IRIS: The Openflow-based Recursive SDN Controller

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(Pt9)Abstract— **SDN is a novel and promising networking technology that enables a software-based control over reactive packet-switching devices which query forwarding decisions for every flow: by controlling the answers to the queries, it is possible to 'program' the whole network according to a specific set of networking policies. That kind of programmability is backed by NOS (Network OS), which is usually called SDN controller. A   Controller supports network-controlling applications to run on top of it by transparently dealing with the actual communication with the switching devices. However, as the controller is normally centralized, the scalability and availability issue is inevitable: a controller should provide reasonable performance to each of the switching device regardless of the network size, and guarantee the non-stop operation of NOS applications against system and software failures to prevent the whole network from halting on the control plane crashes. In this paper, we investigate the issues deeply, and introduce a comprehensive solution called IRIS (ETRI Recursive SDN controller platform).**

(Pt9)Keyword— **SDN, NOS, Controller, Scalability, Availability**

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