Multi-path File Transfer Application

1. **An introduction, providing a basic overview of the goal. What is the problem we're trying to solve? Why is solving that problem important?**

   We aim to implement Multi-path Transmission Control Protocol (MPTCP) for a file transfer application on Linux System. In spite of systems being equipped with multiple "network" ports, they currently only make use of a single "Network Port" for transferring data packets from one host to the other. This network architecture fails to utilize the maximum potential bandwidth of the multiple ports thereby rendering the architecture inefficient to use.

2. **What is the approach we are going to take?**

   We will implement an operational File Transfer Protocol algorithm using a novel technique to efficiently use MPTCP framework. This effort ensures that multiple files can be transferred from Host A to Host B over multiple TCP sub flows thereby utilizing the full available bandwidth of the networking system.

3. **Related work, which discusses the current state of the art that we intend to build upon.**

   We have been motivated by the scrupulous work of Damon Wischik, Costin Raiciu, Adam Greenhalgh and Mark Handley (University College London) in the field of MPTCP. Currently this proposed protocol is in the experimental stage thus requiring extensive research and commercial implementations in the same.

4. **What is our plan of action? What research questions do we want to answer? How will we answer them? What applications/workloads/traces/etc. will we employ in this task? How will we know when we're done?**

   We will commence the project by building the infrastructure that supports MPTCP. Next, we will create a MPTCP enabled File Transfer application to communicate between two hosts. Finally, we are planning to conduct the analysis of the running application to verify whether it is using the entire bandwidth or not.

   As the future work we are planning to analyze the available bandwidths of each sub flow and implement the packet transfer based on this analysis.

5. A schedule, specifying concretely what we intend to have accomplished by each of the two milestones below as well as for the final report/poster.

Milestone	Date	Accomplished work
1	11/5/2015	-Build a working model of MPTCP enabled Client – Server System - To build an indigenous file transfer application system using TCP
2	11/24/2015	-To modify file transfer application system to use MPTCP communication channel. -Deploy the MPTCP compatible file transfer application on the initially developed Client- server paradigm.