

Traffic Classification

module: tc_identity.py

class: IdentityInspect

_sys_identity_table

_nic_identity_table

function: lldp_in

function: ip4_in

function: check_identity

function: get_identity_nic_table

function: get_identity_system_table

function: maintain_identity_tables

module: tc_static.py

class: StaticInspect

function: check_static

module: tc_statistical.py

class: StatisticalInspect

_fcip_table

function: <specific classifier>

function: check_statistical

module: tc_payload.py

class: PayloadInspect

_fcip_table

function: <specific classifier>

function: check_payload

Metadata Consumer - QoS

module: qos.py

class: qos

_qos_policy

function: _check_policy_rule

function: check_policy

Passed a set of Flow Actions. Check if

against QoS policy rules return any

treatment action

module: tc_policy.py

class: TrafficClassificationPolicy

IPv4 packet

LLDP packet

function: _check_match

Check passed policy rule conditions against

packet and return boolean for match

function: check_policy

loop through policy rules:

if (_check_match) then return actions

pass packet

return any actions

Forwarding

Future module, not written yet

Flow Metadata

module: flow.py

class: FlowMetadata

_fm_table

function: update_flowmetadata

function: get_fm_table

function: maintain_fm_table

pass packet,

forwarding, actions

return any modify

flow entry

nmeta Core

module: nmeta.py

class: NMeta

function: _packet_in_handler

call tc_policy.check_policy

Make forwarding decision

call flow.metadata

Do send packet

and modify flow

entry

table

maintenance

class: RESTAPIController

function: list_flow_table

function: list_identity_nic_table

function: list_identity_system_table

function: wsgi

REST API Calls:

nmeta/flowtable/

nmeta/identity/nictable/

nmeta/identity/systemtable/

Ryu SDN Controller

Packet-In

Packet-Out

Modify Flow Entry

flow table

OpenFlow

Packet sent to switch

Packet sent by switch