A SYNTHESIS VLAN APPROACH TO CONGESTION MANAGEMENT IN DATA CENTRE ETHERNET NETWORKS

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ABSTRACT

This paper discusses, develops and analyses technique for the control of congestion in data center Ethernet networks by priority tag assignment. In very large networks with heavy traffic, congestion control plays an important role in network resource management. There have been several proposals to address the challenge of traffic congestion particularly in the data center and internet applications. A scheme known as Backward Congestion Notification with Active Queue Management (AQM) was reviewed in relation to congestion management. The paper then develops a more reliable and stable candidate scheme for congestion control for data Center Network (DCNs): Synthesis Virtual Logical Aggregation Network Segmentation (S-VLANS). The approach used is based on the measurement of QoS parameters with variation of load intensities alongside with the buffer sizes of the core switch. This scheme is able to control link utilisation by assigning tags to high priority end systems running different services, hence logically reducing the amount of queuing delay in the DCN networks as well as traffic overhead, thereby improving network performance.

KEYWORDS: Ethernet, Data Center Networks, Synthesis VLAN Segmentation, Priority Tag Assignment