عنوان مقاله:

Reducing Control Plane Fault of ۵G Big Data Wireless Networkfor Requirement Communications of Smart Grid Technology

محل انتشار:

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خلاصه مقاله:

In recent years, in the smart grid (SG) technology,increasing number of smart devices demand an architecture ofmore efficient communications. By employing fifth generation bigdata wireless network (۵G) into smart grid, the betterperformance, reliability, and quality of service can be achieved forrequirement communications of smart grid. The ۵G wirelessnetwork uses the software defined network (SDN) architecture ofcontrol plane which abstracts physical data packed which isforwarded from programmable control tasks of network. Thistechnology of software defined network has different architecturesof control plane that in all of them, the control layer is separatefrom data layer and the control plane is centralized in controllers.This technique of controller's centralized nature creates singlepoint of failure. Therefore, we propose an approach to softwaredefined network in ۵G big data wireless network. We utilize tworedundant controllers and synchronize the state of network acrossthese two controllers with concurrent detection of failure andcalculating of control decision in order to address thecommunication requirements of smart grids. The simulationresults depict the reduced end-to-end failover delays.

کلمات کلیدی:

۵G Big data wireless network; Control plane fault;Smart grid technology; Software defined network.