Higher Layer Telecommunication Protocols – Elec 6861
Fall 2019
Standard project:
Content Delivery Network Design and Implementation

1. Introduction
The project consists of designing and implementing a Content Delivery Network (CDN). The designed and implemented CDN should allow end-users to stream videos from different content providers. The main components of the systems are the origin servers (servers belonging to the content providers and which contains the original videos), the replica servers (servers belonging to the CDN providers and from which the videos are streamed), the controller (software module belonging to the CDN provider and which selects the server which will serve each end-user request). The design goals are described below, followed by the requirements on the project teams, and the teaching assistant contacts.

2. Design goals
a. Origin servers should be able to push videos to selected replica servers prior to end-user requests for the videos.
b. The controller should be able to select the specific replica server which will serve any given end-user request it (the controller) receives. In the real world, it is usually the replica server which is the closest to the end-user. However in this project, other algorithms could be used (e.g. round robin)
c. The controller should be able to redirect the end-user requests it receives to the selected replica server
d. End-users should be able to request specific video and get the video streamed from the replica server selected by the controller.

3. Requirements on the project teams
- Projects should be done in teams of 3 to 5 students.
- Each team should select and motivate the technologies used in the project.
- The expected output consists of:
  - A technical report (max: 10 pages).
  - A powerpoint presentation (5 minutes) to introduce your demo
  - A live demo

4. Teaching assistant contact

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