PCN baseline encoding experiment supporting admission control and termination

PCN baseline encoding experiment supporting admission control and termination – how it works.

See draft ietf-pcn-architecture-04, draft eardley-pcn marking-behaviour-01 and draft-moncaster-pcn-baseline-encoding for terminology and basic meter/marker definition.

PCN rate on interior
PCN node interface

PCN-excess-rate

PCN- threshold-rate

New: If PCN traffic > PCN- excess-rate, apply excess marking by *not* marking the traffic metered as exceeding the PCN-excess-rate, while continuing to mark traffic metered as below the PCN-excess-rate as CE.

If PCN traffic > PCN-threshold-rate, apply threshold marking.
PCN baseline encoding experiment supporting admission control and termination – pro/con.

Benefits of this approach

- Enables support of PCN Admission Control based on CE marked signaling packets as proposed by Joe Babiarz (requires no rate measurement in the egress to support Admission Control).
- Enables support of termination of admitted PCN traffic based on measured PCN excess rates in egress nodes.
- Consumes just a single codepoint to indicate a change in PCN pre congestion state and is MPLS friendly and supports two PCN states.

Some obvious drawbacks

- Admission Control doesn’t work properly once PCN traffic is above PCN-excess-rate.
- The Egress node measures a traffic pattern similar to PCN excess traffic once PCN traffic crosses the PCN-threshold-rate for short periods only.
- Behaviour in the presence of multiple pre-congested PCN nodes is less optimal.