Software Defined Network and Interface to Routing System

Abstract

Increase in the mobile data traffic, cloud services, virtualization of data centers demands change in network architecture. SDN provides way to virtualize and abstract the network, so that third party applications can monitor or manipulate the resources. Various programmatic interfaces have been proposed to interface directly to the forwarding plane (OpenFlow, ForCES), or device configuration (NETCONF). I2RS is the only interface to routing system which provides an interface directly to the routing system to utilize all aspects of the routing system as a system.

I2RS is a programmatic interface to the existing routing system which augments routing based on policy, flow and application awareness, time and external changes. I2RS interacts with the control plane to monitor the best paths from source to destination and also can change Routing Information base(RIB) or Label Information Base(LIB) which in-turn feeds the forwarding tables. Scholarly paper mainly concentrates on I2RS, architecture, use cases ad future aspects of IETF working group.