

## **CONTENTS**

<b>1. Introduction</b>	
1.1 Transport Layer & its protocols.....	1
1.2 Overview of TFTP.....	1
1.3 Motivation and Objective.....	2
1.4 Problem Definition.....	2
<b>2. Literature Survey</b>	
2.1 The Stream Control Transmission Protocol	
2.1.1 Overview of SCTP.....	3
2.1.2 SCTP Features.....	5
2.1.3 Multi-homing.....	6
2.1.4 Multi-streaming.....	7
2.1.5 Packet Format.....	9
2.1.6 Chunk Format.....	10
2.1.7 SCTP Association .....	11
2.1.7.1 Advantage of including state cookie.....	11
2.1.8 SCTP Association Termination.....	11
2.2 Trivial File Transfer Protocol	
2.2.1 Overview of TFTP.....	13
2.2.2 Initial Message Exchange.....	13
2.2.3 Data Block Numbering.....	14
2.2.5 TFTP Read Process.....	15

2.2.6 TFTP Write Process.....	16
2.2.7 Order of Events.....	17
2.2.8 TFTP Packets.....	17
<b>3. Proposed System</b>	
3.1 Problem Analysis.....	18
3.2 Proposed Framework.....	20
3.3 Framework Description.....	21
3.4 Symbols and Meaning .....	23
3.5 TFTP Connection Model.....	24
3.6 Protocol Data Flow Diagram.....	25
<b>4. Implementation and Coding</b>	
4.1 Data types and Structure definition used .....	29
4.2 APIs and Functions developed .....	31
<b>5. Results</b>	
5.1 Testing and Results .....	35
5.2 Screenshots.....	37
<b>6. Conclusion and Future works.....</b>	<b>40</b>

## **TABLES**

Table1: Comparison of SCTP services and features with those of TCP and UDP.....	4
Table 2: System Specifications.....	35
Table3: Results of File Transfer in a TCP connection & SCTP association.....	36

## **FIGURES**

Figure 1: Multi-homed hosts.....	8
Figure 2: SCTP multi-streamed association.....	8
Figure 3: SCTP packet format.....	9
Figure 4: SCTP chunk format.....	10
Figure 5: Association establishment and shutdown.....	12
Figure 6: TFTP Read Process Steps.....	15
Figure 7: TFTP Write Process Steps.....	16
Figure 8: Framework for TFTP.....	21
Figure 9: TFTP Connection Model.....	24
Figure 10: TFTP Data Flow Diagram.....	25-28
Figure 11: Comparison between SCTP & TCP.....	36