Abstract

Network coding is a collection of techniques in which a node is allowed to combine, encode and send one or more packets as a single encoded packet instead of sending individually. It improves throughput, packet delivery ratio and efficiency of the system. The inherent broadcasting nature of wireless mediums helps us to adopt network coding very easily. At the same time, as it reduces the number of transmissions, it reduces the probability of various losses due to transmission impairments, channel contentions and route failures. This paper discusses various well known network coding schemes. Network coding is broadly classified into global and local network coding. Network coding is also classified into binary – Xor based and random linear coding based network coding. Further to these, based upon the applications, Network coding schemes are classified for unicast, multicast and broadcast applications. In each of these categories, network coding is explained in the reference of inter-session network coding and intra-session network coding.

Index Terms

Computer Science Wireless

Keywords

Network Coding, Random Linear Network Coding, Binary Network Coding, Unicast, Multicast, Broadcast, Inter-Session, Intra-Session, COPE, MORE