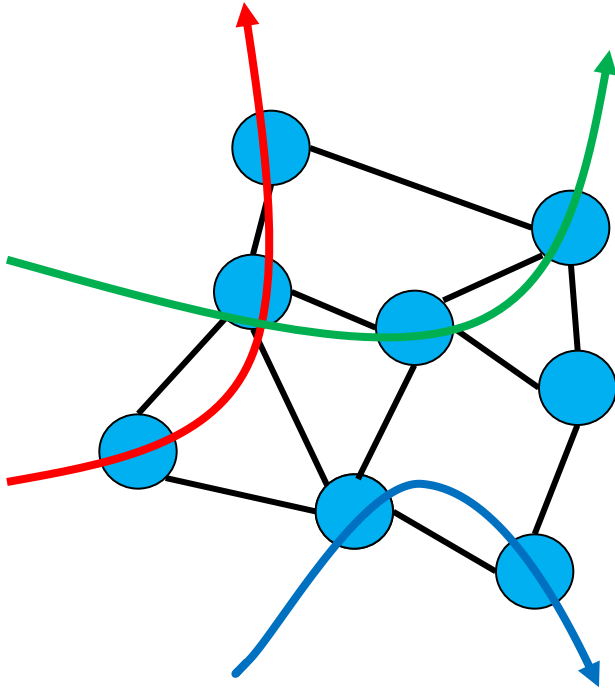# Optimizing Rules Placement in OpenFlow networks: Trading routing for better efficiency

NGUYEN Xuan-Nam, Damien Saucez, Chadi Barakat, Thierry Turletti
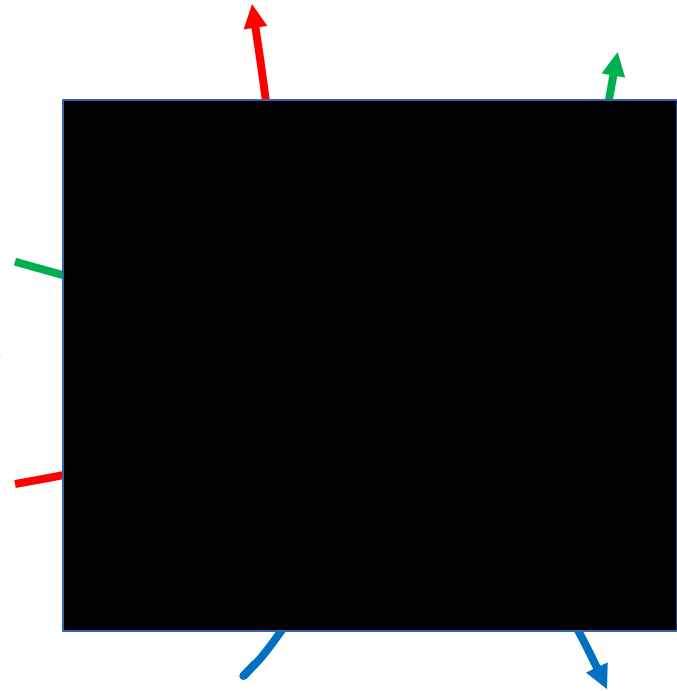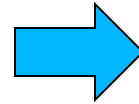
DIANA – INRIA Sophia Antipolis, France
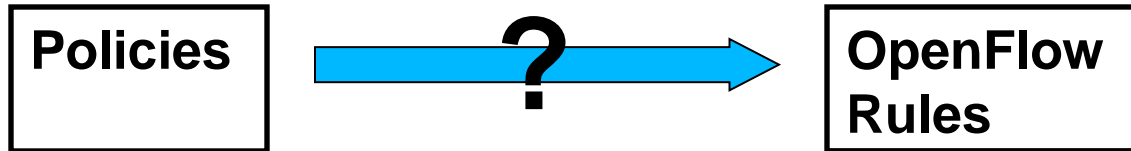
Motivation

Today

Manual configuration, Complicated, Error prone

With SDN/OpenFlow

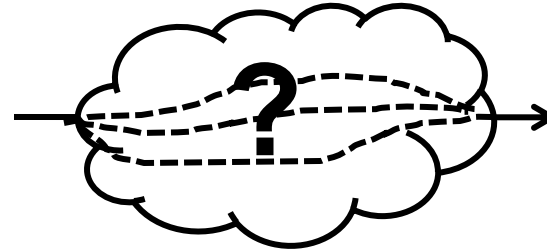**Blackbox: Abstraction, High-level policies**

OpenFlow Rules Placement Problem

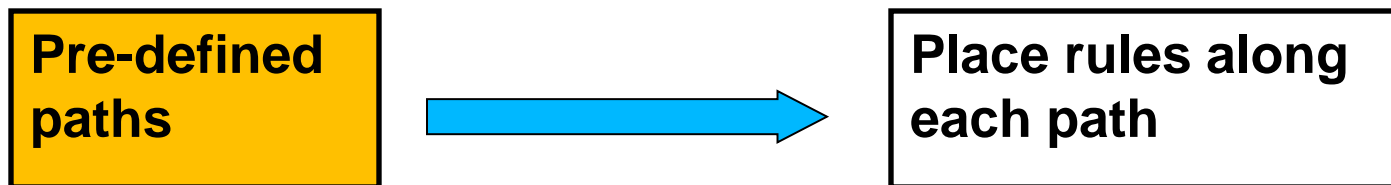| Policies | → ? → | OpenFlow Rules |

Endpoint policy

?
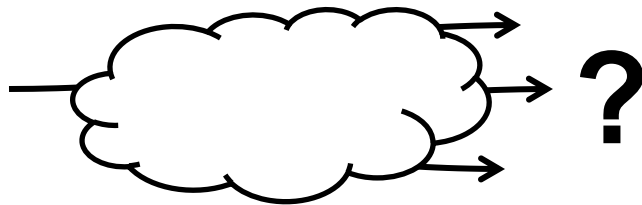
Routing policy

?

Challenge: Memory limitation

Recent solutions: Network-wide Optimization

| Pre-defined paths | → | Place rules along each path |

Trading routing for better efficiency

- **Loose routing policy: no loops, no memory and link overload**

Match	Port
F	North East
Default	South East
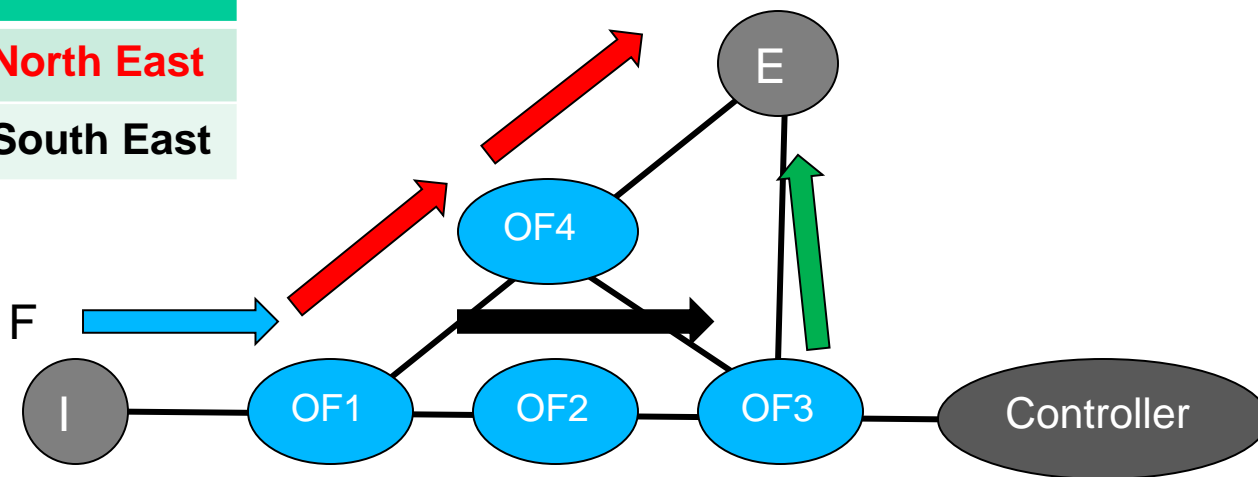
Match	Port
F	North East
Default	East

Match	Port
Default	East

Match	Port
F	North
Default	East

Our Methodology
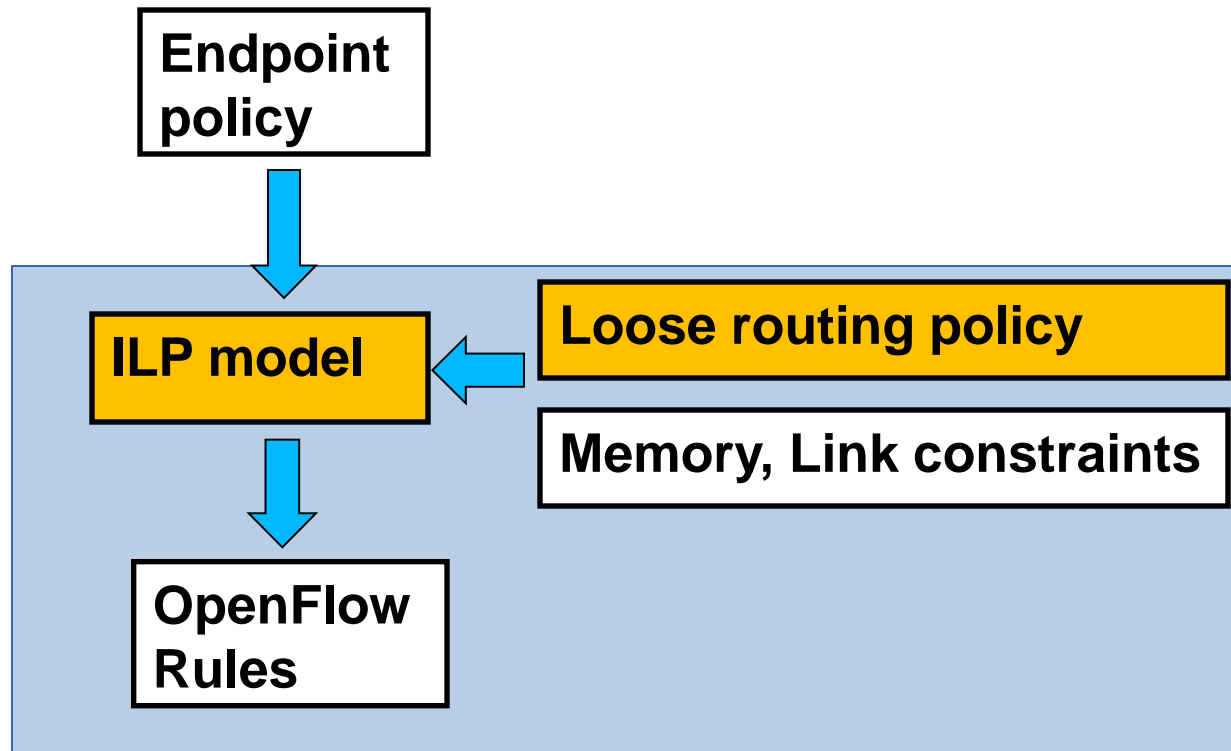
Outperform existing solutions in memory-constrainted networks

Thank you !
xuan-nam.nguyen@inria.fr