## Rocky Enterprise Linux 9.2 Manual Pages on command 'tc-gate.8'

**$ man tc-gate.8**

GATE(8)                          Linux                          GATE(8)

NAME

    gate - Stream Gate Action

SYNOPSIS

    tc  ...  action gate

        [ base-time BASETIME ] [ clockid CLOCKID ]

        sched-entry  <gate  state>  <interval  1> [ <internal priority>

    <max octets> ]

        sched-entry <gate state> <interval  2>  [  <internal  priority>

    <max octets> ]

        sched-entry  <gate  state>  <interval  3> [ <internal priority>

    <max octets> ]

        ......

        sched-entry <gate state> <interval  N>  [  <internal  priority>

    <max octets> ]

DESCRIPTION

    GATE  action  allows specified ingress frames can be passed at specific

    time slot, or be dropped at specific time slot. Tc filter  filters  the

ingress  frames,  then tc gate action would specify which time slot and how many bytes these frames can be passed to device and which time slot frames  would  be dropped.  Gate action also assign a base-time to tell when the entry list start.  Then gate action would start to repeat  the gate  entry  list  cyclically at the start base-time.  For the software simulation, gate action requires the user assign reference  time  clock type.

PARAMETERS

base-time

Specifies the instant in nanoseconds, defining the time when the schedule starts. If 'base-time' is  a  time  in  the  past,  the schedule will start at

base-time + (N * cycle-time)

where N is the smallest integer so the resulting time is greater than "now", and "cycle-time" is the sum of all the intervals  of the  entries  in the schedule. Without base-time specified, will default to be 0.

clockid

Specifies the clock to be used by  qdisc's  internal  timer  for measuring  time  and scheduling events. Not valid if gate action is used for offloading filter.  For example, tc  filter  command with skip_sw parameter.

sched-entry

There  may multiple sched-entry parameters in a single schedule. Each one has the format:

sched-entry <gate state> <interval> [ <internal  priority>  <max octets> ]

<gate  state>  means gate states. 'open' keep gate open, 'close' keep gate close.

<interval> means how much nano seconds for this time slot.

<internal priority> means internal priority  value.  Present  of the  internal  receiving queue for this stream. "-1" means wild? card.  <internal priority> and <max octets> can be omit  default

to be "-1" which both

value to be "-1" for this <sched-entry>.

<max octets> means how many octets size could pass in this time

slot. Dropped if overlimited. "-1" means wildcard. <max octets>

can be omit default to be "-1" which value to be "-1" for this

<sched-entry>.

Note that <internal priority> and <max octets> are nothing mean‐

ing for gate state is "close" in a "sched-entry". All frames are

dropped when "sched-entry" with "close" state.

EXAMPLES

The following example shows tc filter frames source ip match to the

192.168.0.20 will keep the gate open for 200ms and limit the traffic to

8MB in this sched-entry. Then keep the traffic gate to be close for

100ms.  Frames  arrived at gate close state would be dropped. Then the

cycle would run the gate entries periodically. The schedule will  start

at  instant  200.0s using the reference CLOCK_TAI. The schedule is com‐

posed of two entries each of 300ms duration.

# tc qdisc add dev eth0 ingress

# tc filter add dev eth0 parent ffff: protocol ip \

     flower skip_hw src_ip 192.168.0.20 \

     action gate index 2 clockid CLOCK_TAI \

     base-time 200000000000ns \

     sched-entry open 200000000ns -1 8000000b \

     sched-entry close 100000000ns

Following commands is an example to filter a stream source mac match to

the  10:00:80:00:00:00 icmp frames will be dropped at any time with cy‐

cle 200ms.  With a default basetime 0 and clockid is CLOCK_TAI  as  de‐

fault.

# tc qdisc add dev eth0 ingress

# tc filter add dev eth0 parent ffff:  protocol ip \

   flower ip_proto icmp dst_mac 10:00:80:00:00:00 \

   action gate index 12 sched-entry close 200000000ns

AUTHORS

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