A

access control list
  See ACL
accessing
  ASI, MRP, and SSP cards, using IOS CLI **5-11**
  backup utility **5-30**
  CallManager **5-8**
  Cisco ICS 7750 **5-2**
  ICSConfig **5-4**
  SAP card **5-3, 5-12 to 5-14**
  SPE310s with Telnet **5-11**
  SPE desktop, using Terminal Services Client **5-3**
  System Manager **5-5**
ACL
  applying to interfaces **6-121**
  description **6-118**
  design **6-118**
  examples **6-119 to 6-120**
  filtering traffic with **6-121**
administrator password **4-22**
analog station interface card
  See ASI card
antistatic strap, resistance value **2-3**
application command, in MGCP **6-94, 6-98**
ASI160 card **1-5**
ASI81 card **1-5**
ASI card
  accessing, using CLI **5-11**
  ASI160, PVDM requirements **C-3**
  codec options **6-14**
  connections **3-28**
  default DSP software images **C-1**
  DSP, requirements for **6-14**
  features **6-13**
  PVDM requirements (table) **C-3 to C-16**
  removing **8-2**
  setting date and time **6-5 to 6-8**
asynchronous/synchronous serial interface, configuring **6-28, 7-3**
authentication **6-115**
authorization **6-115**
availability, power supplies **3-33**

B

background explicit congestion notification
  See BECN
backup
  CallManager 5-29
  CallManager data 6-129
  installing CallManager backup utility 4-37 to 4-39
  scheduling 5-30 to 5-32
  system data 5-28 to 5-33
  using Backup Now 5-32 to 5-33
  utility, accessing 5-30
backup power 1-6
backup server, CallManager 4-37 to 4-39
BC 7-43
BE 7-43
BECN 6-70
best practices
  DHCP 5-15
  IOS 5-17, 6-2
  System Manager 5-17, 6-2 to 6-3
blackout 2-9
blinking lights 2-11
BOOTP 5-15
branch circuit 2-10
brownout 2-9
browser, configuring 4-7 to 4-9

C

cables
  determining distances 2-15 to 2-16
  evaluating 2-13
  planning for installation 2-14 to 2-15
  termination points 2-17
cabling
  cascaded Catalyst switches 4-41 to 4-43
  GigaStack GBIC ports 4-41 to 4-43
  guidelines 2-13 to 2-17
  UPS 3-32
CallManager
  accessing 5-8
  backing up data 6-129
  backup 5-29
  backup server 4-37 to 4-39
  backup utility, installing 4-37 to 4-39
  cluster 4-32
  configuration checklist 6-124 to 6-128
  configuring 6-122 to 6-128
  configuring download to MGCP gateway 6-102 to 6-103
  definition 5-2
  differences on Cisco ICS 7750 6-122
  documentation xxiii
  installing 4-31 to 4-41
  MGCP gateway, configuring for use with 6-100 to 6-101
  MOH 6-123

name configuration 6-123

product key 4-33

publisher 4-32, 4-35

server automatically configured 6-123

subscriber 4-32, 4-35

card ports, connecting 3-19 to 3-31

cards, number of ports on 1-4 to 1-6

Catalyst 3500 Series XL documentation xxiv

Catalyst 3524 PWR-XL 1-7

Catalyst 3524-PWR XL 2-10

Catalyst switches, stacking 3-8 to 3-10

caution, described xxii

CCMAdmin account password 4-39

ccm-manager command 6-100

ccm-manager redundant host command 6-100

ccm-manager switchback command 6-101

ccm-manager switchover-to-backup command 6-101

CCO, downloading and installing system software 8-22 to 8-24

chassis dimensions 3-2

chassis placement 2-13

chassis-to-switch attachment brackets 3-8

CIR 6-69, 6-70

circuit, branch 2-10

circuit breaker panel 2-10

circuit breakers 2-9

Cisco CallManager

See CallManager

Cisco Customer Response Applications, documentation xxiv

Cisco IP Phone, connecting 4-45

Cisco Network Registrar

See CNR

Cisco Unity, documentation 6-131

Cisco Unity Voice Messaging, documentation xxiv

CiscoWorks2000

description 6-137

LAN Management Solution 6-138 to 6-140

Routed WAN Management Solution 6-141 to 6-142

Service Management Solution 6-143

CLI

accessing on ASI, MRP, and SSP cards 5-11

definition 5-3

determing software release on ASI, MRP, or SSP cards 5-11

clock rate settings 6-29

clock set command 6-7

clock timezone command 6-6

cluster, CallManager 4-32

CNR 5-15

codecs

choosing 6-20

delay introduced by 6-17

G.711 6-15

G.723.1 6-15

G.726 6-16

G.729 6-16

G.729a 6-16
interoperability 6-16
options on MRPs and ASIs (table) 6-14
transcoding 6-24
voice compression algorithms 6-14
command conventions xxii
command-line interface
See CLI
commands
async default routing 7-4
async mode dedicated 7-4
channel-group 7-9
clockrate 7-4
configure terminal 7-2
controller t1 7-8, 7-40
copy running-config startup-config 6-4
cptone 6-57
dce-terminal-timing-enable 7-4
destination-pattern 6-41, 7-31
dial-peer voice 7-31, 7-37
dial-type 6-57
direct-inward dial 7-37
enable 6-4
fair-queue 7-44
framing 7-9, 7-40
half-duplex timer 6-28
half-duplex timer cts-delay 6-28
half-duplex timer cts-drop-timeout 6-28
half-duplex timer dcd-drop-delay 6-28, 7-4
half-duplex timer dcd-txstart-delay 6-28
half-duplex timer rts-drop-delay 6-28
half-duplex timer rts-timeout 6-29
half-duplex timer transmit-delay 6-29
interface 7-2
invert-txc 7-4
ip precedence 6-73
ip routing 7-2
ip rsvp bandwidth 6-74, 7-44
ip rtp compression connections 6-78, 7-45
ip rtp header-compression 6-78, 7-45
ip rtp header-compression iphc-format 7-46
ip rtp reserve 7-45
isdn spid 6-34
isdn switch-type 7-6, 7-37, 7-40
line async 7-4
memory-size iomem 7-6
multilink virtual-template 7-45
num-exp 7-32
operation 6-57
physical-layer async 7-4
ping 7-64
port 7-31
ppp multilink 7-44
ppp multilink fragment-delay 7-45
ppp multilink interleave 7-44
req-qos controlled-load 7-44
service-module t1 framing 7-7
service-module t1 linecode 7-7

session target 7-31
show controllers 7-59
show controller t1 7-58, 7-59
show dialplan number 7-30
show interfaces 7-60
show num-exp 7-30
show protocols 7-60
show running-config 7-60, 7-61
show version 7-58
show voice dsp 6-21, 6-26
signal 6-57
type 6-57
committed burst
See BC
committed information rate
See CIR
community strings, SNMP 4-21
COM Port Manager, in System Manager 5-6
conduit ground, using 2-11
configuration, saving 6-4
configuration wizard
See ICSConfig
configuring
asynchronous/synchronous serial interface 6-28, 7-3
CallManager 6-122 to 6-128
custom queuing 6-72
dial plans 6-40
DID 6-53 to 6-55
download of CallManager information to MGCP gateway 6-102 to 6-103
E&M interface 6-57
Fast Ethernet ports 6-26, 7-2 to 7-3
fax over IP 6-112 to 6-115
Frame Relay for VoIP 6-69
FXO interface 6-55
FXS interface 6-44, 7-30, 7-33, 7-34
IP networks for real-time voice traffic 6-71
ISDN BRI interface 6-30, 7-5 to 7-6
ISDN for voice 6-64 to 6-68
ISDN PRI voice interfaces 6-67 to 6-68
ISDN signaling backhaul on MGCP 6-106 to 6-111
MFT-T1 CAS 6-60
MGCP 6-91 to 6-115
MGCP with CallManager 6-100 to 6-101
multilink PPP interleaving 6-75
RGW with MGCP 6-97 to 6-100
RSVP for voice 6-73
RTP 6-76
serial interfaces 7-3 to 7-5
SSP 6-10
T1 & E1 VWIC interfaces 7-8 to 7-9
T1 & fractional T1 interfaces 7-7 to 7-8
T1 (FT1) WAN interface 6-34, 7-7
T1 CAS for MGCP 6-103 to 6-106
TGW with MGCP 6-93 to 6-97
weighted fair queuing 6-73

connecting
Cisco IP Phone 4-45
modem 4-45 to 4-51
power 3-32 to 3-33
switches to chassis 3-8 to 3-10
to card ports 3-19 to 3-31
console port, connecting to 3-29
controller t1 command, in MGCP 6-93
conventions, command xxii
cooling the system 2-7
custom queuing 6-72

D

data link connection identifier
See DLCI
date
setting on MRP and ASI cards 6-5 to 6-8
setting on SPE310 cards 6-5
DC Directory Administrator account password 4-36
default gateway, IP address 4-17
delay
definition 6-17
propagation 6-17
serialization 6-17
desktop mounting 3-6 to 3-10
DHCP
best practices 5-15
enabling for IP phones 4-16
Microsoft DHCP Server 5-16
other DHCP servers 5-16
dial peer
command 7-31
description 6-45
POTS 6-46
VoIP 6-50
dial-peer voice command, in MGCP 6-94, 6-98
dial plans, configuring 6-40
dial-up connection, testing 4-51
DID, configuring 6-53 to 6-55
digital signal processors
See DSPs
digital voice ports, configuring 6-60
dimensions, chassis 3-2
direct-inward-dial command 6-54
Direct Inward Dialing
See DID
distributed call processing 4-32
DLCI 6-69
DNS, primary IP address 4-17
documentation
CallManager xxiii
Catalyst 3500 Series XL xxiv
Cisco Customer Response Applications xxiv
Cisco Unity Voice Messaging xxiv
included xxiii
IOS xxv
IP Phones xxiii

power supply, backup xxiv
related xxiii
VIC xxiv
VWIC xxiv
WIC xxiv
ds0-group command, in MGCP 6-94
DSP modules, removing and replacing 8-3
DSPs
call processing examples (table) 6-19
choosing DSP firmware 6-20 to 6-21
configuration rules (table) 6-22
determining how many are needed 6-22 to 6-23
determining how many are needed for transcoding 6-26
grouping 6-18 to 6-19
on MRPs and ASIs 6-14
understanding usage for transcoding 6-26
DSP software images, defaults C-1
dust, effects of 2-13

E

E&M
configuring 6-57
description 6-38
E1 PRI 6-39
E1 VIC, connection 3-28
E1 VWIC, connection 3-28
E1 VWIC interfaces, configuring 7-8 to 7-9
E1 WIC, connection 3-28
earth ground 2-12
electricity, static 2-12
electromagnetic interference
See EMI
electrostatic discharge (ESD), preventing 2-3
electrostatic discharge, preventing
See ESD, preventing
EMI 2-6
enable password 4-21
environmental requirements 2-12
ESD, preventing 2-3
Event Manager, default settings, configuring 4-25 to 4-28
Event Manager, in System Manager 5-6
excess burst
See BE
extension cords, using 2-13

F

Fancy Queuing 6-71
Fan Manager, in System Manager 5-6
fans
location 1-7
Fast Ethernet, configuring ports 6-26, 7-2 to 7-3
fax over IP, configuring 6-112 to 6-115
firewall
defined 6-116
setting up 6-116

flooring 2-13
floor loading 2-8
foreign exchange office
See FXO
Foreign Exchange Office (FXO) card, connection 3-28
foreign exchange station
See FXS
Foreign Exchange Station (FXS) card, connection 3-28
fractional T1 interfaces, configuring 7-7 to 7-8
Frame Relay for VoIP
configuring 6-69
example 6-70
FXO
configuring 6-55
described 6-38
FXS
configuring 6-44, 7-30, 7-33, 7-34
described 6-38

G

G.711 6-15
G.723.1 6-15
G.726 6-16
G.729 6-16
G.729a 6-16
Gigabit cascade configuration 4-41 to 4-43
grounding
chassis 2-12
configurations 3-15 to 3-17
lug, location (illustration) 3-18
procedure 3-18 to 3-19
receptacles 2-9
third-wire 2-11
ground start 6-62
guidelines
installation 2-25 to 2-28
power supply 3-11 to 3-14

H

H.323 6-85 to 6-87
hardware
cards 1-4 to 1-6
components 1-2
system configuration (illustration) 1-3
high-complexity DSP software images 6-14, C-1
host name
changing 5-22 to 5-28
guidelines 5-22
updating SQL Server with 5-24 to 5-28
humidity 2-12

ICSConfig
- accessing 5-4
- collecting information for 4-2 to 4-5
- description 5-2
- PC requirements 2-18
- running 4-11 to 4-31
- saving configuration 4-29
- tasks 5-17, 6-2

ICS System Manager
- *See* System Manager

immediate start 6-61

information required for initial configuration 4-2 to 4-5

initial configuration program
- *See* ICSConfig

installation
- cooling guidelines 2-7
- floor loading 2-8
- guidelines 2-25 to 2-28
- placement guidelines 2-7
- power and grounding 2-8 to 2-12
- safety warnings 2-2 to 2-3
- verifying 3-34
- weight distribution in rack 2-8

installing system software
- CCO, using 8-22 to 8-24
- CD-ROM, using 8-20 to 8-21
- scenarios 8-19 to 8-20

Internet Explorer, configuring 4-8 to 4-9

IOS
- best practices 5-17, 6-2
- documentation xxv
- software release on ASI, MRP, or SSP cards, determining with CLI 5-11
- software release on SSP card, determining with System Manager 5-7
- upgrading images using ICS System Manager 8-25 to 8-26
- upgrading images using the CLI 8-26 to 8-27
- versions preinstalled 1-8

IP address
- changing 4-13, 4-15
- default gateway 4-17
- DNS, primary 4-17
- PC, configuring 4-6 to 4-7
- pool for IP phones 4-16
- pool for system cards 4-14
- SPE, determining 5-21
- TFTP server 4-16, 6-123
- WINS server 4-17

IP Phones, documentation xxiii

IP phones, IP address 4-16

ISDN
- configuring for voice 6-64 to 6-68
- switch types 6-66

ISDN BRI
configuring interface 7-5 to 7-6
configuring interfaces 6-30
description 6-38, 6-64
ISDN PRI
configuring voice interfaces 6-67 to 6-68
description 6-65
ISDN signaling backhaul, configuring on MGCP 6-106 to 6-111
ISDN switch types 6-31

K

key, product
See product key

L

LEDs, verifying installation with 3-34
lighting 2-13
line filter 2-10
login password 4-21

M

maximum transmission unit
See MTU
Media Gateway Control Protocol
See MGCP
medium-complexity DSP software images 6-14, C-1
memory modules, removing and replacing 8-3
MFT-T1 CAS
configuring 6-60
description 6-39
signaling systems 6-61
MGCP
application command 6-94, 6-98
blocking new calls 6-112
CallManager, configuring for use with 6-100 to 6-101
ccm-manager MGCP command 6-100
ccm-manager redundant host command 6-100
ccm-manager switchback command 6-101
ccm-manager switchover-to-backup command 6-101
command settings 6-115
configuring 6-91 to 6-115
controller t1 command 6-93
description 6-87 to 6-89
dial-peer voice command 6-94, 6-98
download of information from CallManager 6-102 to 6-103
ds0-group command 6-94
fax over IP, configuration of 6-112 to 6-115
gateway types supported 6-89
ISDN PRI backhaul, description of 6-89
ISDN signaling backhaul, configuring on 6-106 to 6-111
mgcp block-newcalls command 6-112

mgcp call-agent command 6-93, 6-98
mgcp command 6-93, 6-98
mgcp default-package command 6-96, 6-99
mgcp dtmf-relay command 6-96
mgcp package-capability command 6-95, 6-99
mgcp restart-delay command 6-95
mgcp sdp simple command 6-96, 6-100
multicast music-on-hold
description 6-90
enabling 6-115
RGW, configuring 6-97 to 6-100
sample configuration 7-9 to 7-28
T1 CAS, configuring for 6-103 to 6-106
TGW, configuring 6-93 to 6-97
mgcp block-newcalls command 6-112
mgcp call-agent command 6-93, 6-98
mgcp command 6-93
mgcp command, in MGCP 6-98
mgcp default-package command 6-96, 6-99
mgcp dtmf-relay command 6-96
mgcp package-capability command 6-95, 6-99
mgcp restart-delay command 6-95
mgcp sdp simple command 6-96, 6-100
MIB, SNMP 5-3
Microsoft SQL Server
host name, recognizing new on SPE310 5-24 to 5-28
modem
connecting 4-45 to 4-51
data compression setting 4-48
dial-up connection, testing 4-51
error correction setting 4-48
initialization string 4-46
initializing for an SAP card 4-48
MOH 6-123
Monitor, in System Manager 5-6
monitoring tools, System Manager 5-6
mounting the system
in a rack 3-4 to 3-5
on a desktop 3-6 to 3-10
MRP
saving configuration 6-4
supported WICs and VICs 6-13
MRP200 card 1-4
MRP300 card 1-4
MRP3-16FXS card 1-5
MRP3-8FXS card 1-5
MRP card
accessing, using CLI 5-11
codec options 6-14
connections 3-28
default DSP software images C-1
DSP, requirements for 6-14
features 6-12, 6-13
MRP3-16FXS, PVDM requirements C-3
PVDM requirements (table) C-3 to C-16
removing and replacing 8-2
setting date and time 6-5 to 6-8
MTU 6-69

multicast music-on-hold
description 6-90
enabling 6-115
multilink PPP Interleaving 6-75
music on hold
See MOH

N

Netscape Communicator, configuring 4-7
network management, third-party applications 6-144
Network Time Protocol
See NTP
noise, power 2-10
note, described xxii
NTP 6-130
number expansion
command 6-41
configuring 7-30
table 6-42

O

organization, document xx

P

packet filter
defined 6-117
setting up 6-117
packet voice data module
See PVDM
pager number 4-27
password
CallManager DC Directory Administrator account 4-36
CCMAdmin account 4-39
enable 4-21
login 4-21
rules 4-20
SQL server SA account 4-40
System Manager admin 4-24
Windows 2000 administrator 4-22
PC, IP address for 4-6 to 4-7
PC requirements 2-18
peripheral equipment, documentation (table) 2-25
permanent virtual circuit
See PVC
planning cable installation 2-14
ports, number per card 1-4 to 1-6
POTS dial peer 6-46

power
circuit protection 2-9
configuration with five Catalyst switches (illustration) 3-12
connecting 3-32 to 3-33
fluctuation 2-11
outage 2-11
reasons for outages 2-11
recommended configuration 3-11 to 3-12, 3-32
power and grounding 2-8 to 2-12
power consumption, system B-1 to B-4
power cord 2-13
power spike 2-9
power strip 2-11
power supply
backup 1-7
configurations (table) 3-13 to 3-14
guidelines 3-11 to 3-14
location in chassis 1-6
power supply, backup, documentation xxiv
power surge 2-9
power transient 2-10
product key, CallManager 4-33
propagation delay 6-17
publications
See documentation
publisher, CallManager 4-32, 4-35
PVC 6-69
PVDM
DSP groups and 6-18
requirements on ASI160 and MRP3-16FXS cards C-3
requirements on ASI and MRP cards (table) C-3 to C-16

Q

QoS
description 6-71
tools
custom queuing 6-72
listed 6-72
multilink PPP Interleaving 6-75
RSVP 6-73
RTP header compression 6-76
weighted fair queuing 6-73
Quality of Service
See QoS

R

rack mounting 3-4 to 3-5
Random Early Detection
See RED
Real-Time Transport Protocol
See RTP
receptacles 2-9
RED 6-71

redundant power supply
See RPS 300
regulatory compliance **2-28**
remote System Manager dial-up **8-4 to 8-6**
removing
memory, DSP, and VPN modules **8-3**
MRP and ASI cards **8-2**
SPE310 cards **8-2**
required tools **2-17**
requirements, environmental **2-12**
residential gateway
See RGW
Resource Reservation Protocol
See RSVP
restoring system data **8-7 to 8-18**
RGW, configuring **6-97 to 6-100**
routing, wire **2-16**
RPS 300 **1-7, 2-10, 3-32**
RSVP
configuring for voice **6-73**
enabling **6-74**
RTP **6-76**

S

SA account password **4-40**
safety standards **2-28**
SAP card
accessing **5-12 to 5-14**
connecting legacy voice mail system **3-30**
connecting to the console port **3-29**
connections to COM ports **3-30**
connection to UPS **3-30**
definition **1-6**
initializing the modem **4-48**
remote access to System Manager **3-31**
saving configuration **6-4**
scenarios, TDM clocking **6-79 to 6-85, 7-46 to 7-58**
security
considerations **6-115**
firewall **6-116**
setting privileges **5-34**
Security, in System Manager **5-6**
serial interfaces, configuring **7-3 to 7-5**
serialization delay **6-17**
shutting down the system **5-35 to 5-36**
signaling types
E&M **6-38**
E1 PRI **6-39**
FXS/FXO **6-38**
ISDN BRI **6-38**
MFT-T1 CAS **6-39**
T1 PRI **6-39**
SMTP server **4-26**

SNMP
community strings 4-21
configuring 4-21
MIB 5-3
Software Upgrade, in System Manager 5-6
SPE310 card
accessing 5-10
accessing with Terminal Services Client 5-9
definition 1-4
SPE310 cards
removing and replacing 8-2
restoring data 8-7 to 8-18
setting date and time 6-5
SPE310 running System Manager, changing host name 5-22 to 5-28
SPE card
determining IP address 5-21
lithium battery warning 2-3
spoofing 6-121
SQL Server
host name, recognizing new on SPE310 5-24 to 5-28
SQL server
SA account password 4-40
SSP
configuring 6-10
features 6-9
overview 6-8
SSP card
accessing, using CLI 5-11
connections 3-29
definition 1-6
SSP Manager, in System Manager 5-5
stacking Catalyst switches 3-8 to 3-10
star-wired switch configuration 4-43 to 4-45
static electricity, effects of 2-12
subscriber, CallManager 4-32, 4-35
sunlight, effects of 2-13
surge suppressor 2-11
switches 1-7
switch types, ISDN 6-31, 6-66
syslog server 4-28
system, power consumption B-1 to B-4
system cards, in which slots to install 2-27
system cards, IP address 4-14
system data, backing up 5-28 to 5-33
system hardware configuration illustration 1-3
System Maintenance, in System Manager 5-6
System Manager
accessing 5-5
best practices 5-17, 6-2 to 6-3
configuring for remote dial-up 8-4 to 8-6
definition 5-2
determining version of 5-7
navigating in 5-5
restoring data 8-7 to 8-18
using to determine IOS software release on SSP card 5-7

System Manager admin password 4-24
System Manager software, remote access to 3-31
System Setup, in System Manager 5-5
system software
  installing from CCO 8-22 to 8-24
  installing from CD-ROM 8-20 to 8-21
  media options 8-20
  upgrade and installation scenarios 8-19 to 8-20

T

T1
  See MFT-T1 CAS, MFT-T1 WIC, T1 (FT1) WIC
T1 (FT1) WIC 6-34, 7-7
T1 CAS, configuring for MGCP 6-103 to 6-106
T1 interfaces, configuring 7-7 to 7-8
T1 PRI 6-39
T1 VIC, connection 3-28
T1 VWIC, connection 3-28
T1 VWIC interfaces, configuring 7-8 to 7-9
T1 WIC, connection 3-28
TDM clock
  configuring 6-35
  scenarios 6-79 to 6-85, 7-46 to 7-58
Telnet, accessing SPE310s with 5-11
temperature 2-12
terminal emulation interfaces 5-3
Terminal Services Client
  accesing SPE310 cards with 5-9
  download 5-3
  installing 4-9
  use of on the ICS 7750 5-3
TFTP server, IP address 4-16, 6-123
TGW, configuring 6-93 to 6-97
third-wire ground 2-11
time
  setting on MRP and ASI cards 6-5 to 6-8
  setting on SPE310 cards 6-5
tools, required 2-17
traffic shaping in Frame Relay 6-70
transcoding 6-24
  choosing DSP firmware for 6-25
  deciding when to use 6-24
  determining how many DSPs are needed for 6-26
  understanding DSP usage for 6-26
transient suppressor 2-11
trunking gateway
  See TGW
turning on the system 3-32 to 3-33

U

uninterruptible power supply
  See UPS
unpacking, box 2-21

upgrading
IOS images using ICS System Manager 8-25 to 8-26
IOS images using the CLI 8-26 to 8-27
upgrading system software
CCO, using 8-22 to 8-24
CD-ROM, using 8-20 to 8-21
scenarios 8-19 to 8-20
UPS
connecting to SAP card 3-30
described 1-6
purpose 2-10
recommended power configuration 3-32

V

verifying box contents 2-23
verifying system installation 3-34
vibration 2-12
VIC
configuring
E&M 6-57
FXO 6-55
FXS 6-44, 7-30, 7-33, 7-34
MFT-T1 CAS 6-60
connecting to PSTN 6-39
connection 3-28
description 6-38
documentation xxiv
supported on MRP 6-13
voice interface card
See VIC
voice mail
direct serial connection 6-132 to 6-137
legacy system, connecting to SAP card 3-30
voice ports
E&M
configuring 6-57
described 6-38
E1 PRI 6-39
FXO
configuring 6-55
description 6-38
FXS
configuring 6-44, 7-30, 7-33, 7-34
description 6-38
ISDN BRI 6-38
MFT-T1 CAS
configuring 6-60
description 6-39
T1 PRI 6-39
voice WAN interface card
See VWIC
VoIP, Frame Relay, configuring for 6-69
VoIP dial peer 6-50
VPN modules, removing and replacing 8-3

VWIC
connection 3-28
documentation xxiv
types of

W

WAN interface card
See WIC
web browser, configuring 4-7 to 4-9
weight distribution 2-8
weighted fair queuing 6-73
Weighted Random Early Detection 6-71
See WRED
WIC
configuring
asynchronous/synchronous serial 6-28, 7-3
ISDN BRI 6-30
T1 (FT1) 6-34, 7-7
connection 3-28
documentation xxiv
supported on MRP 6-13
Windows 2000 interface, accessing SPE310
Windows 2000 interface 5-10
wink start 6-61
WINS server, IP address 4-17
wire routing 2-16
WRED 6-71