Mechanisms for Optimal LAG/ECMP Component Link Utilization in Networks

draft-krishnan-large-flow-load-balancing-04

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OVERVIEW

• Mechanisms for optimal utilization of LAGs
• Based on long-lived large flow identification
  • Flows that exceed a certain BW over a pre-defined interval; e.g. 5% of link BW over 1 sec
• Two mechanisms for identification of flows
  • Sampling techniques
  • Inline, line rate hardware-based technique
• Two mechanisms for rebalancing of flows
  • Move long-lived large flows, keep small flows as is
  • Move small flows, keep long-lived large flows as is
ADDITIONS/CHANGES SINCE IETF 85

• Positioning
  • Applicable to all wire-line networks – not limited to SP backbone networks

• Mechanisms
  • Move small flows (flows other than the identified long-lived large flows)
  • Adjusting the LAG hash table to account for the long-lived large flows

• Background information
  • Simulation Results
  • Detailed explanation of algorithm for automatic hardware identification

• Editorial cleanup
NEXT STEPS

• Adopt as a work item in OPSAWG
  • Individuals from both operators and vendors have expressed interest and provided feedback