A Flexible Multi-PoP Infrastructure Emulator for Carrier-grade MANO Systems

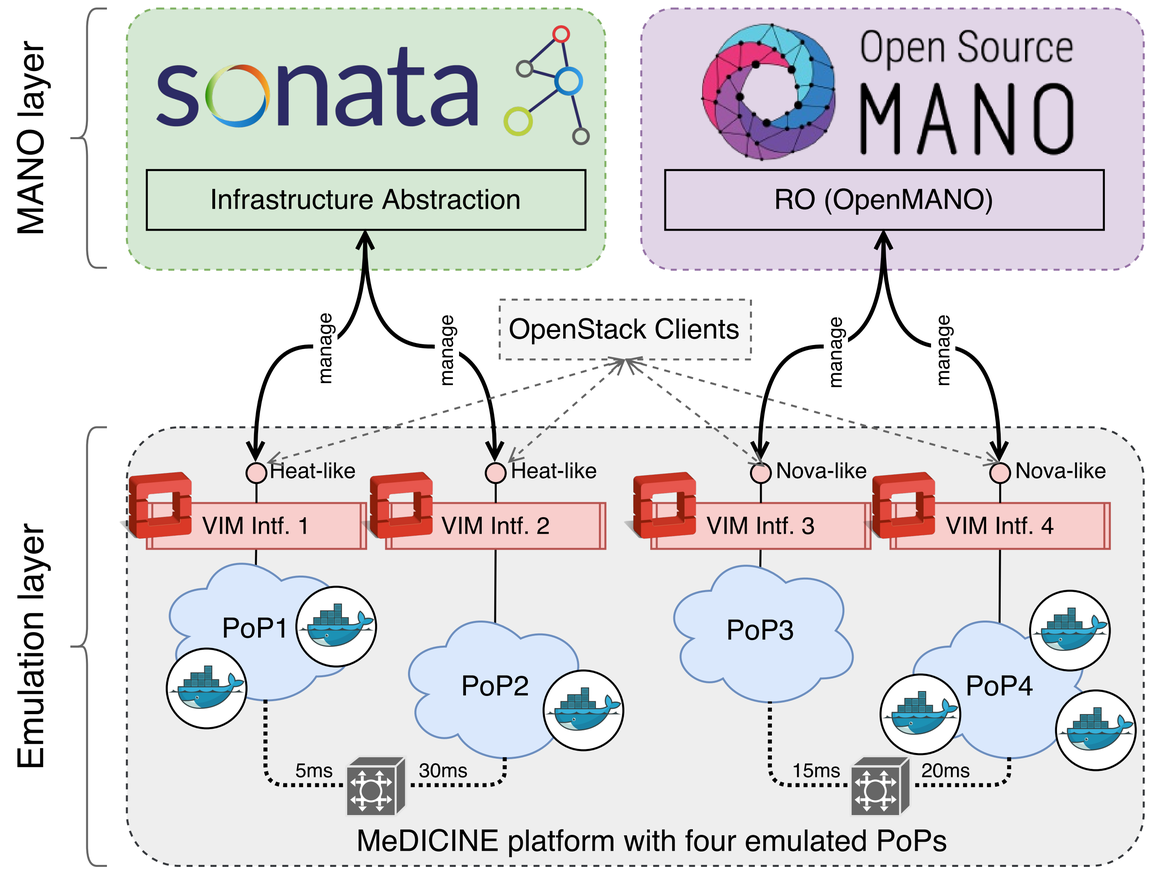
Manuel Peuster Sevil Dräxler Hadi Razzaghi Kouchaksaraei
Steven Van Rossem Wouter Tavernier Holger Karl

Multi-PoP NFVI Emulator

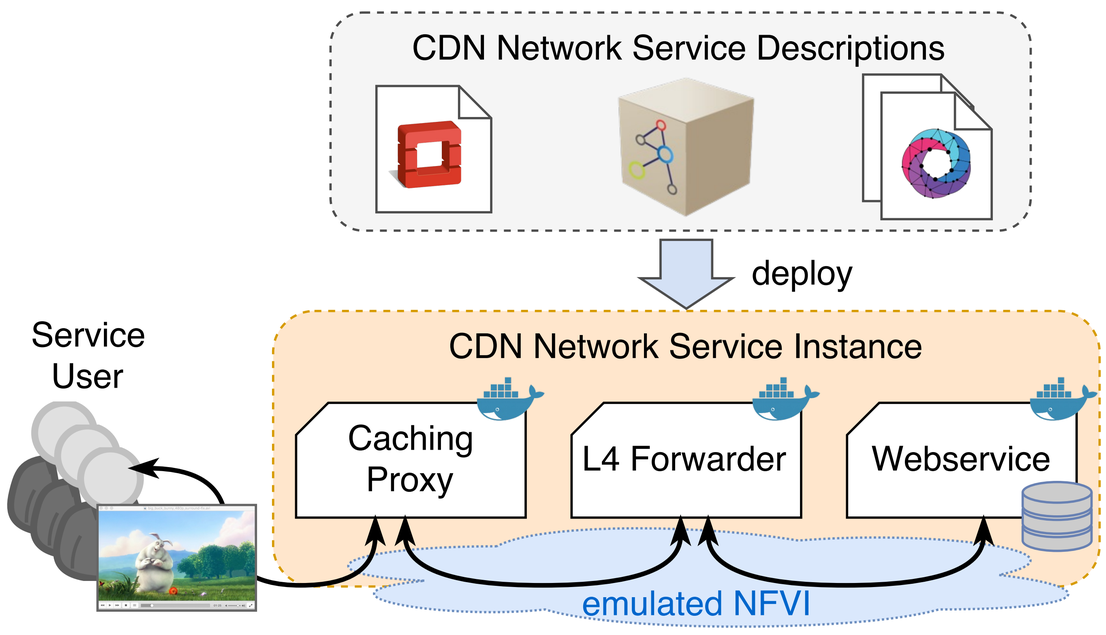
- Mininet/Containernet-based network emulation
- Compute instances (VNFs) deployed as Docker containers
- Single SDN switch per PoP to abstract data-center-internal details
- Arbitrary user-defined multi-PoP topologies
- OpenStack-like northbound interfaces to control the emulated PoPs
- Built-in monitoring of VNFs
- Apache 2.0 license

M. Peuster, H. Karl and S. V. Rossem: *MeDICINE: Rapid Prototyping of Production-Ready Network Services in Multi-PoP Environments*, in IEEE NFV-SDN, 2016.

Single-VM Sandbox Environment



Demonstration Scenario



Demonstration Storyboard

1. Define topology and start emulation
2. Connect emulated PoPs as VIMs to OSM or SONATA
3. Define vCDN service using OpenStack HEAT templates, OSM or SONATA descriptors
4. On-board and instantiate vCDN service using OSM or SONATA MANO systems
5. Stream a video through the deployed service
6. Monitor service components using the emulator's monitoring functionalities

Give it a try!

https://goo.gl/ordJDu

Who are we?

SONATA NFV: Agile Service Development and Orchestration in 5G Virtualized Networks

http://sonata-nfv.eu

https://github.com/sonata-nfv

https://twitter.com/sonataNFV

https://linkedin.com/in/sonata-nfv

PADERBORN UNIVERSITY
The University for the Information Society

SFB 901 ON-THE-FLY COMPUTING

Contact person

Manuel Peuster
+49 5251 60-4341
manuel.peuster@upb.de

Computer Networks Group

Prof. Dr. Holger Karl
+49 5251 60-5375
holger.karl@upb.de
http://www.upb.de/cs/cn/

imec GHENT UNIVERSITY