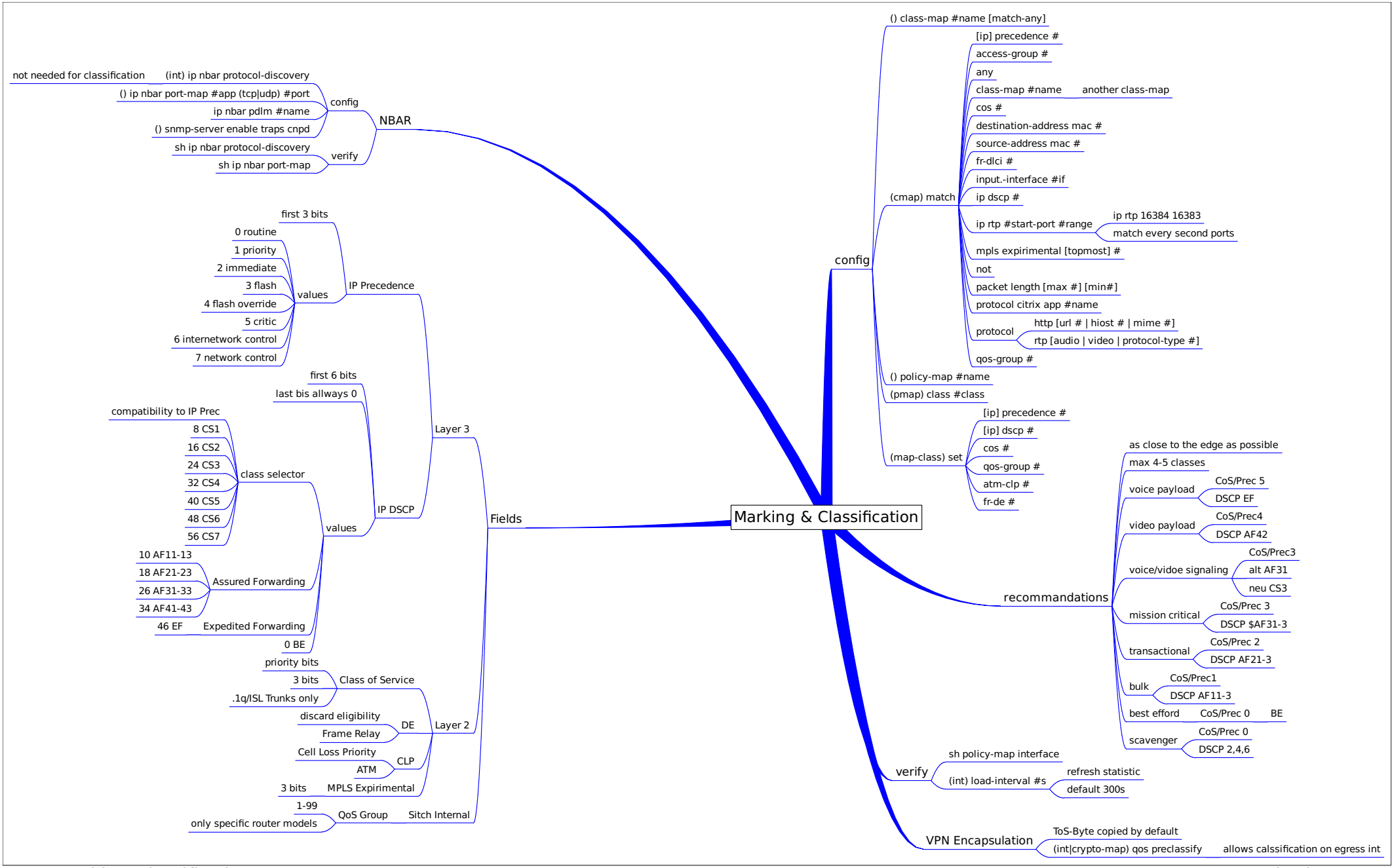
Marking & Classification
NBAR
config
(int) ip nbar protocol-discovery
not needed for classification
() ip nbar port-map #app (tcp|udp) #port
ip nbar pdlm #name
() snmp-server enable traps cnpd
verify
sh ip nbar protocol-discovery
sh ip nbar port-map
Fields
Layer 3
IP Precedence
values
first 3 bits
0 routine
1 priority
2 immediate
3 flash
4 flash override
5 critic
6 internetwork control
7 network control
IP DSCP
first 6 bits
last bis allways 0
values
class selector
compatibility to IP Prec
8 CS1
16 CS2
24 CS3
32 CS4
40 CS5
48 CS6
56 CS7
Assured Forwarding
10 AF11-13
18 AF21-23
26 AF31-33
34 AF41-43
Expedited Forwarding
46 EF
0 BE
Layer 2
Class of Service
priority bits
3 bits
.1q/ISL Trunks only
DE
discard eligibility
Frame Relay
CLP
Cell Loss Priority
ATM
MPLS Expirimental
3 bits
Sitch Internal
QoS Group
1-99
only specific router models
config
() class-map #name [match-any]
(cmap) match
[ip] precedence #
access-group #
any
class-map #name
another class-map
cos #
destination-address mac #
source-address mac #
fr-dlci #
input.-interface #if
ip dscp #
ip rtp #start-port #range
ip rtp 16384 16383
match every second ports
mpls expirimental [topmost] #
not
packet length [max #] [min#]
protocol citrix app #name
protocol
http [url # | hiost # | mime #]
rtp [audio | video | protocol-type #]
qos-group #
() policy-map #name
(pmap) class #class
(map-class) set
[ip] precedence #
[ip] dscp #
cos #
qos-group #
atm-clp #
fr-de #
recommandations
as close to the edge as possible
max 4-5 classes
voice payload
CoS/Prec 5
DSCP EF
video payload
CoS/Prec4
DSCP AF42
voice/vidoe signaling
CoS/Prec3
alt AF31
neu CS3
mission critical
CoS/Prec 3
DSCP $AF31-3
transactional
CoS/Prec 2
DSCP AF21-3
bulk
CoS/Prec1
DSCP AF11-3
best efford
CoS/Prec 0
BE
scavenger
CoS/Prec 0
DSCP 2,4,6
verify
sh policy-map interface
(int) load-interval #s
refresh statistic
default 300s
VPN Encapsulation
ToS-Byte copied by default
(int|crypto-map) qos preclassify
allows calssification on egress int