DUAL LEAKY BUCKET

Dual Leaky Bucket

- Dual leaky bucket is use to police multiple traffic parameters like PCR, SCR, and MBS:
- Traffic is first checked for SCR at first leaky bucket.
- Nonconforming packets at first bucket are dropped or tagged.
- Conforming (untagged) packets from first bucket are then checked for PCR at second bucket.
- Nonconforming packets at second bucket are dropped or tagged.

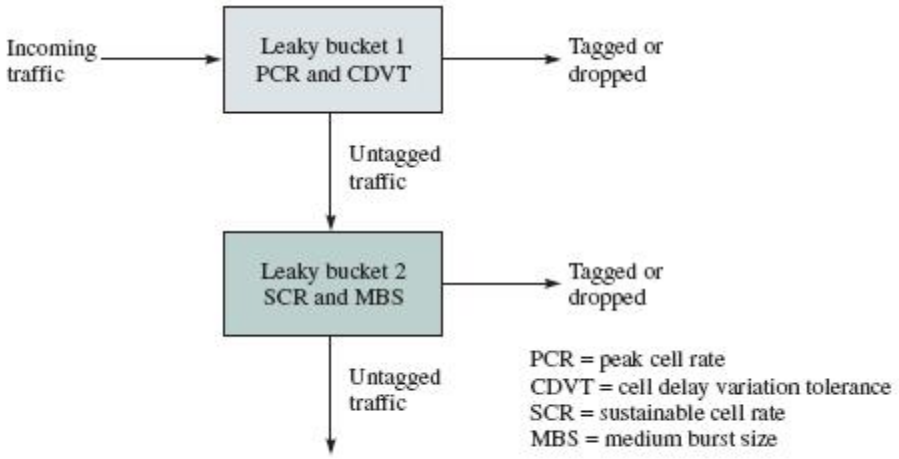
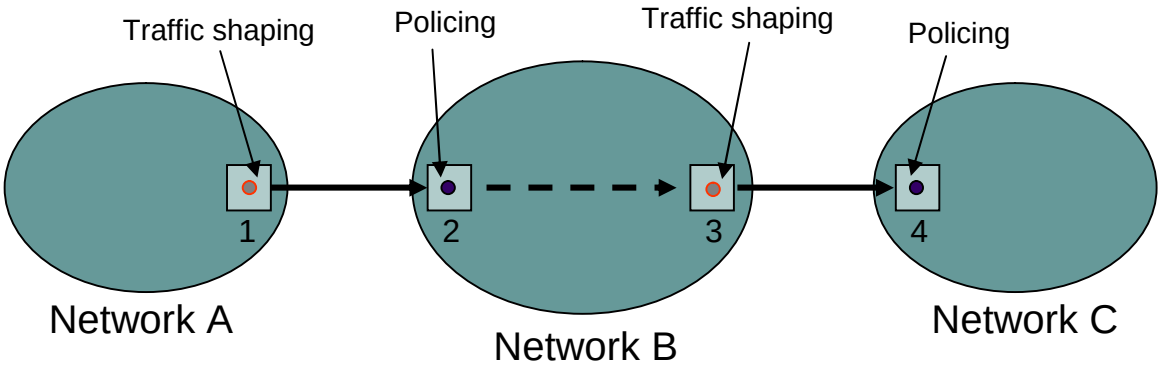


FIGURE 7.57 A dual leaky bucket configuration

Traffic Shaping



- Networks police the incoming traffic flow
- Traffic shaping is used to ensure that a packet stream conforms to specific parameters
- Networks can shape their traffic prior to passing it to another network
- In the above figure, the traffic shaping device is located at the node just before the traffic flow leaves a network, while the policing device is located at the node that receives the traffic flow from another network.

Leaky Bucket Traffic Shaper

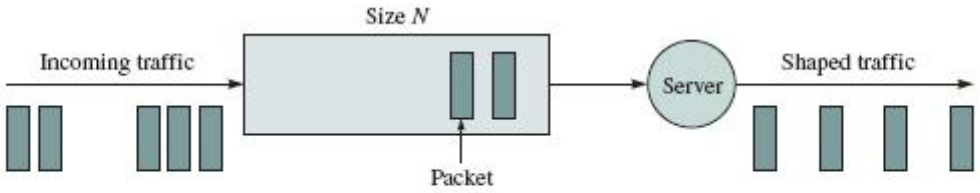


FIGURE 7.59 A leaky bucket traffic shaper

- Incoming packets are first stored in a buffer.
- Packets are served periodically so that the stream of packets at the output is smooth.
- Incoming packets are first stored in a buffer.
- Packets are served periodically so that the stream of packets at the output is smooth.
- A traffic shaping device needs to introduce certain delays for packets that arrive earlier than their scheduled departures and require a buffer to store these packets.
- Leaky bucket traffic shaper is too restrictive, since the output rate is constant when the buffer is not empty.

Token Bucket Traffic Shaper

- Token bucket is a simple extension of leaky bucket traffics shaper
- Tokens are generated periodically at constant rate and are stored in token bucket.
- Token rate regulates transfer of packets.
- If the token bucket is full, arriving tokens are discarded.
- A packet from the buffer can be taken out only if a token in the token bucket can be drawn

- If sufficient tokens available, packets enter network without delay
- If the token bucket is empty, arriving packets have to wait in the packet buffer.
- The size K determines how much burstiness allowed into the network

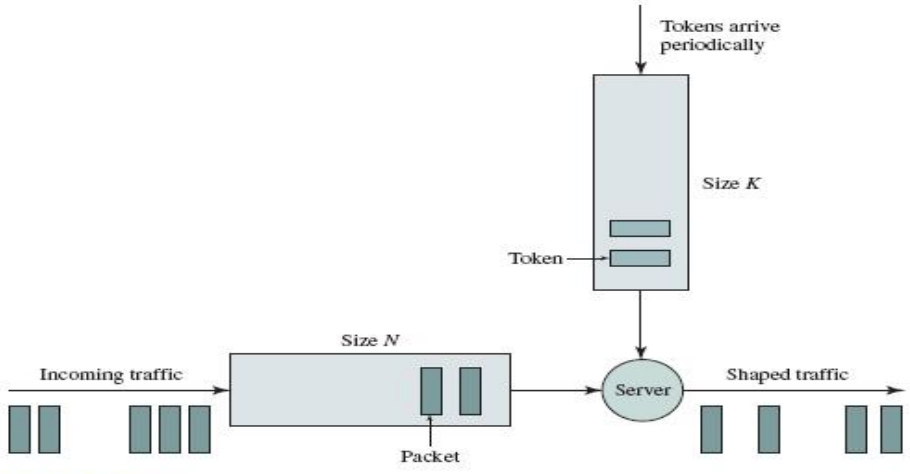


FIGURE 7.60 Token bucket traffic shaper

Source : http://elearningatria.files.wordpress.com/2013/10/unit2.pdf