SFC Long-lived Flow Use Cases
Draft-krishnan-sfc-long-lived-flow-use-cases

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Core case in this draft

- There are many situations in which specific long-lived flows can usefully get modified treatment
    - Particularly when the flow is also high-volume
- We are focused on cases where the behavior can not be determined a-priori from 5-tuple classification
    - But where the flow duration and volume makes it worth the extra effort to analyze and change the chain

Firewall Case

- Transparent Firewall Bypass
  - If a long lived flow can be determined to be trustworthy and communicating with a safe communication partner, in many cases the expensive firewall can be dropped out.
  - This may need more than just the 5-tuple
  - It may need to be later in the flow, after initiation
    - If the analysis could be done from the 5-tuple, this would be covered by existing use cases
  - The flow itself is to be identified by L2-4 fields

Cache Bypass case

- Many operators deploy transparent in-line caches

- But some content has properties that you don't want to cache it. Even if it is large.

- So it would be effective for flows corresponding to this kind of content to avoid the cache once they have been recognized.

  - This gets more complex if the protocol permits multiple sequential transactions over the same TCP connection.

Crypto Bypass (new)

- VPNs and similar applications encrypt their traffic

- They may not use a recognizable port number

- Mobile networks use encryption on many data exchanges

- So if long live high volume flows can be found that don't need internal encryption, it would be good to skip it

- Diego Lopez is working on text for this case

Goal

- The authors would like that these use cases end up in whatever use case document(s) the WG adopts.
  - We are happy to work with a WG editor to see these incorporate in a common doc
  - Or have this become a WG doc
- These use cases may drive SFC requirements and architectural considerations.
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