## List of Figures

<table>
<thead>
<tr>
<th>Figure: No</th>
<th>Title</th>
<th>Page No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure: 1.1</td>
<td>Basic Internet- Working Prototype.</td>
<td>1</td>
</tr>
<tr>
<td>Figure: 1.2</td>
<td>OBS Functional Diagram.</td>
<td>6</td>
</tr>
<tr>
<td>Figure: 1.3</td>
<td>TCP-OBS Connection Model.</td>
<td>10</td>
</tr>
<tr>
<td>Figure: 2.1</td>
<td>TCP/IP Services.</td>
<td>19</td>
</tr>
<tr>
<td>Figure: 2.2</td>
<td>Simple Network Topology.</td>
<td>20</td>
</tr>
<tr>
<td>Figure: 2.3</td>
<td>Dataflow.</td>
<td>21</td>
</tr>
<tr>
<td>Figure: 2.4</td>
<td>Taxonomy of TCP Variants.</td>
<td>23</td>
</tr>
<tr>
<td>Figure: 3.1</td>
<td>TCP over OBS Network Structure.</td>
<td>34</td>
</tr>
<tr>
<td>Figure: 3.2</td>
<td>Random Burst Losses leading to optical-burst dropping at core nodes.</td>
<td>41</td>
</tr>
<tr>
<td>Figure: 3.3</td>
<td>Comparison of Modified TCP-Reno with existing TCP-Reno.</td>
<td>47</td>
</tr>
</tbody>
</table>
Figure: 3.4 Comparison of Modified TCP-Reno with existing TCP-Reno when burstification time out is 0.1 μs.

Figure: 3.5 Comparison of Modified-TCP-Newreno with existing TCP-Newreno.

Figure: 3.6 Comparison of Modified-TCP-Newreno with existing TCP-Newreno when burstification time out is 0.1 μs.

Figure: 4.1 Burstification Process at Ingress node

Figure: 4.2 Comparison of TCP-NewVegas and Modified TCP-NewVegas.

Figure: 5.1 NSFNet Topology with 14 nodes.

Figure: 5.2 Throughput of TCP-Reno with CBR and FTP traffic when BTO is 1 μs.

Figure: 5.3 Throughput of TCP-Reno with varying BTO.

Figure: 5.4 Throughput of TCP-Newreno with varying BTO.
Figure: 5.5 Throughput of TCP-Newreno with BTO 0.01 μs and 1.0 μs.

Figure: 5.6 Evaluating the performance of TCP-Westwood-Optic

Figure: 5.7 Throughput of TCP-Westwood-Optic with varying BTO.

Figure: 5.8 Comparison of TCP-Reno, TCP-Newreno, and TCP-Westwood-Optic when BTO is 0.001 μs.

Figure: 5.9 Comparison of TCP-Reno, TCP-Newreno, and TCP-Westwood-Optic when BTO is 0.01 μs.

Figure: 5.10 Comparison of TCP-Reno, TCP-Newreno, and TCP-Westwood-Optic when BTO is 1.0 μs.

Figure: 5.11 Throughput of TCP-Vegas with BTO 0.01 μs and 1.0 μs.

Figure: 5.12 Throughput of TCP-NewVegas with BTO 0.001 μs, 0.01 μs and 1.0 μs.
Figure: 5.13  Throughput of FAST-TCP with BTO 0.001 μs and 1.0 μs.

Figure: 5.14  Comparison of TCP-Vegas, TCP-New Vegas, and FAST-TCP when BTO is 0.001 μs.

Figure: 5.15  Comparison of TCP-Vegas, TCP-New Vegas, and FAST-TCP when BTO is 0.1μs.

Figure: 5.16  Comparison of TCP-Vegas, TCP-New Vegas, and FAST-TCP when BTO is 1μs.

Figure: 5.17  Comparisons of TCP-New Vegas and TCP-Reno with BTO 0.01μs.

Figure: 5.18  Comparisons of TCP-New Vegas and TCP-Reno with BTO 0.1μs.

Figure: 5.19  Comparisons of TCP-New Vegas and TCP-Reno with BTO 1μs.

Figure: 5.20  Comparisons of TCP-New Vegas and TCP-Newreno with BTO 0.01μs.
Figure: 5.21  Comparisons of TCP-NewVegas and TCP-Newreno with BTO 0.1μs.  

Figure: 5.22  Comparisons of TCP-NewVegas and TCP-Newreno with BTO 1μs.  

Figure: 5.23  Comparisons of FAST-TCP and TCP-Reno with BTO 0.01μs.  

Figure: 5.24  Comparisons of FAST-TCP and TCP-Reno with BTO 0.1μs.  

Figure: 5.25  Comparisons of FAST-TCP and TCP-Reno with BTO 1μs.  

Figure: 5.26  Comparisons of FAST-TCP and TCP-Newreno with BTO 0.01μs.  

Figure: 5.27  Comparisons of FAST-TCP and TCP-Newreno with BTO 0.1μs.  

Figure: 5.28  Comparisons of FAST-TCP and TCP-Newreno with BTO 1μs.  

Figure: 5.29  Comparison of TCP-Westwood-Optic and FAST-TCP with BTO 0.01 μs.
Figure: 5.30  Comparison of TCP-Westwood-Optic and FAST-TCP with BTO 0.1 μs.

Figure: 5.31  Comparison of TCP-Westwood-Optic and FAST-TCP with BTO 1 μs.

Figure: 5.32  Comparison of TCP-Westwood-Optic and TCP-NewVegas with BTO 0.01 μs.

Figure: 5.33  Comparison of TCP-Westwood-Optic and TCP-NewVegas with BTO 0.1 μs.

Figure: 5.34  Comparison of TCP-Westwood-Optic and TCP-NewVegas with BTO 1 μs.

Figure: 5.35  Comparisons of TCP-Westwood-Optic and TCP-Vegas with BTO 0.01 μs.

Figure: 5.36  Comparisons of TCP-Westwood-Optic and TCP-Vegas with BTO 0.1 μs.

Figure: 5.37  Comparisons of TCP-Westwood-Optic and TCP-Vegas with BTO 1 μs.

Figure: 5.38  Comparison of six TCP Variants with BTO 0.01 μs.

Figure: 5.39  Comparison of six TCP Variants with BTO
0.1 μs.

Figure: 5.40  Comparison of six TCP Variants with BTO  133
1 μs.