Splitting
Flow Specification V2

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History

- WG said FSv1
  - Use case: only DDOS
  - Packet Format: no header changes

- WG FSv2
  - Use New TLV format
  - User ordering of matches (dependency between matches open issues)
  - Action ordering
  - Action failures
  - Yang modules /More intelligent responses

- IDR Wide Communities – stalled at AD (along with rpd)
Why Split

Feedback from Implementations (Nokia and Juniper)

• Too much to implement at once
• Highest priority – DDOS enhanced
  • TLV format for types
  • User ordering on matches
  • Action upgrades
    • DDOS actions ++ a few more
    • What happens if you fail
Split- Part 1 – DDOS ++

• Part 1 – DDOS++

• Matches
  • IP matches only
  • User Ordering on Matches
  • Depending on matches (??)

• Ranges set for
  • IP Only
  • Non-IP
  • Reserved (0, expansion range)
Split- Part 1 – DDOS ++ Matches (1)

• IP matches only

• User Ordering on Matches

• Ranges set for
  • IP Only
  • Non-IP
  • Reserved (0, expansion range)

• Dependency between matches (??)
Split- Part 1 – DDOS ++ Actions (2)

• Extended Community only
• Two approaches
• Approach 1:
  • 7 bits assignment
  • 1-bit action chain failure
    • 0 – stop and roll back,
    • 1 – Continue on
• What to do about current assignments
  • Re-assign to make orthogonal
  • Example – Redirect and Indirection and then traffic rate
Split- Part 1 – DDOS ++ Actions (3)

• Extended Community only

• Two approaches

• Approach 2:
  • 5 bits assignment
  • 2 bits ordering – allows user to order actions
  • 1-bit action chain failure
    • 0 – stop and roll back,
    • 1 – Continue on
Split- Part 1 – Reporting

• Leave reporting of success to
  • Yang module (later in sequence)
  • SYSLOG (now)
Additional Drafts (not specific order)

• Draft 2 – DDOS + extended actions
  • IP Match + Extended Communities + Wide Communities
  • Match – add the ability to have dependencies between matches
  • Action – provide user ordering of matches and dependencies between actions
  • Action failure – better failure

• Draft 3 – Beyond DDOS – to Firewall
  • Matches – Non-IP Matches - MPLS, SR-SID
  • Actions – Extend to beyond

• Draft 4 – Firewalls for Tunnels + L2VPN
  • Matches – L2VPN + NV03 draft
  • Actions – added to fit

• Draft 5 – Discovering and Managing FSv2/FSv1
  • Counters on use,
  • Reason rules – installed or failed to install
  • NOTIF and other reporing