

50.012 NETWORKS - PROJECT

Strawman Proposal

Cohort 1 Team 1

Title of Project

A multi-threaded downloader for parallel data download based on UDP

Team Members

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Main Idea of the Project

While TCP provides a host of benefits through its various features, it comes at a costly trade-off of significant delays due to connection setup and congestion control when loading web pages. UDP, on the other hand is a no-frill protocol that has the potential to achieve similar or even better performance than TCP.

On the other hand, multithreaded downloading utilizes more bandwidth with more number of connections to the server compared to the conventional single threaded downloading. It is possible to download different segments of a large file from the server simultaneously, and merge them in the right sequence into the original file on the client.

In our project, we seek to develop a multi-threaded downloader based on UDP that can match or even outperform an equivalent TCP downloader.

Networking Topics

- Services provided by the Transport Layer
- Segmentation and Assembly
- Congestion Control