Design and Implementation of Content Routing Protocol

Overview:

The goal of this project is to create a content routing protocol by routing contents using their unique content identifiers (CIDs). The design philosophy employs the use of content identifiers when requesting a piece of content, to find the closest content to the user that is being requested. When the content is found at the closest host, the content identifier along with host ids are deployed to fetch the contents from nearest location. The reason for using such hybrid (HOST and CONTENT) identifiers between the data packets and the ACK packets is to be able to employ a more standard routing scheme until the full content is delivered and acknowledged. For routing we use reliable flooding approach where each router maintains two tables (HOST and CONTENT) which gets updated either through routing update process (between routers) or host update process (HOST to ROUTER). This creates a routing scheme where content identifiers or host numbers serve as the addresses.