draft-ietf-pcn-marking-behaviour-01
(Standards track)

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Since last IETF

- 2 new versions (WG -00, now at -01)
- Reflects consensus decisions at Philadelphia, re-confirmed at Dublin
- Traffic conditioning re-written
  - now a MAY;
  - ‘downgrading’ removed
  - “use flow termination”
- Competing-non-PCN-packets
  - now MAY be metered;
  - advice: don’t have any
- I believe ready for WG last call
3 Discussion areas

• Topics raised recently on the mailing list
  – Not sure whether they’re open issues
3 Discussion areas

1. Allow the (forthcoming) draft-satoh-pcn-ST-marking-00
   – To be discussed later in meeting

2. For excess traffic marking, have a parameter N, such that only every Nth pkt is marked (metering behaviour unchanged)
   – Relevant to edge behaviour where you terminate a flow with a marked pkt
   – Studies (eg draft-menth-pcn-emft) have shown that you can achieve the same overall behaviour by instead terminating 1/N flows that have a marked pkt

3. Make preferential dropping optional (instead of a SHOULD)
   – Draft says: preferentially drop pkts that are excess-traffic-marked
   – Have an option to allow “random dropping” (eg tail drop)
History of preferential dropping

• Philadelphia: choice between
  1. MUST preferentially drop pkts that are already excess-traffic-marked OR
  2. MUST drop independent of marking
  3. (preferentially drop pkts that are not excess-traffic-marked)
  – Consensus for option 1, as a SHOULD

• Summary of discussion (impact on different edge approaches for doing flow termination):
  – Next slide, (I believe) this is still a fair summary

• New suggestion: have an Option, ie operator can choose whether to do 1 or 2 (or 3?)
## Summary of Philadelphia discussion

<table>
<thead>
<tr>
<th>Edge beh =&gt;</th>
<th>CL/SM</th>
<th>Marked flow termination</th>
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<tbody>
<tr>
<td>(below) drop pref</td>
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<tr>
<th>Prefer drop ExM pkts</th>
<th>Best for CL/SM</th>
<th>Works ok</th>
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<tr>
<th>‘random’ drop</th>
<th>breaks completely in some scenarios (terminates far too much)</th>
<th>works OK (slightly slower than above)</th>
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<tr>
<th>Prefer drop pkts not ExM</th>
<th>breaks completely in some scenarios (terminates all flows)</th>
<th>best for MFT (much faster than above)</th>
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<th>CL/SM:</th>
<th>MFT:</th>
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<td>Can terminate fast (‘1 shot’)</td>
<td>Simpler (don’t measure rates), but accept trade-off that won’t terminate so fast</td>
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Configuration Option for dropping behaviour

• Michael’s suggestion: have a configuration Option, ie operator can choose what sort of preferential dropping

• Pros:
  – All edge behaviours can choose their optimal preferential dropping behaviour

• Cons:
  – Extra complexity to standardise, implement & configure

• Question:
  – What would you say in the stds doc?
  – Eg what’s the default behaviour? (tail drop?) (but breaks…)

• Suggestion:
  – Keep the SHOULD as now (prefer drop ExM)
  – Add a note about why you would do something different (eg tail drop is smallest implementation step from today’s routers, but beware it has these trade-offs blah depending on your edge behaviour wibble)
WGLC

• I believe this doc is ready for WG last call
  – With the ‘Note’ suggested on previous slide;
    and a few nits
  – I’m not sure that 100% consensus will be possible, even with infinite discussion