

Basic OpenFlow per-Port Queues Implementation in ONOS

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Motivation

Problem: Support QoS with ONOS

ONOS offers OpenFlow metering support, but this feature is rarely implemented in existing switches.

Idea: Implement OpenFlow setQueue functionality in ONOS.

Approach

- Implemented a new high-level instruction **SetQueueInstruction** in `org.onosproject.net.flow.instructions` & modified the corresponding references

`SetQueueInstruction(long queueId)`

Parameter: `long queueId`

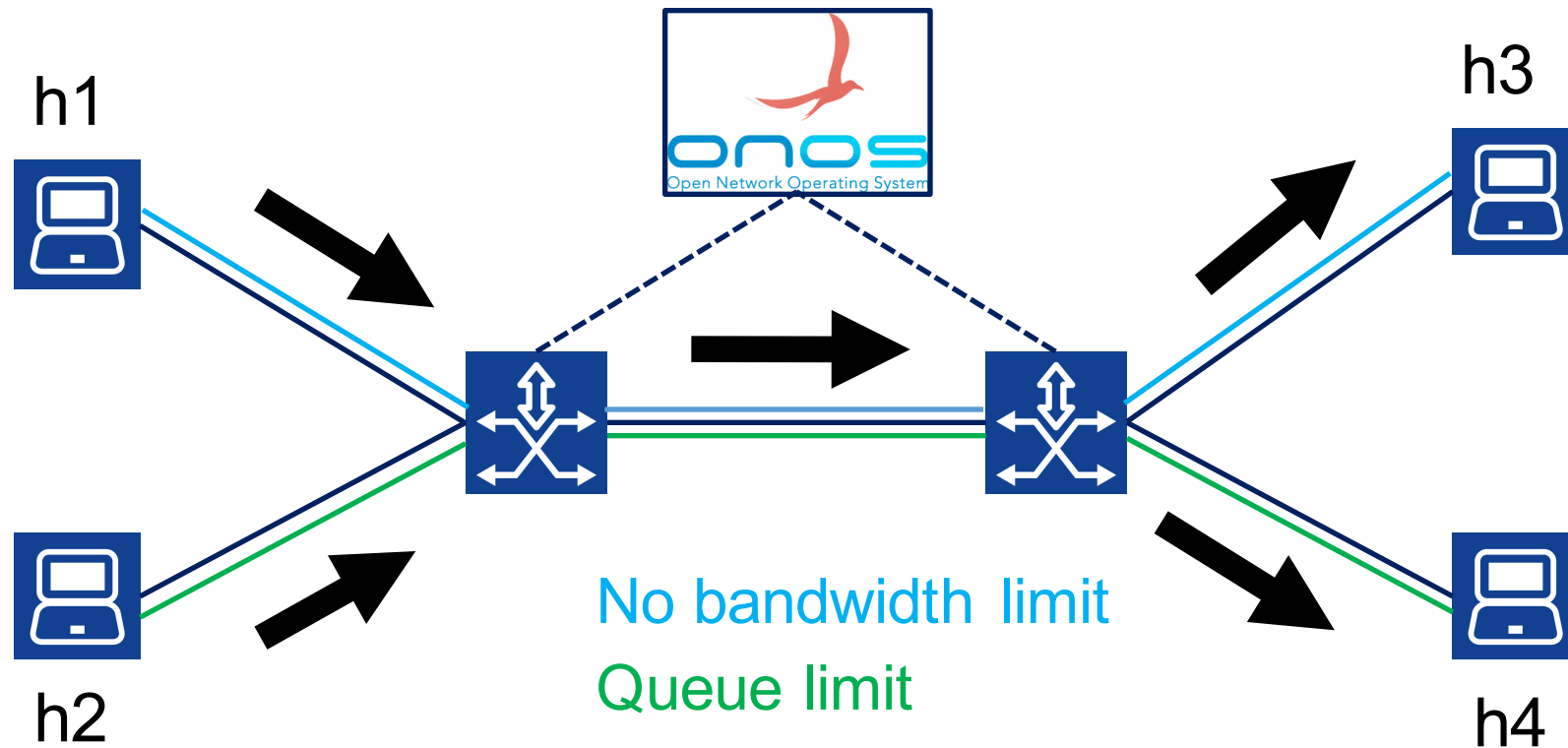
Identifier of the configured queue in the switch

- Makes the OF 1.0 action „Enqueue“ and OF 1.3 action „setQueue“ usable by the „DefaultTrafficTreatment“ when generating flow rules.

Demo Scenario

Implemented a CLI command to set a up a flow between two Mininet hosts and limit the bandwidth.

Testing with iperf



Outlook

- Make queue configuration from switches readable by DeviceService
- Create Intent-based connectivity taking queues into account