

SECURE AND FAST DATA TRANSFER: WITH NETWORK CODING

ASHVINI JADHAV¹ & SHRINIWAS GADAGE²

¹ME(Computer Network), Pune University, Maharashtra, India

²GH Raisonni College of Engineering and Management, University of Pune, Maharashtra, India

ABSTRACT

The theory of network coding promises significant benefits in network performance, especially in lossy networks and in multicast and multipath scenarios. To realize these benefits in practice, we need to understand how coding across packets interacts with the acknowledgment (ACK)-based flow control mechanism that forms a central part of today's Internet protocols such as transmission control protocol (TCP). The mechanism for TCP/NC that incorporates network coding into TCP with only minor changes to the protocol stack, thereby allowing incremental deployment. how the source transmits linear combinations of packets currently in the congestion window. And new interpretation of ACKs the sink acknowledges every degree of freedom even if it does not reveal an original packet immediately. Thus, new TCP ACK rule takes into account the network coding operations in the lower layer and enables a TCP-compatible sliding-window approach to network coding. Coding essentially masks losses from the congestion control algorithm and allows TCP/NC to react smoothly to losses, resulting in a novel and effective approach for congestion control over lossy networks such as wireless networks

KEYWORDS: AES, ACO, Butterfly Network, TCP/NC
