

Review of Explicit Allocation of Best-Effort Packet Delivery Service

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Contributions

This paper proposed a preferential dropping algorithm and a tagging algorithm. The proposed twin RIO algorithms use two sets of parameters, one set for in packets and one for out packets. As in RED, RIO has three phases to determine dropping in the routers, normal operation, congestion avoidance and congestion control. The paper designed a TSW tagger, which is a profile meter for bulk-data transfer. The tagger estimates the TCP sending rate and based on this, a tagging algorithm tags packets as out when the traffic exceeds a certain threshold.

Drawbacks

In the receiver-based scheme, the routers only mark the packets by setting the ECN bit and rely on the end host to back off. This scheme depends on well-behaved TCP for the sender to slow down during congestion.

Another thing is that the proposed allocated-capacity framework seems to depend on the version of TCP. Simulation results shows that it can achieve different throughput with high assurance with newer version of TCP. The framework also needs to be tested by real internet.

Implications

Although today's internet works, it is valuable if different services could be provided to satisfy different users. This paper presents a simple approach to make this possible. This paper proposes an allocated-capacity framework which provides mechanisms for allocating different levels of services with predictability. The design of dropping algorithms RIO and TSM tagger are extremely simple and easy to deploy. This design is also flexible and scalable since it pushes the complexity to the edge of the network in a way that the dropping algorithm in the routers in the center of network will not change over time while the allocation profiles are at the edge of the network.