

PACKET LOSS RECOVERY IN MOBILE AD-HOC NETWORK BY STREAM CONTROL CONGESTION ALGORITHM

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Abstract

Stream control transmission protocol (SCTP) is a transport level protocol providing end-to-end communication between two or more applications running in separate hosts. SCTP is operating on top of the connectionless packet network. It offers connection oriented, reliable transportation of independently sequenced message streams. It was originally designed to provide a general-purpose transport for message-oriented applications transporting signaling data. The biggest difference to TCP is multi-homing, the concept of several streams within a connection (multistreaming) and the transportation of sequence of messages instead of sequence of bytes. SCTP is designed to use multihoming. SCTP is capable to handle multiple IP-addresses on both endpoints. One of the possible address pairs is used as a primary path others are used for fault-tolerance. Multi-homing and the heartbeat mechanism enable monitoring of the connection and detection of loss of a session in primary path. This gives the ability to change the transportation to a secondary path. SCTP includes appropriate congestion avoidance mechanisms and packet loss recovery functions as TCP and in addition it is resistant to flooding and masquerade attacks.

Keywords - Stream control transmission protocol (SCTP), multistreaming, Multi-homing, Dynamic Source Routing (DSR)