Explicit Congestion Marking in MPLS

draft-ietf-tsvwg-ecn-mpls-00.txt

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IETF-68 tsvwg Mar 2007
updated draft (v minor)
individual draft -01 ⇒ WG item -00

• Explicit Congestion Marking in MPLS
  • updated draft: draft-ietf-tsvwg-ecn-mpls-00.txt
  • status: standards track WG item
  • immediate intent: move to WG last call soon jointly with MPLS w-g as agreed

• changes from previous draft-davie-ecn-mpls-01.txt
  • changed filename
  • trivial text updates (up-rev’d refs)
  • diffs and alt formats (courtesy of rfcdiff & xml2rfc tools) at: http://www.cs.ucl.ac.uk/staff/B.Briscoe/pubs.html#ecn-mpls>
main tech issues on list(s)
since previous IETF

• copy rather than reset ECN at MPLS ingress ≠ RFC3168 ECN tunnelling
  – RFC3168 only said reset because security folks thought copy might leak info
  – concern has been resolved – updated IPSec RFC4301 (Dec 05) copies ECN at ingress
  – RFC3168 tunnelling section needs updating to reflect later security thinking and practice

• prove ECN will be useful in MPLS before adding it
  – ECN enables congestion control without need for drop
  – for optional RFCs (cf Diffserv in MPLS) vendors can decide if RFC is useful, not IETF
  – operators may want VPNs and constraint-based routing AND Diffserv/ECN capabilities

• why put a function already in a higher layer in a lower layer?
  – congestion info travels from lower layers upwards – physical resource exhaustion
  – if don’t have ECN in MPLS header, LSR has to mark IP header to do ECN

• don’t believe droppable data will decrease if ECN becomes widespread
  – clarification to be added: “droppable” means “to be dropped on MPLS decapsulation” because outer MPLS header congestion marked but inner IP header not ECN capable