

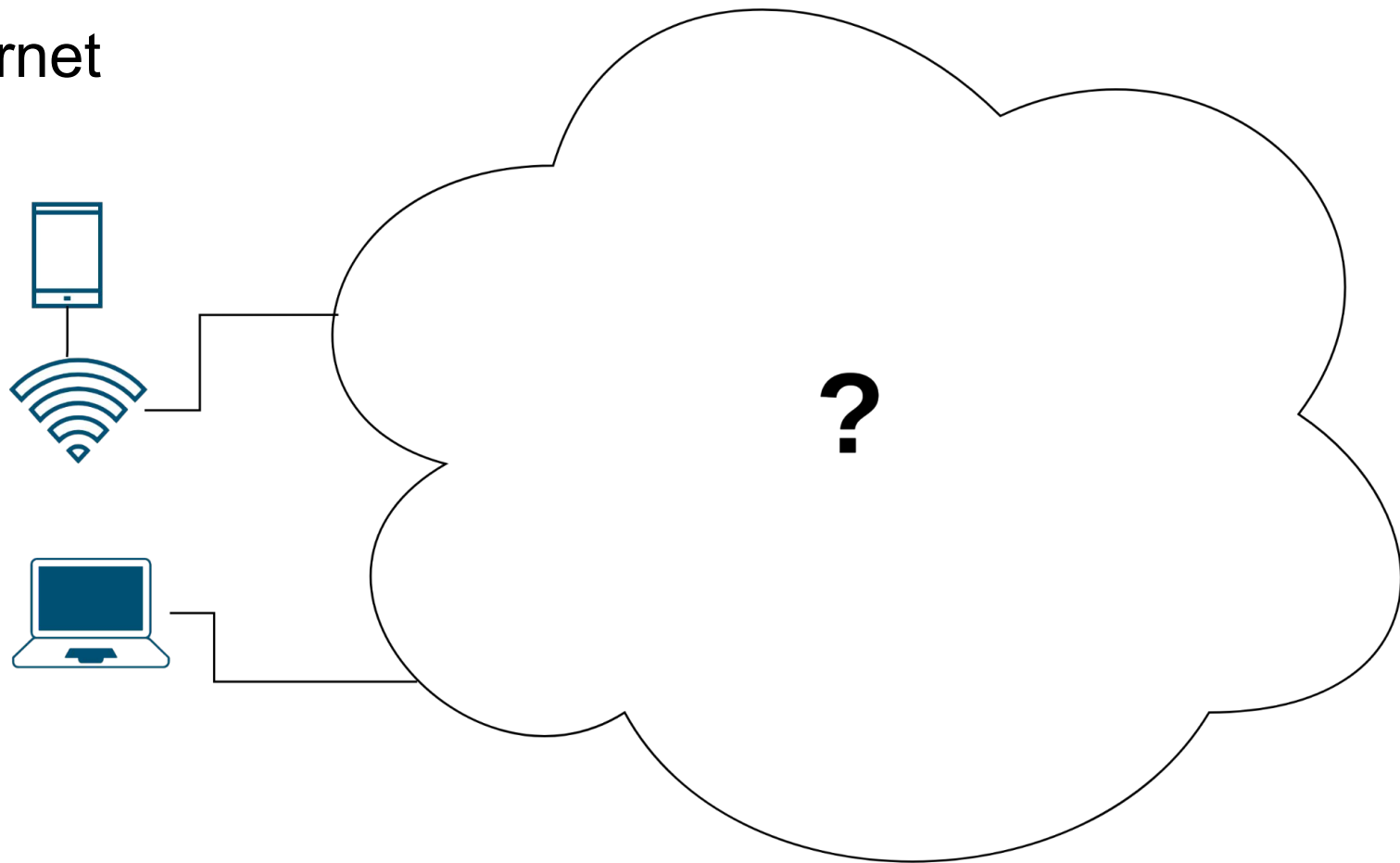
ImagiNet: a network simulator based on VDE

Relatore:
Prof. Renzo Davoli

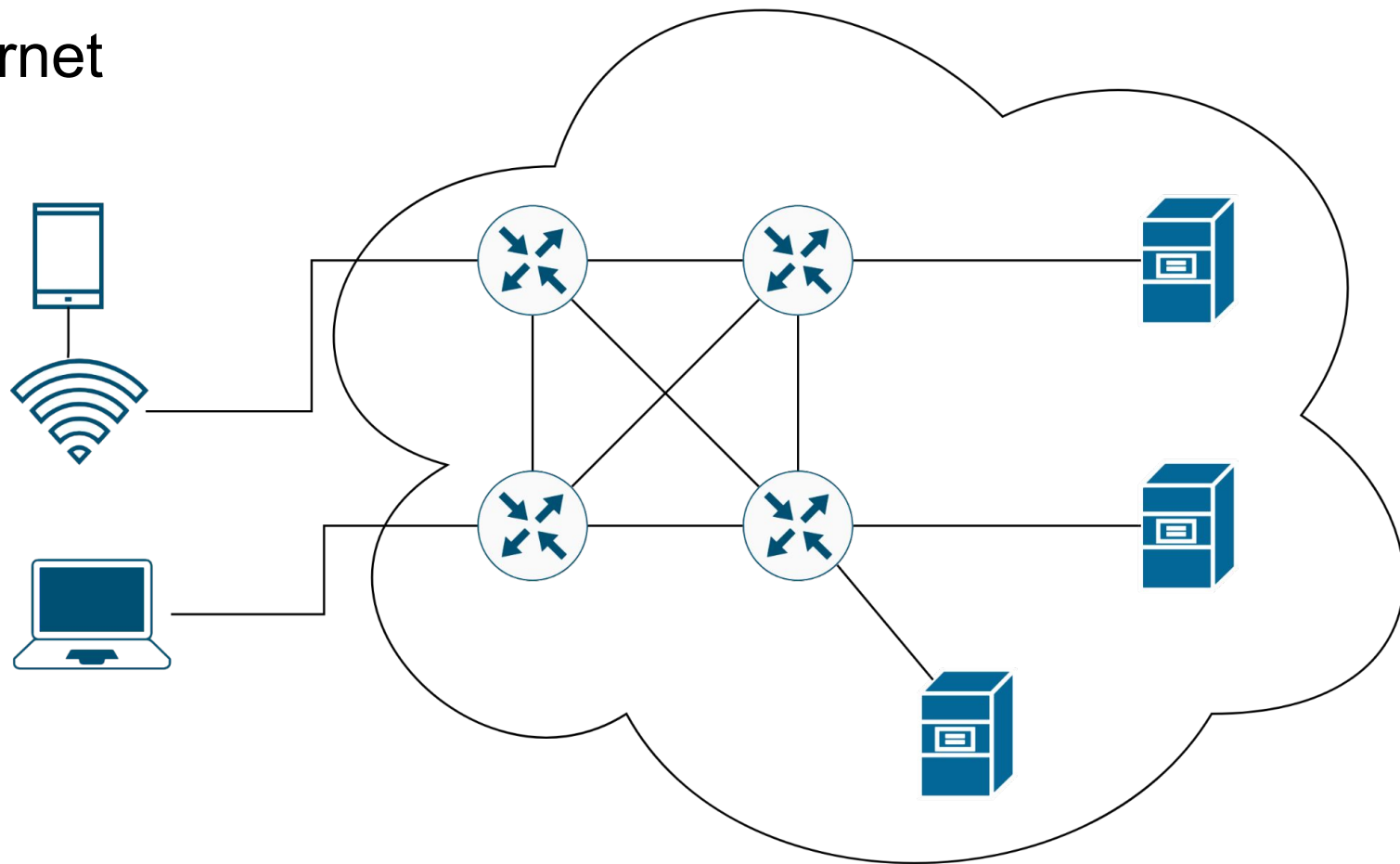
Presentata da:
Samuele Musiani

Università di Bologna
15 luglio 2025

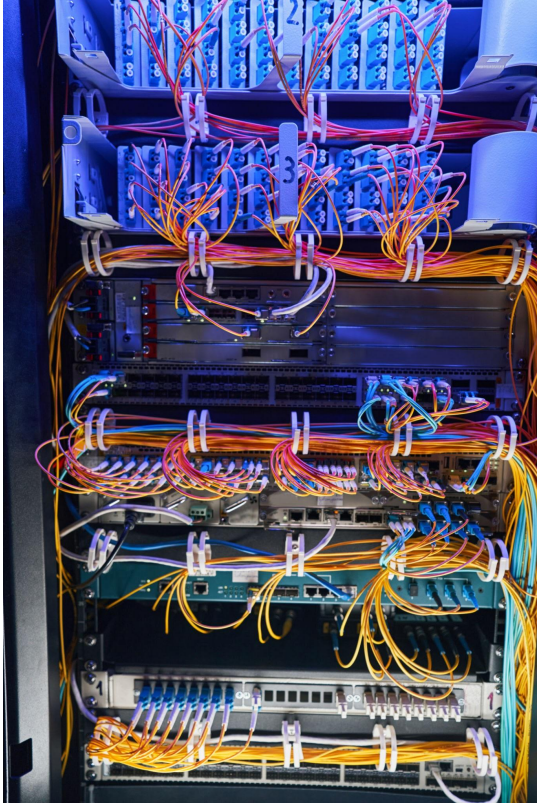
Internet



Internet



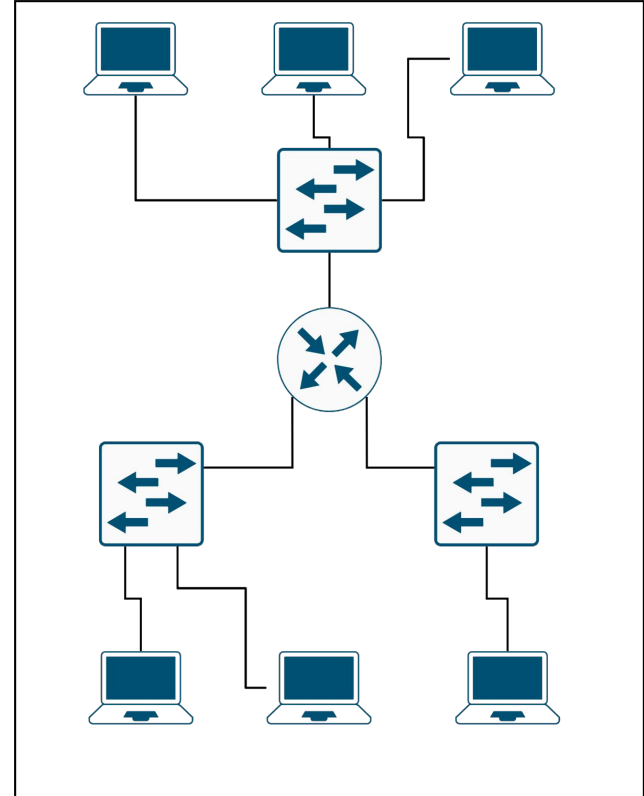
Real vs Simulation



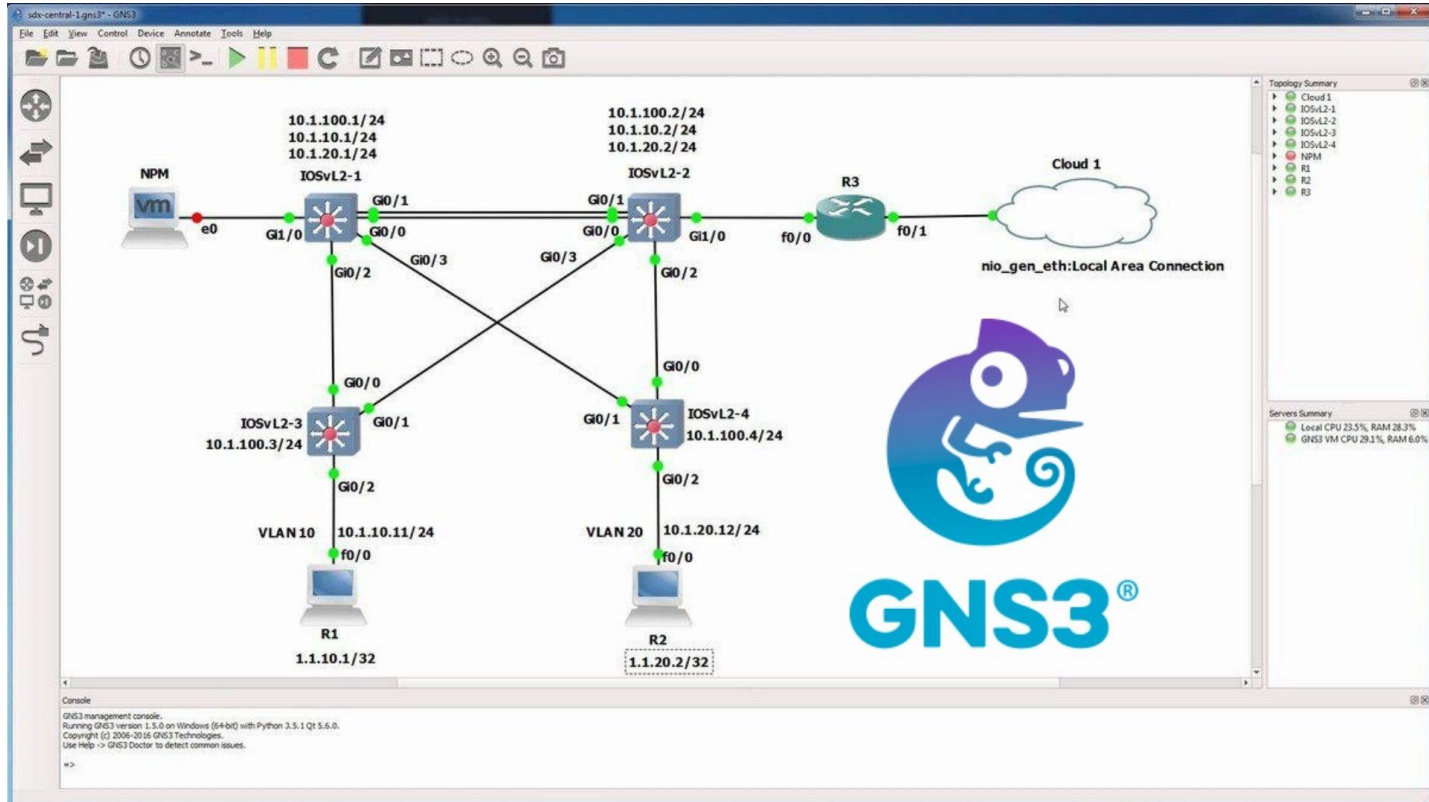
Real

Simulation

Single host



Network Simulators



ImagiNet - CLI

Modifica

create

clear

add

rm

Gestione

start

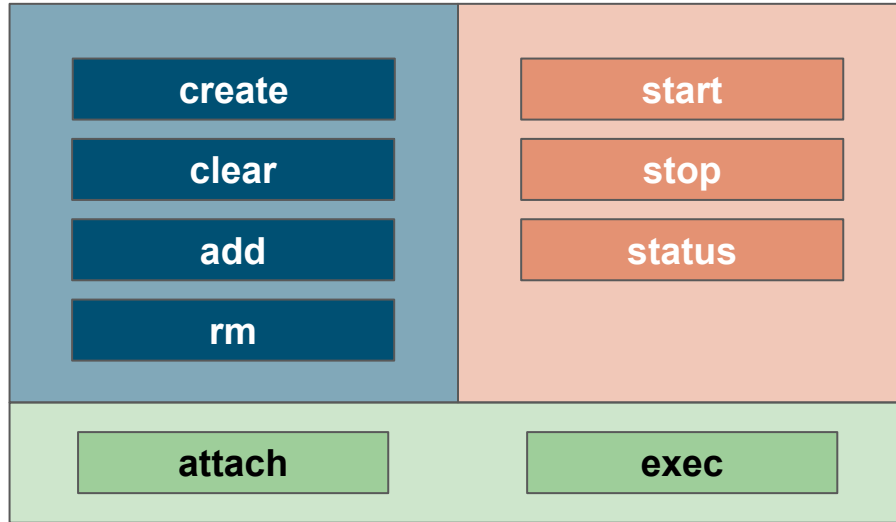
stop

status

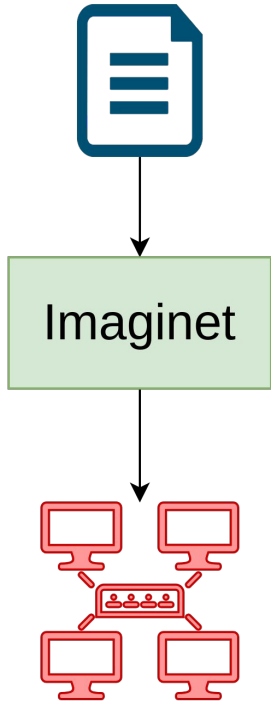
attach

exec

Interazione



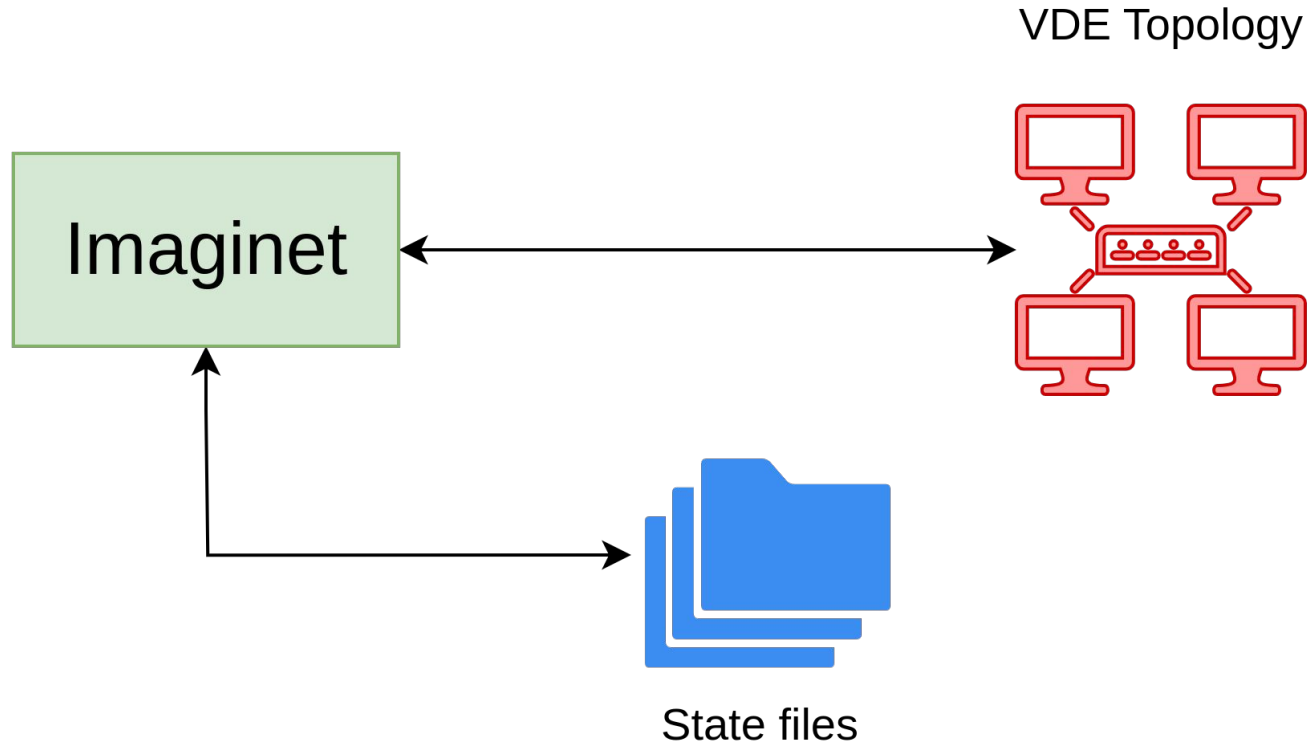
Imaginet - Topology file



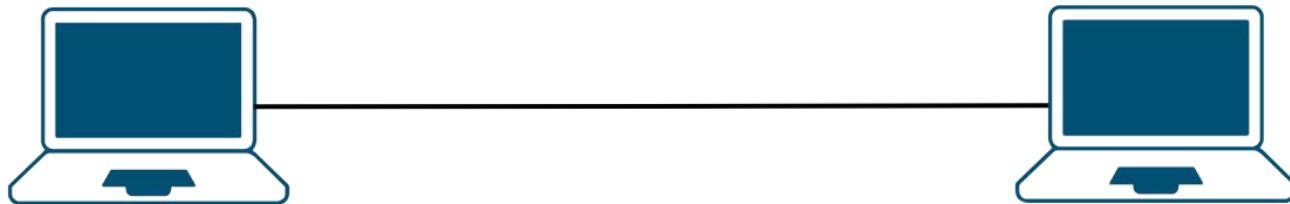
```
switch:  
  - name: sw1  
  
namespace:  
  - name: ns1  
    interfaces:  
      - name: eth0  
  
  - name: ns2  
    interfaces:  
      - name: eth0
```

```
cable:  
  - name: conn1  
    endpoint_a:  
      name: ns1  
      port: eth0  
    endpoint_b:  
      name: sw1  
  
  - name: conn2  
    endpoint_a:  
      name: ns2  
      port: eth0  
    endpoint_b:  
      name: sw1  
      port: "10"
```

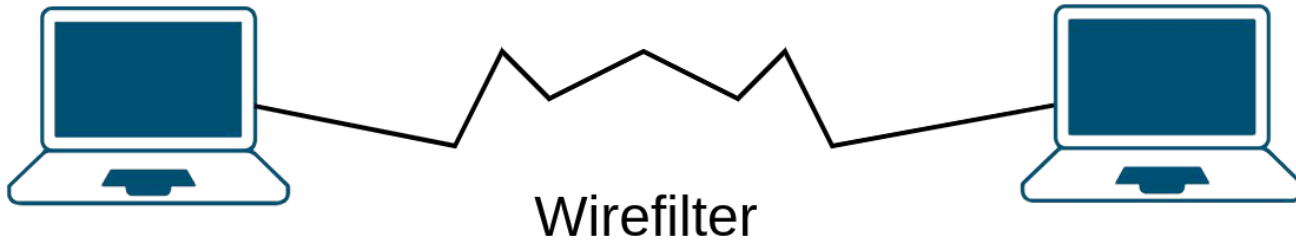
ImagiNet - No daemon



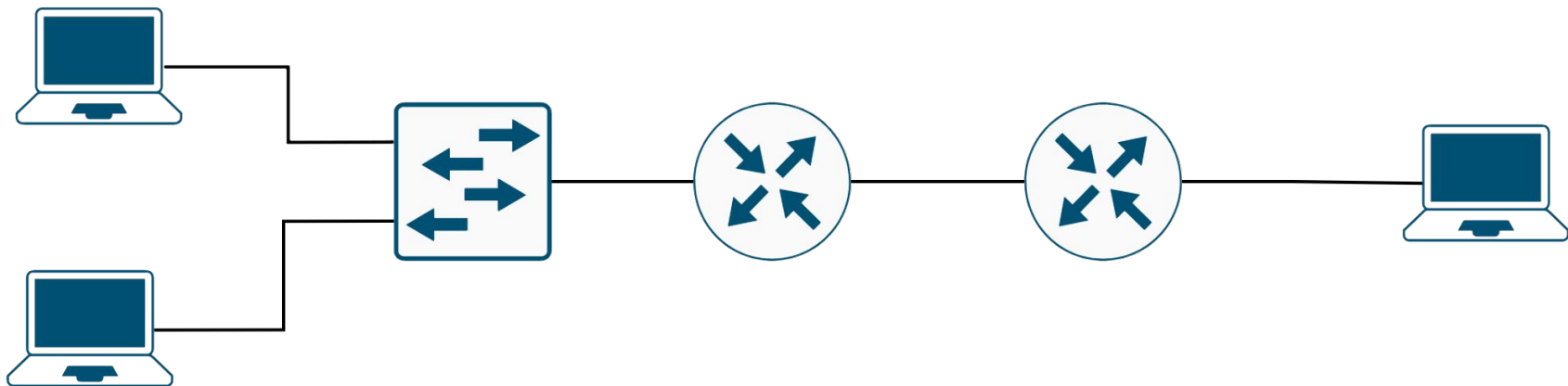
Esempio didattico 1



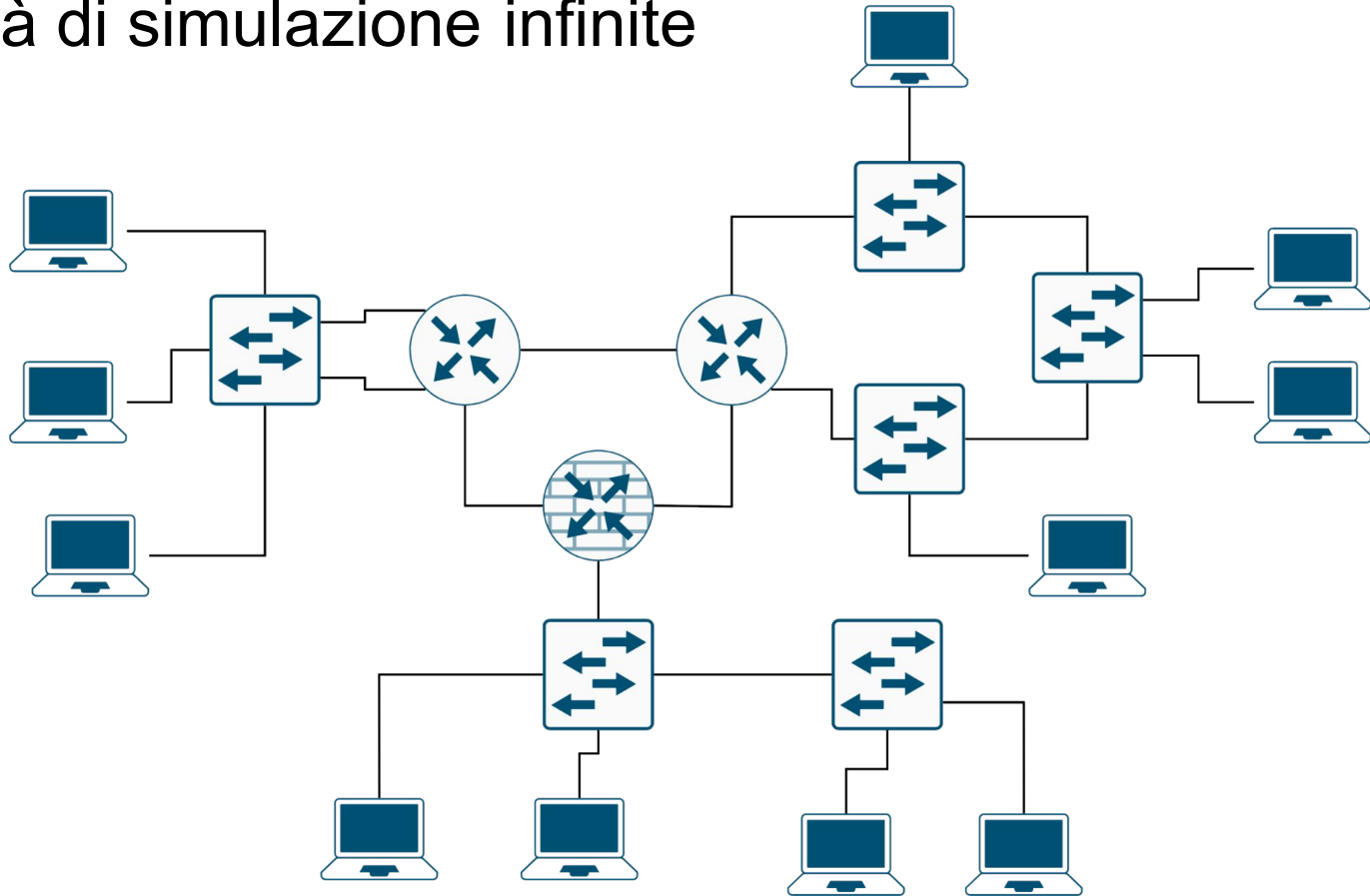
Esempio didattico 1.5



Esempio didattico 2

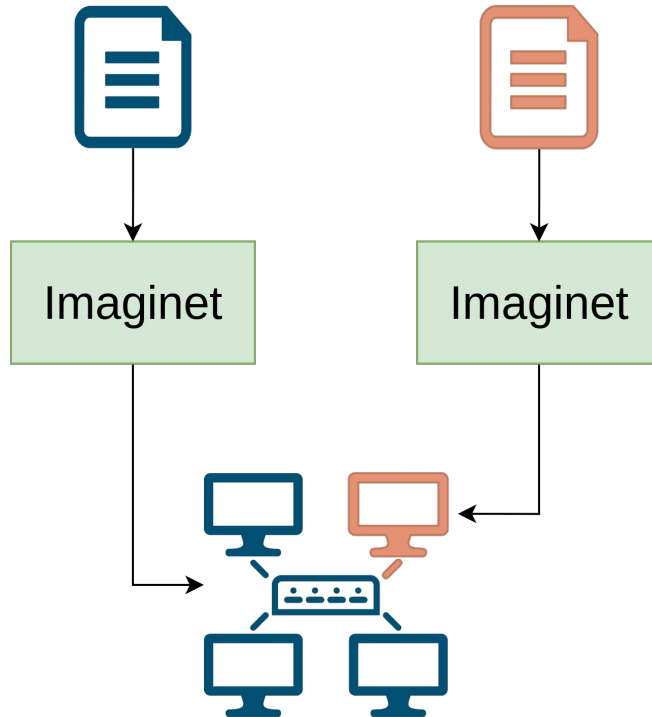


Possibilità di simulazione infinite



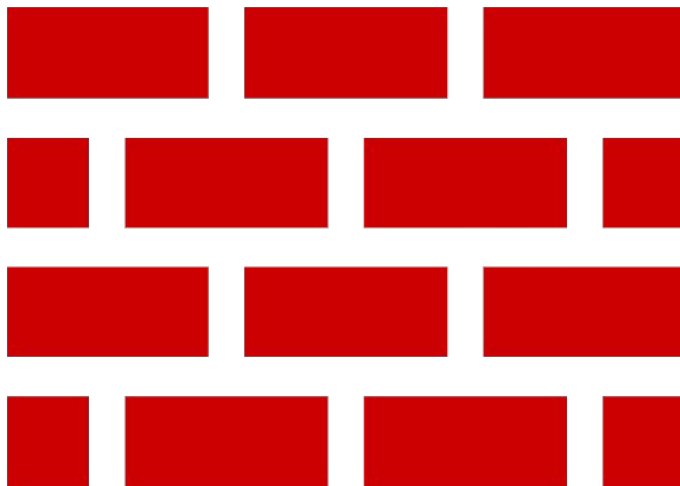
Sviluppi futuri

laC aggiornamenti differenziali



Sviluppi futuri

Firewall didattico



vdefw

Grazie!