



An evolution step in future Internet  
research and experimentation

Anastasius Gavras, Eurescom GmbH

# Motivation

- Experimental federated testbeds should enable large scale and diverse experiments
- Experiments with future Internet technologies from components to complete systems
- Validate and compare with existing current or other evolving solutions
- Many testbeds exist, but difficult to sustain
- Many existing testbeds serve similar purposes
  - Diversity is necessary and unavoidable
- Proliferation of tools & management frameworks

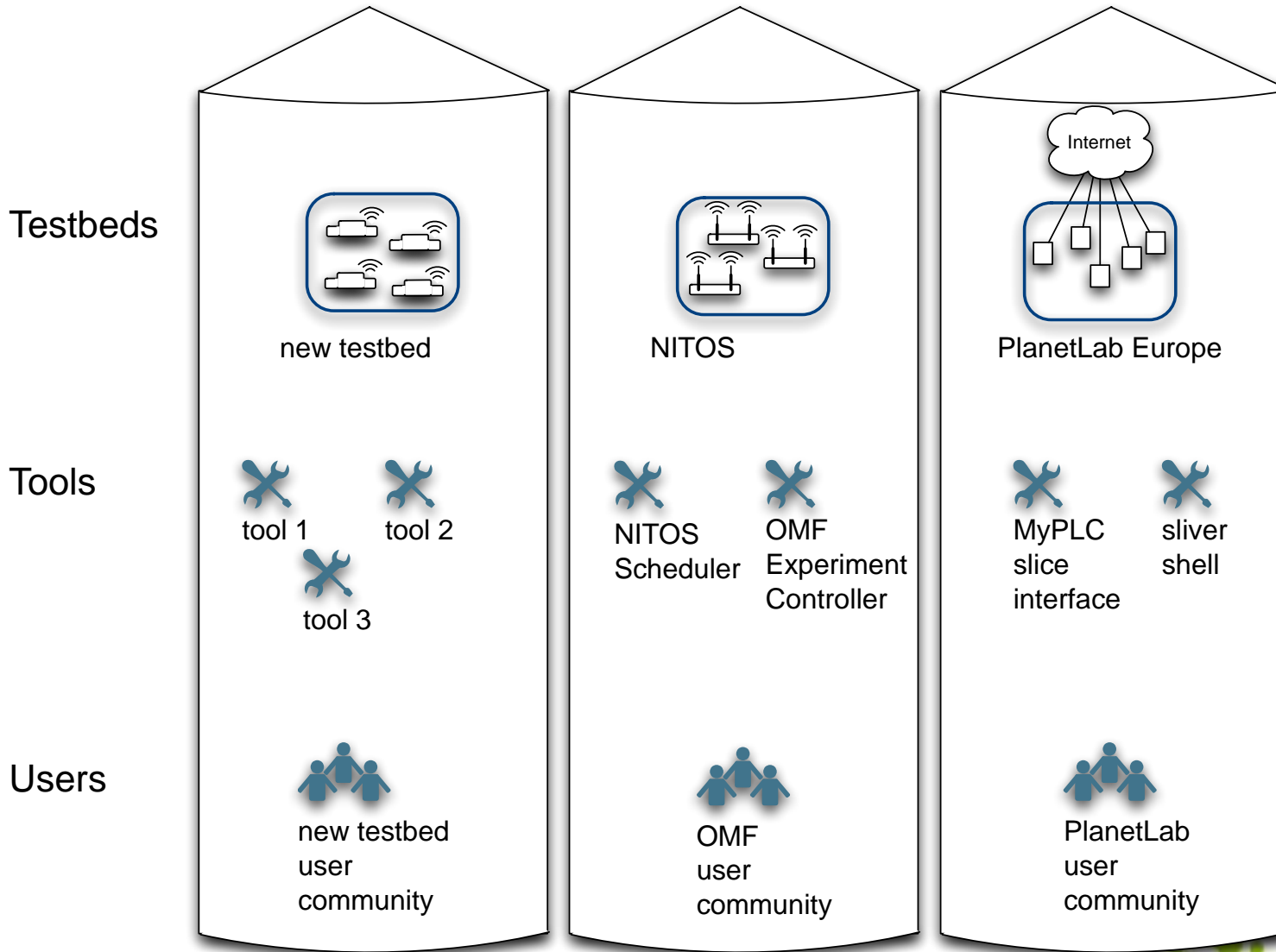


OpenLab

Challenges

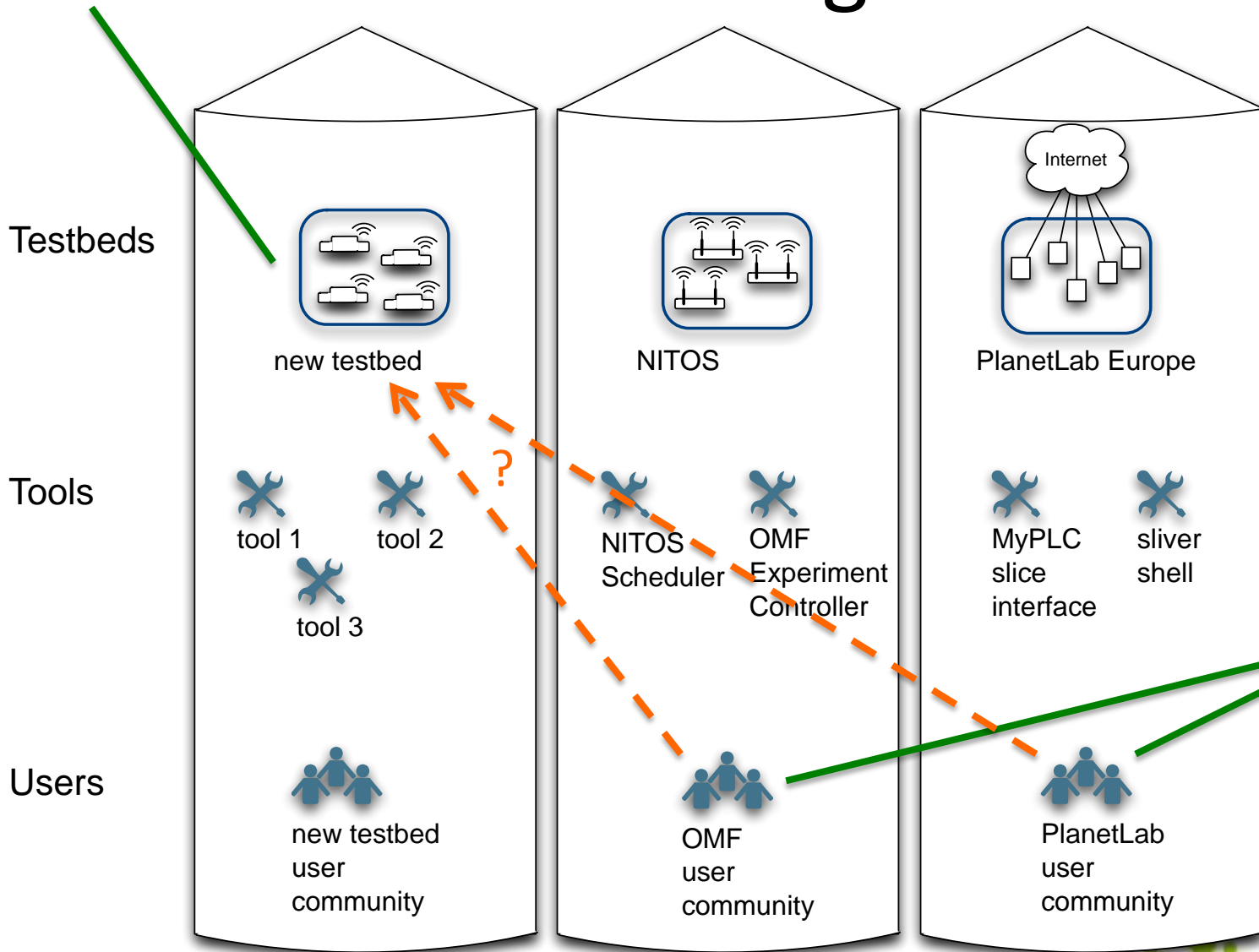
Focus on interoperability

# Testbeds today



# Challenges

Excellent new testbed



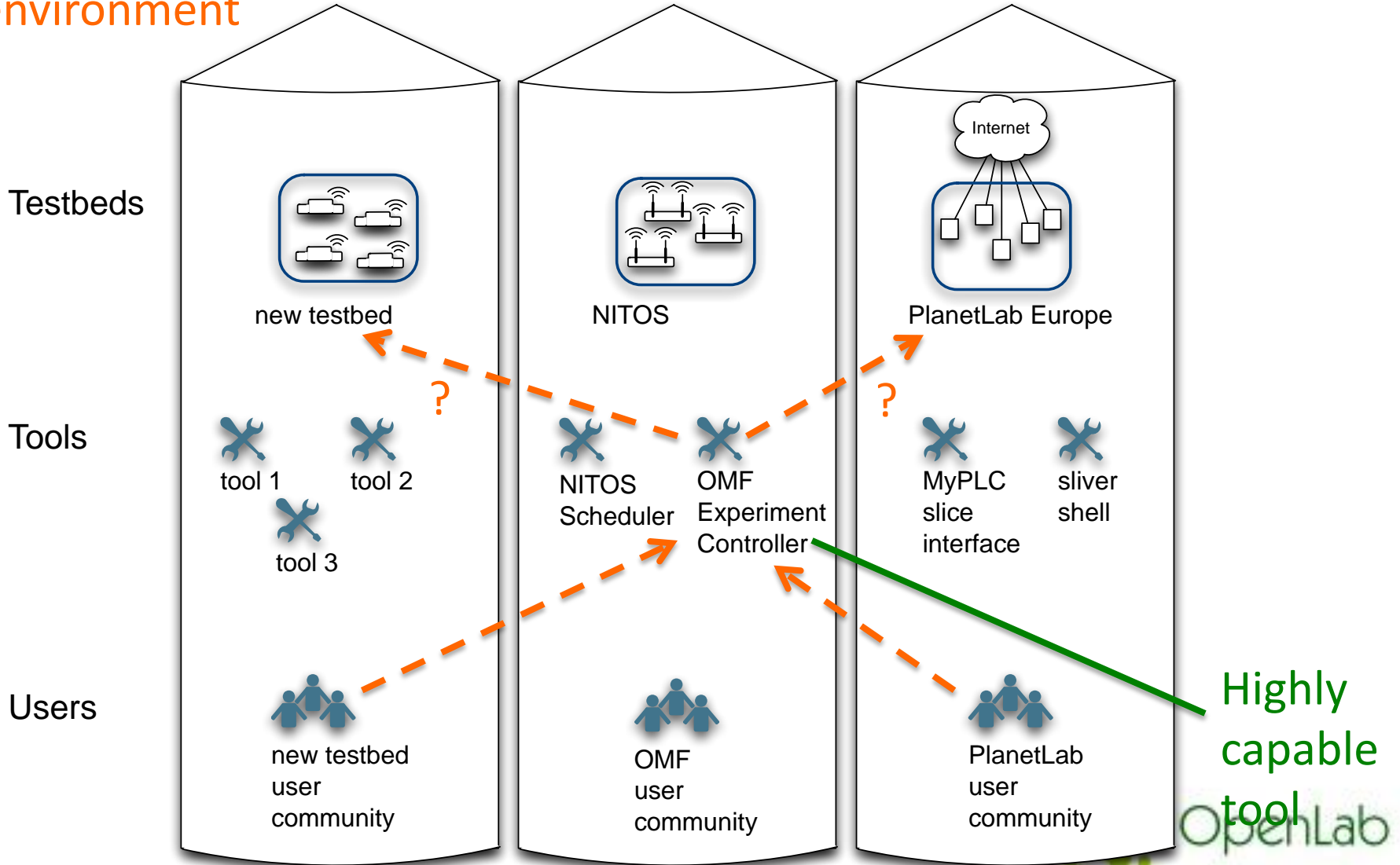
Bringing an existing user community to a new testbed

Large user communities

OpenLab

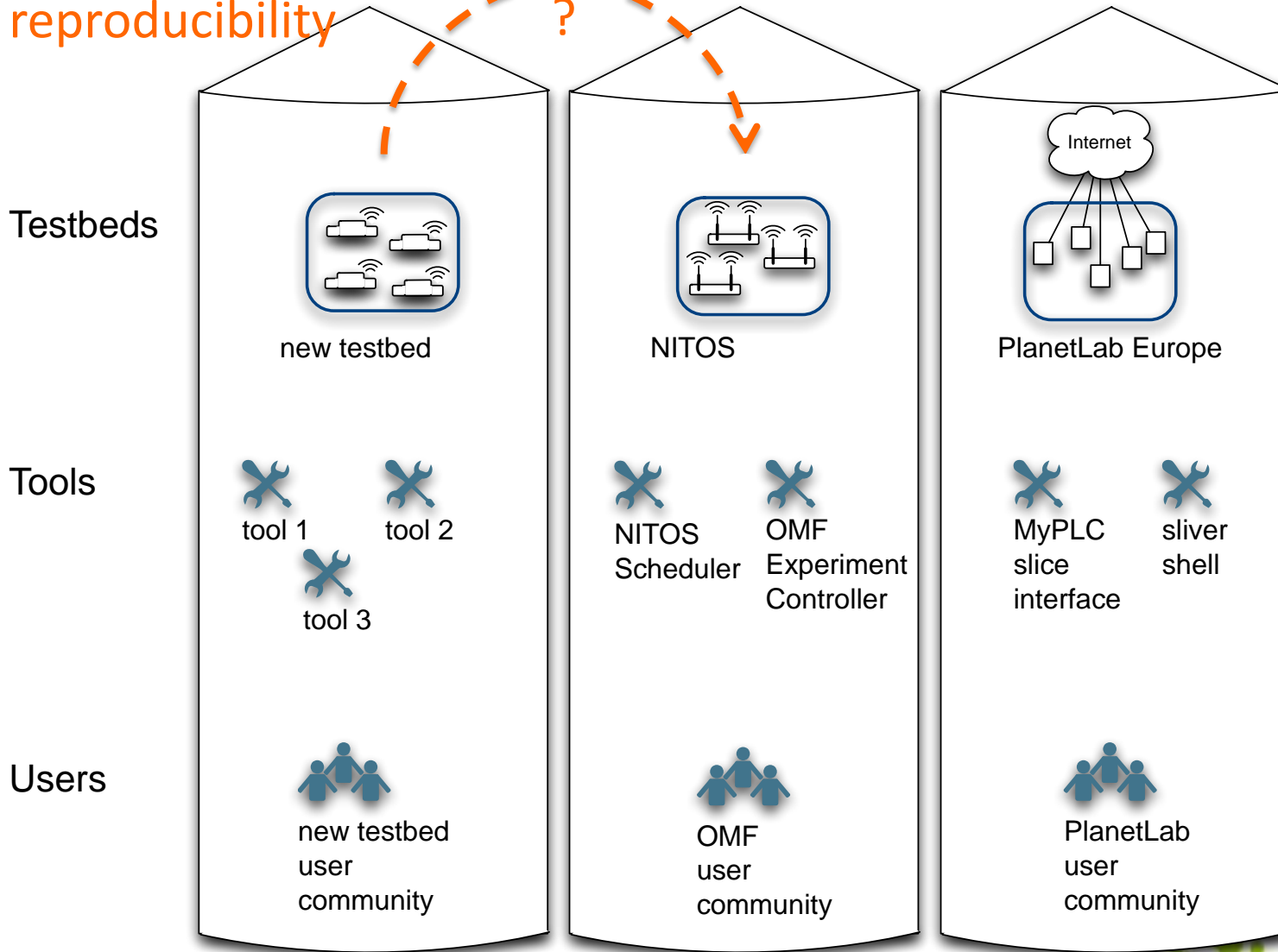
Applying a tool from one testbed in another environment

# Challenges



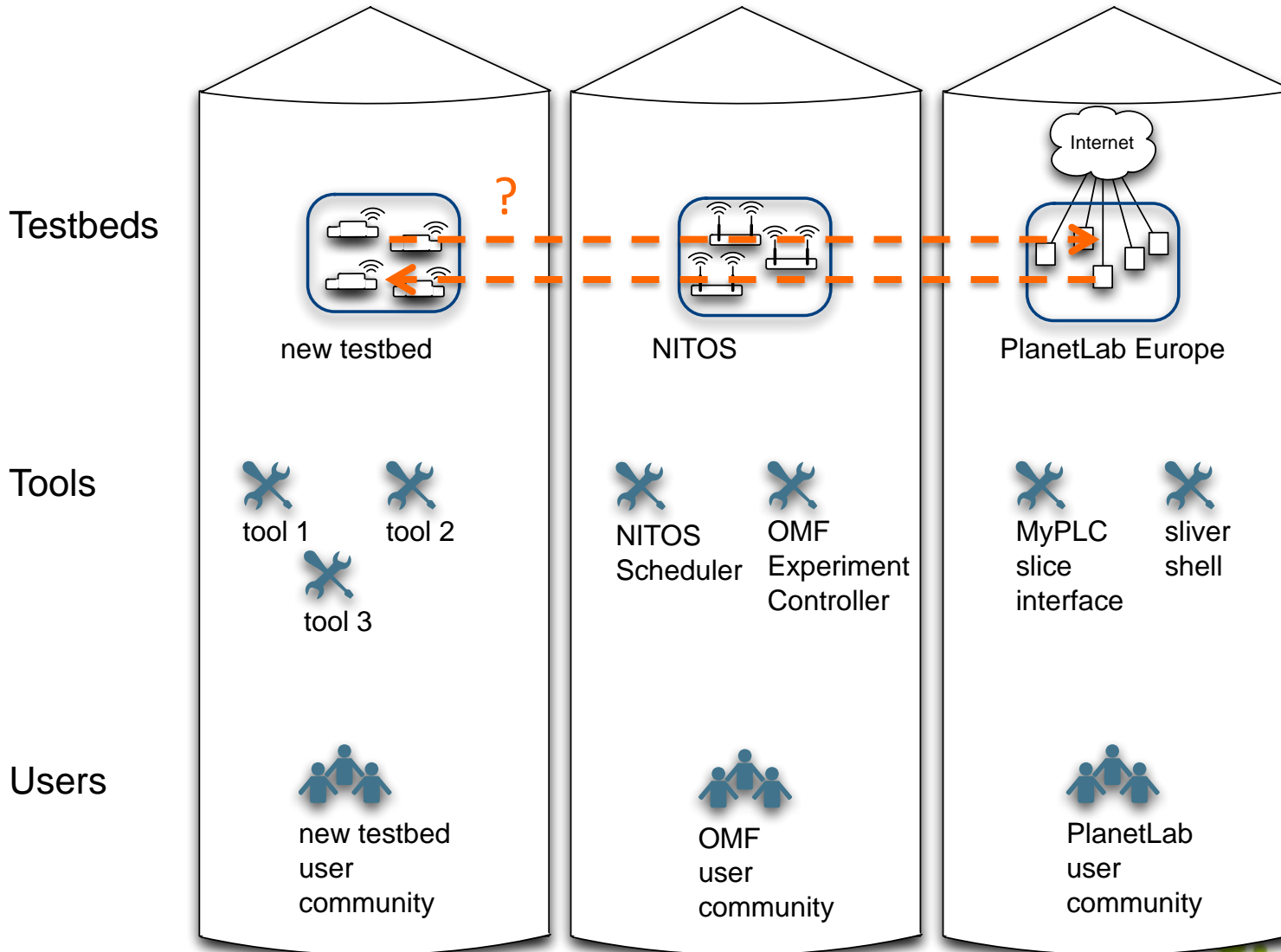
Experiment  
reproducibility

# Challenges

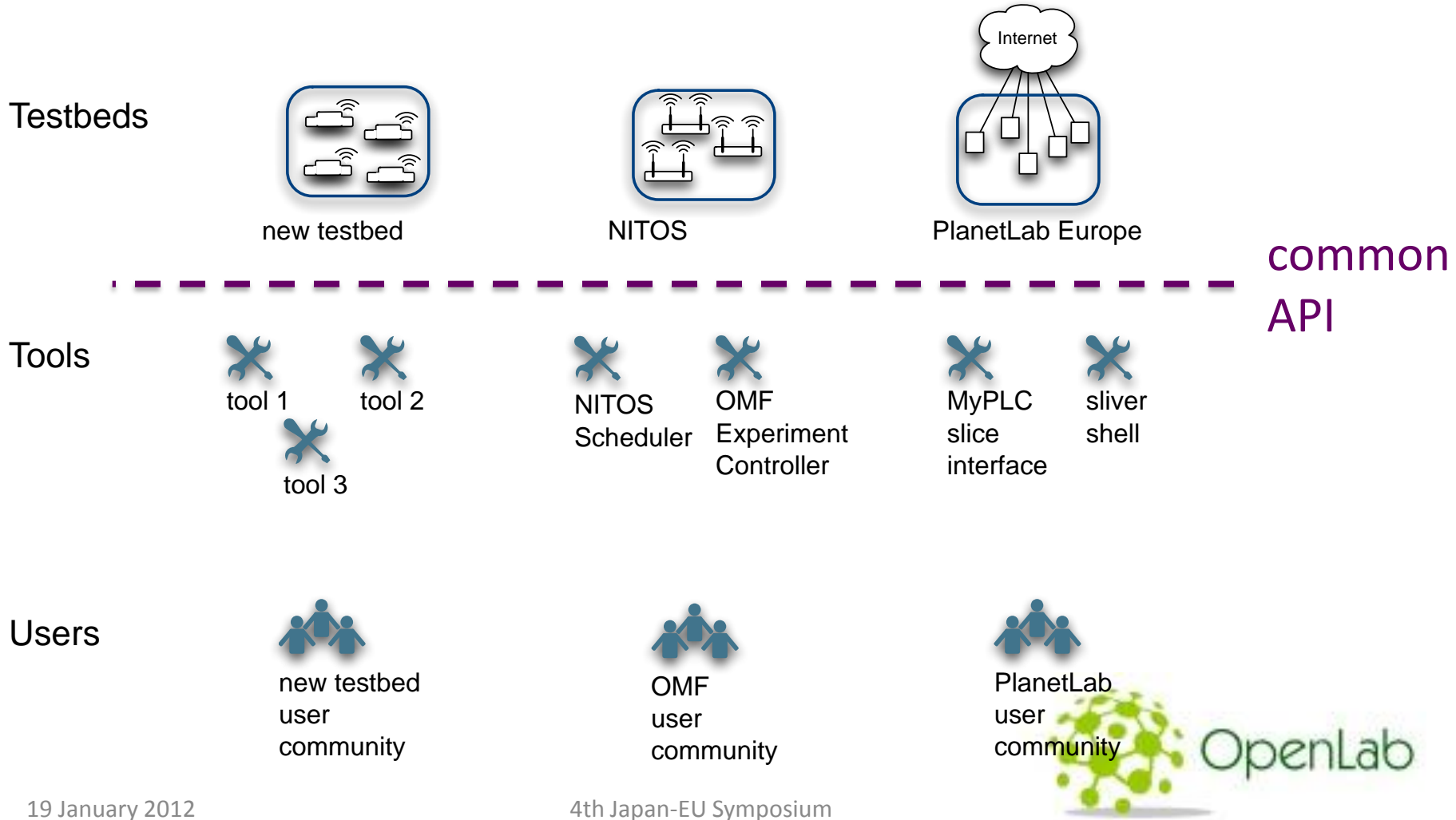


# Cross-testbed experiments

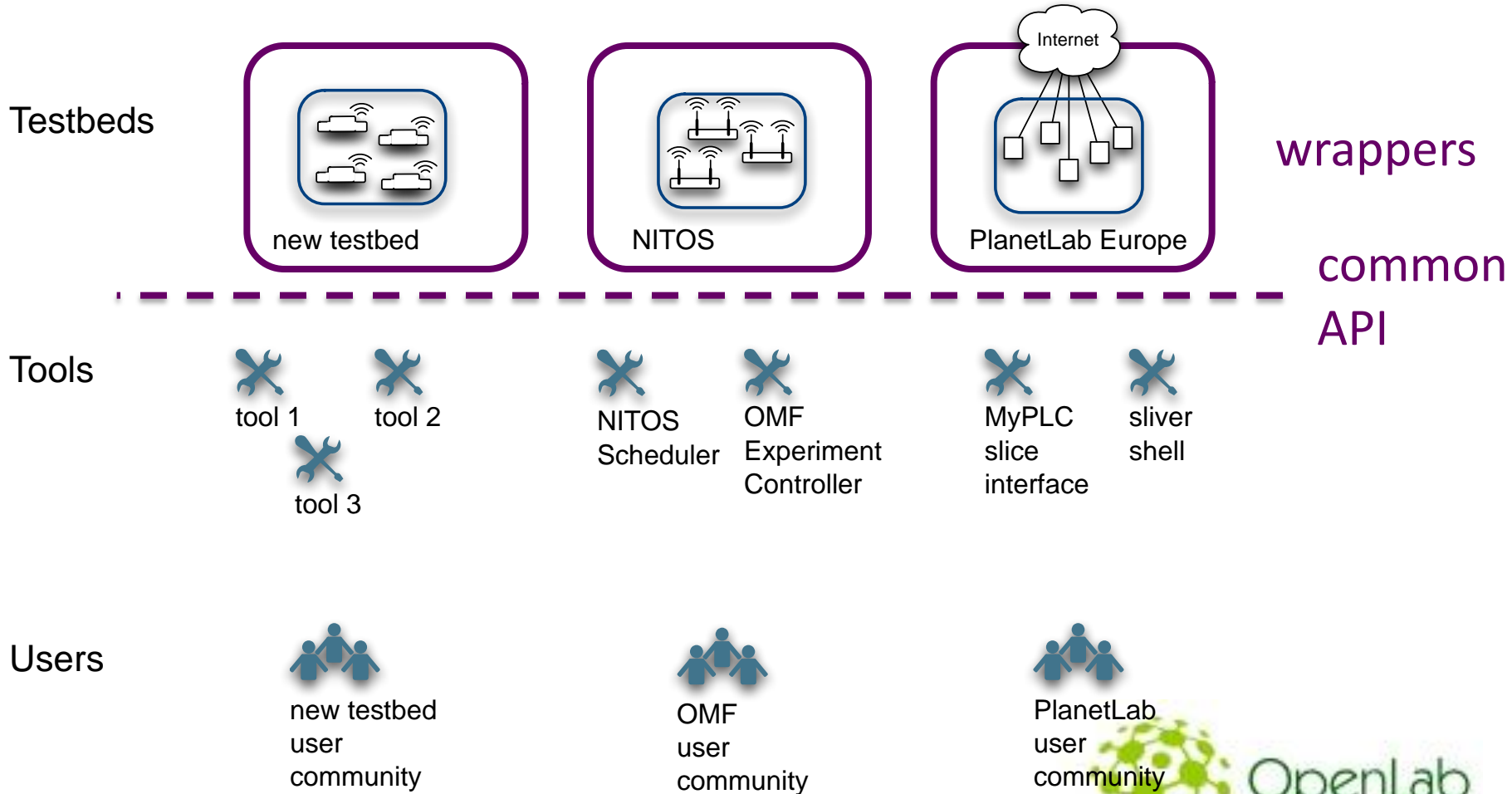
# Challenges



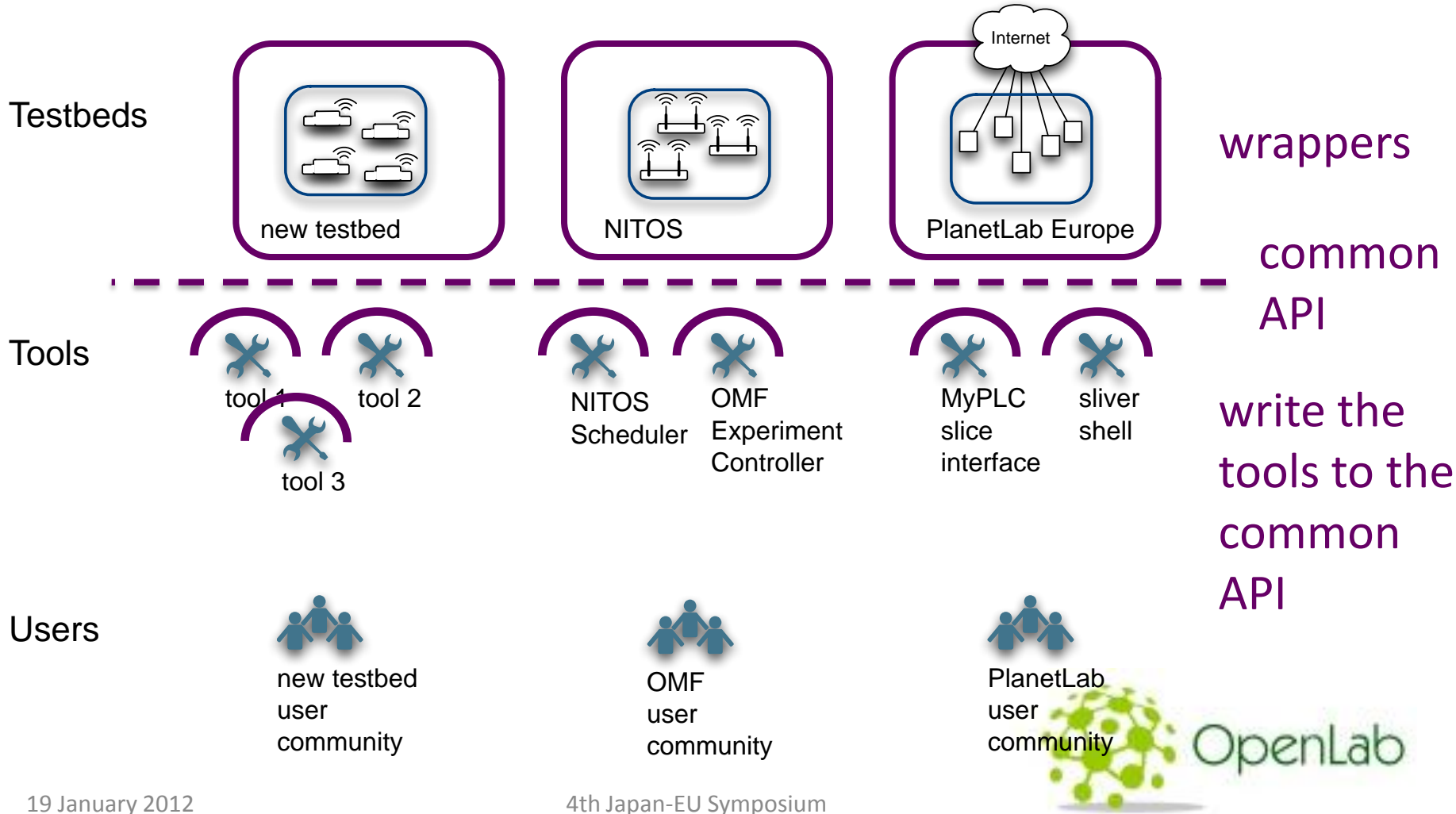
# Interoperability



# Interoperability

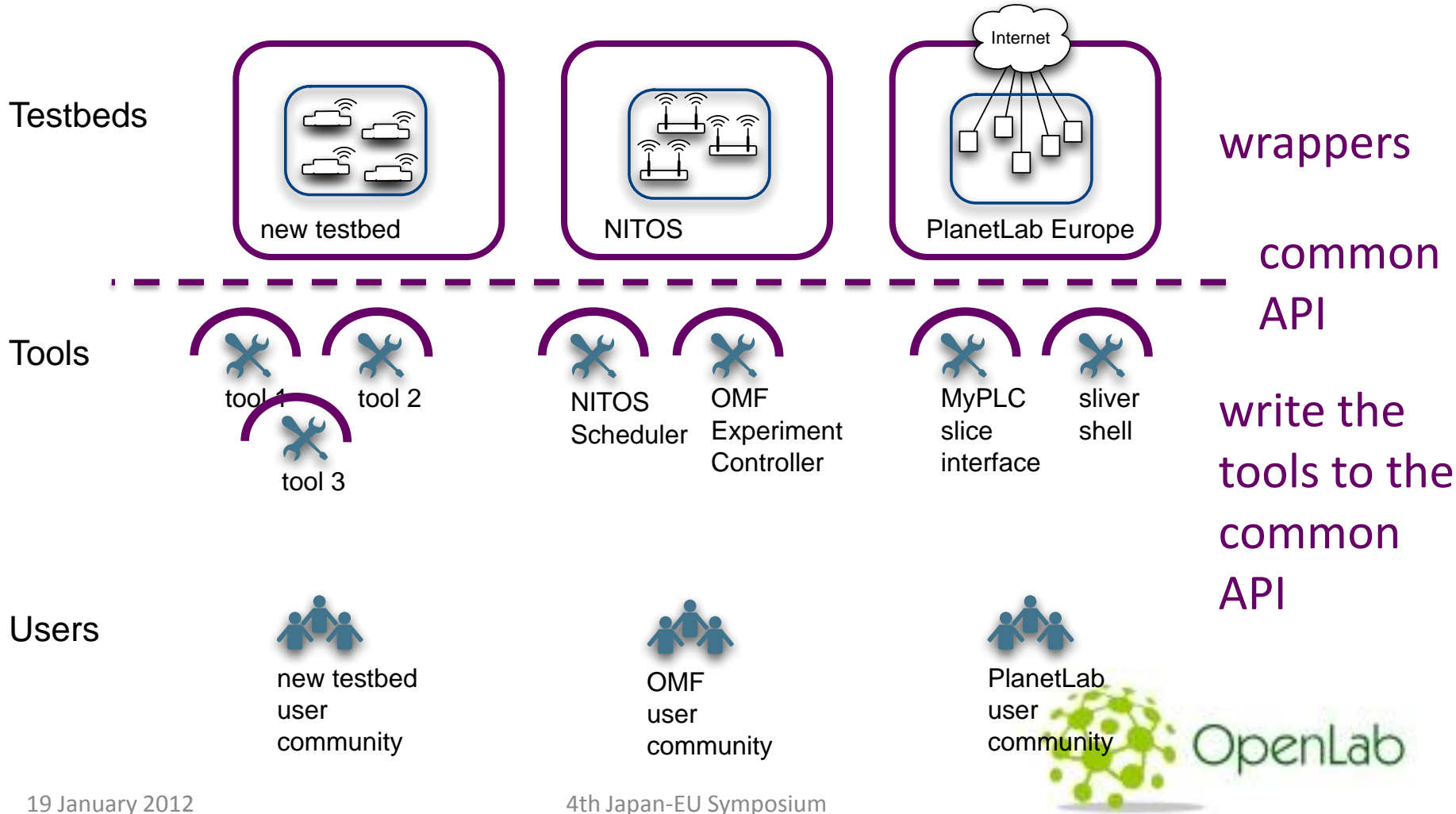


# Interoperability



# Interoperability

Interoperability trials, i.e., “bake-offs” or “plugfests”, planned





# OpenLab Testbeds

# OpenLab available infrastructure

## Testbeds:

- NITOS
- w-iLab.t
- DOTSEL
- PlanetLab Europe (PLE)
- HEN
- NGM Test Centre (WIT)
- University of Patras ISM testbed
- GreenStar Network
- ETOMICS/SONoMA

## Control plane prototypes:

- SFA
- MySlice
- Teagle
- RADL
- FSToolkit (FCI/FSDL)
- OMF/OMF Experiment Controller
- NEPI

## Future networking technologies:

- OFP
- IGW

## Tools:

- nmVO
- ns-3





OpenLab

<http://www.ict-openlab.eu/>  
[contact@ict-openlab.eu](mailto:contact@ict-openlab.eu)

Serge Fdida

[serge.fdida@lip6.fr](mailto:serge.fdida@lip6.fr)

Anastasius Gavras

[gavras@eurescom.eu](mailto:gavras@eurescom.eu)