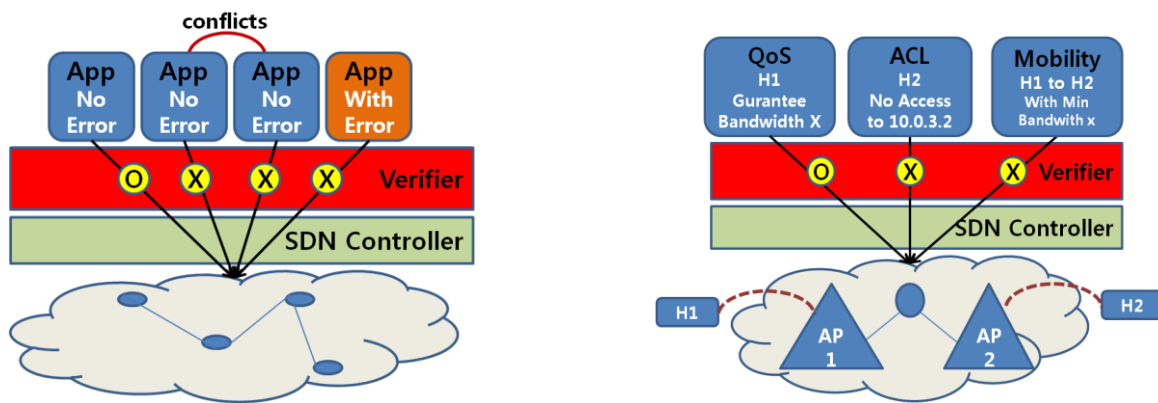


## Reliability Assurance Framework for SDN

Programmability is one of the key features of SDN and it brings a great deal of flexibility to networks, however, it also has a possibility that networks could show unexpected behaviors due to the unintended errors in the applications and configurations of SDNs. Our solution minimizes unexpected behaviors and inconsistencies of networks by checking SDN/OpenFlow applications and network states to see if there is any error or inconsistency in the networks before and after application deployments or configuration changes. The framework acts as a shield to SDNs.



### Behind The Scene

The core feature of our solution is the formal representation of applications using graphical language, and the algorithmic checking of all possible behavior that SDN controllers and applications could show to see if any error exists in the network. The verifier translates application logic into internal data structures and checks that it satisfies pre-defined properties such as 'no loop or black holes' and 'no conflict to the current networks', or user defined properties that application developers provide.

