Plateforme VIP

Sorina Pop
9ème Workshop VIP
07/06/2021

Programme

➢ Courte introduction et nouvelles de VIP (Sorina Pop)

➢ MicroVIP : simulateur de microscopie sur VIP (Guillaume Vanel)

➢ Intégration dans VIP d'une pipeline de préprocessing pour la neuro (Axel Bonnet)
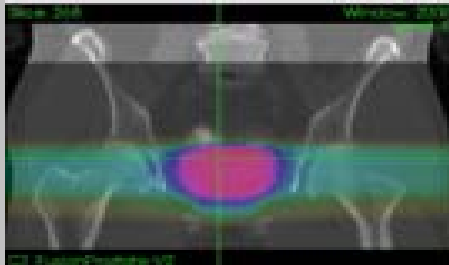
➢ Tour de table et discussions

Web portal

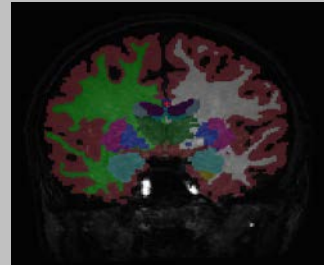Application as a service
File transfer to/from grid

Scientific applications

Cancer therapy simulation

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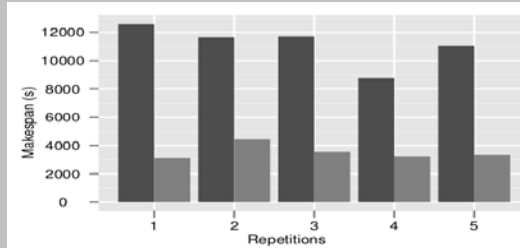with GATE(L. Grevillot and D. Sarrut)

Image simulation

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

Neuro-image analysis

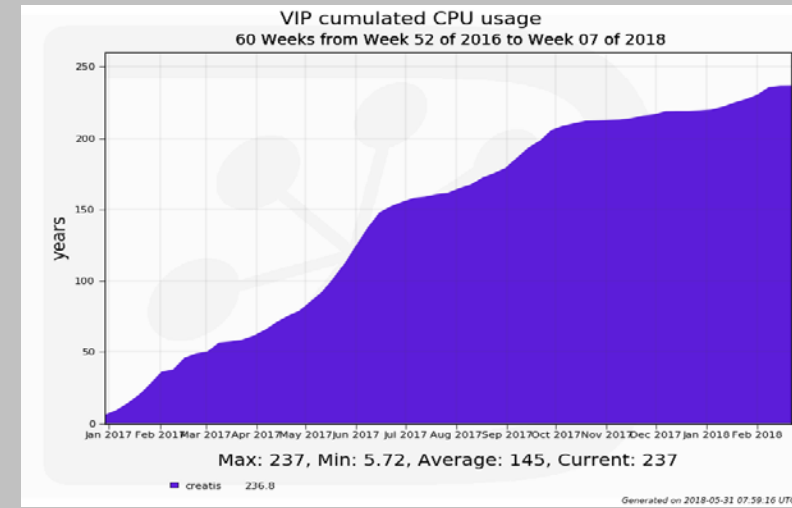Brain tissue segmentation
with Freesurfer

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

VIP cumulated CPU usage
60 Weeks from Week 52 of 2016 to Week 07 of 2018

Max: 237, Min: 5.72, Average: 145, Current: 237

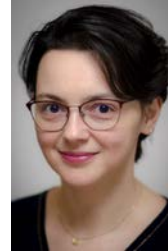France-Grilles

DIRAC

Users

1300+ registered users in June 2021
61 publications since 2011

People

■ VIP core team

- ■ Sorina Pop, IR CNRS
- ■ Axel Bonnet, IR CNRS
- ■ Frédéric Cervenansky, IR Université

Sorina Pop

Axel Bonnet

Frédéric Cervenansky

■ Currently working with us

- ■ Guillaume Vanel, IR on the PROCHIP EU Project (Carole Frindel)
- ■ Gaulthier Martin, internship on continuous integration (CI avec Jenkins) in VIP (Axel Bonnet)

■ Creatis research teams' members

- ■ All Creatis teams were represented by at least one person
- ■ See meeting reports at https://www.creatis.insa-lyon.fr/site7/fr/vip

■ External collaborations

- ■ Tristan Glatard, Associated Professor at Concordia University, Montreal
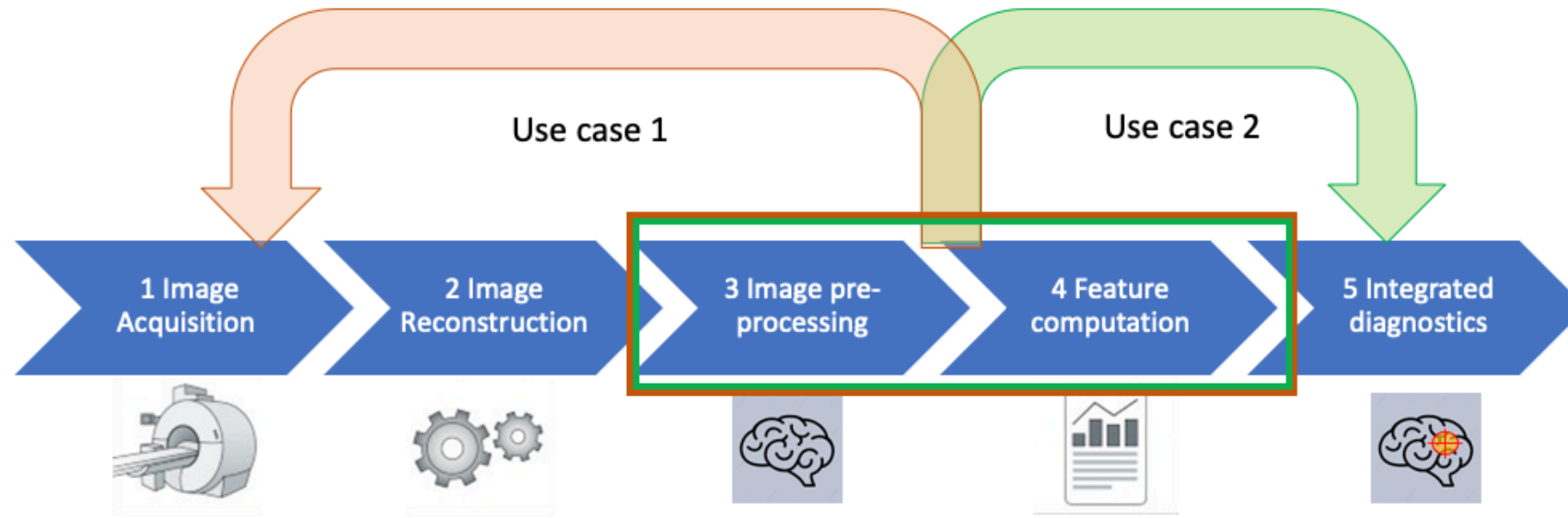
VIP latest news

- **EGI ACE EU project started in January 2021**
  - 15 PM for VIP
  - Focus on implementing and supporting new use-cases for neuroimagery

- **Gauthier's internship**
  - CI with Jenkins, allows to deploy and test VIP on Cloud VMs

- **ISBI Workshop**
  - Carole Frindel, Guillaume Vanel et Ali Ahmad
  - ~50 new VIP accounts, use of the MicroVIP application

- **MICCAI MSSEG2 Challenge 2021**
  - https://portal.fli-iam.irisa.fr/msseg-2/
  - 46 teams registered
  - More than 50 pipepelines to be imported in VIP and executed by September

- **FLI IAM second phase**
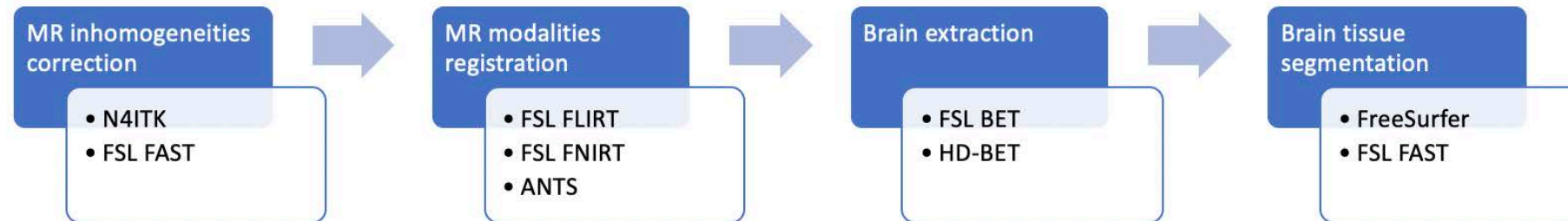 - Have another VIP instance deployed and operated by a private company

ANR JCJC ReproVIP

- Grant submitted in April 2021, results available this summer
- Evaluate and improve the reproducibility of scientific results
  - Same result when the code is executed with the same set of inputs

- WP 1: Evaluate the numerical reproducibility of results
- WP 2: Enhance reproducibility through an integrated, end-to-end solution for reproducible science
- WP 3: Medical Imaging Applications
  - Optimizing the MRI acquisition protocol (Hélène Ratiney)
  - Optimising a processing pipeline for stroke prediction (Carole Frindel)
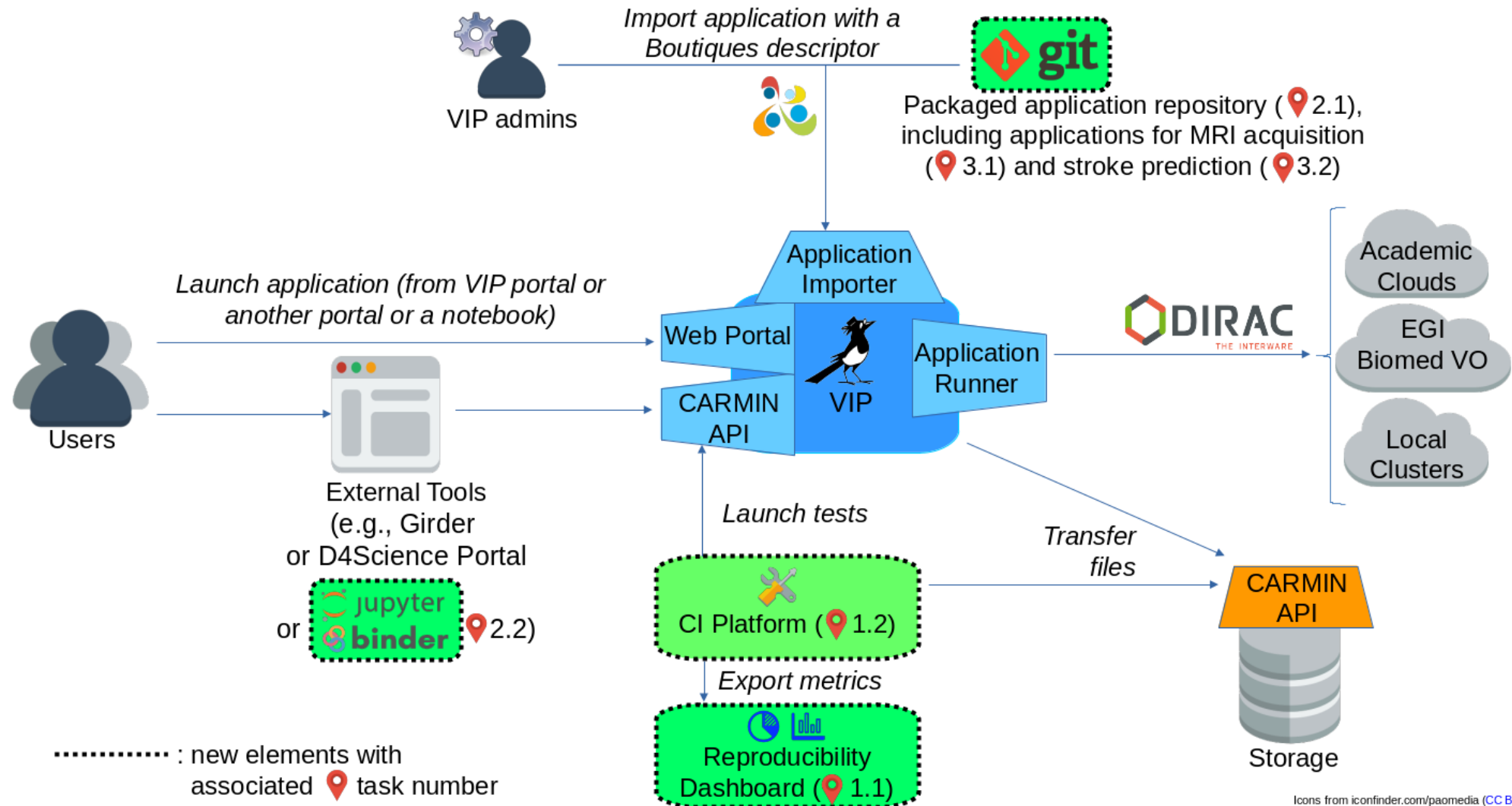
ReproVIP use-cases

Global overview of the two use-cases

Preprocessing steps specific to the use case 2 (prediction of stroke lesion)

Global overview

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Notes/actions du dernier workshop

✓ Proposition de projet ANR JCJC

✓ Participation au groupe de travail neuro

▶ Organisation d'un hackathon, dont la date et les objectifs exacts restent à définir

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