

## PlaFRIM & Guix

**Pla**teforme **F**édérative de **R**echerche en  
**I**nformatique et en **M**athématiques

# Sommaire

- 01. Environment
- 02. Guix infrastructure
- 03. European Open Science Cloud

# 01

## Environment

# Environment

PlaFRIM is an experimental testbed for Research and Development in science computing

- Develop new models, algorithms, ...
- Develop new software for the next computers
- Improve parallelism for large scale simulation (Genci)

## modules

Software environment manager

- Supported
- User defined
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## Guix

package manager for cluster and more ...



# 02

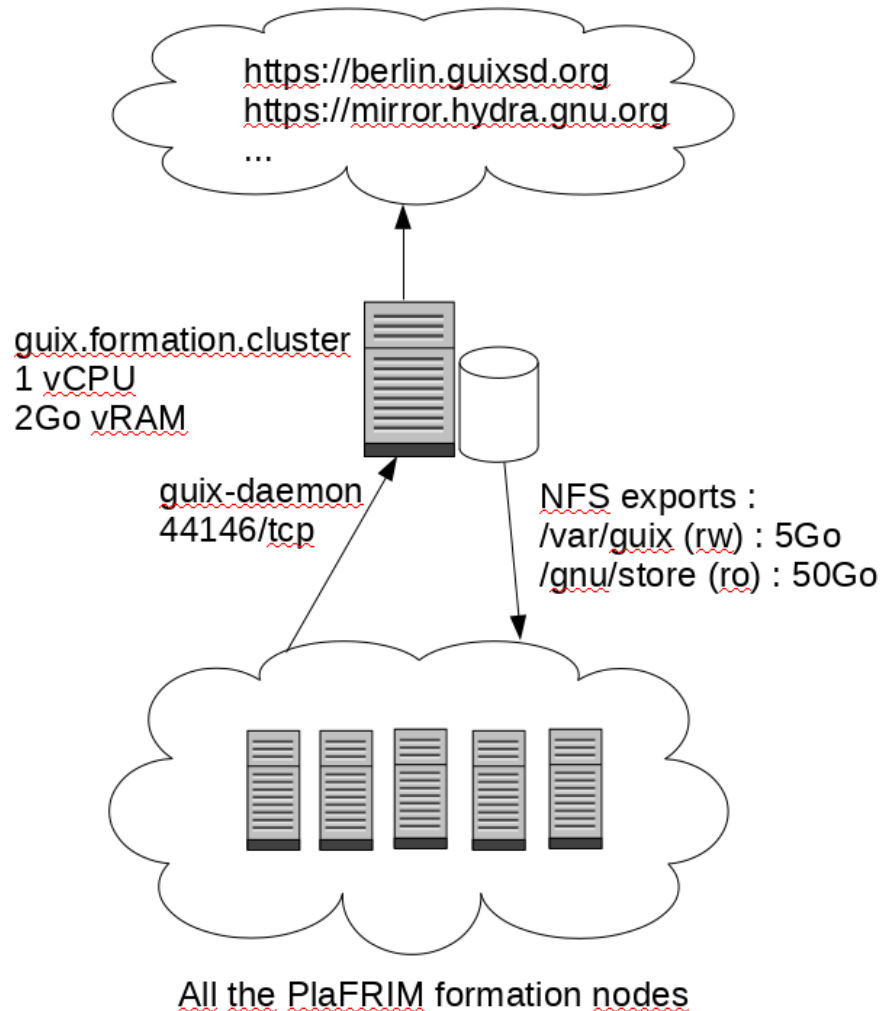
## Guix infrastructure

# Install

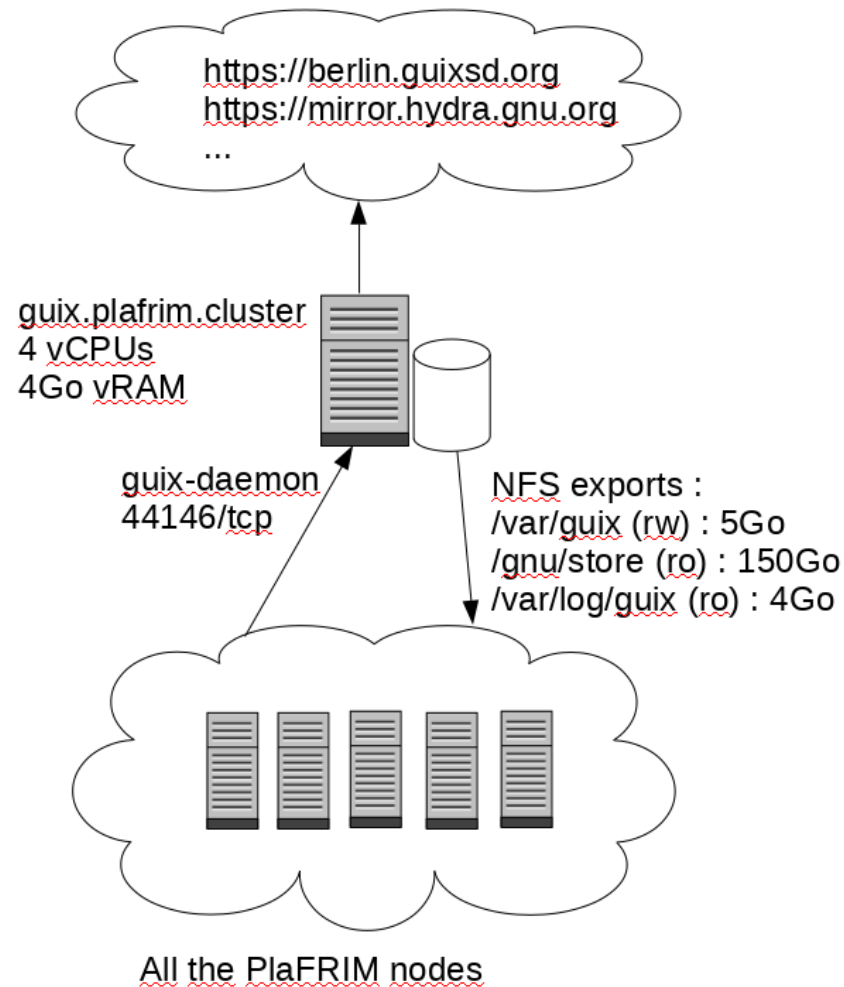
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- 1 master node which provides the guix daemon
  - 2 shared storage to be visible on all the nodes of the platform
  - possibility to talk with some servers available on Internet which provides binary packages to guix
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- First step : setup guix on the formation platform to try the install and write the documentation
  - second step : setup guix on the research platform and improve the documentation
  - third step : let's users use GUIX on PlaFRIM

# First step : GUIX on formation platform



# Second step : GUIX on research platform



- Guix is available for all plafrim's users
- Time to install/update the guix infrastructure (including some adjustments)  
: ~ 2 week
- ~ 40 guix users on PlaFRIM actually
- Install documentation available online :  
<https://guix-hpc.bordeaux.inria.fr/blog/2017/11/installing-guix-on-a-cluster/>

# 03

## European Open Science Cloud

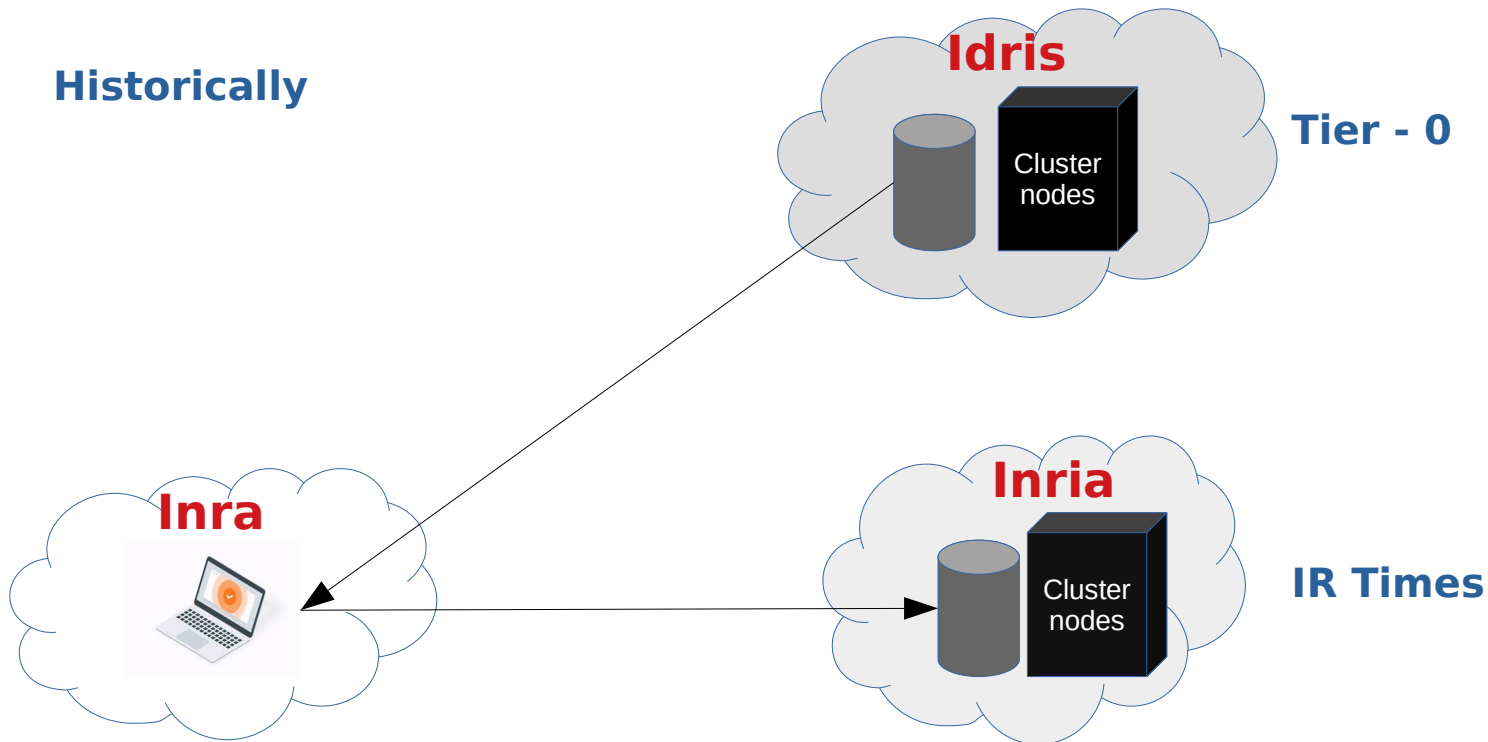
# EOSC Pilot

## PICO2 Computing



**EOSC**<sub>pilot</sub>  
The European Open Science  
Cloud for Research Pilot Project

**Historically**



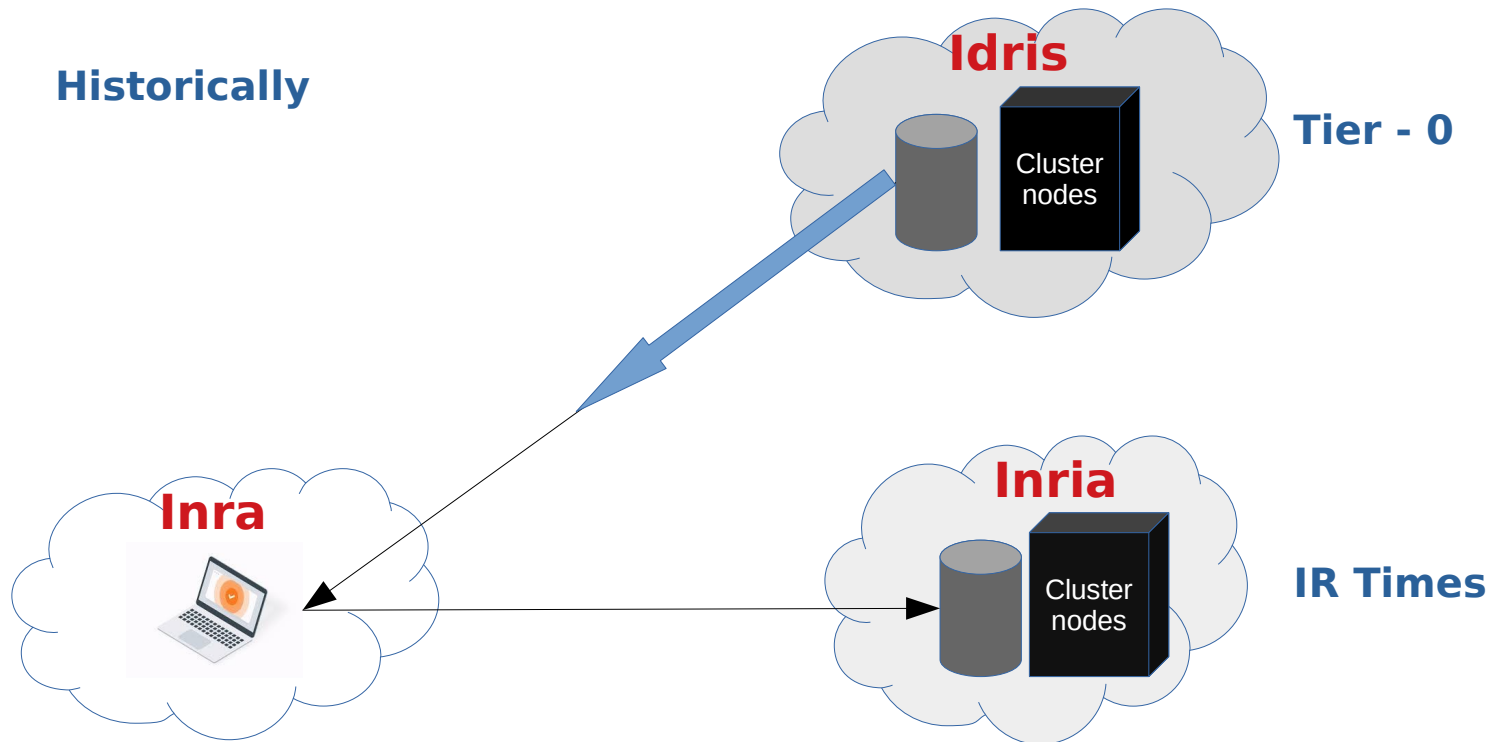
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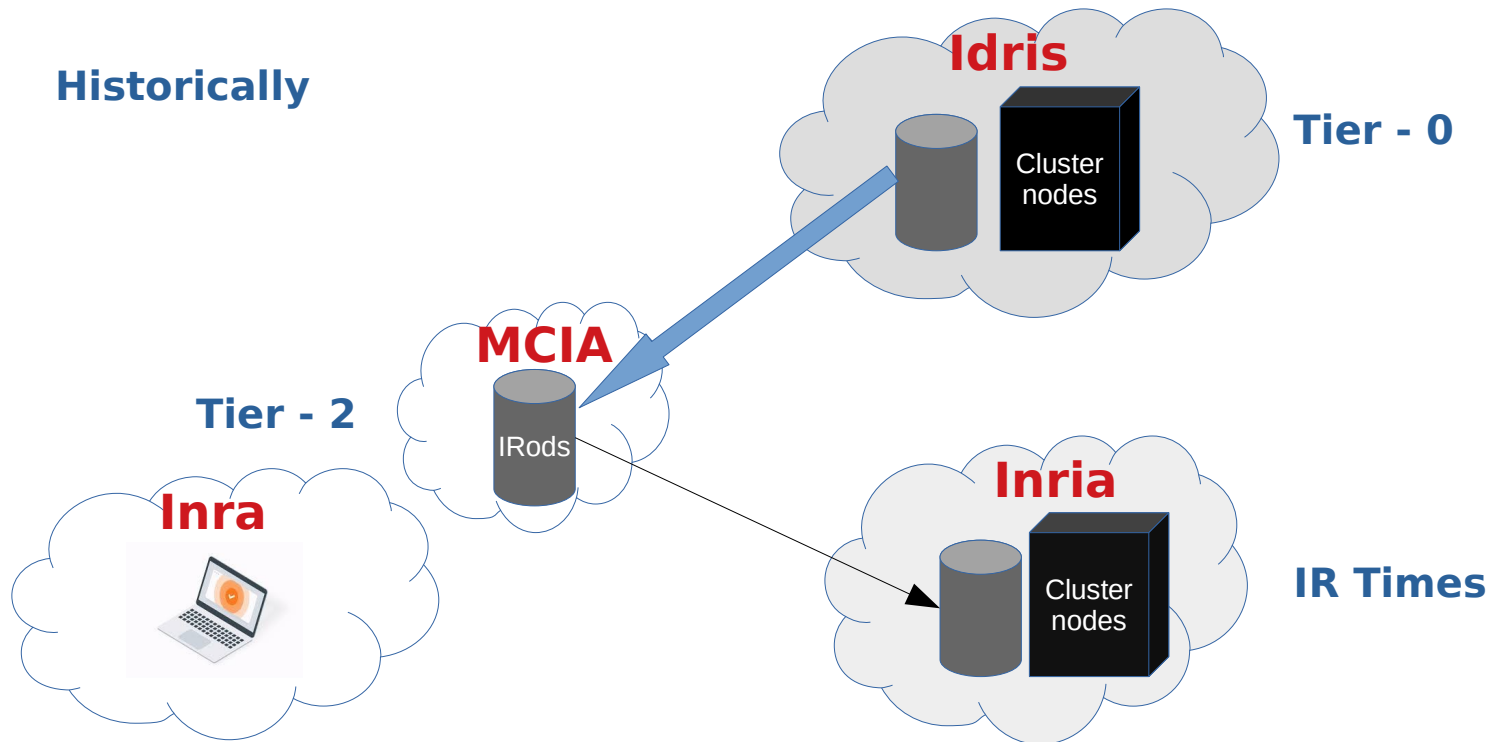
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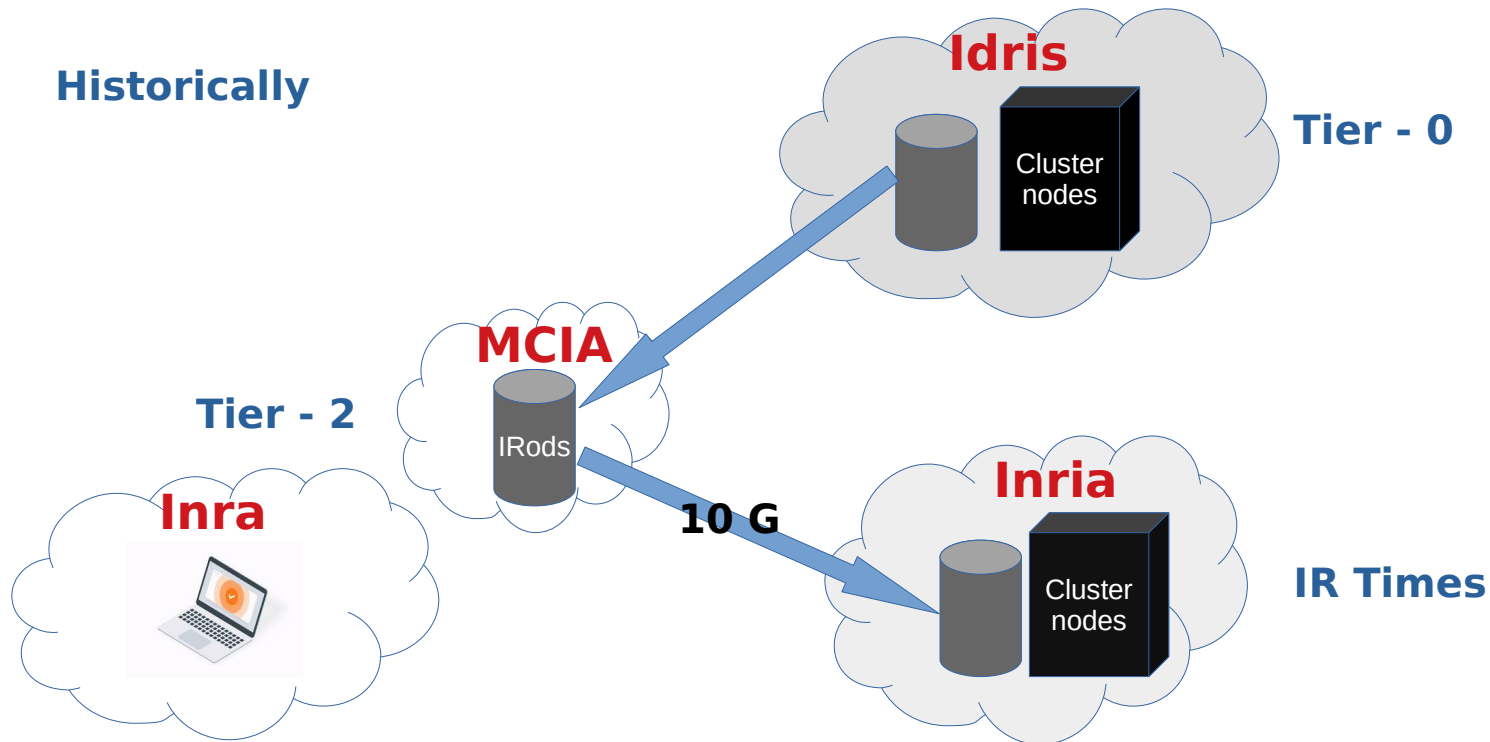
# EOSC Pilot

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**EOSC**<sub>pilot</sub>  
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# EOSC Pilot

## PICO2 Computing



### PICO2 Project

The PICO2 project (Pilot for Connecting Computing Centers) is a demonstrator (Pilot) of WP 6 () of the European EOSCPilot project aimed at facilitating data flows between Tier2 and Tier1 infrastructures, through the use of IRODS storage technology.

### Project partners

GRICAD, CC-IN2P3, Inra - Inria - PlaFRIM, IDRIS, RENATER, CEA.

# EOSC Pilot

## PICO2 Computing



### PICO2 Project

- IRods
- L3VPN
- Packaging

# EOSC Pilot

## PICO2 Computing



### PICO2 Project

- IRods
  - L3VPN
  - Packaging
1. Maintain independent administrative unit
  2. Zone federation
  3. Create a European federation (DESY, Renater... )
  4. Transparent access to data on each site

# EOSC Pilot

## PICO2 Computing



### PICO2 Project

- IRods
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1. Include IRods storage sites
  2. Public addresses
  3. Some limitation (CEA)
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# EOSC Pilot

## PICO2 Computing



### PICO2 Project

- IRods
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1. Docker
  2. Singularity
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# EOSC Pilot

## PICO2 Computing



### PICO2 Project

- IRods
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- Packaging
- Guix
  - × System description – recipes
  - × Reproducibility from one to another platform
  - × Relocatable binary packages
  - × docker/singularity package



# EOSC Pilot

## PICO2 Computing



### **PICO2 Project – Guix**

### **Project - DISSEQ**

- Guix
  1. Writing recipes
  2. Simplicity to share
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    - ◆ binary migration vs data migration

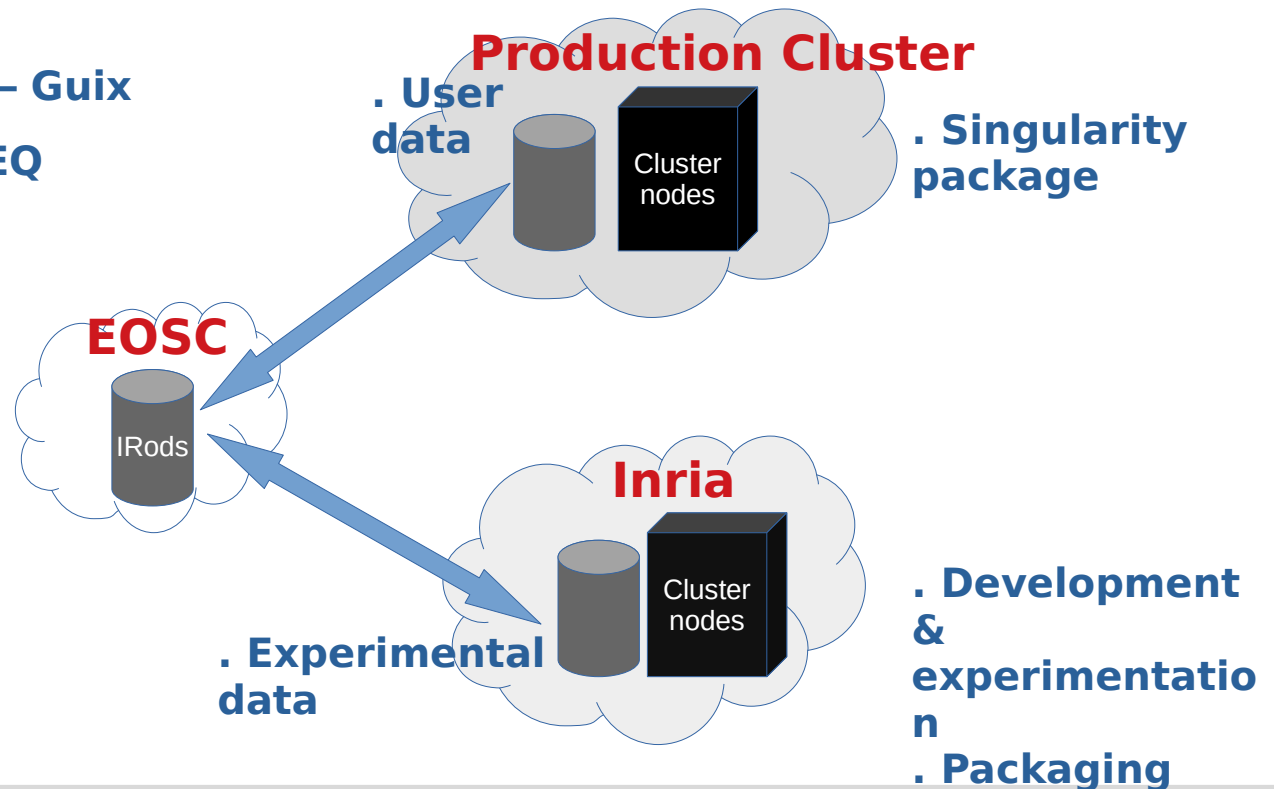
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# EOSC Pilot



EU proposal 857650

# EOSC Pillar



## EUROPEAN OPEN SCIENCE CLOUD

# EOSC Pillar



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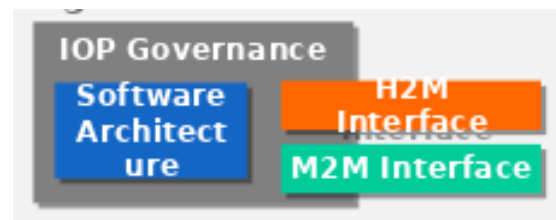
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EOSC-Pillar gathers representatives of the fast-growing national initiatives for **coordinating data infrastructures and services** in Italy, France, Germany, Austria and Belgium to establish an agile and efficient federation model for open science services covering the full spectrum of European research communities.

Task 6.4 – Software Heritage

Task 7.3 – PlaFRIM (Guix)

Perform the validation and proof readiness for deployment of federating services through the real-life experience of scientific communities





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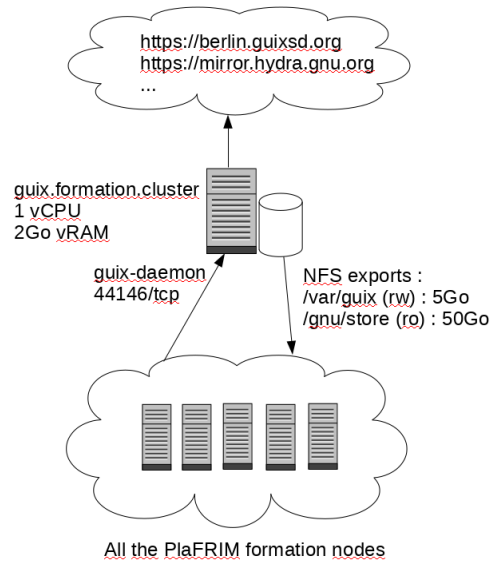
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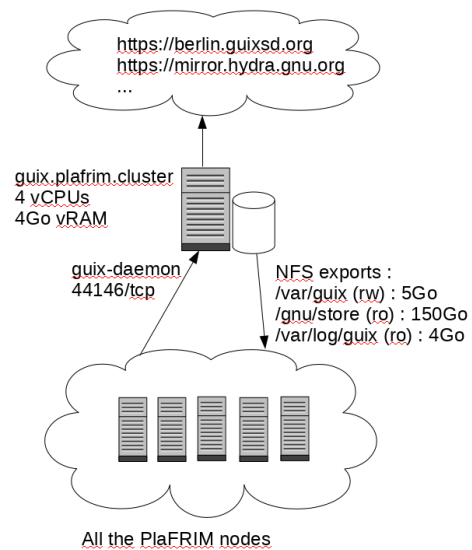
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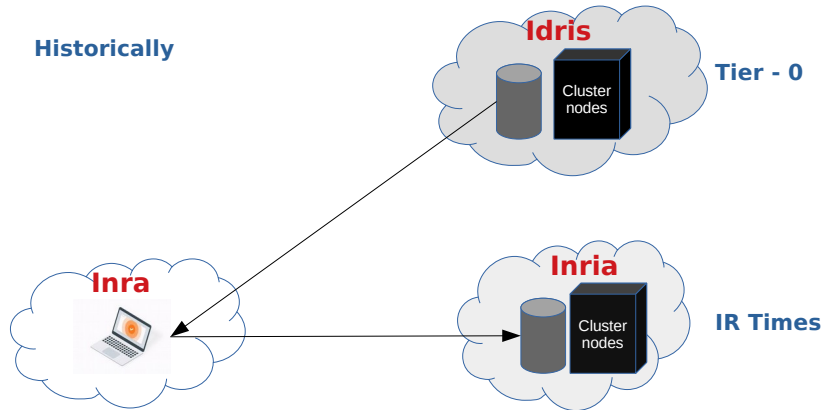
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## PICO2 Computing



Historically



03/11/2019

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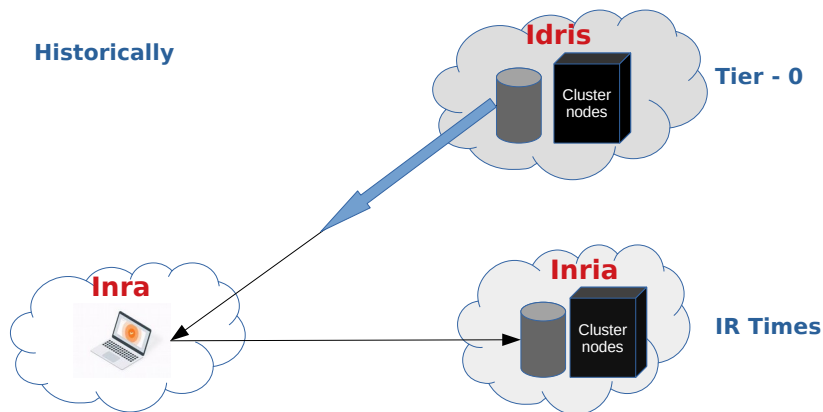
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inventeurs du monde numérique

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03/11/2019

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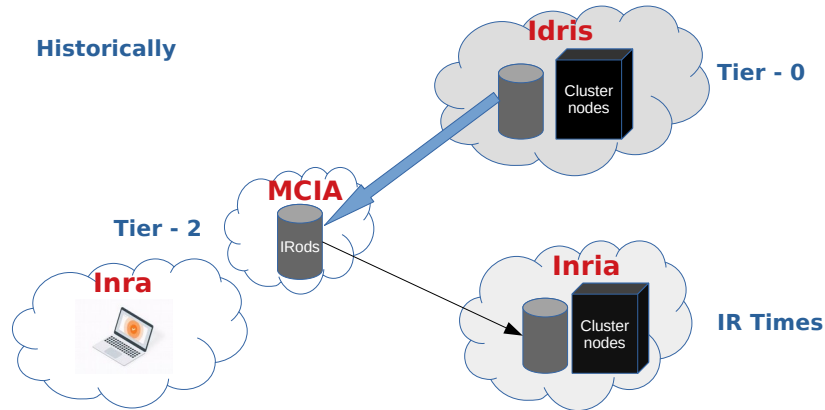
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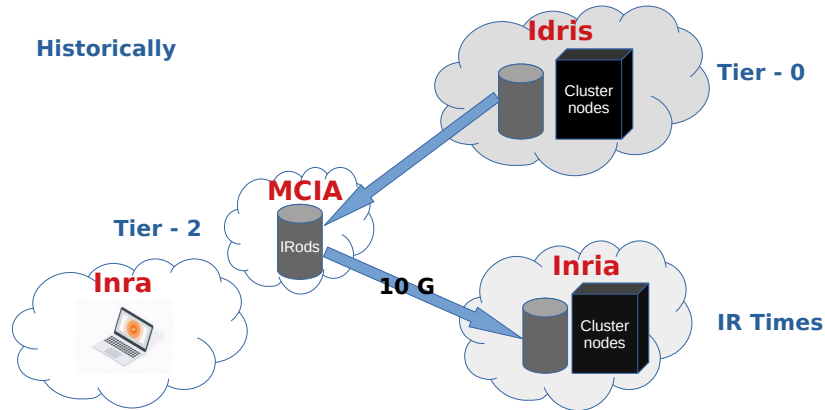
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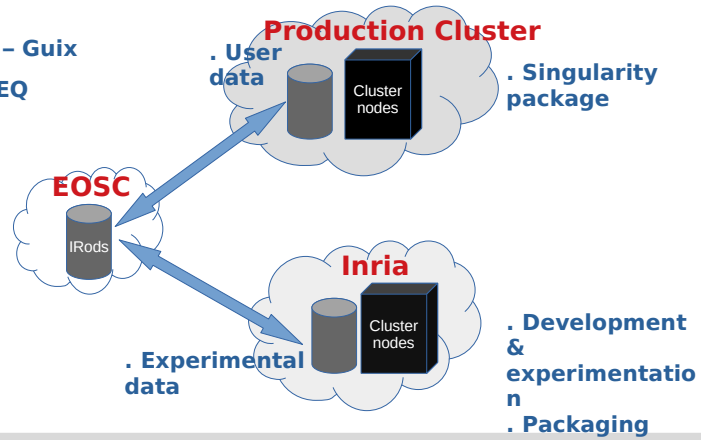
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EU proposal 857650

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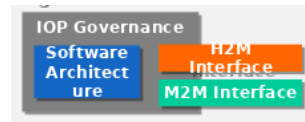
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