

SDN NMC Command Your Network



Software Defined Networking (SDN) has emerged as a new paradigm of networking. Today, SDN is presenting new, innovative approaches that offer profound business benefits and solve key enterprise challenges.

SDN separates and abstracts the control-plane functions from the network devices and places them in a centralized controller. SDN controller will expose the APIs that helps in programing the network using automated software. This programmatic approach is a major shift in the approach to networking and network operations. SDN gives network owners and operators more control of their infrastructure and it optimizes Capex and Opex significantly.

L&T TS has developed SDN NMC (Network Monitoring & Control) as an application for Monitoring & Controlling the SDN network. SDN NMC is a controller independent framework that can work with any Open SDN Controller. SDN NMC is a web based application developed using Java Script & Java.



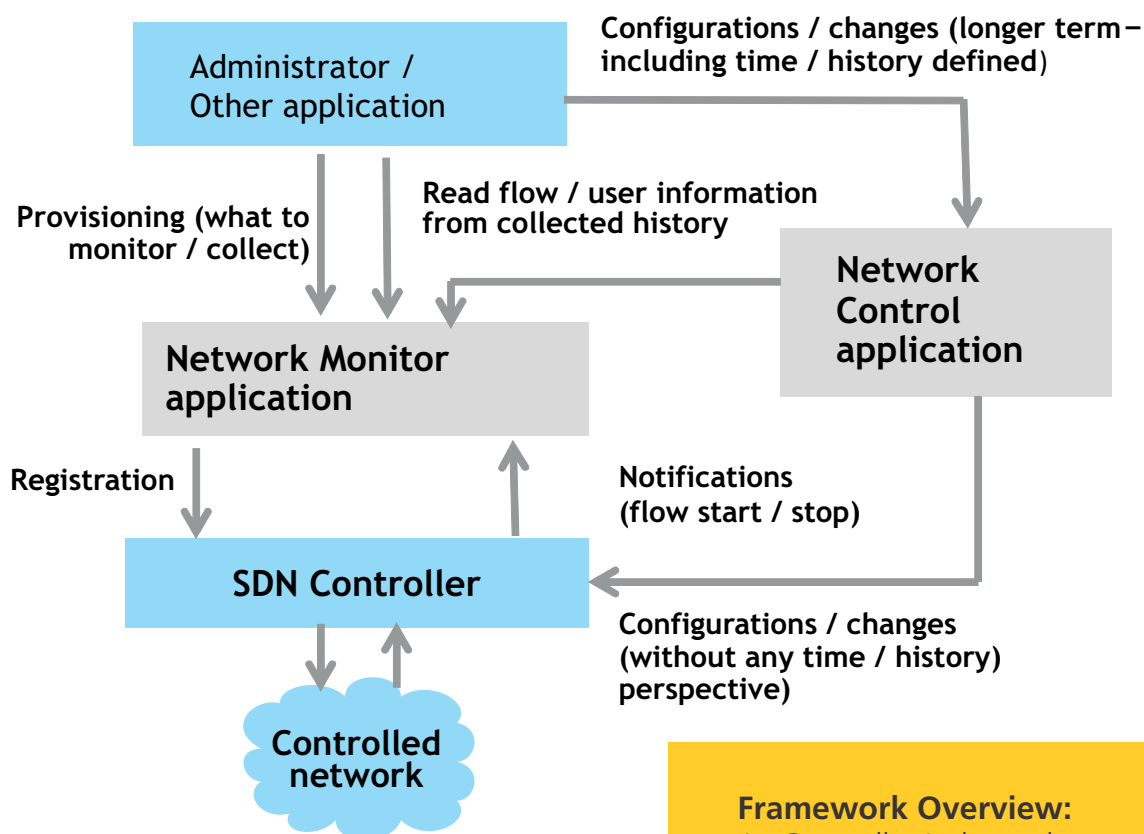
SDN NMC

Command Your Network

Business Benefits

1. Intuitive web based application that can be remotely accessed by the System Administrator
2. Automation of laborious network management process like configuring enterprise policy in all network elements across network , auto scheduling of network policy& Rule based User Profile
3. Automation of resource intensive monitoring process like Live Traffic analysis, Traffic Pattern analysis, Switch / Port level Flow analysis
4. Framework that can be extended to support any third party Open SDN Controller

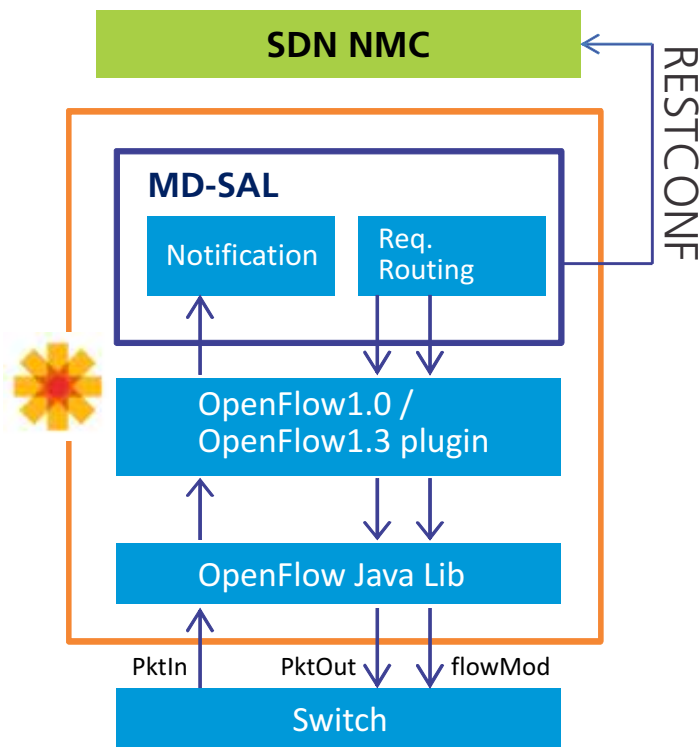
SDN NMC Architecture



Framework Overview:

1. Controller Independent
2. SDN protocols
3. Java Based Client server architecture
4. Tom Cat Server as a centralized controller
5. End points (clients) could be any device

Below scenario is an illustration of SDN NMC over “SDN Open DayLight Controller”



RESTCONF APIs

1. Flow table information
2. Topology information
3. Node & Switch information.
4. Active host information

Capability Summary of SDN NMC

1. Topology Manager that displays the interconnection of network elements
2. Policy Maker that configures the network element with Enterprise network policy
3. Flow configurator with desired action for matching data plane traffic
(Port Specific / Packet Type / VLAN)
4. Statistical details with range of functionalities like
 - a. Live & Historical graphs
 - b. Cumulative Rx & Tx live traffic of entire network
 - c. Port level traffic (Rx & Tx Packets, Rx & Tx Data usage, Rx & Tx Packet errors)
 - d. Flow Statistics of a specific network elements (match field, action & counters)
5. Rule based User Profile (ACL)
6. Time bound policy auto configuration. Flows shall be installed during specific time range for a specific duration



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SDN NMC

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Key Differentiators

1. Controller independent framework that can be plugged with Open SDN controllers
2. All-in-one application with the capability of controlling the network also
3. Off the shelf framework that can saves cost & time of implementation
4. Flexible framework that can be enhanced / integrated with other 3rd party applications

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