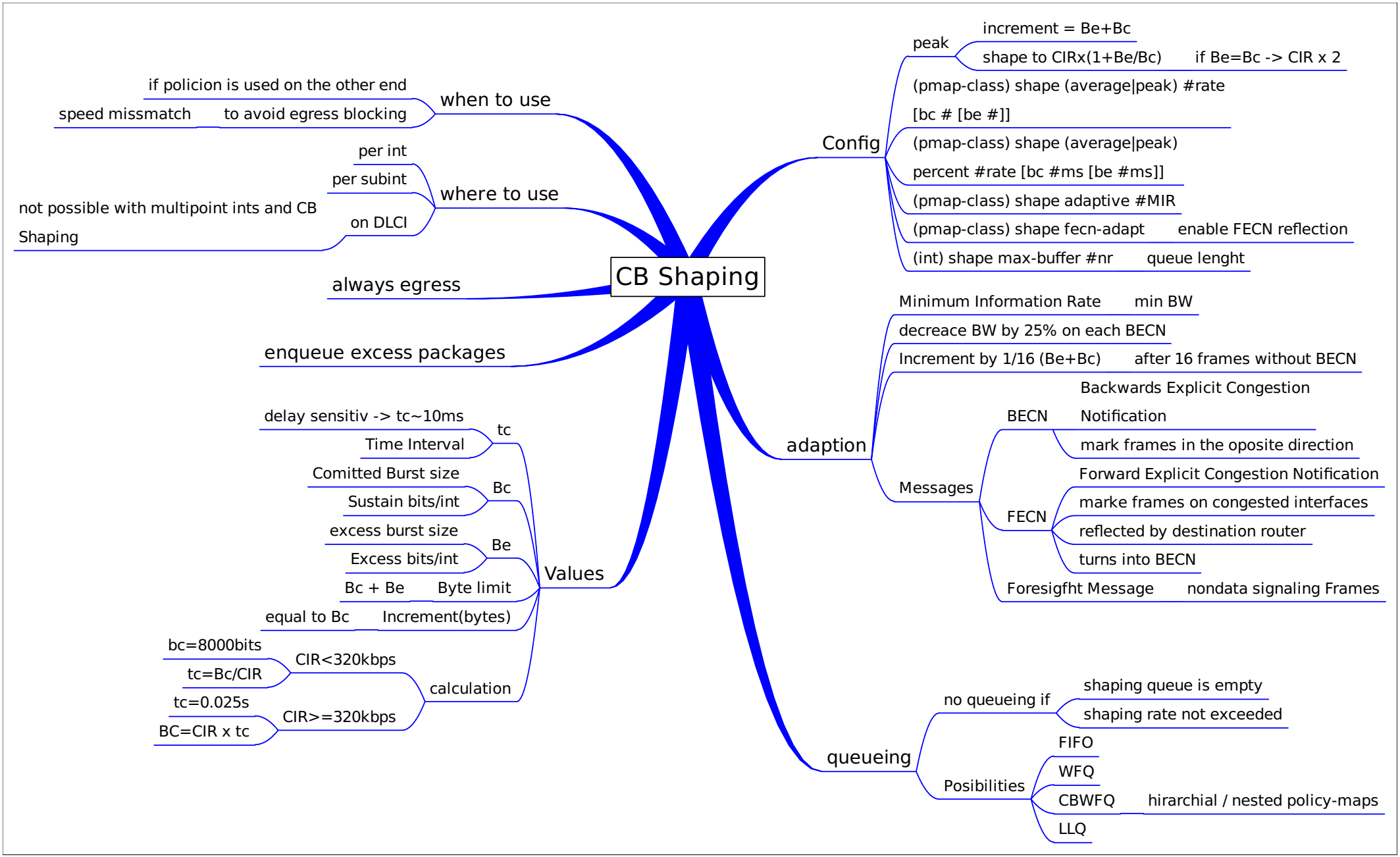
CB Shaping
when to use
if policion is used on the other end
speed missmatch
to avoid egress blocking
where to use
per int
per subint
on DLCI
not possible with multipoint ints and CB
Shaping
always egress
enqueue excess packages
Values
tc
delay sensitiv -> tc~10ms
Time Interval
Bc
Comitted Burst size
Sustain bits/int
Be
excess burst size
Excess bits/int
Bc + Be
Byte limit
equal to Bc
Increment(bytes)
calculation
CIR<320kbps
bc=8000bits
tc=Bc/CIR
CIR>=320kbps
tc=0.025s
BC=CIR x tc
Config
peak
increment = Be+Bc
shape to CIRx(1+Be/Bc)
if Be=Bc -> CIR x 2
(pmap-class) shape (average|peak) #rate
[bc # [be #]]
(pmap-class) shape (average|peak)
percent #rate [bc #ms [be #ms]]
(pmap-class) shape adaptive #MIR
(pmap-class) shape fecn-adapt
enable FECN reflection
(int) shape max-buffer #nr
queue lenght
adaption
Minimum Information Rate
min BW
decreace BW by 25% on each BECN
Increment by 1/16 (Be+Bc)
after 16 frames without BECN
Messages
BECN
Backwards Explicit Congestion
Notification
mark frames in the oposite direction
FECN
Forward Explicit Congestion Notification
marke frames on congested interfaces
reflected by destination router
turns into BECN
Foresigfht Message
nondata signaling Frames
queueing
no queueing if
shaping queue is empty
shaping rate not exceeded
Posibilities
FIFO
WFQ
CBWFQ
hirarchial / nested policy-maps
LLQ