 WAIT 36-10, 36-14
 control structures 36-5, 36-10
 creating 36-2
 creating using script commands 36-3, 36-7
 creating using text editor 36-3
 deactivating 36-8
 deleting 36-9
 displaying 36-3, 36-13
 file format 36-2
 halting 36-8
 if..then..else..endif 36-5, 36-10
 loading from asynchronous port 36-4
 loading from TFTP server 36-3
 modifying 36-11
 modifying using script commands 36-3, 36-9, 36-11
 output to logging facility 36-4
 output to terminal 36-4
 parameters 36-4
 parameters, global 36-5
 pausing 36-14
 playing 36-2
 redirecting output 36-4
 script commands 36-3
 using scripts 36-4
 secondary name server 13-123
 Secure Copy
 configuration 26-6
 secure router logging protocol (SRLP) 38-4, 38-6
 Secure Shell 26-1
 adding
 users 26-4, 26-11
 ciphers 26-3
 commands
 ADD SSH USER 26-11
 DELETE SSH USER 26-13
 DISABLE SSH SERVER 26-14, 26-19
 DISABLE SSH USER 26-15
 ENABLE SSH SERVER 26-16
 ENABLE SSH USER 26-17
 SET SSH USER 26-21
 SHOW SSH 26-23
 SHOW SSH SESSIONS 26-32
 SHOW SSH USER 26-35
 SSH 26-37
 configuration 26-4
 configuration examples 26-7
 deleting
 users 26-4, 26-13
 disabling
 server 26-14
 users 26-5, 26-15
 displaying
 server configuration 26-4, 26-23
 sessions 26-32
 users 26-5, 26-35



- enabling
 - server 26-16
 - users 26-5, 26-17
- encryption algorithms 26-3
- encryption keys 26-3, 26-5
- example configurations 26-7
- keys 26-3, 26-5
- log messages 26-3
- modifying
 - server 26-19
 - users 26-5, 26-21
- operations 26-3
- Secure Copy 26-6
- Secure Shell protocol 26-2
- server
 - disabling 26-14
 - displaying 26-4, 26-23
 - enabling 26-16
 - modifying 26-19
- sessions 26-37
 - displaying 26-32
- users
 - adding 26-4, 26-11
 - deleting 26-4, 26-13
 - disabling 26-5, 26-15
 - displaying 26-5, 26-35
 - enabling 26-5, 26-17
 - modifying 26-5, 26-21
- Secure Sockets Layer
 - commands
 - DISABLE SSL DEBUG 27-8
 - ENABLE SSL DEBUG 27-8
 - SET SSL 27-9
 - SHOW SSL 27-10
 - SHOW SSL COUNTERS 27-12
 - SHOW SSL SESSIONS 27-20
- security
 - asynchronous ports 23-14
 - options for Internet Protocol (IP) 13-38
 - switch ports 7-3, 8-13, 8-108
- security mode
 - disabling 23-41
 - enabling 23-45
- security timer 23-5
- semipermanent manager port 23-4, 23-16, 23-52, 23-61
- sending mail 4-10, 4-22
- server
 - NTP entity 34-2, 34-4
- Server selection 13-33
- services 39-14 to 39-15, 39-18, 39-23
- sessions, terminal server 39-5
- SET BOOTP MAXHOPS command 14-35
- SET CLASSIFIER command 21-12
- SET CONFIG command 5-38
- SET DHCP POLICY command 14-40
- SET ENCO KEY command 24-12
- SET GARP PORT command 10-17
- SET GARP TIMER command 10-19
- SET HELP command 2-15
- SET HTTP SERVER command 5-39
- SET IGMP FILTER command 17-71
- SET IGMP Snooping FASTLEAVE command 17-72
- SET IGMP Snooping ROUTERMODE command 17-73
- SET INSTALL command 5-40
- SET INTERFACE TRAPLIMIT command 12-27
- SET IP ARP command 13-100
- SET IP ARP TIMEOUT command 13-101
- SET IP DNSRELAY command 13-106
- SET IP FILTER command 13-107
- SET IP HOST command 13-111
- SET IP IGMP command 17-74
- SET IP IGMP INTERFACE command 17-75
- SET IP INTERFACE command 13-112
- SET IP LOCAL command 13-116
- SET IP NAMESERVER command 13-118
- SET IP RIP 18-10
- SET IP RIPTIMER command 18-13
- SET IP ROUTE command 13-119
- SET IP ROUTE FILTER command 20-19
- SET IP ROUTE TEMPLATE command 13-122
- SET IP SECONDARYNAMESERVER command 13-123
- SET LACP PRIORITY command 8-97, 9-57
- SET LOADER command 5-42
- SET LOG OUTPUT command 38-26
- SET LOG RECEIVE command 38-32
- SET LOG UTCOFFSET command 38-33
- SET MAIL command 4-26
- SET MANAGER PORT command 23-52
- SET NTP UTCOFFSET command 34-10
- SET OSPF AREA command 19-54
- SET OSPF command 19-51
- SET OSPF HOST command 19-56
- SET OSPF INTERFACE command 19-57
- SET OSPF NEIGHBOUR command 19-61
- SET OSPF RANGE command 19-62
- SET OSPF STUB command 19-64
- SET OSPF SUMMARYADDRESS command 19-65
- SET PASSWORD command 23-53 to 23-54
- set PDU 32-9
- SET PIM BSR CANDIDATE command 17-79
- SET PIM command 17-77
- SET PIM INTERFACE command 17-80
- SET PIM RPCANDIDATE command 17-82
- SET PING command 13-124
- SET PING POLL command 31-13
- SET PKI CERTIFICATE command 29-28
- SET PKI command 29-27
- SET PKI CRL command 29-29
- SET PKI LDAPREPOSITORY command 29-30
- SET PORT command 12-22
- SET PORTAUTH PORT command 25-37
- SET PORTAUTH PORT SUPPLICANTMAC command 25-43
- SET PORTAUTH USERNAME command 25-46
- SET QOS FLOWGROUP command 22-31
- SET QOS POLICY command 22-34
- SET QOS PORT command 22-35
- SET QOS TRAFFICCLASS command 22-36
- SET QOS VLANREMAP command 22-33
- SET SCRIPT command 36-11
- SET SERVICE command 39-18



SET SNMP ASNBERPADDING command 32-43
 SET SNMP COMMUNITY command 32-44, 32-56
 SET SNMP ENGINEID command 32-45
 SET SNMP GROUP command 32-46
 SET SNMP TARGETADDR command 32-48
 SET SNMP TARGETPARAMS command 32-49
 SET SNMP USER command 32-51
 SET SSH USER command 26-21
 SET SSL command 27-9
 set stack authentication command 35-21
 set stack stackid command 35-22
 SET STP command 9-65
 SET STP PORT command 9-68
 SET SWITCH AGEINGTIMER command 8-97
 SET SWITCH L3FILTER ENTRY command 8-102
 SET SWITCH L3FILTER MATCH command 8-105
 SET SWITCH MIRROR command 8-107
 SET SWITCH PORT command 8-108
 SET SWITCH QOS command 8-113
 SET SWITCH TRUNK command 8-114
 SET SYSTEM CONTACT command 4-29
 SET SYSTEM LOCATION command 4-30
 SET SYSTEM NAME command 4-31
 SET TELNET command 39-19
 SET TIME command 4-32
 SET TRACE command 13-126
 SET TRIGGER command 37-15
 SET TTY command 39-21
 SET USER command 23-58
 SET VLAN PORT command 8-115
 SET VLAN VIRTACTIVE command 8-116
 SET VRRP command 30-20
 Setting
 timer 10-19
 setting
 clock 4-32
 date 4-32
 default configuration 5-38
 install information 5-40
 mail host name 4-26
 NTP
 UTC offset 34-10
 semipermanent manager port 23-52
 system clock 4-32
 system date 4-32
 system help file 2-15
 system information 4-32
 system time 4-32
 time 4-32
 Setting Ports 10-17
 shortest path tree, PIM Sparse Mode 17-11
 SHOW ALIAS command 2-15 to 2-16, 6-25
 SHOW BOOTP RELAY command 14-47
 SHOW BUFFER command 4-34
 SHOW CONFIG command 5-46
 SHOW CONFIG DYNAMIC command 5-48
 SHOW CPU command 4-38
 SHOW DEBUG command 4-40
 SHOW DHCP CLIENT command 14-52
 SHOW DHCP command 14-50

SHOW DHCP POLICY command 14-54
 SHOW DHCP RANGE command 14-56
 SHOW ENCO CHANNEL command 24-14
 SHOW ENCO COUNTERS command 24-18
 SHOW ENCO KEY command 24-29
 SHOW EXCEPTION command 4-45
 SHOW FEATURE command 5-52
 SHOW FFIL command 6-20, 6-22
 SHOW FLASH command 6-26
 SHOW FLASH PHYSICAL command 6-28
 SHOW GARP command 10-21
 SHOW GARP COUNTER command 10-23
 SHOW GARP DB command 10-26
 SHOW GARP DEBUG command 10-27
 SHOW GARP GIP command 10-28
 SHOW GARP MACHINE command 10-29
 SHOW HTTP DEBUG command 5-55
 SHOW HTTP SERVER command 5-56
 SHOW HTTP SESSION command 5-57
 SHOW IGMP FILTER command 17-83
 SHOW IGMP Snooping command 17-85
 SHOW IGMP Snooping COUNTERS command 17-88
 SHOW IGMP Snooping ROUTERADDRESS command 17-90
 SHOW INSTALL command 5-58
 SHOW INTERFACE command 12-36, 12-39
 SHOW IP ARP command 13-133
 SHOW IP DEBUG command 13-144
 SHOW IP FILTER command 13-148
 SHOW IP HELPER command 13-150
 SHOW IP HOST command 13-152
 SHOW IP IGMP command 17-91
 SHOW IP IGMP COUNTER command 17-94
 SHOW IP INTERFACE command 13-154
 SHOW IP MVR command 17-98
 SHOW IP MVR COUNTER command 17-99
 SHOW IP RIP command 18-14
 SHOW IP RIP COUNTERS command 18-15
 SHOW IP RIPTIMER command 18-17
 SHOW IP ROUTE command 13-158
 SHOW IP ROUTE FILTER command 20-22
 SHOW IP ROUTE MULTICAST command 13-162
 SHOW IP ROUTE TEMPLATE command 13-164
 SHOW IP TRUSTED command 18-18
 SHOW IP UDP command 13-166
 SHOW LACP command 8-117
 SHOW LACP PORT command 8-118, 8-120 to 8-121
 SHOW LACP TRUNK command 8-121
 SHOW LOADER 5-62
 SHOW LOADER command 5-62
 SHOW LOG command 38-34 to 38-35
 SHOW LOG COUNTERS command 38-40
 SHOW LOG OUTPUT command 38-42, 38-44
 SHOW LOG QUEUE command 38-46, 38-49
 SHOW LOG RECEIVE command 38-47
 SHOW LOG STATUS command 38-49
 SHOW MAIL command 4-46
 SHOW MANAGER PORT command 23-61
 SHOW MSTP CIST PORT command 9-77
 SHOW MSTP command 9-72, 9-75



- SHOW MSTP CONFIGID command 9-74
- SHOW MSTP COUNTER PORT command 9-79
- SHOW MSTP DEBUG MSTI command 9-81
- SHOW MSTP TABLE command 9-88
- SHOW NTP command 34-11
- SHOW OSPF AREA command 19-68
- SHOW OSPF command 19-66
- SHOW OSPF DEBUG command 19-70
- SHOW OSPF HOST command 19-71
- SHOW OSPF INTERFACE command 19-73
- SHOW OSPF LSA command 19-77
- SHOW OSPF NEIGHBOURS command 19-83
- SHOW OSPF RANGE command 19-84
- SHOW OSPF ROUTE command 19-87
- SHOW OSPF STUB command 19-89
- SHOW OSPF SUMMARYADDRESS command 19-90
- SHOW PATCH command 5-64
- SHOW PIM BSR CANDIDATE command 17-101
- SHOW PIM command 17-100
- SHOW PIM COUNTERS command 17-103
- SHOW PIM DEBUG command 17-107
- SHOW PIM INTERFACE command 17-108
- SHOW PIM NEIGHBOUR command 17-110
- SHOW PIM ROUTE command 17-111
- SHOW PIM RPCANDIDATE command 17-117
- SHOW PIM RPSET command 17-118
- SHOW PIM STATEREFRESH command 17-120
- SHOW PIM TIMER command 17-121
- SHOW PING command 13-168
- SHOW PING POLL command 31-15
- SHOW PKI CERTIFICATE command 29-39
- SHOW PKI command 29-32
- SHOW PKI CRL command 29-42
- SHOW PKI ENROLLMENTREQUEST command 29-45
- SHOW PKI KEYUPDATEREQUEST command 29-47
- SHOW PKI LDAPREPOSITORY command 29-49
- SHOW PORTAUTH command 25-48
- SHOW PORTAUTH PORT command 25-53
- SHOW PORTAUTH PORT MULTISUPPLICANT command 25-60
- SHOW PORTAUTH TIMER command 25-65
- SHOW QOS FLOWGROUP command 22-38
- SHOW QOS POLICY command 22-41
- SHOW QOS TRAFFICCLASS command 22-43
- SHOW QOS VLANPRIORITYREMAPING command 22-39
- SHOW RADIUS command 23-62
- SHOW RELEASE command 5-65
- SHOW SCRIPT command 36-13
- SHOW SERVICE command 39-23
- SHOW SESSIONS command 39-24
- SHOW SNMP command 32-52, 32-56
- SHOW SNMP COMMUNITY command 32-56
- SHOW SNMP GROUP command 32-58
- SHOW SNMP TARGETADDR command 32-59
- SHOW SNMP TARGETPARAMS command 32-60
- SHOW SNMP USER command 32-61
- SHOW SNMP VIEW command 32-62
- SHOW SSH command 26-23
- SHOW SSH SESSIONS command 26-32
- SHOW SSH USER command 26-35
- SHOW SSL command 27-10
- SHOW SSL COUNTERS command 27-12
- SHOW SSL SESSIONS command 27-20
- show stack command 35-24
- SHOW STARTUP command 4-47
- SHOW STP command 9-89
- SHOW STP COUNTER command 9-93
- SHOW STP DEBUG command 9-95
- SHOW STP PORT command 9-96, 9-99
- SHOW SWITCH command 8-122
- SHOW SWITCH COUNTER command 8-124
- SHOW SWITCH DEBUG command 8-126
- SHOW SWITCH FDB command 8-127
- SHOW SWITCH FILTER command 8-129
- SHOW SWITCH L3FILTER command 8-133
- SHOW SWITCH MSTP command 8-135
- SHOW SWITCH PORT command 8-137
- SHOW SWITCH PORT COUNTER command 8-141
- SHOW SWITCH PORT INTRUSION command 8-144
- SHOW SWITCH QOS command 8-145
- SHOW SWITCH STP command 8-146
- SHOW SWITCH TRUNK command 8-148
- SHOW SYSTEM command 4-49
- SHOW SYSTEM SERIALNUMBER command 4-53
- SHOW TACACS SERVER command 23-68
- SHOW TCP command 13-170
- SHOW TEST command 40-9
- SHOW TIME command 4-54
- SHOW TRACE command 13-175
- SHOW TRIGGER command 37-19
- SHOW TTY command 39-26
- SHOW USER command 23-73
- SHOW USER CONFIGURATION command 23-76
- SHOW USER RSO command 23-79
- SHOW VLAN command 8-149
- SHOW VLAN DEBUG command 8-151
- SHOW VLANRELAY command 8-152
- SHOW VRRP command 30-23
- Simple Network Management (SNMP) commands
 - ADD SNMP TARGETADDR 32-29
- Simple Network Management Commands commands
 - ADD SNMP VIEW 32-31
- Simple Network Management Protocol (SNMP) 13-35, 32-1 to 32-63
 - access mode 32-7
 - agent
 - displaying 32-56
 - enabling 32-40
 - ASN.1/BER padding 32-43
 - authentication trap
 - enabling 32-41
 - authenticationv1 and v2 32-17
 - commands
 - ADD SNMP COMMUNITY 32-24
 - ADD SNMP GROUP 32-26
 - ADD SNMP TARGETADDR 32-27
 - ADD SNMP TARGETPARAMS 32-28
 - ADD SNMP USER 32-29
 - CREATE SNMP COMMUNITY 32-32
 - DELETE SNMP COMMUNITY 32-34



- ENABLE SNMP 32-40
- ENABLE SNMP AUTHENTICATE_TRAP 32-41
- ENABLE SNMP COMMUNITY 32-41 to 32-42
- PURGE SNMP 32-42
- SET SNMP ASNBERPADDING 32-43
- SET SNMP COMMUNITY 32-44, 32-56
- SET SNMP ENGINEID 32-45
- SET SNMP GROUP 32-46
- SET SNMP TARGETADDR 32-48
- SET SNMP TARGETPARAMS 32-49
- SET SNMP USER 32-51
- SHOW SNMP 32-52, 32-56
- SHOW SNMP COMMUNITY 32-56
- SHOW SNMP GROUP 32-58
- SHOW SNMP TARGETADDR 32-59
- SHOW SNMP TARGETPARAMS 32-60
- SHOW SNMP USER 32-61
- SHOW SNMP VIEW 32-62
- communities 32-16
 - adding 32-24
 - creating 32-32
 - deleting 32-34
 - destroying 32-38
 - disabling 32-39
 - displaying 32-56
 - enabling 32-41 to 32-42
 - setting 32-44
 - showing 32-56
- community 32-11
- configuration example 32-23
- deprecated status 32-8
- example configuration 32-23
- get-bulk-request PDU 32-9
- get-next PDU 32-9
- get-request PDU 32-9
- get-response PDU 32-9
- groups
 - adding 32-26
 - deleting 32-35
 - setting 32-46
 - showing 32-58
- instance 32-6
- instance identifier 32-6
- interface link traps 12-13, 12-16, 12-18, 12-27
- Internet-standard MIB 32-5
- Internet-standard Network Management Framework 32-3
- link traps 12-13, 12-16, 12-18, 12-27
- managed devices 32-3
- Management Information Base (MIB) 32-3, 32-5
- managing interfaces 12-14
- mandatory status 32-8
- message format 32-9 to 32-10
- message format SNMPv3 32-13
- message protocol format SNMPv1 and v2 32-8
- names, object 32-6
- network management framework 32-3
- network management protocol 32-3 to 32-4
- Network Management Station (NMS) 32-3
- not-accessible access mode 32-7
- object descriptor 32-6
- object identifier 32-6
- object names 32-6
- object syntax 32-7
- obsolete status 32-8
- optional status 32-8
- polling 32-11
- protocol format SNMPv1 32-8
- read-only access mode 32-7
- read-write access mode 32-7
- set PDU 32-9
- SNMP versions 32-9
- SNMPv1 and v2 32-15
- SNMPv3 32-20
 - entities 32-12
 - message protocol format 32-13
- SNMPv3 MIB views 32-21
- status 32-8
- structure of information 32-3, 32-5
- syntax 32-7
- trap PDU 32-9
- traps
 - disabling 32-40
- view 32-15
- write-only access mode 32-7
- Simple Network Management Protocol (SNMP) commands
 - DELETE SNMP SNMP 32-35
 - DELETE SNMP TARGETADDR 32-35
 - DELETE SNMP TARGETPARAMS 32-36
 - DELETE SNMP USER 32-36
 - DELETE SNMP VIEW 32-37
 - DESTROY SNMP COMMUNITY 32-38
 - DISABLE SNMP 32-38
 - DISABLE SNMP AUTHENTICATE_TRAP 32-39
 - DISABLE SNMP COMMUNITY 32-39
 - DISABLE SNMP COMMUNITY TRAP 32-40
- SNAP
 - encapsulation on Ethernet 12-5
- SNAP. See SubNetwork Access Protocol (SNAP)
- SNMP. See Simple Network Management Protocol
- SNMP commands
 - CREATE SNMP 32-34 to 32-35
 - DELETE SNMP TARGETPARAMS command 32-36
- SNMP Framework MIB C-49
- SNMP group, MIB-II MIB C-29
- snmpDot3MauMgt MIB object C-34
- snmpEnableAuthenTraps MIB object C-29
- snmpModules MIB object C-49
- snmpMPDStats MIB object C-49
- SNMPv3 MIBs C-49
- snooping, IGMP 17-24
- software releases
 - deleting 5-23
 - disabling 5-26
 - displaying 5-58, 5-65
 - downloading 5-36, 5-42, 5-62, 5-66
 - enabling 5-30
 - setting 5-40



Spanning Tree Protocol (STP) 9-3

- commands
 - SHOW SWITCH MSTP 8-135
 - SHOW SWITCH STP 8-146

creating 9-32

debug

- disabling 9-41
- displaying 9-95
- enabling 9-51

destroying 9-35

disabling 9-40

displaying

- port states 8-135, 8-146

enabling 9-50

modifying 9-65

port states

- displaying 8-135, 8-146

ports

- disabling 9-43
- displaying 9-96, 9-99
- enabling 9-53
- modifying 9-68

purging 9-55

resetting 9-56

showing 9-89

showing counters 9-93

VLANs

- adding 9-29
- deleting 9-34

Spanning Trees and Trunks 9-26

special feature licences 5-16

disabling 5-24

displaying 5-52

SRLP. See Logging Facility:secure router logging protocol (SRLP)

SSH command 26-37

SSL (Secure Sockets Layer)

- load balancer 27-6

SSL and the GUI (graphical user interface) 27-5

SSL connection

- data transfer 27-3
- handshake 27-3
- session 27-4

SSL handshake

- certificate 27-3
- change cipher spec 27-3
- client hello 27-3
- client key exchange 27-3
- finished 27-3
- server hello 27-3
- server hello done 27-3

SSL messages

- alert 27-4
- application data 27-4
- change cipher spec 27-4
- record layer 27-4

Stack group, Allied Telesis Enterprise MIB C-25

stack MIB object C-25

stackAuth MIB object C-26

stackId MIB object C-25

stacking

- add stack interface 35-17
- adding a switch 35-9
- benefits 35-2
- configuration example 35-14
- creating a stack 35-6
- definition 35-2
- delete stack interface 35-17
- disable stack 35-18
- disable stack debug 35-19
- enable stack 35-19
- enable stack debug 35-20
- Host-Directed Commands (HDC) 35-16
- how it works 35-4
- interface 35-4
- local commands 35-5
- planning 35-6
- process walkthrough 35-5
- removing a stack member 35-13
- replacing a stack member 35-11
- set stack authentication 35-21
- set stack stackid 35-22
- show stack 35-24
- stack ID and host ID 35-4
- topologies 35-2

stackInterface MIB object C-26

stackMemberTable MIB object C-26

stackPassword MIB object C-26

stackSnmpHost MIB object C-25

stackStatus MIB object C-26

startup status 4-9, 4-47

State machine

- displaying 10-29

State Refresh, PIM Dense Mode, IPv4 17-7

state, OSPF 19-39, 19-41

states

- OSPF 19-7

Statistics group, RMON MIB C-44 to C-45

status, MIB object 32-8

status, OSPF 19-66

STOP PING command 13-177

STOP TRACE command 13-177

storage, frame 8-30, 9-5

STP. See Spanning Tree Protocol (STP)

Structure of Management Information (SMI) 32-3, 32-5

stub areas

- OSPF 19-4, 19-21, 19-33, 19-54

subnet 13-8

subnet mask 13-8

SubNetwork Access Protocol (SNAP)

- relaying between VLANs 8-69

support

- for NTP 34-4

support for SSL 27-6

swi MIB object C-22

swi56xxPortNumber MIB object C-22

swi56xxPortTable MIB object C-22

swiDebugVariables MIB object C-22

swiPortNumber MIB object C-22

swiPortTable MIB object C-22



swiPortVlanControl MIB object C-22
 swiPortVlanPortNumber MIB object C-22
 swiPortVlanStateNotify MIB object C-22
 swiPortVlanTable MIB object C-22
 swiPortVlanVlanId MIB object C-22
 switch ageing timer 8-29
 disabling 8-78
 enabling 8-86
 setting 8-97
 switch counters
 displaying 8-124, 8-127
 switch debug
 enabling 8-88
 switch filters
 adding Layer 2 8-32, 8-52
 adding Layer 3 8-34, 8-56, 8-59
 deleting Layer 2 8-70, 9-35
 deleting Layer 3 8-71 to 8-72, 9-35
 disabling Layer 3 8-81
 displaying Layer 2 8-129
 displaying Layer 3 8-133
 enabling Layer 3 8-90
 modifying Layer 3 8-102, 8-105
 Switch group, Allied Telesis Enterprise MIB C-22
 switch learning 8-29
 disabling 8-81
 enabling 8-90
 switch ports 8-5
 activating 8-49
 autonegotiation 8-7
 blocking 9-7
 counters 8-141
 disabling 8-5, 8-83
 displaying 8-137
 enabling 8-5, 8-91
 ingress filtering 8-28
 ingress rules 8-28
 intrusion 8-144
 mirroring 8-12
 modifying 8-108
 packet storm protection 8-12
 resetting 8-95, 9-56
 security 7-3, 8-13, 8-108
 STP states 9-3
 triggers 8-40
 symmetric
 NTP entity 34-2
 symmetrical encryption algorithms 24-2
 syntax, MIB object 32-7
 sysinfo Group, Allied Telesis Enterprise MIB C-17
 sysinfo MIB object C-9, C-17
 system clock
 displaying 4-54
 setting 4-32
 system date
 displaying 4-54
 setting 4-32
 system group, MIB-II MIB C-28, C-37
 system information
 displaying 4-49, 4-54

 setting 4-29 to 4-32
 system time
 displaying 4-54
 setting 4-32
 sysTemperature MIB object C-17
 sysUpTime MIB object C-30

T

Tables, MIB

atrDot1xAuthConfigTable C-25
 atrDot1xAuthStatsTable C-25
 atrDot1xPaePortTable C-25
 atrMacBasedAuthConfigTable C-25
 atrMacBasedAuthPaePortTable C-25
 Boards C-18
 Broadband MAU Basic C-34
 Disk Storage C-47
 dot1qFdbTable C-38
 dot1qForwardAllTable C-39
 dot1qForwardUnregisteredTable C-39
 dot1qLearningConstraintsTable C-39
 dot1qPortVlanHCStatisticsTable C-39
 dot1qPortVlanStatisticsTable C-39
 dot1qPortVlanTable C-39
 dot1qTpFdbTable C-38
 dot1qTpGroupTable C-39
 dot1qVlanCurrentTable C-39
 dot1qVlanStaticTable C-39
 dot1xAuthConfigTable C-43
 dot1xAuthDiagTable C-43
 dot1xAuthSessionStatsTable C-43
 dot1xAuthStatsTable C-43
 dot1xPaePortTable C-43
 dot1xSuppConfigTable C-43
 dot1xSuppStatsTable C-43
 ds3TrapTable C-24
 Ethernet Interfaces C-18
 File C-21
 File System C-47
 Generic Receive Address C-30 to C-31
 Host Resources Running Software C-46
 Install C-20
 Install History C-20
 Interface C-18
 Interface Extensions C-18, C-30 to C-31
 Interface Jack C-34
 Interface MAU C-34
 Interface MAU Autonegotiation C-35
 Interface Stack C-30 to C-31
 Interface Test C-30 to C-31
 Interfaces C-30 to C-31
 IP CIDR Route C-32
 IP Forwarding C-32
 lbShowAffTable C-24
 lbShowConTable C-24
 lbShowGlobalTable C-24
 lbShowResPoolTable C-24
 lbShowResTable C-24
 lbShowVirtBalTable C-24
 Load C-20



- Network Devices C-47
- Ping C-21
- Printer C-47
- qosSwitch8948PortTable C-23
- qosSwitch8948TrafficClassCountersTable C-23
- qosSwitchPolicyTable C-23
- qosSwitchPortTable C-23
- qosSwitchTrafficClassTable C-23
- Release Licence C-20
- Repeater Jack C-34
- Repeater MAU C-34
- Slot C-18
- stackMemberTable C-26
- Switch Debug C-22
- Switch Port C-22
- TACACS authentication 23-19, 23-33, 23-38, 23-68
- TARGETADDR command 32-35
- TARGETPARAMS command 32-60
- TCP group, MIB-II MIB C-28
- tcpConnState MIB object C-29
- Telnet 39-6 to 39-7, 39-19, 39-30
 - for remote management 39-7
 - from the router 23-15
- TELNET command 39-30
- Telnet server
 - disabling 13-83
 - enabling 13-93
- terminal server 39-1 to 39-30
 - accessing services 39-7, 39-12, 39-16 to 39-17, 39-24
 - accessing Telnet hosts 39-6, 39-19, 39-30
 - asynchronous ports 12-6, 12-15, 12-19 to 12-22
 - auto-bauding 12-11
 - commands 39-12
 - CONNECT 39-12
 - CONNECT PORT 12-15
 - CREATE SERVICE 39-14
 - DESTROY SERVICE 39-15
 - DISABLE PORT 12-15
 - DISCONNECT 39-16
 - RECONNECT 39-17
 - RESET PORT 12-19
 - RESET PORT COUNTERS 12-20
 - RESET PORT HISTORY 12-21
 - SET PORT 12-22
 - SET SERVICE 39-18
 - SET TELNET 39-19
 - SET TTY 39-21
 - SHOW SERVICE 39-23
 - SHOW SESSIONS 39-24
 - SHOW TTY 39-26
 - TELNET 39-30
 - configuration examples 39-8
 - configuring asynchronous ports 12-7, 12-15, 12-19 to 12-22
 - configuring Telnet 39-19
 - configuring TTY devices 39-21
 - connecting to ports 12-15
 - creating nicknames for Telnet hosts 39-6
 - disabling ports 12-15
 - disconnecting from a session 39-16
 - displaying
 - sessions 39-24
 - TTY devices 39-26
 - displaying asynchronous port characteristics 12-9
 - example configurations 39-8
 - history 12-21
 - multiple sessions 39-5, 39-16 to 39-17, 39-24
 - ports 12-7, 12-15, 12-19 to 12-20, 12-22
 - reconnecting to a session 39-17
 - resetting command history 12-21
 - resetting port counters 12-20
 - resetting ports 12-19
 - services 39-7, 39-12, 39-14 to 39-15, 39-18, 39-23
 - setting port characteristics 12-7, 12-22
 - Telnet 39-6, 39-30
 - TTY device 39-2
 - configuring 39-21
 - displaying 39-26
- territory
 - displaying 4-49
- Testing
 - commands
 - DISABLE TEST INTERFACE 40-6
 - ENABLE TEST INTERFACE 40-7
 - RESET TEST INTERFACE 40-8
 - SHOW TEST 40-9
 - disabling tests 40-6
 - displaying test results 40-9
 - enabling tests 40-7
 - expansion options 40-1
 - hardware 40-1
 - interfaces 40-1
 - loopback plugs 40-2
 - resetting tests 40-8
- text editor 6-5, 6-15
- textual notation 32-6
- throttling, IGMP 17-23
- time
 - displaying 4-54
 - setting 4-32
 - triggers 37-2
- time servers. See Network Time Protocol (NTP)
- time. See Network Time Protocol (NTP)
- Timer
 - setting 10-19
- timer
 - switch ageing 8-29
- TRACE command 13-178
- trace route 13-126, 13-175, 13-177 to 13-178
- traffic filters 13-33
- transit network
 - OSPF 19-6, 19-18
- Transmission group, MIB-II MIB C-29, C-33
- transmission queues 8-30, 9-5
- trap PDU 32-9
- traps Group, Allied Telesis Enterprise MIB C-16
- traps MIB object C-9, C-16
- traps, SNMP
 - flashFailureTrap, Enterprise MIB C-18
 - igmpGeneralQueryNotReceivedEvent C-16



loginFailureTrap, Enterprise MIB C-19
 mstpNewRootBridge, Multiple and Rapid Spanning Tree Protocols MIB C-52
 mstpNewRootPort, Multiple and Rapid Spanning Tree Protocols MIB C-52
 mstpTopologyChange, Multiple and Rapid Spanning Tree Protocols MIB C-52
 ospfIfStateChange, Open Shortest Path First (OSPF) Version 2 MIB C-51
 ospfNbrStateChange, Open Shortest Path First (OSPF) Version 2 MIB C-51
 ospfVirtIfStateChange, Open Shortest Path First (OSPF) Version 2 MIB C-51
 ospfVirtNbrStateChange, Open Shortest Path First (OSPF) Version 2 MIB C-51
 vrrpTrapNewMaster, Virtual Router Redundancy Protocol (VRRP) MIB C-52
 Trigger group, Allied Telesis Enterprise MIB C-21
 trigger MIB object C-21
 triggerLastTriggerActivated MIB object C-21
 triggers 37-1 to 37-23
 actions 37-2
 adding to triggers 37-5 to 37-6
 deleting from triggers 37-12
 displaying 37-19
 activation 37-2, 37-4
 automated command execution 37-2
 commands
 ACTIVATE TRIGGER 37-4
 ADD TRIGGER 37-5
 CREATE TRIGGER 37-6
 DELETE TRIGGER 37-12
 DESTROY TRIGGER 37-12
 DISABLE TRIGGER 37-13
 ENABLE TRIGGER 37-14
 PURGE TRIGGER 37-14
 SET TRIGGER 37-15
 SHOW TRIGGER 37-19
 CPU 37-6, 37-15
 creating 37-3, 37-6
 deleting 37-12
 destroying
 triggers 37-12
 disabling 37-13
 displaying
 triggers 37-19
 enabling 37-14
 firewall 37-6, 37-15
 interface 37-6, 37-15
 link 37-6, 37-15
 manual activation 37-4
 memory 37-6, 37-15
 modifying 37-15
 output 37-2
 periodic 37-2, 37-6, 37-15
 purging 37-14
 reboot 37-2, 37-6, 37-15
 response to events 37-2
 time 37-2, 37-6, 37-15
 timed command execution 37-2

types 37-2, 37-6, 37-15
 triggerTrap trap message C-21
 trunk groups
 adding 8-62
 creating 8-66
 deleting 8-73, 9-35
 destroying 8-76
 displaying 8-148
 modifying 8-114
 Trunks and Spanning Trees 9-26
 trusted routers 18-8 to 18-9, 18-18
 TTY group, Allied Telesis Enterprise MIB C-19
 tty MIB object C-19
 ttyTraps MIB object C-19

U

UAF. See User Authentication Facility
 UDP group, MIB-II MIB C-29
 Universal Coordinated Time (UTC) 38-3
 untagged VLANs 8-19
 UPLOAD command 5-66
 User Authentication Database 23-8 to 23-9
 adding users 23-10, 23-35
 counters 23-16
 deleting users 23-10, 23-39
 disabling users 23-42
 displaying users 23-10, 23-73, 23-76
 enabling users 23-47
 logging in and out 23-8, 23-49 to 23-50
 modifying users 23-10, 23-58
 passwords 23-10 to 23-11
 purging users 23-50
 recovering passwords 23-14
 resetting users 23-51
 User Authentication Facility 23-7
 asynchronous port security 23-14
 semipermanent manager port 23-16
 Telnetting from the router 23-15
 USER privilege 23-3
 User-based Security MIB C-49
 UTC. See Universal Coordinated Time (UTC)

V

Vectors 9-24
 view, SNMP MIB 32-15
 View-based Access Control MIB C-49
 Virtual Bridge (VLAN) MIB C-38
 virtual links, OSPF 19-18, 19-24, 19-34, 19-40, 19-44, 19-49, 19-57
 Virtual Local Area Network (VLAN)
 bridging
 relaying 8-25
 transferring packets between VLANs
 Virtual Local Area Networks (VLAN) 8-14
 administrative activation 8-116
 commands
 ADD VLAN BRIDGE 9-30
 ADD VLAN PORT 8-63
 ADD VLANRELAY 8-65
 CREATE VLAN 8-68



- CREATE VLANRELAY 8-69
- DELETE STP VLAN 9-34
- DELETE VLAN BRIDGE 9-35
- DELETE VLAN PORT 8-74, 9-35
- DELETE VLANRELAY 8-75
- DESTROY VLAN 8-76
- DESTROY VLANRELAY 8-77
- DISABLE VLAN DEBUG 8-84
- DISABLE VLANRELAY 8-84, 9-44
- DISABLE VLANRELAY DEBUG 8-85, 9-44
- ENABLE VLAN DEBUG 8-92
- ENABLE VLANRELAY 8-93
- ENABLE VLANRELAY DEBUG 8-93, 9-54
- SET VLAN PORT 8-115
- SET VLAN VIRTACTIVE 8-116
- SHOW VLAN 8-149
- SHOW VLANRELAY 8-152

destroying 8-76

displaying 8-149

modifying ports 8-115

relaying

- adding protocols and VLANs 8-65
- creating 8-69
- creating entities 8-69
- destroying entities 8-77
- disabling debugging 8-85, 9-44
- disabling entities 8-84, 9-44
- displaying 8-152
- enabling debugging 8-93, 9-54
- enabling entities 8-93
- removing protocols and VLANs 8-75

SHOW VLAN DEBUG 8-151

switch ports

- deleting 8-74, 9-35

tagged ports 8-115

tagging 8-30

untagged VLANs 8-19

Virtual Router Redundancy Protocol (VRRP)

- adopt IP address address 30-6

commands

- ADD VRRP IP 30-11
- ADD VRRP MONITOREDINTERFACE 30-12
- CREATE VRRP 30-13
- DELETE VRRP IP 30-16
- DELETE VRRP MONITOREDINTERFACE 30-17
- DESTROY VRRP 30-17
- DISABLE VRRP 30-18
- DISABLE VRRP DEBUG 30-18
- ENABLE VRRP 30-19
- ENABLE VRRP DEBUG 30-19
- SET VRRP 30-20
- SHOW VRRP 30-23

triggers 30-8

VLAN. See Virtual Local Area Networks (VLAN)

VLANs

- multicast switching between, IPv4 17-28

vrrpMIB MIB object C-52

vrrpOperMasterIpAddr MIB object C-52

vrrpTrapNewMaster trap message C-52

W

WAIT command 36-10, 36-14

web server. See HTTP server

wildcard characters

- in file names 6-5

write-only, MIB object 32-7

WWW server. See HTTP server

X

X.25

- MIOX circuits 1-20

x900_48FS MIB object C-9

