**Link Error Detection and Restoration using Software Defined Networking**

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**ABSTRACT**

The present networking system is decentralized and the functionality is distributed. This makes the network complex and also makes it difficult to explore the problems that emerge. We have been dwelling in this conventional standard of networking for the past two decades.

This concept of networks has been exhausted and this gave the researches to come up with the new technologies. With the arrival of SDN technology, the programming facility has become greatly flexible. The SDN makes the network centralized and performs the task in a systematic manner. The data plane and the control are detached. The entire network is controlled using the controller which is considered to be the brain of the network. Updations and deletions are done only via the controller and the entire network can be easily handled with the help of software programs. Our project is mainly based on link failure detection and recovery. Maintenance of links in a network is a tedious task and so in order to say, a network is reliable then the important properties to be satisfied are – no packet drop and the communication is done without any delay. Both of these are affected if a link is failed and so the links in network must be kept intact. Also,the improvement in the resilient nature of the network, responses for failure of links and scalability plays a vital role with respect to networks. This project provides a unique of detecting the link failure and recovery mechanism. This project ensures that the packet is rerouted properly to the destination node even if link failure occurs and the restoration policy of the state is taken into consideration. This will make the network reliable and this is done in a virtualizing environment in order to provide with best results.