



Unleashing Innovation GP4L for Network Evolution

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Public (PU)

The logo for GP4L, with "GP" in light blue, "4" in orange, and "L" in light blue.

GP4L

The logo for GN5-2, with "GN5-2" in red text on a white background that is partially obscured by a blue corner graphic.

GN5-2

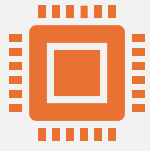
GÉANT/Global Platform for Labs (GP4L)



Dedicated to advancing network transformation by providing a **comprehensive ecosystem for experimentation, innovation, and collaboration** in network programmability and new networking practices.



GP4L Objectives and Users



Access to Experimental Facilities

advanced data plane programming facilities to **test innovative and geographically distributed** network experiments



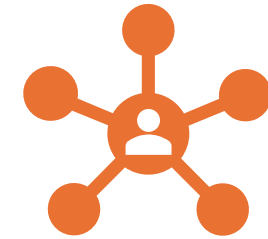
Enable testing and validation

empower users to **explore and validate various approaches** to network transformation



Co-Creation of Network Solutions

improve network operational efficiency



Network Engineers and Managers, NetDevOps Teams

From NRENs or affiliated R&E organizations, interested in conducting advanced network experiments or exploring specific use cases in network transformation



Research Organizations and Teams

Individuals or groups looking to test and collaborate on innovative network research projects and solutions

GP4L Values



**Real-World
Network
Experimentation**



**Isolated Test
Environment**



**Network
Evolution**



Accessibility



**Accelerated
Research**



Education



**Collaborative
Ecosystem**



**Community
Building**



GP4L Pillars

01

GP4L Experimental Testbed

A P4 distributed infrastructure for researchers to run network experiments

GP4L Playground

Cloud environment hosting network management tests and PoCs

02

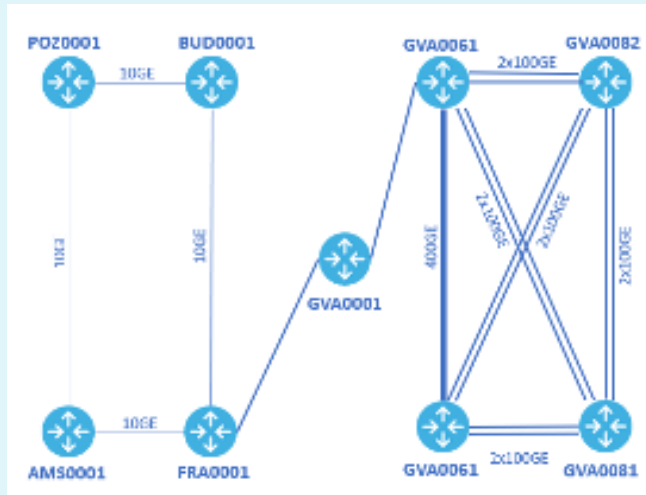
03

Community

Open discussion, support and collaboration on pilots

GP4L Experimental Testbed

A large-scale programmable network infrastructure that can be used to run cutting-edge network experiments.



GÉANT Platform for Labs

GÉANT Core + Partners
=> 44 devices



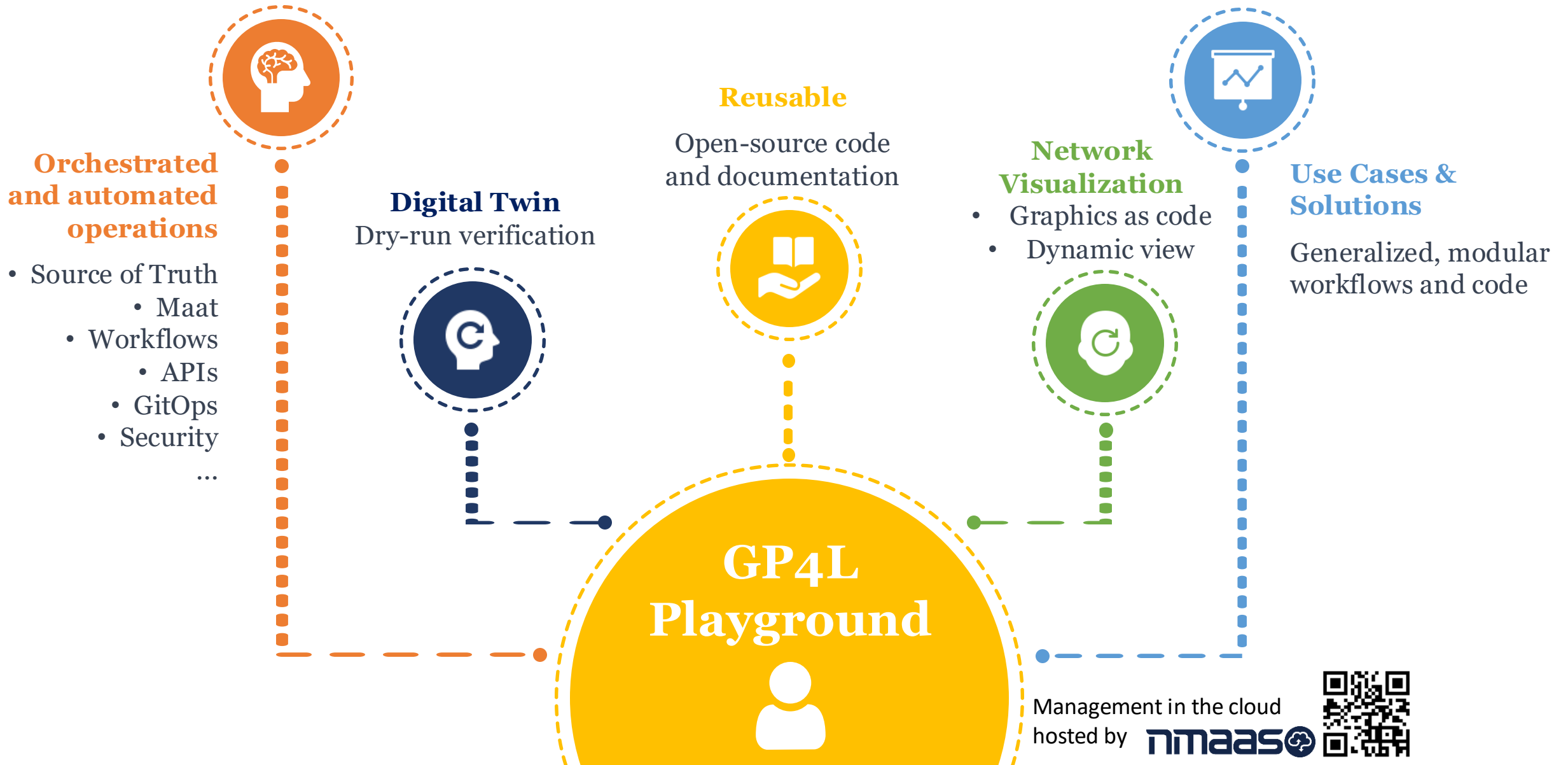
Global Platform for Labs



Investigate emerging technologies
Test network protocols
Implement new ideas
Implement NetDevOps principles



GP4L Labs/Playground



Experiments, Use-cases, Examples

Innovative source routing paradigm: Polka by UFES

Routing and forwarding of scitags-based IPv6 packets implemented by CERN

Part of many SC demos showcasing global network experiments

Implementation of digital twins

Network orchestration and automation use-cases

Advanced visualization with Grafana



Community - Collaboration towards innovation

Free for use

Open to anyone interested

Support from the GP4L Community

How to use

Obtain a VPN profile via gp4l-admin@lists.geant.org

Make a reservation on <https://book.gp4l.nmaas.eu/>

- New users self-register
- Provide reservation details
 - start and end time, chosen list of resources, title and description of the reservation

GP4L testbed admin is notified via email

- Might request additional information via the system

User receives reservation status notification

- Reservation has been authorised or declined
- Auto notification of reserved resource status change

On start time

- Check in
- Connect to Bastion
- Enjoy!





Thank You

<https://geant-netdev.gitlab-pages.pcss.pl/gp4ldocs/>

gp4l-admin@lists.geant.org

www.geant.org



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