

# cbrain

*A platform for accomplishing science*

**MCIN** MCGILL CENTRE  
for INTEGRATIVE  
NEUROSCIENCE

compute | calcul  
canada | canada



canarie  
@ 25



Montreal Neurological Institute and Hospital  
Institut et hôpital neurologiques de Montréal



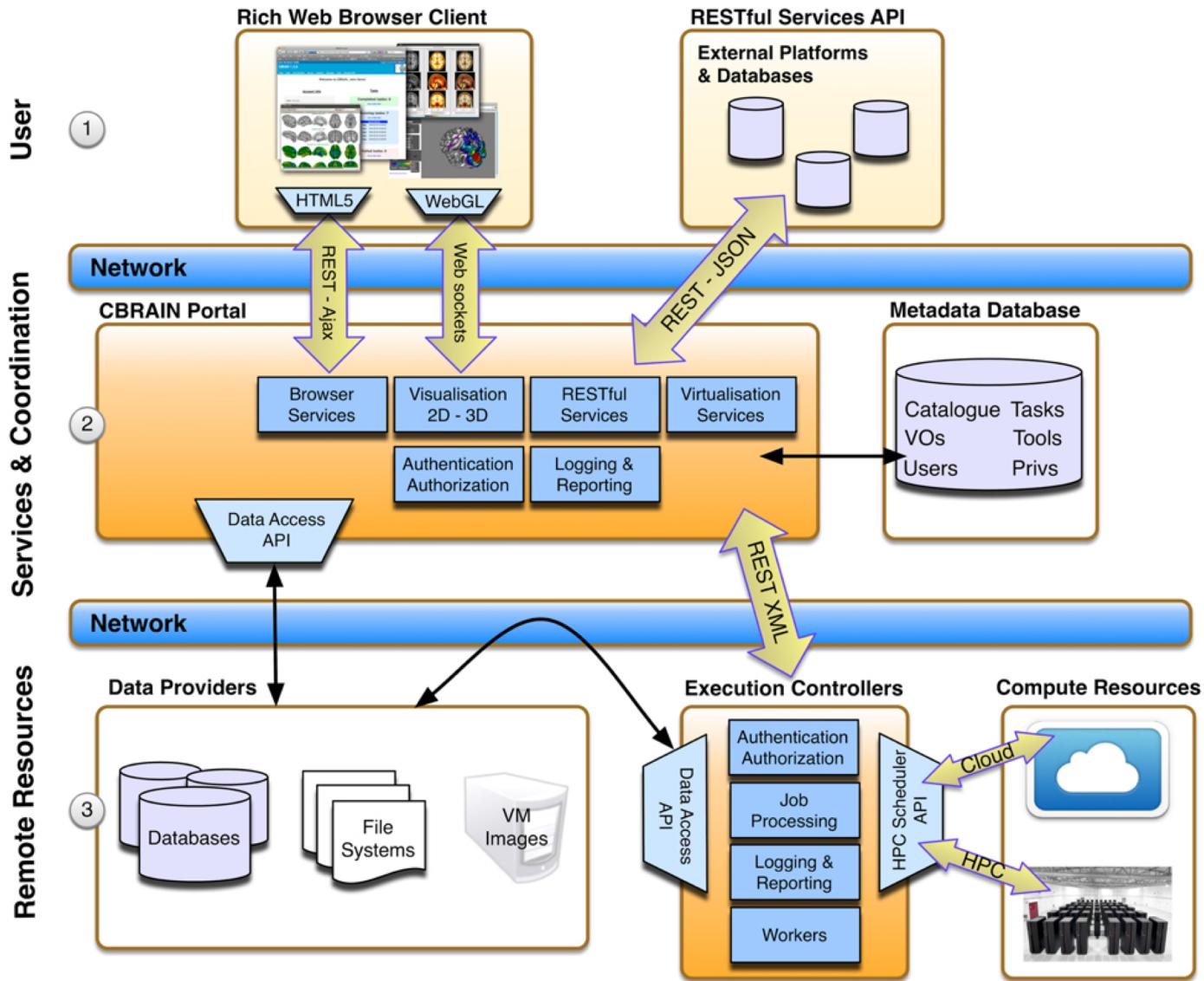
CENTRE  
**LUDMER**  
CENTER  
NEUROINFORMATIQUE & SANTÉ MENTALE | NEUROINFORMATICS & MENTAL HEALTH



McGill

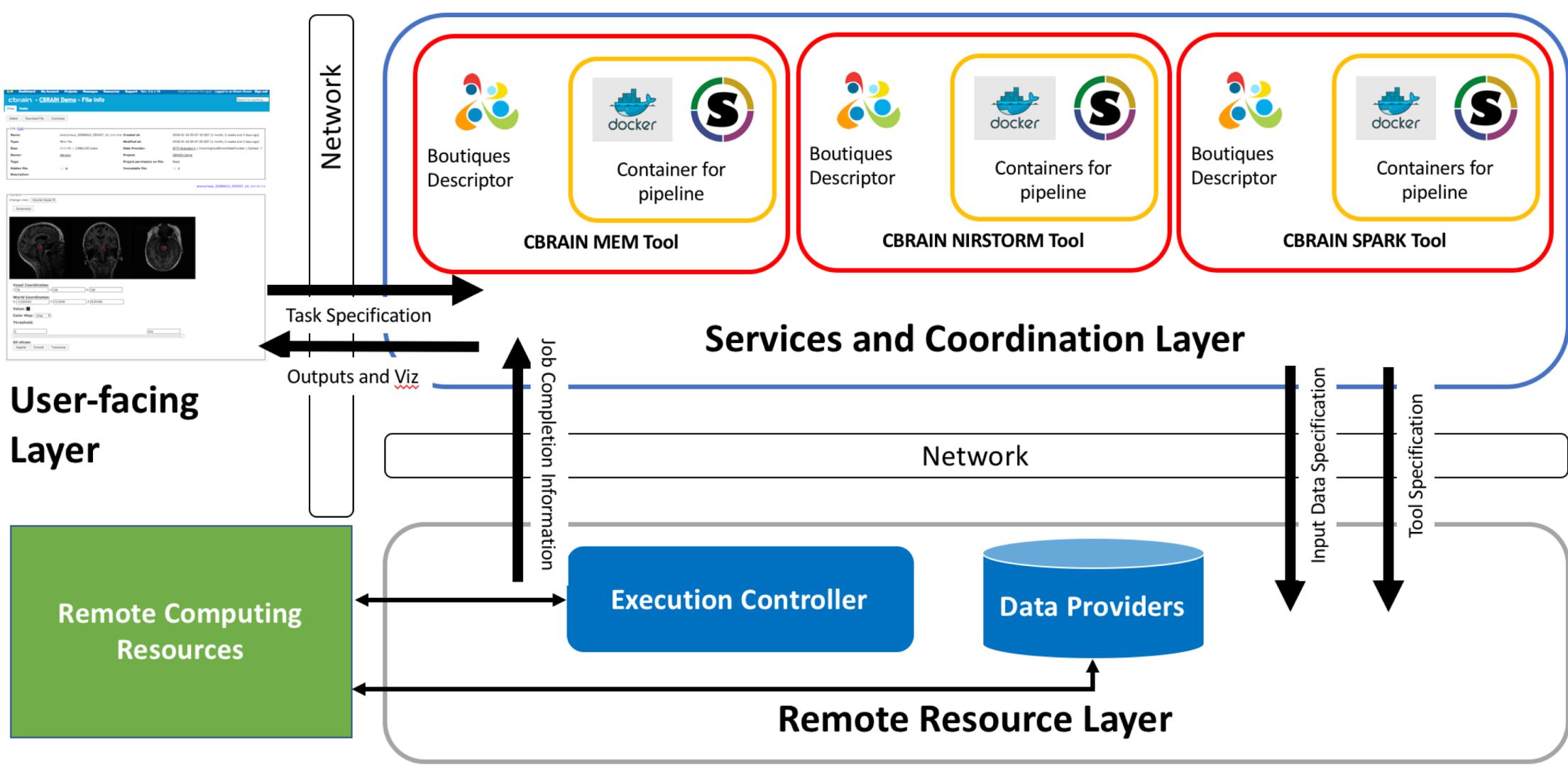


.. is an **OPEN SOURCE** web-based collaborative **high-performance computing and cloud services platform for scientific research**, connecting researchers to the **tools** required to handle **large datasets**."

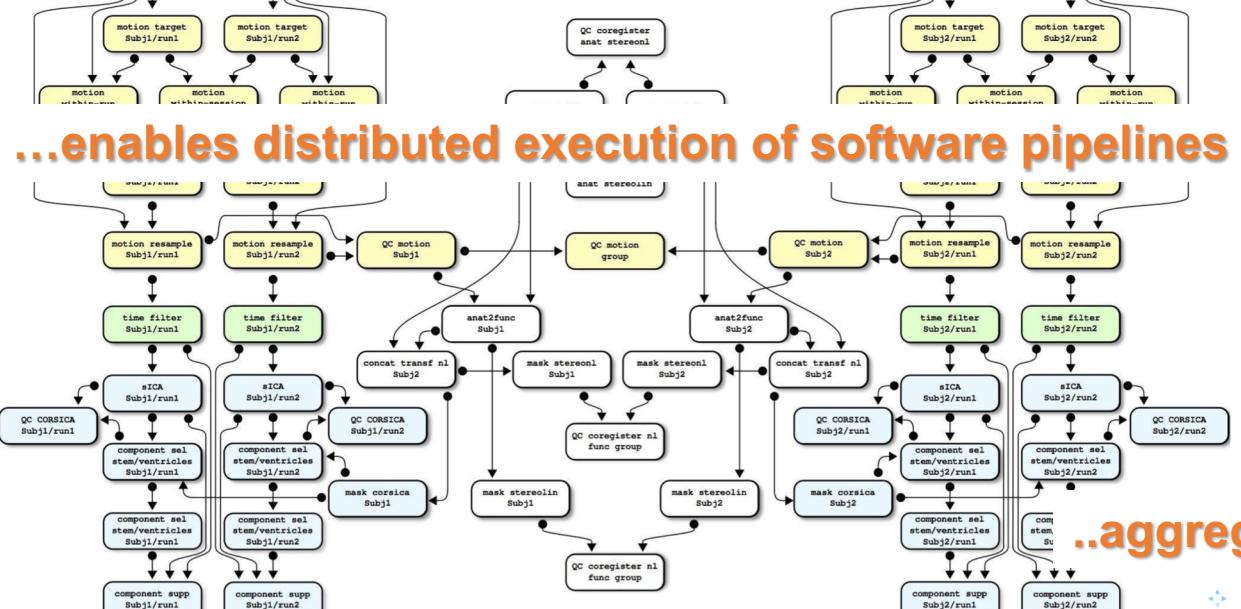




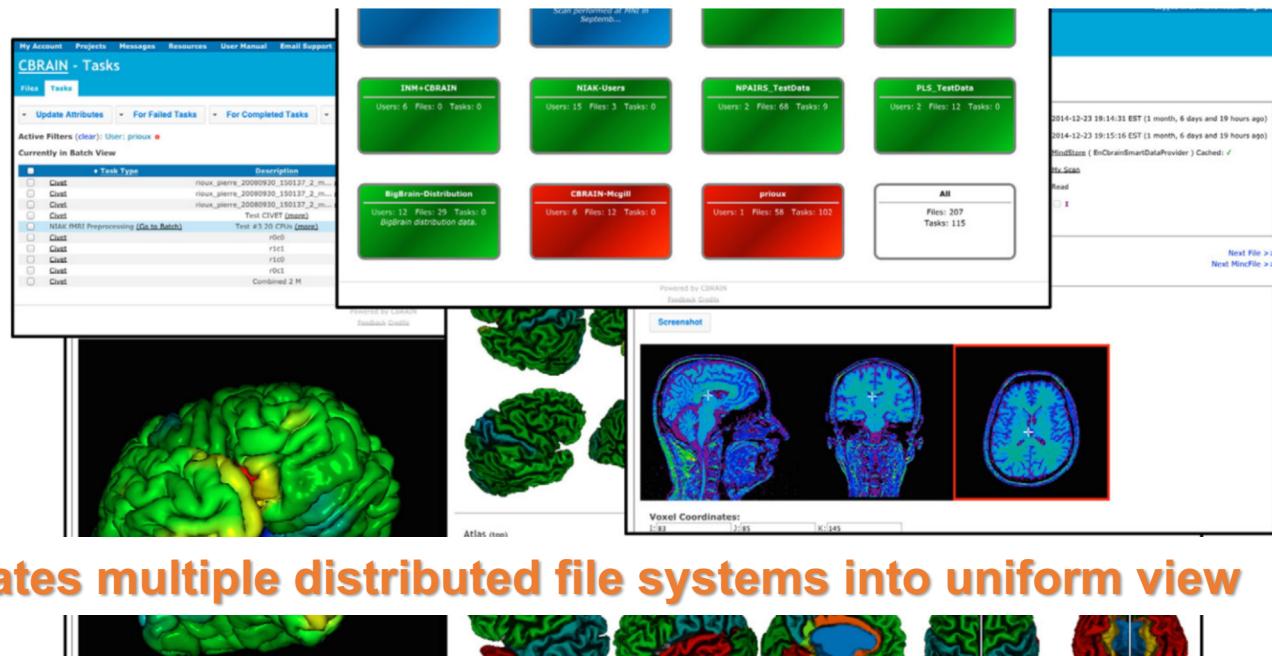
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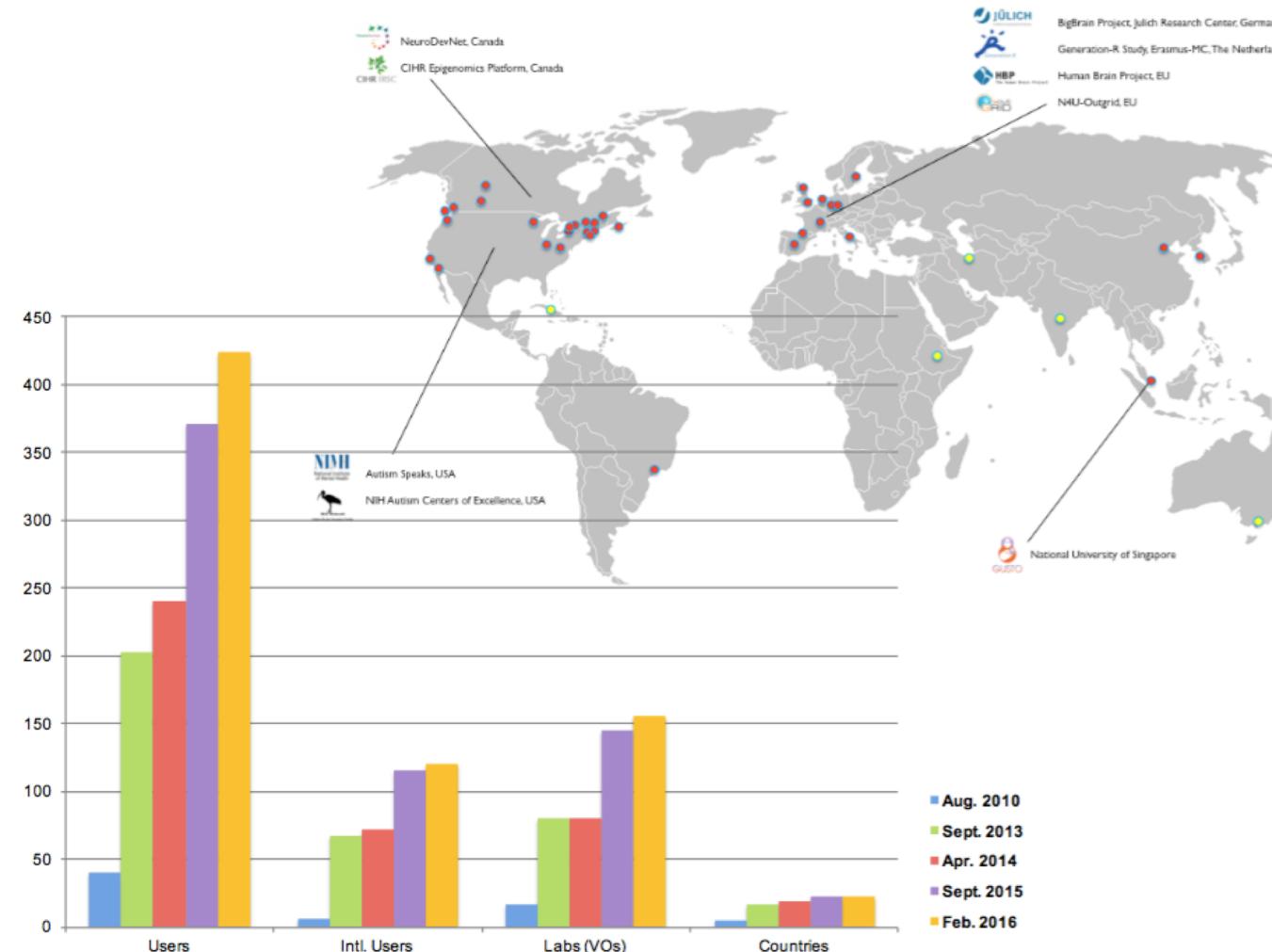


- Convenient and secure web access (no software installation required)
- Distributed storage with automated, multipoint data movement, and cataloging
- Transparent access to research tools and computing (HPC and cloud)
- Flexibility to adapt to extremely heterogeneous computing and data sites
- Full audit trail (data provenance) and logs across all user actions
- Lightweight core components, low requirements for deployment and operation
- Scalability (no architectural bottlenecks)
- Maintainability and sustainability by a research-based team
- Full ecosystem security and monitoring



..aggregates multiple distributed file systems into uniform view





## Users

- > 600 Users (100s active at a given time)
- 131 Sites from 30 different countries
- > 30 Million CPU Hours served
- > 1 Million Files (100s TB of data)

## Development Team

- 3 Full Time Developers (expanding to 6-7 in this year)

## Support

- Canadian Foundation for Innovation
- CANARIE
- Healthy Brains for Healthy Lives (HBHL)
- Canadian Open Neuroscience Platform (CONP)
- Canada/Cuba/China Axis (CCCAxis)

## Collaborations

- Big Data Infrastructures for Neuroinformatics Lab / Concordia (Glatard)
- CARMIN Project
- Compute Canada
- Texas Advanced Computing Center. (TACC)
- Pittsburgh Supercomputing Center (PSC)
- PERFORM Centre
- Human Brain Project
- OpenNeuro Platform
- Many more...

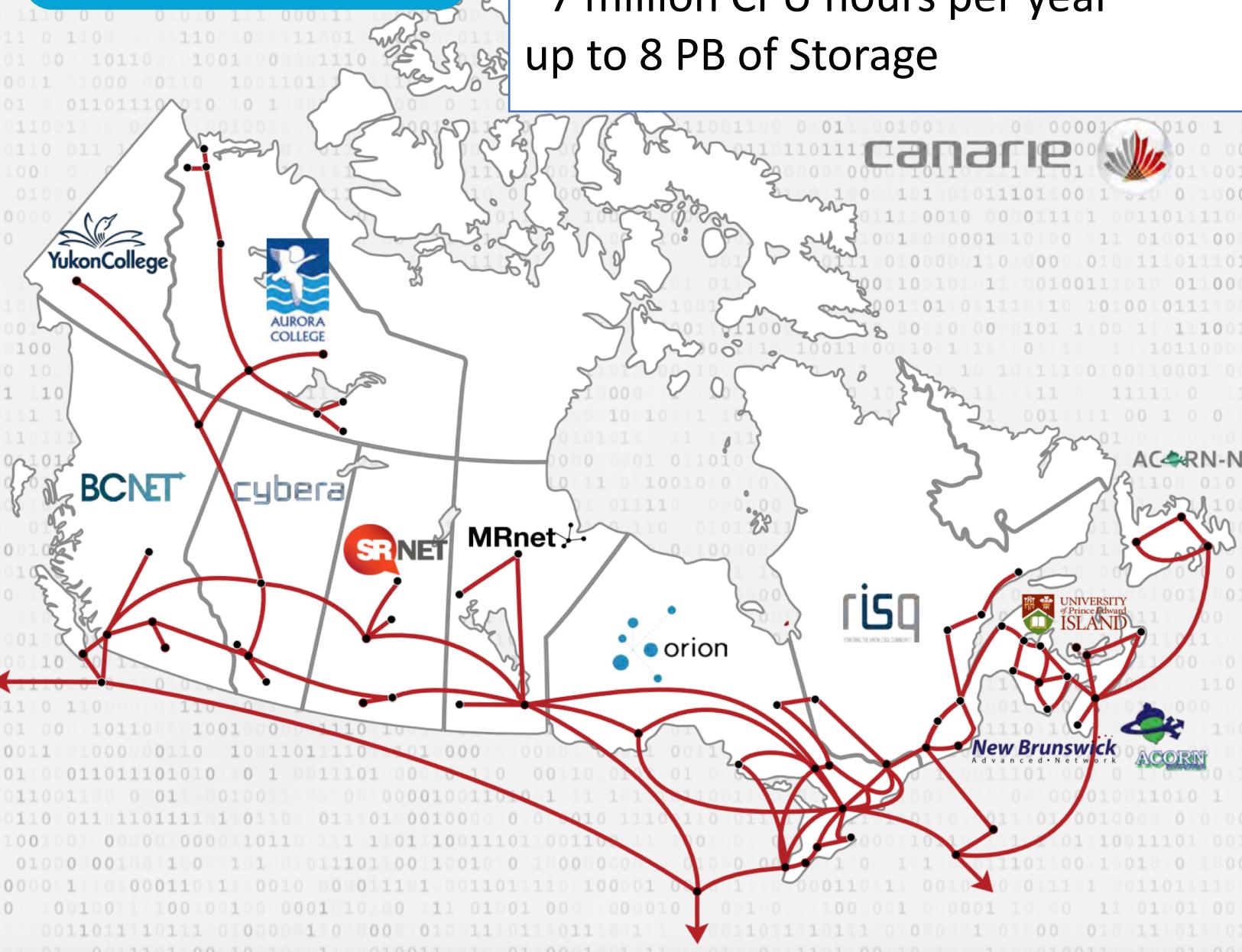
**cbrain**

A successful nationwide

# Computational Resources provided by Compute Canada

~7 million CPU hours per year

up to 8 PB of Storage



**compute** | **calcul**  
canada | canada



# Pipelines in CBRAIN

CBRAIN has over 50 execution pipelines available to users

Software	Pipelines
Civet 2.1	Civet Quality Control Tool, Civet Structural Processing Pipelines, NuCorrect
FSL 5.0	FslBedpostx, FslBet, FslFast, FslFirst, FslFlirt, FslAnat, FslRandomise, FslMelodic, FslProbtrackX, FslProbtrackX2, FslSub, FslFeat
FreeSurfer 6.0.0	ReconAll, ReconAll.ongl
MINCTools	Mincaverage, Minmac, Mincpik, Mincresample, Mnc2nii, Nii2mnc, Dcm2mnc, MINCBet, MincConvert, Dcm2nii
Ants 2.1.0	AntsRegistration
Niak	FRMI/T1 Preprocessing
HERMES	Supply Chain Simulation Model
PSOM	PSOM Worker Launching
INCA-AROMA	Functional MRI Pipeline
NDMG	Connectome Estimation
QEEG	EEG / MEG Analysis
pCEV	Principal Component analysis



# Fork us on GitHub

This repository Search Pull requests Issues Marketplace Explore

Unwatch 13 Star 34 Fork 23

aces / cbrain

Code

Issues 149

Pull requests 7

Projects 5

Wiki

Insights

CBRAIN is a flexible Ruby on Rails framework for accessing and processing of large data on high-performance computing infrastructures.

cbrain

ruby

rails-application

cbrain-architecture

hpc

science

data-processing

5,312 commits

4 branches

43 releases

13 contributors

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾

prioux Hotfix: "ssh-add -l" output has changed.

Latest commit 57eb45c on Mar 26

Bourreau

Hotfix: mysql2 adapter gem requirement

2 months ago

BrainPortal

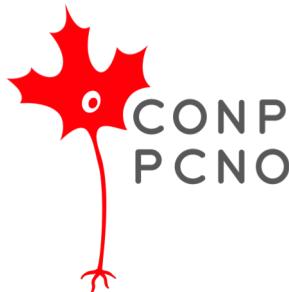
Hotfix: "ssh-add

<https://github.com/aces/cbrain.git>



# We are hiring!

<https://www.mcgill.ca/careers/software-developer-mr0830-mr0831>



The screenshot shows a GitHub repository page for 'aces / cbrain'. The repository has 13 stars and 23 forks. The 'Wiki' tab is selected. A prominent post in the wiki discusses hiring new developers for a Software Developer position (MR0807). The post includes details about the position title, summary, responsibilities, and links to setup guides and interface guides.

## CBRAIN Team hiring new developers: Software Developer (MR0807)

Shawn Brown edited this page on Mar 21 · 1 revision

### Position Title:

Software Developer (IST2E)

### Position Summary:

Reporting to Platform Development Manager, McGill Centre for Integrative Neuroscience (MCIN). The Software Developer will analyze, supervise, plan, implement, deploy and distribute research software and large scale middleware e-science platforms for moving data and completing computation on high performance and cloud computing resources meeting McGill's Research Center for Integrative Neuroscience (MCIN) needs, goals and mission.

### Primary Responsibilities:

Pages 53

Home

- Setup Guide
- Interface Guides
- Programmer Guides

Clone this wiki locally

<https://github.com/aces/>