

Centralized Implementation of Traffic Flow Routing for SDN Networks

Xuan Tung Hoang

(1) *University of Engineering and Technology, Vietnam National University, Hanoi, Vietnam, tunghx@vnu.edu.vn.*

Abstract: In Software Defined Networking, where control functions are separated from data forwarding functions, routing problem should be differently. Nodes in data plane of a network should perform link discovery and send link cost information to their SDN controllers. SDN controllers, in turn, will run routing algorithms to find shortest paths between nodes and configure forwarding nodes correspondingly. In this paper, we are interested in implementation of mechanisms related to routing functions in SDN network. Our implementation focuses on scheduling data forwarding nodes to send link information to SDN, and distributing network flows evenly in the network to alleviate network congestions. Our implementation uses OpenFlow for south-bound interfaces and integrated with Floodlight SDN controller. Performance evaluations for our implementation is performed with Mininet and show promising improvements in convergence time and in distributing traffic evenly over the network.