An Elastic Distributed SDN Controller

[222 Course Project Checkpoint One]

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1. WHAT WE'VE DONE SO FAR

So far, we're well prepared for the implementation work during the next project period. To be detailed, we have finished the following:

1. OpenFlow: we've read OpenFlow's tutorials, documents and specs.
2. Mininet: simulate a multi-switch, multi-host network with Mininet and VM
3. RYU: learn RYU which is a python-based OpenFlow controller.

2. WHAT TO DO NEXT

1. define configuration file in json format and implement a parser
2. implement a basic controller scheduling logic
3. think how to evaluate

3. GRAPHS

The following is the estimated evaluation result.

3.1 Throughput and Controller Number

The **Figure 1** demonstrates the relation between the number of controllers and the controller throughput. If the migration algorithm works correctly, there should be an approximate linear relation.

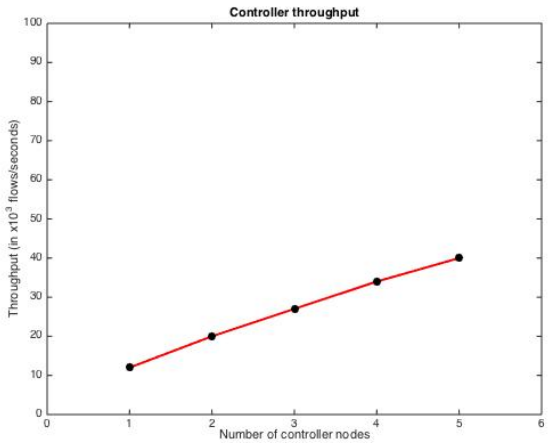

Figure 1: Caption

3.2 Performance Comparison

The **Figure 2** shows the difference on performance between unbalanced distribution of controllers and balanced one. The metric here is the respond time.

A and B are two controllers, and there are four switches in the network.

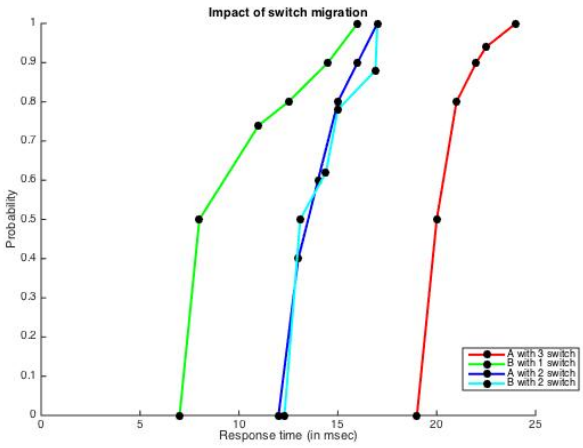

Figure 2: Caption