A Request for Information About the Deployment of RED

Sally Floyd

AT&T Center for Internet Research at ICSI

(ACIRI)

URL: http://www.aciri.org/floyd/red/

What is RED?

- RED (Random Early Detection) [FJ93] is a form of Active Queue Management (AQM).
- Active Queue Management:
  - Monitors the average queue size.
  - Drops packets before buffer overflow, as an indication of congestion to end nodes.

Why use Active Queue Management?

- To reduce persistent queueing delay.
- To reduce unnecessary packet drops, in some cases.
- As a precondition for Explicit Congestion Notification (ECN) [RFC 2481].

What about deployment?

- As far as I know, there is not much deployment:
  - Curtis Villamizar's report from 1994 [V94].
  - Sean Doran's data from 1998 [D98].
  - Various informal, private reports.
- There are many research papers, both pro and con, as well as other proposals for AQM [RED].

Request of NANOG members:

- Reports of difficulties, or success, in the deployment of RED?
- Reasons for not deploying active queue management?
- Reports of interest, or lack of interest, in ECN?

Tests of queue management in the Internet?

- Tests for persistent queueing delay along a path?
- Tests for bursty packet drops for a flow?
  (These are unnecessary packet drops.)

Contacts:

- Sally Floyd at ”floyd@aciri.org”.
  (Responses can be somewhat slow.)
- The mailing list for issues related to the deployment of RED, listed at [RED].
- The RED Web Page [RED], ”http://www.aciri.org/floyd/red/”.

References

D98 Doran, S., ”http://adm.ebone.net/ smd/red-1.html”, 1998.

FJ93 Random Early Detection gateways for Congestion Avoidance . Floyd, S., and Jacobson, V. IEEE/ACM Transactions on Networking, August 1993.

RFC2481 RFC 2481, A Proposal to add Explicit Congestion Notification (ECN) to IP. Ramakrishnan, K.K., and Floyd, S., January 1999.

More References

V94 Villamizar, C., and Song, C., High Performance TCP in ANSNET. Computer Communications Review, October 1994.