

Computer Network Course Project Part 2

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1 Overview

In this course project, we are supposed to learn about Software-Defined Network, code a simple global routing algorithm, and a load balancer.

2 Network Layer Routing

At the perspective of the central controller, we can get all information about the whole network, so it is possible to run dijkstra or floyd algorithm to get the shortest path from point to point, and install rules in every router. The router can then correctly forward packages in different topology of network in Figure 1.

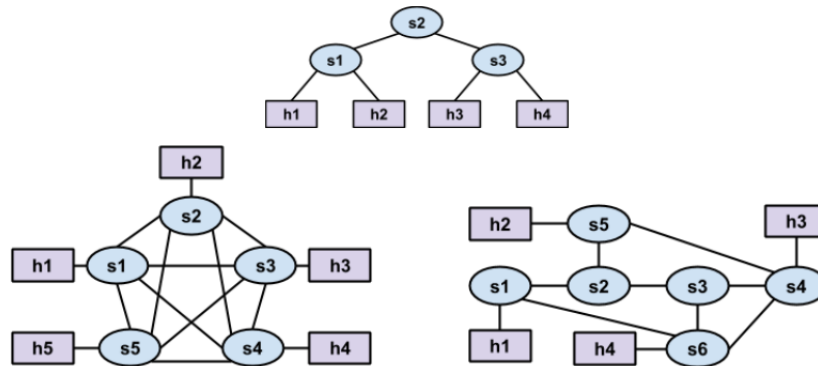


Figure 1: Some topology

3 Load Balancer

A load balancer have a virtual IP address, and some real hosts attached to it. It shadows hosts from clients and distribute IP packets to different hosts in

attempt to balance the burden between them. Another job of the load balancer is to respond to the ARP request destined to the virtual IP address so that other devices in the network can find it properly.

With the load balancer, the client successfully access different hosts alternatively in the provided test.