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

$ man tc-skbprio.8

SKBPRIO(8)   Linux   SKBPRIO(8)

NAME

    skbprio - SKB Priority Queue

SYNOPSIS

    tc qdisc ... add skbprio [limit packets]

DESCRIPTION

    SKB Priority Queue is a queueing discipline intended to prioritize the

    most important packets during a denial-of-service (DoS) attack. The

    priority of a packet is given by skb->priority , where a higher value

    places the packet closer to the exit of the queue. When the queue is

    full, the lowest priority packet in the queue is dropped to make room

    for the packet to be added if it has higher priority. If the packet to

    be added has lower priority than all packets in the queue, it is

    dropped.

    Without SKB priority queue, queue length limits must be imposed on in?

    dividual sub-queues, and there is no straightforward way to enforce a

    global queue length limit across all priorities. SKBprio queue enforces

    a global queue length limit while not restricting the lengths of indi?

vidual sub-queues.

While SKB Priority Queue is agnostic to how skb->priority is assigned.
A typical use case is to copy the 6-bit DS field of IPv4 and IPv6 pack‐
ets using tc-skbedit(8). If skb->priority is greater or equal to 64,
the priority is assumed to be 63. Priorities less than 64 are taken at
face value.

SKB Priority Queue enables routers to locally decide which packets to
drop under a DoS attack. Priorities should be assigned to packets such
that the higher the priority, the more expected behavior a source
shows. So sources have an incentive to play by the rules.

ALGORITHM

Skbprio maintains 64 lists (priorities go from 0 to 63). When a packet
is enqueued, it gets inserted at the tail of its priority list. When a
packet needs to be sent out to the network, it is taken from the head
of the highest priority list. When the queue is full, the packet at the
tail of the lowest priority list is dropped to serve the ingress packet
- if it is of higher priority, otherwise the ingress packet is dropped.
This algorithm allocates as much bandwidth as possible to high priority
packets, while only servicing low priority packets when there is enough
bandwidth.

PARAMETERS

limit Maximum queue size specified in packets. It defaults to 64. The
       range for this parameter is [0, UINT32_MAX].

SEE ALSO

tc-prio(8), tc-skbedit(8)

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