OF-ICN:
OpenFlow-based control plane for Information-Centric Networking

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OpenFlow is a Software-Defined Networking (SDN) approach, that is used to separate the data plane and the control plane of a network. This is achieved by defining and separating the network communication into different flows and by controlling the paths of these flows using OpenFlow. The work on the OpenFlow protocol currently focuses and relies on IP-based networking. *Information-Centric Networking* (ICN) is an alternative Internet architecture, that provides network communications based on the named contents instead of addresses as in current Internet architecture. However, current ICN approaches lack the definition of a control plane and current OpenFlow specifications do not support the control of ICN flow by default. Therefore, this study analyses the potential of OpenFlow in supporting ICN and tries to port ICN functionalities in OpenFlow by modifying and extending OpenFlow components; switch, controller and the protocol. The results from this study reveal that, upon making necessary modifications to the underlying protocol, OpenFlow can successfully support ICN functionalities by making forwarding and caching decisions for ICN flows in the network.