

# Projet Transversal VIP

## Introduction et nouvelles

Sorina Pop  
4<sup>ème</sup> Workshop VIP  
25/06/2018

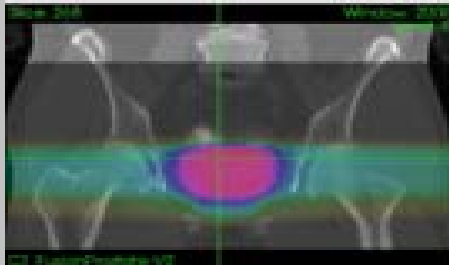
## Web portal

Application as a service  
File transfer to/from grid



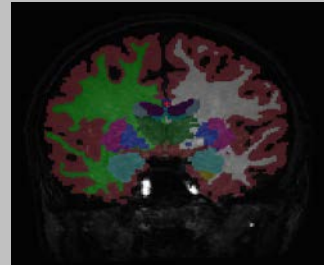
## Scientific applications

### Cancer therapy simulation



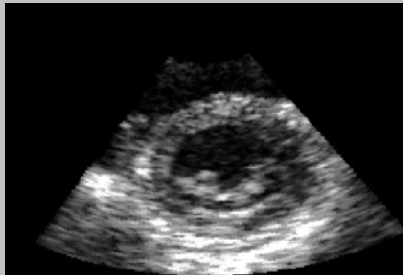
Prostate radiotherapy plan simulated with GATE (L. Grevillot and D. Sarrut)

### Neuro-image analysis



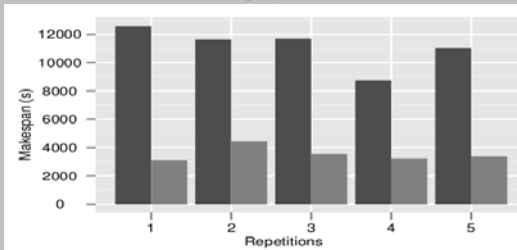
Brain tissue segmentation with Freesurfer

### Image simulation



Echocardiography simulated with FIELD-II (O. Bernard *et al*)

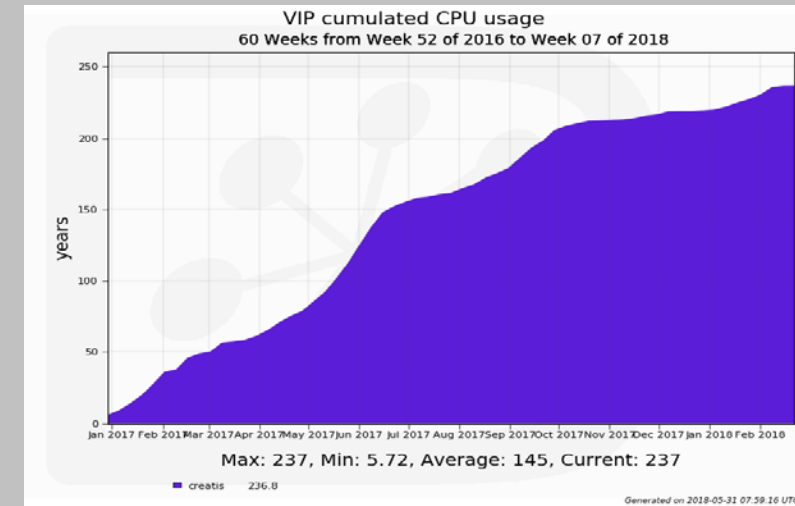
### Modeling and optimization of distributed computing systems



Acceleration yielded by non-clairvoyant task replication (R. Ferreira da Silva *et al*)

## Infrastructure

Supported by EGI Infrastructure  
Uses biomed VO (~65 sites in Europe and beyond)  
VIP consumes ~20 CPU years every month



France-Grilles



DIRAC

## Users

1000+ registered users in June 2018  
42 publications since 2011



## Why use VIP?

- To get/give access to medical imaging applications
  - No need for installation on the users' side
  - Easy to use
- To share
  - Applications and data
- To get access to distributed computing and storage resources
  - « Free » of charge for research usage
    - Moral obligation to report publications using these resources

## VIP LOGO



La "vieille pie" (VIP) proposée par Max Langer.

MERCI à MAX et TOUS les participants !

## VIP transverse project latest actions

### ■ VIP software development

- VIP version 1.22 released on March 15<sup>th</sup> (<https://github.com/virtual-imaging-platform/VIP-portal/releases/tag/1.22>)
- CARMIN API, Java Applets replaced with JS code, VIP logo, bug fixes

### ■ VIP – Girder Integration

- Stage Lucas (voir présentation)

### ■ Integration of new applications

- CREATIS: CAD Neuro (SPM8 preprocessing), MR Spectroscopy (CQuest), GradientAnisotropicDiffusion (GPU test)
- External: FLI (Generate a T1\_map from a Inversion - Recovery sequence), INRA (metabarcoding)

### ■ User support on existing applications (Coil Characterization, GATE, Freesurfer ...)

### ■ Communication

- Journées plateforme (Lyon)
- International Workshop on Science Gateways (Edinburg) -> VIP in Quest of Open and Reproducible Science

### ■ Upcoming

- Publish VIP pipelines and data to open repositories (e.g., Zenodo) and get DOIs for an open and reproducible science
- GPU usage (first use-case focused on epilepsy project with Carole L.)

## National and international projects

- FLI (France Life Imaging) – IAM node
  - Phase II – VIP services provided through INSAValor (long-term sustainability)
- Labex Primes WP5
  - Anchen Chai's PhD thesis -> simulation for data transfer optimization
- INS2I platform support
  - IR (Axel)
- FG-SOL
  - Based on VIP, services to all French communities (beyond medical imaging)
- OpenAire Connect
  - European project, 11 partners among which CNRS -> FLI -> CREATIS
  - Facilitate adoption of OpenScience Publishing
    - VIP: publish experiments (with DOIs)

# Programme

- ✓ Introduction et nouvelles de VIP (Sorina)
- Présentation invitée IFB (Christophe Blanchet)
- Interfaçage VIP - Girder (Axel et Lucas Thevenard)
- CQuest et VIP (Timothée Chabat)
- Présentation d'un viewer JavaScript (Lucas Ouanicheherbin)
- Infos sur l'utilisation des GPUs dans VIP (Thomas G. et Sorina)
- Tour de table