The Simulation of an OpenFlow Load-Balancer

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October 21, 2013

Introduction

With the emergence of Software-Defined Networking(SDN), many problems can be handled by a non-dedicated way, which could significantly reduce the cost. One good example is using an OpenFlow switch to do the load-balancing. Recently it begins to go wild in the industry. There are many ways to balance the load using OpenFlow switch and we are trying to compare the performance of different methods. The ability enabled by ns-3 to set the network topology and corresponding parameters of hosts and links makes it suitable for exploring this problem. We will use latency, throughput and server's load as indicators of the performance.

The main works to be done in our project include:

1. Using ns-3 to create proper network topology.
2. Writing the program running on the openflow controller.
3. Running the simulation and compare the performance under different circumstances.

Schedule

Time	Work
Oct.21-Oct.27:	Learn NS-3 and go through some examples.
Oct.28-Nov.3:	Learn OpenFlow and study the corresponding part.
Nov.4-Nov.10:	Create network topology and write the controller.
Nov.11-Nov.17:	Debug and make improvement.
Nov.18-Nov.24:	Run simulation and collect data.
Nov.25-Dec.1:	Processing data.
Dec.2-Dec.8:	File the report.