**LITERATURE SURVEY**

**1. Fast Recovery in Software-Defined Networks**

**Abstract:**

This paper implements a failover scheme with per-link Bidirectional Forwarding Detection sessions and preconfigured primary and secondary paths computed by an OpenFlow controller. The paper uses the usual way of detecting failures in Ethernet networks like if an acknowledgement is not received within 50-150ms , then the link is said to be broken. Uses two steps of process –The first step involve a fast switch-initiated recovery based on preconfigured forwarding rules guaranteeing end-to-end connectivity. The second step involves the controller calculating and configuring new optimal paths.

**Advantages:**

A lower detection time due to decreased session round trip time (RTT)

Removal of false positives. As each session spans a single link, false positives due to network congestion can be easily removed by prioritizing the small stream of control packets.

**Issues:**

Memory is not efficiently handled since the flow table should store two ways of possible communication.

Redundancy of routing information is stored in the group tables.

**2. Openflow Path Fast Failover Fast Convergence Mechanism**

**Abstract:**

The paper deals with a fast and efficient failover mechanism for redirecting traffic to more optimal backup path when there is a link failure or congestion problem in SDN. It also proposes a local pre-calculated path dataset mechanism in OpenFlow controller to allow fast network convergence. The central OpenFlow Controller computes the main and the best backup path based on the current network topology. OpenFlow controller is said to have a local dataset of path information and in case of a link failure or congestion in a path, the affected switch sends port-status message to the controller and the controller checks the flow entries affected by the failure. The controller pushes the main and the backup path to the OpenFlow switches and will recalculate the less congested backup path after it is updated periodically by the network. Once the controller get the notification about a link failure, it will perform simple lookup in its local dataset to find whole flow entry that affected by the failure. Finally, the affected entries will be deleted from the flow table and the pre-computed less congestion backup path will be selected. The controller then updates the flow entries of all switches and incorporates the new backup plan.

**Advantages:**

The single backup path for every main path in only one single switch flow table reduces the possibilities of flow table explosion.

The network traffic is redirected to alternate optimal path.

**Issues:**

Memory overhead due to the recalculation of less congested path in the controller.