**Project Title** Implementation of SDN Application and Controller for User-defined Traffic Distribution in Traditional (Non-SDN) Networks

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# ABSTRACT

SDN technology introduces flexible and efficient management system. System and network administrator can easily manage, control, and monitor network systems. However, it supports only SDN-compatible network devices (i.e., not legacy devices). This project develops a management system for legacy network devices, based-on SDN architecture, including a controller and two example applications. Network management and monitoring application provides web-based GUI for provisioning, configuration, and administration of the network devices. Traffic distribution application is an example how to use controller's APIs for collecting status of network and traffic, performing traffic distribution algorithm, and setting up a new route on the network devices. Finally, experiment scenarios are conducted to evaluate our system functionalities. The results show that the applications can work with the controller. When congestion occurs, a large flow in the congested link will be rerouted to a new path having the largest available bandwidth. Therefore, excessive traffic can be distributed from over-utilized link to under-utilized link.