

SCTP Sendbuffer Advertising

CS4089 Project

Midterm Evaluation

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Introduction

- ▶ Stream Control Transmission Protocol(SCTP):
 - ▶ is designed to transport Public Switched Telephone Network (PSTN) signaling messages over IP networks, but is capable of broader applications.
 - ▶ the next generation transport protocol which aims to remove several limitations of TCP
- ▶ Sentbuffer Advertising:
 - ▶ each segment will carry the amount of backlogged data present in the sender's buffer

Problem Statement

- ▶ To study the effects of advertising send-buffer occupancy in SCTP. This information allows networks to discern between application-limited, network-limited and flow-control limited flows, creating new avenues of network optimization.

Literature Survey

- ▶ RFC 3286 [2] provides a high level introduction to the capabilities supported by SCTP .
- ▶ RFC 4960 [3] describes the complete protocol
- ▶ Agache and Raiciu [1] propose a scheme to advertise send-buffer occupancy in TCP.

Work Done

- ▶ Completed a part of the planned literature survey
- ▶ Wrote a file transfer utility that uses SCTP as the transport protocol to measure the fluctuations in the sendbuffer size.

Future Work

- ▶ To design a working prototype of sendbuffer advertising for SCTP in the Linux kernel and test it in a simulated network.
- ▶ Security implications of the prototype will also be studied.

References I

- [1] A. Agache and C. Raiciu. *TCP Sendbuffer Advertising*. Internet-Draft draft-agache-tcpm-sndbufadv-00.txt. IETF Secretariat, July 20, 2015.
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url: <http://www.rfceditor.org/rfc/rfc3286.txt>.
- [3] R. Stewart. *Stream Control Transmission Protocol*. RFC 4960. RFC Editor, Sept. 2007, pp. 1152.
url: [http : //www.rfc-editor.org/rfc/rfc4960.txt](http://www.rfc-editor.org/rfc/rfc4960.txt).