Diameter Congestion And Filter Attributes

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RFC 5777 Foundation

- RFC 5777
- Filter–Rule AVP
  - The basis our work.
  - Condition/Action design

```
Filter-Rule ::= < AVP Header: 509 >
        [ Filter-Rule-Precedence ]
        ; Condition part of a Rule
        ; ----------------------
        [ Classifier ]
        * [ Time-Of-Day-Condition ]
        ; Action and Meta-Data
        ; -------------------
        [ Treatment-Action ]
        ; Info about QoS related Actions
        ; ----------------------------
        [ QoS-Semantics ]
        [ QoS-Profile-Template ]
        [ QoS-Parameters ]
        [ Excess-Treatment ]
        ; Extension Point
        ; --------------
        * [ AVP ]
```

Congestion Management

- Filter-Rule does not support ECN in 2 ways
  1. No AVP to add to condition part to Classify ECN marked traffic
  2. No Congestion-Treatment Action Set (RFC has Excess-Treatment and Treatment-Action AVPs)
- We need to build many filters for Congestion Management
  - How do we know they are working? (Is any traffic captured)
  - What can we observe on existing filters in order to remove unused ones OR ones deprecated by new filters?

Progress since IETF89

- Draft accepted as Working Group Draft
- Two issues identified for discussion
  - Do ECE and CWR also need support?
  - Are example use cases needed?
- Discussion requested – One response
  - 4/29/14
  - 5/19/14
  - 6/5/14
  - 6/18/14

Author's Proposals

- ECE and CWR already covered in TCP Header AVP
- ECN use cases are very similar to QoS use cases already provided in RFC5777. No additional work is required.
- Propose progressing the draft to WGLC immediately following this meeting.

Background

ECN Specific AVPs

- ECN-IP-Codepoint AVP (Enumerated)
  - Specifies the Explicit Congestion Notification codepoint values to match in the IP header.
  - Use: Place in Filter-Rule's Classifier
- Congestion-Treatment AVP (Grouped)
  - Similar in design/use to Excess-Treament AVP
  - NOTE: Criteria for Congestion or traffic under congestion is out of scope of the AVP specification
  - Flow-Count AVP (Unsigned64)
    - Indicates the number of protocol specific flows. The protocol is determined by the filter
  - Packet-Count AVP (Unsigned64)
    - Indicates the number of protocol specific packets.

Filter AVPs for maintenance

- Two AVPs
  - Flow-Count AVP (Unsigned64)
    - Indicates the number of protocol specific flows. The protocol is determined by the filter
  - Packet-Count AVP (Unsigned64)
    - Indicates the number of protocol specific packets.
- Uses
  - Use in accounting/reporting to determine if Filter is working as planned
  - Can be combined with other AVPs to provide rudimentary traffic profile (e.g. bytes per flow, bytes per packet, etc.)
  - Can be sent in Filter-Rule as prescriptive