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# Jetstream2: Accelerating science and engineering on-demand

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# Is Jetstream2 a “testbed?”

- No, but it’s a great place to test!
- Ease-of-use focus, rapid on-ramp to XSEDE/ACCESS
- **On-demand** interactive computing and persistent services for science gateways
- Enables configurable environments; **programmable cyberinfrastructure**

By Maria Morris: JS2 rear doors (lower) Banksy adaptation [non-commercial] (right)



Now with GPUs,  
large-memory,  
more faster PB!

**Jetstream2**



COMMERCIAL CLOUD

INTERNET®

INDIANA UNIVERSITY  
CYBERINFRASTRUCTURE

XSEDEnet  
Advanced Layer 2  
Services (AL2S) platform

UNIVERSITY OF HAWAI'I  
CYBERINFRASTRUCTURE

ARIZONA STATE UNIVERSITY  
CYBERINFRASTRUCTURE

REGIONAL
Compute
8 Nodes 1,024 Cores 4 TB RAM
Storage
768 TB
Accelerators
2 Nodes 1 TB RAM 8 GPUs

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TACC CYBERINFRASTRUCTURE		
Compute	REGIONAL	Accelerators
8 Nodes 1,024 Cores 4 TB RAM	Storage 768 TB	2 Nodes 1 TB RAM 8 GPUs

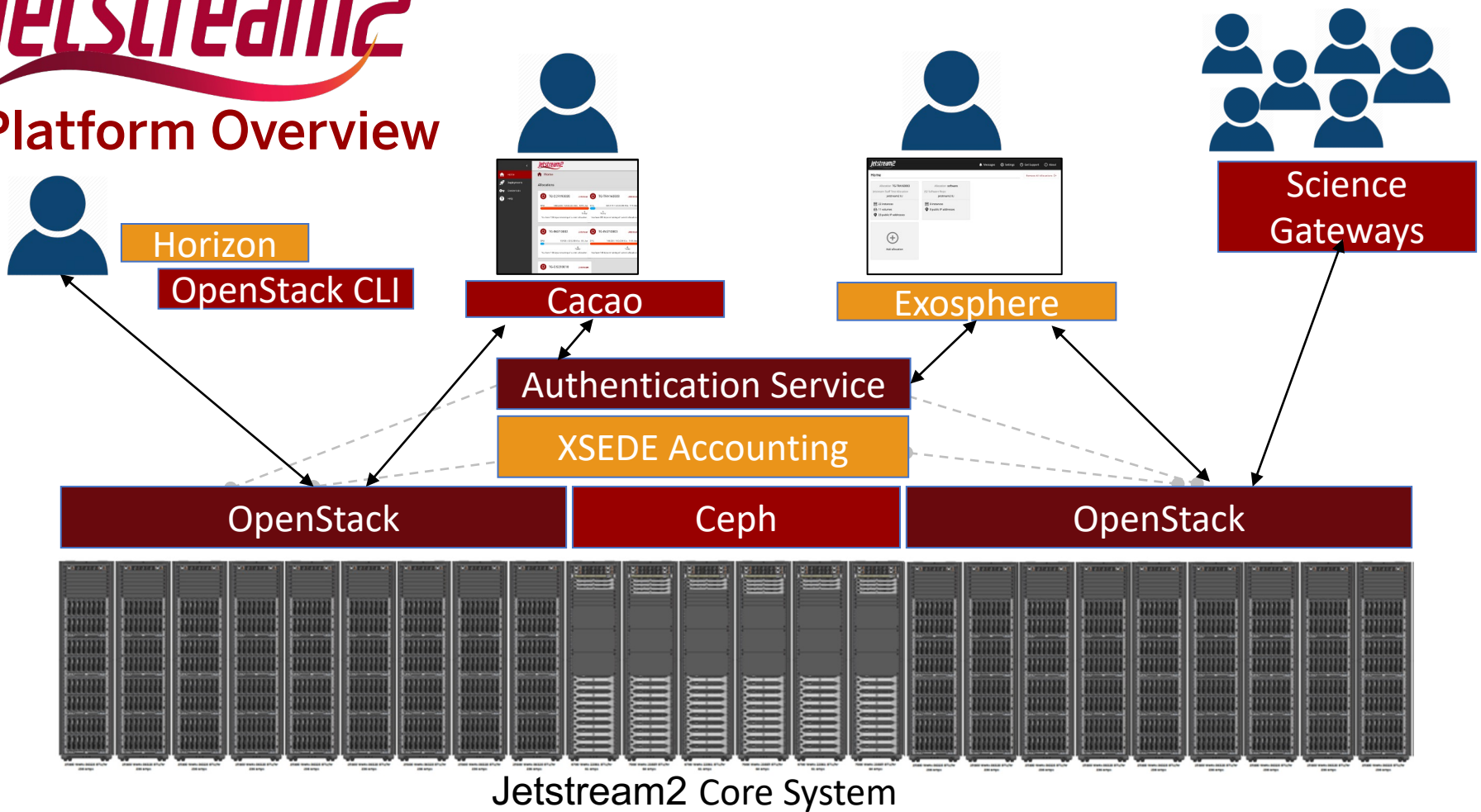
PRIMARY
Compute
416 Nodes 53,248 Cores 224 TB RAM
Storage
96 Nodes 14 PB
Accelerators
90 Nodes 45 TB RAM 360 GPUs

CORNELL UNIVERSITY CYBERINFRASTRUCTURE	
REGIONAL	
Compute	
8 Nodes 1,024 Cores 4 TB RAM	
Storage	
768 TB	



# Jetstream2

## Platform Overview



Remove Allocation Create

### Instances

Instances used 11 of 25 total Cores used 26 of 132 total RAM used 100 of 388 GB

Select All

- Ready `formally_trusty_urchin`
- Shelved `optionally_certain_longhorn with GUI`
- Ready `wildly_united_mite`

Hiding 8 Instances created by other users

Show

### Volumes

Volumes used 2 of 10 total Storage used 279 of 1,100 GB

Remove Allocation Create

### Instance formally\_trusty\_urchin

Created 19 minutes ago / by user tg836338 / from image JS-API-Featured-CentOS8-Latest

Status **Ready**  
UUID 2bc77f59-73bf-470f-95b6-51dc31d7577f  
Flavor m1.small  
SSH Public Key Name smart  
IP addresses  
Public IP Address 149.165.157.3  
Unassign

IP Details

### Volumes Attached

(none)

Attach volume

### Interactions

- Web Shell
- Web Desktop
- Native SSH: `exouser@149.165.157.3`
- Console

### Password

Try logging in with username "exouser" and the following password:

Show password

### Actions

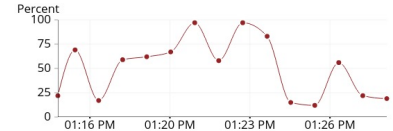
- Lock Prevent further instance actions until it is unlocked
- Suspend Save execution state to disk
- Shelve Shut down instance and offload it from compute host
- Image Create snapshot image of instance
- Reboot Restart instance
- Delete Destroy instance

### Action History

Action	Time
create	19 minutes ago (2021-10-26 20:10:54 UTC)

### System Resource Usage

#### CPU Usage



#### Memory Usage



# Early Operations Projects & Activity

- First PI invitations and projects added in early February 2022
- Followed push for all projects to migrate in May – July.
- June 2022: 245 projects and 1,144 individuals (391 students)
- Includes multiple science gateways and education/training allocations
- Now production after recent NSF approval
- Retired Jetstream[1] in July/August 2022



"Bike Exchange - 2009 IU Women's Little 500" by  
Indiana Public Media  
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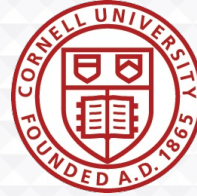


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# Jetstream2 partners



<http://jetstream-cloud.org/>  
National Science Foundation  
Award #ACI-2005506