CHOKe
- A stateless active queue management scheme for approximating fair bandwidth allocation

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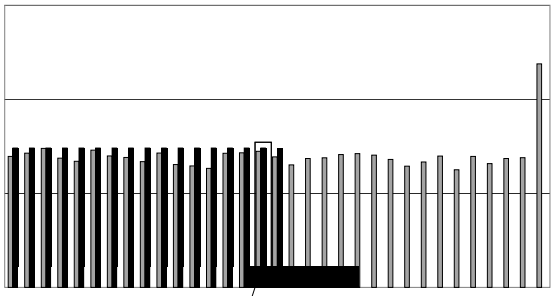
statisticÓ about the incoming trafÞc and can be used in a simple fashion to penalize misbehaving ßows. When a packet arrives at a congested router, CHOKe draws a packet at random from the FIFO buffer and compares it with the arriving packet. If they both belong to the same ßow, then they are both dropped, else the randomly chosen packet is left intact and the arriving packet is admitted into the buffer with a probability that depends on the level of congestion



The form of these probabilities is somewhat surprising: they do not depend on the arrival rate (or, indeed, the number) of other incoming ßows. Since is the departure rate of type packets, this in turn implies that the Ògoodput Óof each ßow depends only on its own arrival rate and on the service rate . Clearly the validity of these formulas relies heavily on our use . 0.1271queu.d4.

C. Modeling implications

Our objectives in this section are twofold: First, we interpret and summarize the formulas obtained for the theoretical models. Second, we comment on the use of these models to understand the networks with UDP and TCP ßows simulated in Section III.

We begin with front CHOKe. Table II shows that as the offered rate of a ßow increases, itG throughput does not increase proportionally. For example, with held constant at 3, and as

(ii) Else

(10)

and, if there is a session and a bandwidth allocation with , then there must be another session such that,