

# Towards an integrated portal for networking testbed federation: an open platform approach

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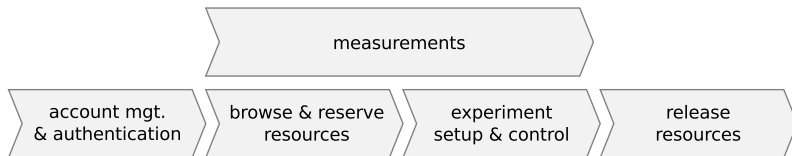
# Overview of MySlice

- A **user-centric** tool to support users' interaction with the federation of testbeds
  - tailored to support the full **experiment lifecycle**
  - based on an **open and extensible** framework
- 
- MySlice was presented to the GENI community at last GEC in the "Portal and Clearinghouse" session
  - a good candidate for a FIRE portal

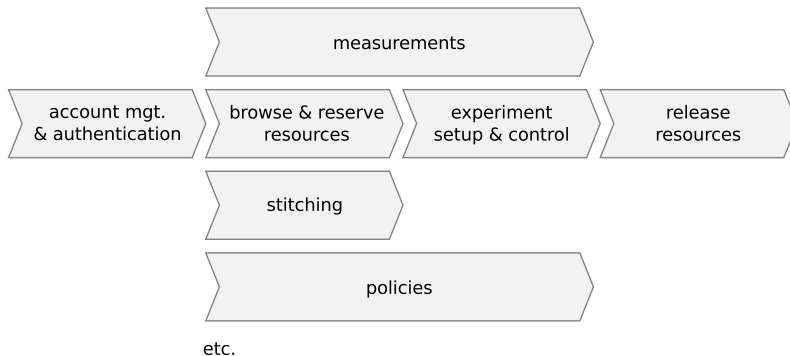
# Hiding the complexity of the experimental lifecycle



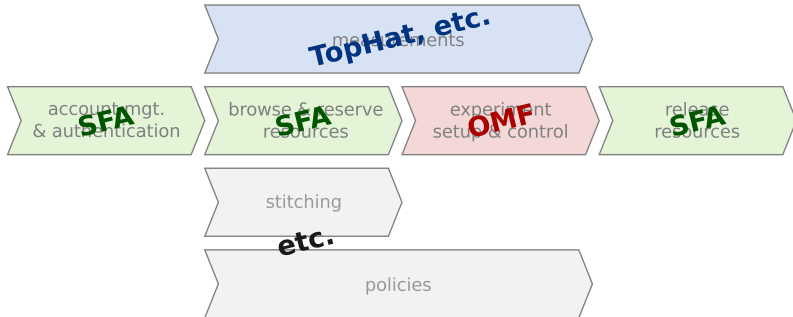
# Hiding the complexity of the experimental lifecycle



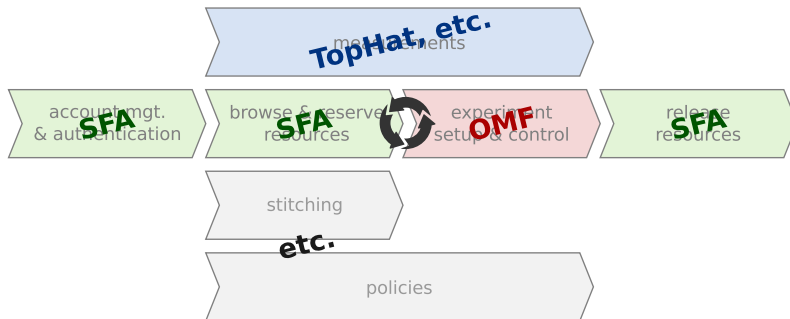
# Hiding the complexity of the experimental lifecycle



# Hiding the complexity of the experimental lifecycle



# Hiding the complexity of the experimental lifecycle



# Overview of MySlice

## Key aspects

- fully compatible with SFA & GENI software architectures
- extensive support for slice management based on SFA
- rely on existing components and open standards
- integration of measurements and monitoring

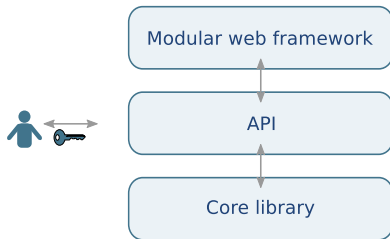
## Challenges

- leverage a large ecosystem of available complementary and overlapping services and tools (far beyond testbed borders)
- from our experience the UI is essential to users: need provide a transparent and consistent access
- Exploit commonalities in platforms and processes



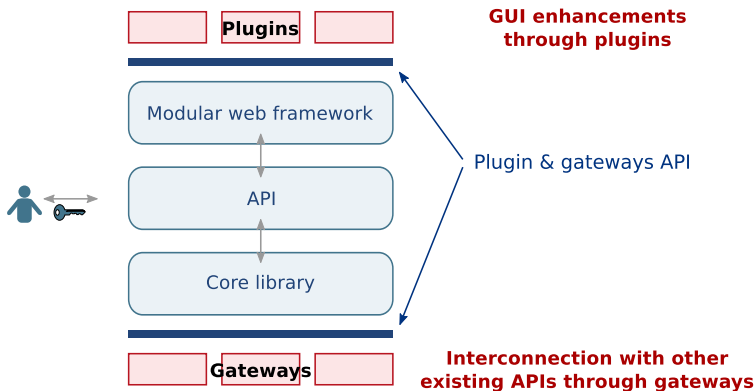


# MySlice architecture

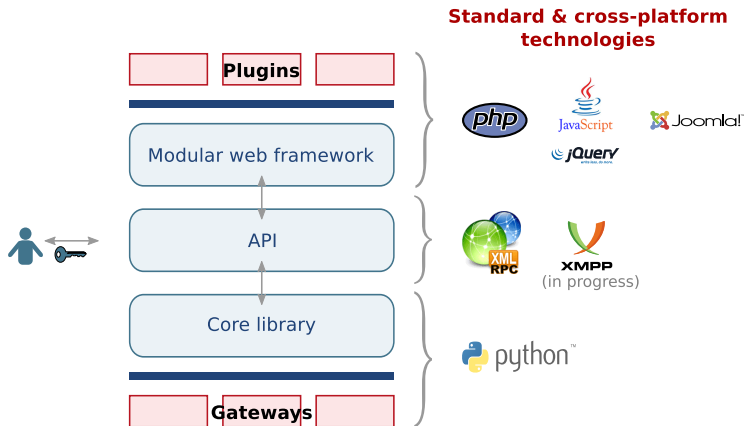


**A wide-range of user access interfaces to accommodate the diversity of users' needs**

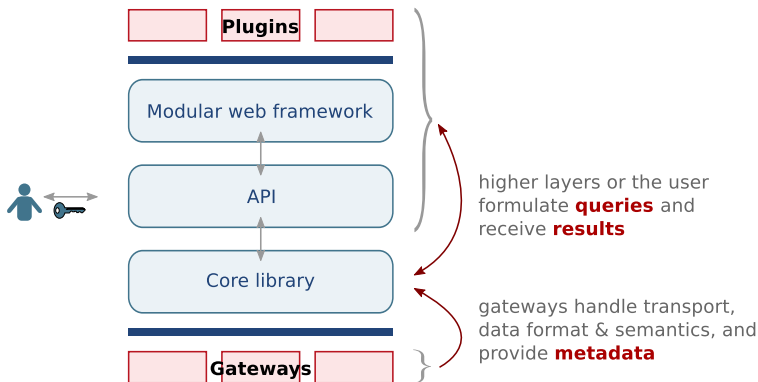
# MySlice architecture



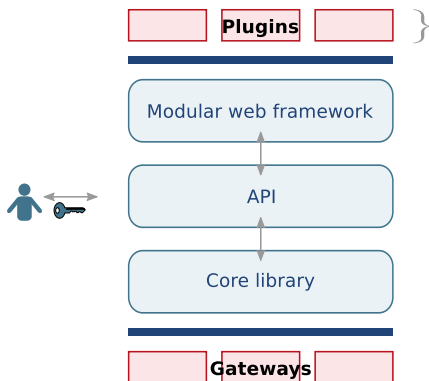
# MySlice architecture



# MySlice architecture

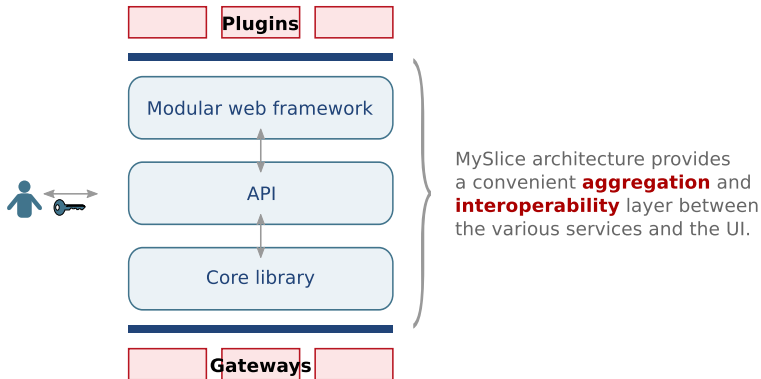


# MySlice architecture

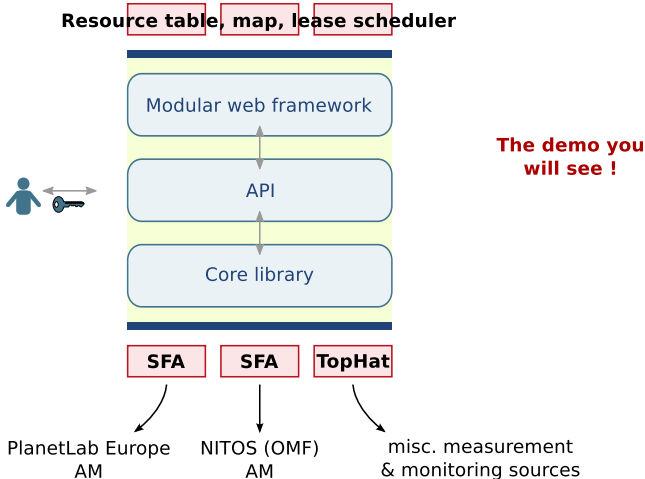


plugins are isolated from the gateways diversity thanks to the **query** abstraction

# MySlice architecture



# MySlice architecture



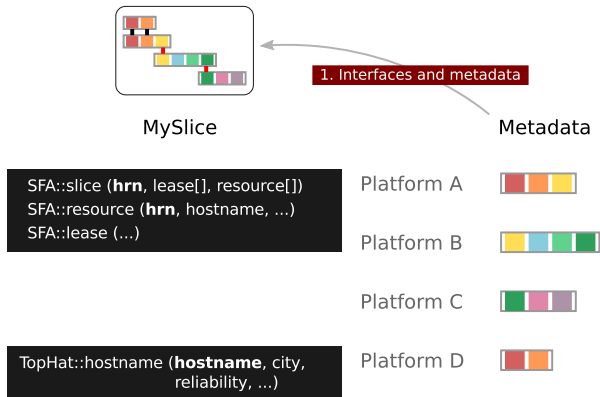


# Demo

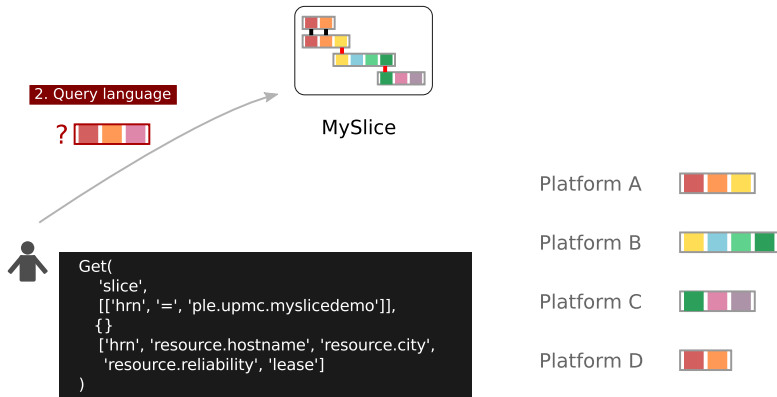
Dashboard & slice management



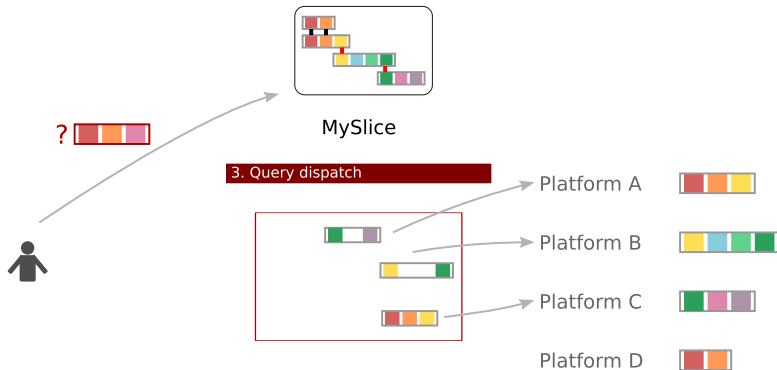
# Interconnection framework



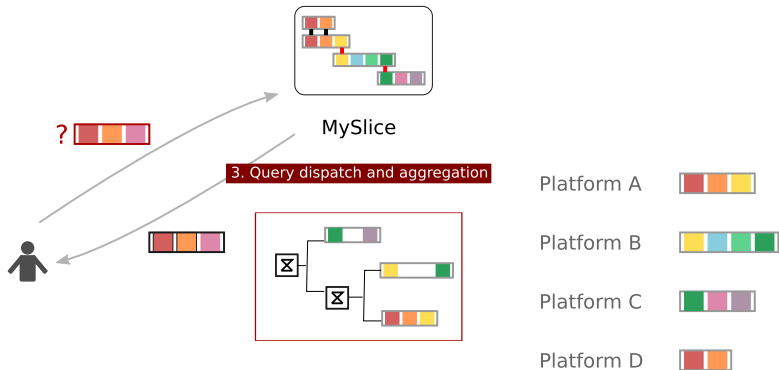
# Interconnection framework



# Interconnection framework



# Interconnection framework









# MySlice extensions: experiment control

Candidates:

- NEPI <http://nepihome.org/>
- OMF <http://mytestbed.net/>
- Add a gateway to a service API running an experiment controller:
  - Define the script as a new slice property
  - + support of upload and execution
  - Results can be retrieved through XMPP
- Develop/integrate appropriate visualization plugins

# Community development: contributors

partner/testbed	contribution
  東京大学 THE UNIVERSITY OF TOKYO	architecture (GENI Understanding Federation)
 PLANETLAB Europe	INRIA Sophia (FR): architecture, scheduler
 Senslab <small>Very large scale open wireless sensor networks</small>	INRIA Grenoble (FR): 3D map, scheduler
 NOTOS	UTH (GR) : scheduler (in progress)
 ibbt	IBBT (BE) : measurement visualization (in discussion)



# Community development: testbeds

project

testbeds



(just adopted)



(in discussion)

# Pointers

## For users

- Project website: `http://www.myslice.info`
- Demo website: `https://demo.myslice.info`
  - documentation and tutorials

## For testbed owners and developers

- Debian packages
- GIT repository: `http://git.myslice.info`
- TRAC: `https://trac.myslice.info` (new)
- mailing lists, IRC channel, etc.

# Conclusion

- An open solution for users to access the global federation of testbeds
- Support for the complete experimental lifecycle
- Available for download, deployment in progress

Not presented: comprehensive support for authentication

Join the growing community!

## References

- J. Augé, T. Parmentelat, N. Turro, T. Friedman – Tools to foster a global federation of testbeds – Computer Networks – Special issue Future internet testbeds (submitted)
- Jordan Augé, Loïc Barton, Timur Friedman, Serge Fdida – Supporting the experiment lifecycle with MySlice – Invited talk @ GENI Engineering Conference, GEC15 – Oct. 23-25, 2012 – Houston, TX

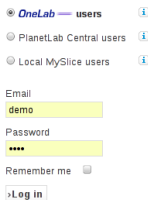
## BACKUP SLIDES

# Authentication to MySlice

Through a local account or a trusted third party:

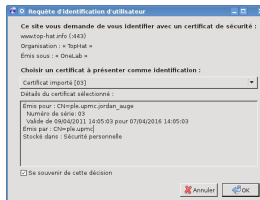
- OneLab or PLC token (login/password (weak), session, GPG, etc.)
- a SFA GID signed by a trusted peer
- (cf Shibboleth for GENI portal)

Third party authentication

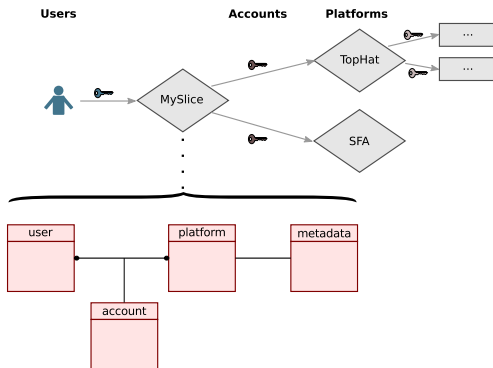


The screenshot shows a web interface for selecting a user. At the top, there are three radio buttons: 'OneLab users' (selected), 'PlanetLab Central users', and 'Local MySlice users'. Each has an information icon to its right. Below these are two input fields: 'Email' with the value 'demo' and 'Password' with masked characters '\*\*\*\*'. There is a 'Remember me' checkbox which is unchecked. At the bottom is a 'Log in' button.

SFA certificate (GID)



# Authentication to third party platforms



- multiple users, platforms, and authentication schemes
- extensive support for SFA authentication
  - either user upload delegated credentials
  - or MySlice can handle SFA complexity on behalf of the user