

Neuroscience Gateway (NSG)

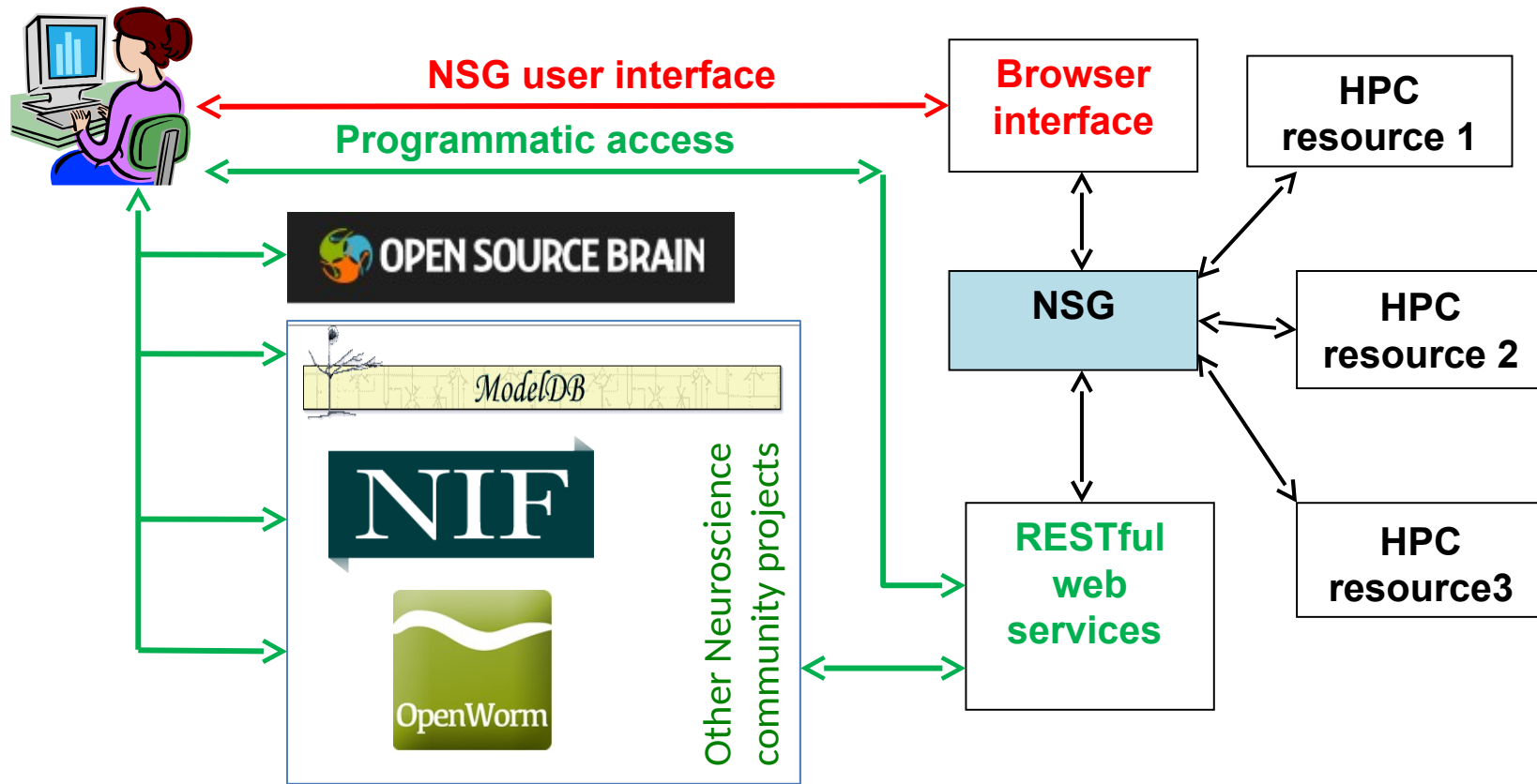
<http://www.nsgportal.org>

NSG facilitates access and use of High Performance Computing resources freely and openly for the neuroscience community via web-based and programmatic (RESTful API) access. Various computational neuroscience tools, libraries, pipelines and data processing software are made available on HPC resources.

NSG - Portal and Programmatic Access

NSG Portal: Simple and easy to use web interface

NSG-R: Programmatic access through RESTful services

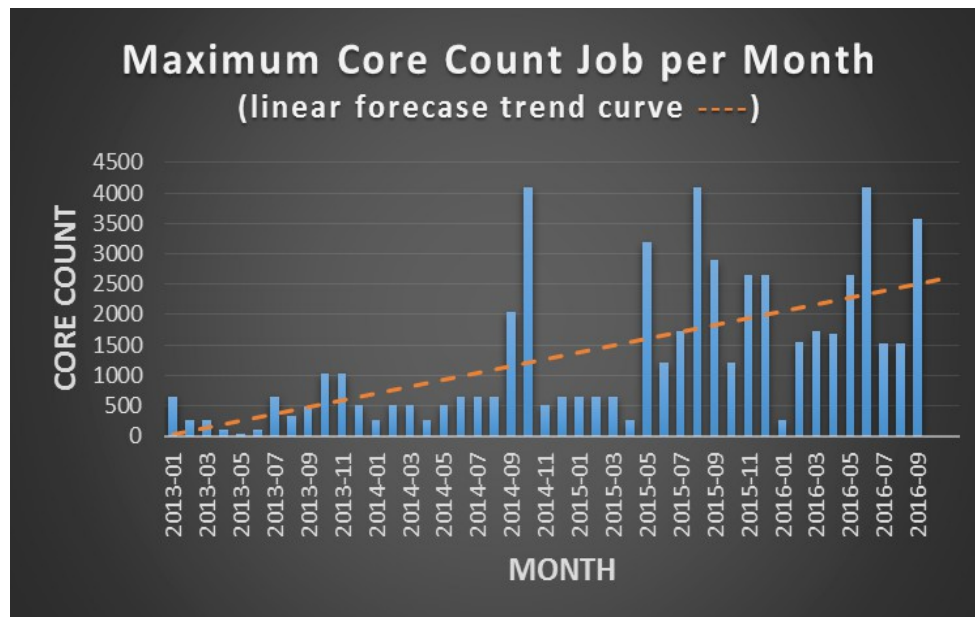
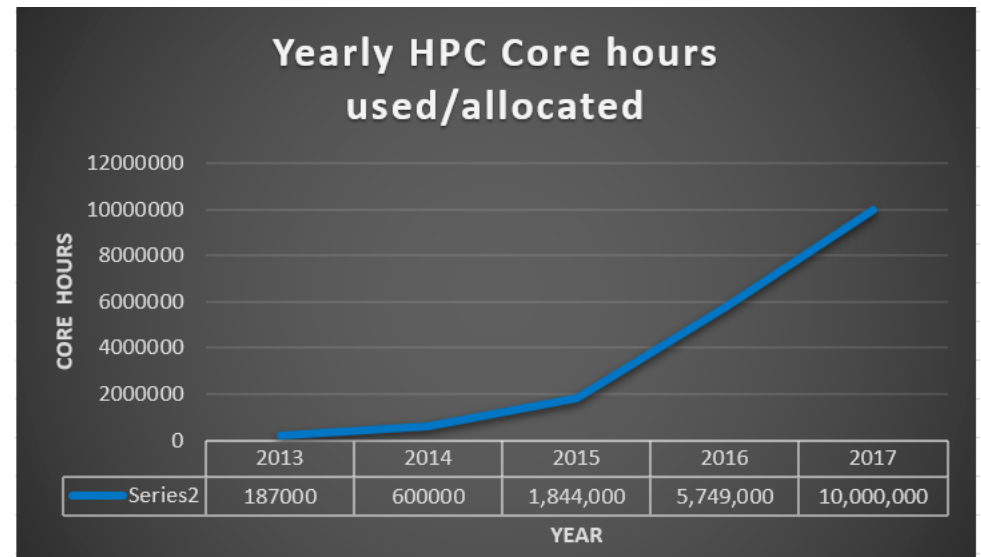
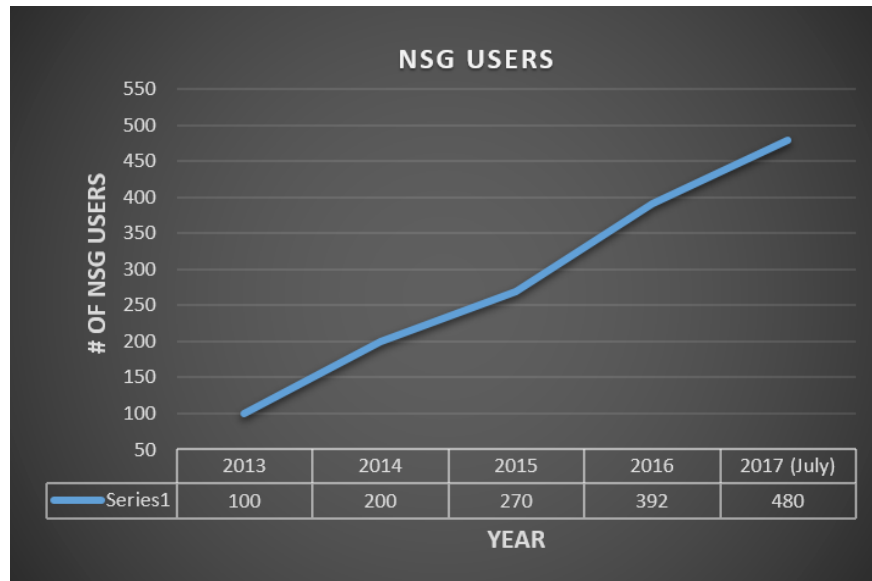


Currently available tools/software/pipelines

New tools are added continuously based on request from users, researchers, and developers

Current (July, 2017) tools, libraries, software, pipelines	
BluePyOpt, Michele Migliore et al, National Research Council, Italy	PyMoose
BRIAN	NEST
CARLsim, Jeffrey Krichmar, UC Irvine	NEURON
The Virtual Brain Personalized Medicine Pipeline, Petre Ritter, Humboldt University	Parameter Search Dieter Jaeger, Emory University
FreeSurfer	PyNN
Large Scale Neural Simulator Antonio Ulloa, Neural Bytes	Python
Matlab	R
TensorFlow	Octave
GENESIS	

NSG usage growing – since 2013



Amazon Web Services

<http://aws.amazon.com>

Amazon Web Services (AWS) is a cloud computing platform by Amazon which provides on demand or 24/7 access to virtual computing resources such as computing (CPU & GPU), storage, databases, etc.

Amazon Web Services

Widely used cloud computing platform

Can be used for:

- Web hosting
- Databasing
- Compute intense tasks

Useful for short or long term managed computing (easier than maintaining your own servers)

Example: OSB is hosted on AWS (live and development servers)





History

[Console Home](#)[Lex](#)[EC2 Container Service](#)[Billing](#)

Group

A-Z



Compute

EC2
EC2 Container Service
Lightsail [↗](#)
Elastic Beanstalk
Lambda
Batch



Storage

S3
EFS
Glacier
Storage Gateway



Database

RDS
DynamoDB
ElastiCache
Redshift



Networking & Content Delivery

VPC
CloudFront
Direct Connect
Route 53



Migration

Application Discovery Service
DMS
Server Migration
Snowball



Developer Tools

CodeStar
CodeCommit
CodeBuild
CodeDeploy
CodePipeline
X-Ray



Management Tools

CloudWatch
CloudFormation
CloudTrail
Config
OpsWorks
Service Catalog
Trusted Advisor
Managed Services



Security, Identity & Compliance

IAM
Inspector
Certificate Manager
Directory Service
WAF & Shield
Artifact



Analytics

Athena
EMR
CloudSearch
Elasticsearch Service
Kinesis
Data Pipeline
QuickSight [↗](#)



Artificial Intelligence

Lex
Polly
Rekognition
Machine Learning



Internet Of Things

AWS IoT
AWS Greengrass



Contact Center

Amazon Connect



Game Development

Amazon GameLift



Mobile Services

Mobile Hub
Cognito
Device Farm
Mobile Analytics
Pinpoint



Application Services

Step Functions
SWF
API Gateway
Elastic Transcoder



Messaging

Simple Queue Service
Simple Notification Service
SES



Business Productivity

WorkDocs
WorkMail
Amazon Chime [↗](#)



Desktop & App Streaming

WorkSpaces
AppStream 2.0



Services ▾

Resource Groups ▾



Open S. Brain ▾

N. Virginia ▾

Support ▾

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Spot Requests

Reserved Instances

Scheduled Instances

Dedicated Hosts

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Target Groups

AUTO SCALING

Launch Configurations

Auto Scaling Groups

Launch Instance

Connect

Actions ▾

Filter by tags and attributes or search by keyword



1 to 2 of 2 > <

<input type="checkbox"/>	Name ▲	Instance ID ▾	Instance Type ▾	Availability Zone ▾	Instance State ▾	Status Checks ▾	Alarm Status	Public DNS (IPv4)
<input checked="" type="checkbox"/>	OSB	i-51602	m3.large	us-east-1d	● running	✓ 2/2 checks ...	None	ec2-184-72-223-204.compute-1.am
<input type="checkbox"/>	OSB development	i-ab12	m3.medium	us-east-1b	● running	✓ 2/2 checks ...	None	

Instance: **i-5160** (OSB) Elastic IP: 184.72.223.204

Description

Status Checks

Monitoring

Tags

▶ CloudWatch alarms: ✓ No alarms configured

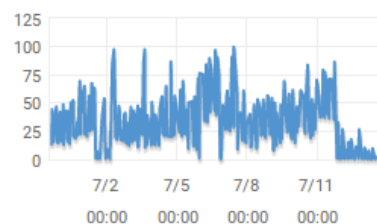
Create Alarm

CloudWatch metrics: Basic monitoring. [Enable Detailed Monitoring](#)

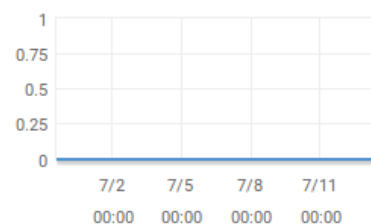
Showing data for: Last 2 Weeks ▾

Below are your CloudWatch metrics for the selected resources (a maximum of 10). Click on a graph to see an expanded view. All times shown are in UTC. > [View all CloudWatch](#)[metrics](#)

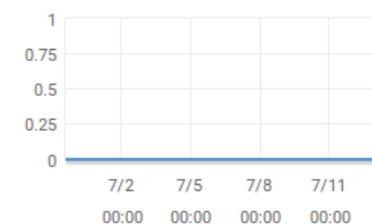
CPU Utilization (Percent)



Disk Reads (Bytes)



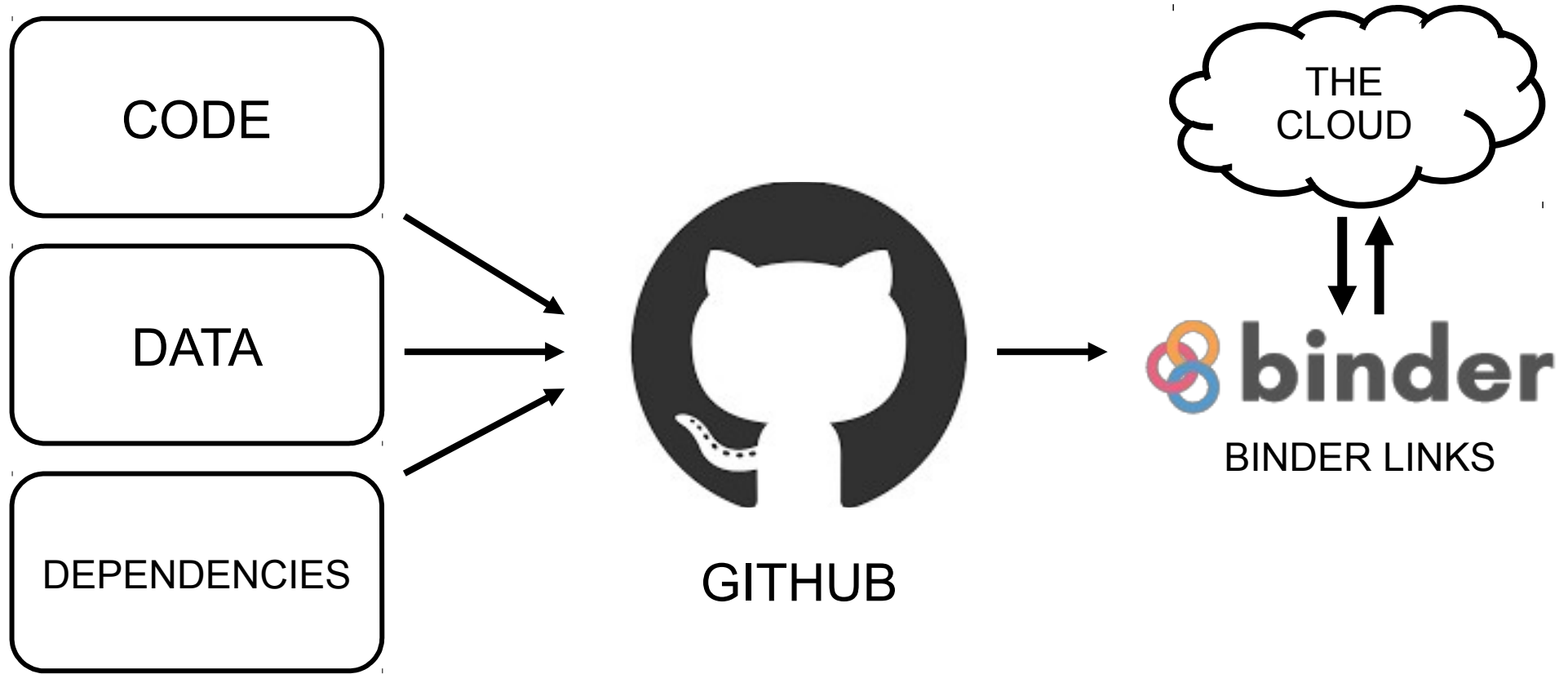
Disk Read Operations (Operations)



Binder

<http://mybinder.org>
(maybe <http://beta.mybinder.org>)

Turn a GitHub repo into a collection of interactive notebooks.
Open those notebooks in an executable environment, making your code immediately reproducible by anyone, anywhere.



-
- Reproduce figures
 - Share code with collaborators
 - Highlight an analysis
 - Show off your codebase

Running live, in the cloud, for free

- Current work
 - Rebuilt Binder from the ground up.
 - More stable + faster.
 - Support for Python and Julia
 - Support interactive widgets and javascript
 -
- (near) future work
 - Adding support for R
 - Support multiple languages simultaneously
 - Make it easier to deploy your own Binder server
 - Support new user interfaces (RStudio, JupyterLab)

Useful links

Use mybinder

beta.mybinder.org

Deploy your own Binder

binderhub.jupyter.org

Get in touch

gitter.im/binder-project/binder

Get involved

github.com/jupyterhub/binderhub