CBACC

Max Franke, Kyle Rose, Jake Holland – IETF 124 – CCWG

Overview – CBACC

- Circuit Breaker Assisted Congestion Control
- Network circuit breaker as described in RFC8084 (?)
- Allows intermediate nodes to prune multicast channels to adhere to limits
- Uses bitrate metadata provided by DORMS

RFC 8084 – Network circuit breakers

- Detect if flow(s) experience persistent excessive congestion → Terminate flows
- For traffic that doesn't use congestion control
- Has several components including:
  - Ingress meter
  - Egress meter
  - Measurement function
  - Trigger function
  - Reaction

The issues with the mapping in CBACC

- CBACC currently deviates somewhat from those components
- The ingress meter doesn’t actively measure anything (only takes reported metadata)
- The ingress and egress meter are likely co-located
- Reaction is applied to the egress; reaction logic is complicated based on priorities of streams

The plan with CBACC

- Use the metadata provided to be proactive instead of reactive
  - Never actually join a multicast group that would put you over capacity
- Make it do what a circuit breaker is supposed to do
  - Respond to “actual congestion” by trimming connections
- Simplify reaction logic
  - Remove priority from CBACC logic
  - Consider extending DORMS separately if there seems to be a requirement for it

The questions

- Should we stick with trying to map CBACC to RFC 8084?
- Should there be an update to 8084 to allow for circuit breakers with more flexible architectures?