

Congestion is a problem in any distributed system. In this paper, we present and evaluate a congestion control scheme to manage congestion internal to a cluster-based router. Our results show that it is possible to improve the overall forwarding rate of the router by reducing the injection rate of traffic to the internal network when the router is under heavy load. Our control algorithm is based on Backward Explicit Congestion Notification combined with a novel method for queue scheduling. We find that the forwarding rate of our prototype router can be increased by nearly 50% while the traffic in the internal network can be reduced by up to 59%. Fair allocation of resources under overload is guaranteed by our scheme.