Intent NBI

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Don’t Tell Me What to Do,

Tell Me What You Want.
Context
Intent REQUEST

Context=Food Replication

“Tea, earl gray, hot”

Object: Tea
Modifiers: = earl gray, hot
Domain := Networking
Context := Network Services
Context=Network Services

Domain := Networking

Abstraction Level (Layer) := LSO Legato Interface Point

Expected Outcome/Capability := Point to point connectivity
Connect endpoint a and endpoint z with a bandwidth of 100 Mbps, low latency and high availability.
Intent REQUEST
Context:= Point-to-Point Connectivity

Connect building A and building Z with a bandwidth of 100 Mbps, low latency and high availability.

Objects: Connection (Apparent adjacency, Adjacency effect)
Object Groups: (Building A, Building Z)
Modifiers: Bandwidth = 100 Mbps, low latency, high availability
Intent REQUEST
Context:= Point-to-Point Connectivity

Connect building A and building Z with a bandwidth of 100 Mbps, low latency and high availability.

Objects: Connection (Apparent adjacency, Adjacency effect)
Object Groups:
Modifiers: Bandwidth = 100 Mbps, low latency, high availability, Location A, Location Z
Mapping Intent
Network Intent Composition
Applications describe WHAT is desired, not HOW to provide services.

Controller manages network based on “Intent” (e.g. behaviors and policies)
Provides general and abstract policy semantics instead of Openflow-like flow rules.

Uses existing OpenDaylight Network Service Functions and Southbound Plugins to control both virtual and physical network devices.
1. Create a basic topology using mininet

   ```
   sudo mn --topo single --mac --controller=remote,ip=127.0.0.1,port=6633 --switch ovsk,protocols=OpenFlow13
   ```

2. Run karaf distribution and install odl-nic-core-mdsal, odl-nic-console, odl-nic-listeners

   ```
   karaf> feature:install odl-nic-core-mdsal odl-nic-console odl-nic-listeners
   ```

3. Create an Intent qos:

   ```
   intent:qosConfig -p High_Quality -d 46
   ```

   **Note:** The DSCP value ranges from 0-63

4. Create an Intent to allow traffic between two devices applying the QoS service

   ```
   karaf>intent:add -a ALLOW -t 00:00:00:00:00:01 -f 00:00:00:00:00:02 -q QoS -p High_Quality
   ```

5. Verify if a new rule was created on OF switch with a field 'mod_bw_tos:184'

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**Expressing QoS Intent**
THANK YOU