



CogNet

Intent based networking

And how Machine Learning Can Bring Convergence

- Simplifies the North bound interface
 - Hiding complexity from the network application programmer or user
 - Tell me just what you need
 - And I'll find out what you need to do to have it
 - For the academics
 - A LaTeX for networking: WYWIWYG
- More than just yet another *trendy* topic in the SDN/NFV world.

Intent based networking

- ONF
 - Principles of operation
 - Information models
- OSSDN
 - BOULDER
 - Objective: "provide authoritative interface components for building dissimilar controller system implementations"
 - For that, they define:
 - tools,
 - documents
 - information model and data model translation tools
- OpenDaylight:
 - Network Intent Composition
 - IBNEMO
 - NETIDE

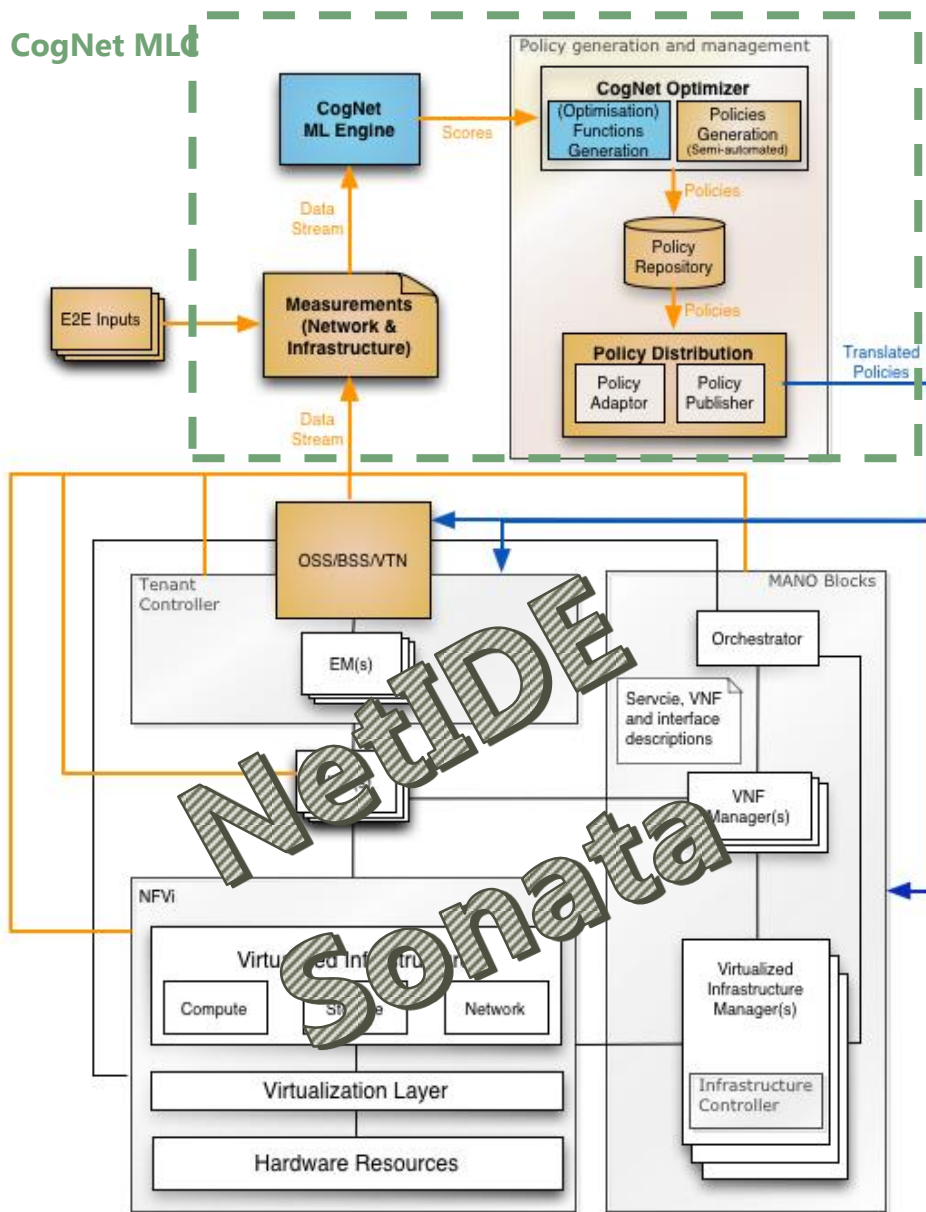
State of the Art

- 5GPPP projects are using ODL, ONOS, etc.
- However, each of these controller platforms have different approaches to intent.
- Convergence is key:
 - Exploit synergies between projects
 - Foster a common approach
 - To implementation
 - To dissemination
 - To standardisation

But wait...

- COGNET is building a **network management** solution based on machine-learning
 - Relying on SDN and the NFV architecture framework
- The current stress is on
 - Acquiring knowledge
 - PoC of machine learning techniques
- Closing the loop:
 - Translate actions into an intent
 - Feed intent into the loop
- A common understanding/agreement between 5GPPP projects on an intent based interface would allow all projects to benefit from COGNET findings

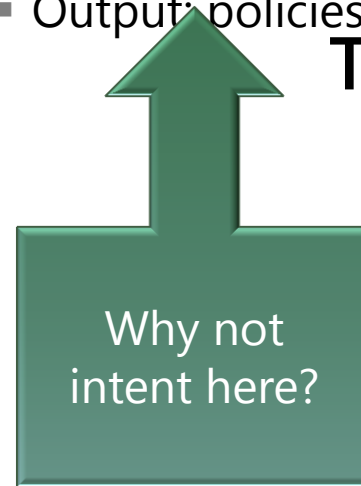
**An example:
Coupling
machine
learning with
intent**



Essentially defining a Machine Learning Cluster (MLC) and two data flows

- Input: measurement and monitoring
- Output: policies

The CogNet Framework



- Would allow us to provide a uniform interface for different underlying controller frameworks

NetIDE
Sonata

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Questions,
reactions?

Thank you