

Jetstream

Cloud Facility for Advancing Scientific and Engineering Communities

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University of Cincinnati, Cincinnati, OH

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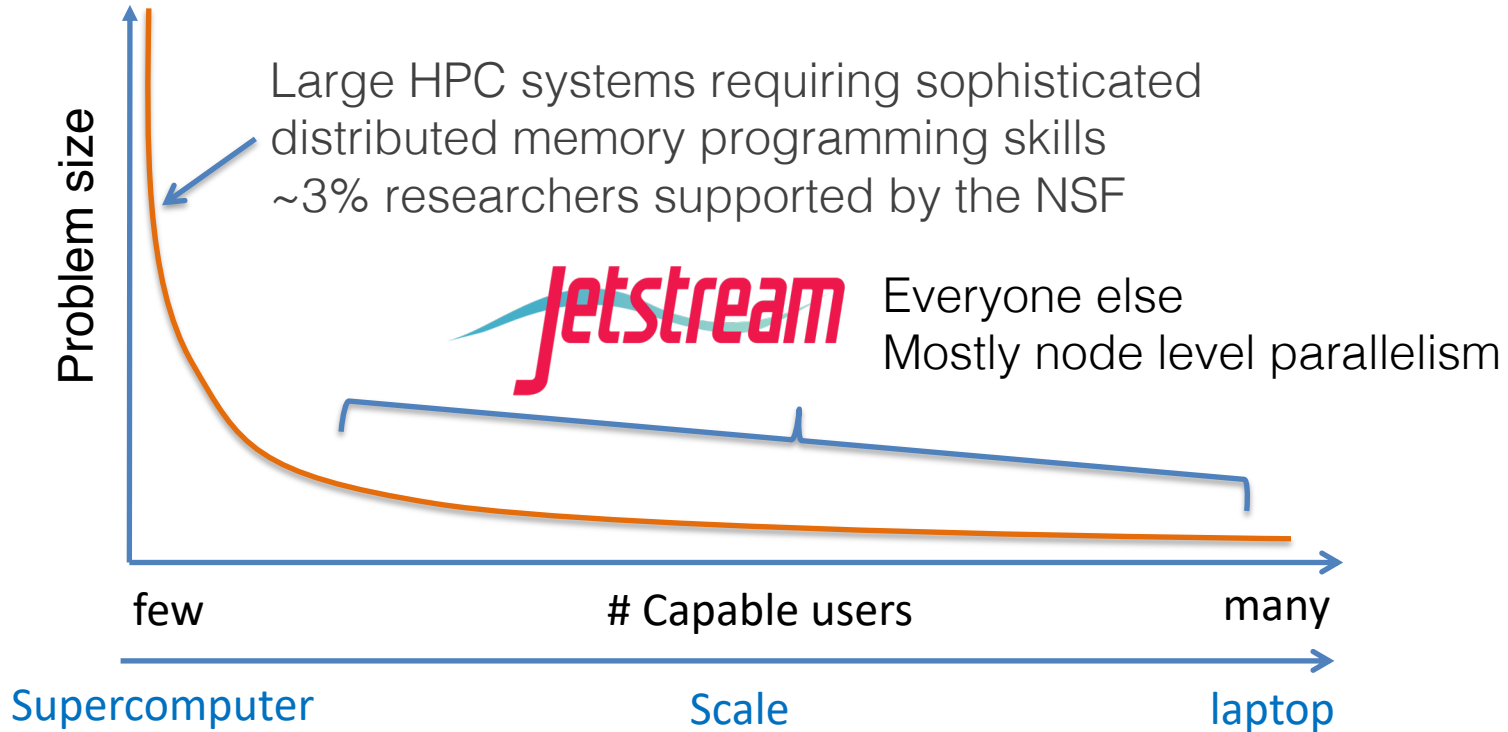


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What is Jetstream?

- **User-friendly**, widely accessible cloud environment
 - **User-selectable library** of preconfigured virtual machines
 - Interactive computing
 - Software maintained by domain specialist
 - No need for system administration skills
 - The “Atmosphere” side
 - **Programmable cyberinfrastructure**
 - Go beyond batch computing
 - Implement modern cloud computing techniques
 - Common modality for science gateways
 - The “API” side

“Long tail” of the Science



What is Jetstream?

- **Primary goal** is to **expand the user base** of NSF's eXtreme Digital (XD) program resources beyond the current community of users.
- **Lowering the hurdle** to onboard to XSEDE resources
 - Working to **ease the allocation request** process
 - **Easy-Button**; quick access but limited ability. (Beta)
- **Making Science Easy** for domain researchers, engineers, & educators
 - Domain software installed & maintained by the professionals
 - No sys-admin skills necessary



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What is Jetstream?

(Cont.)

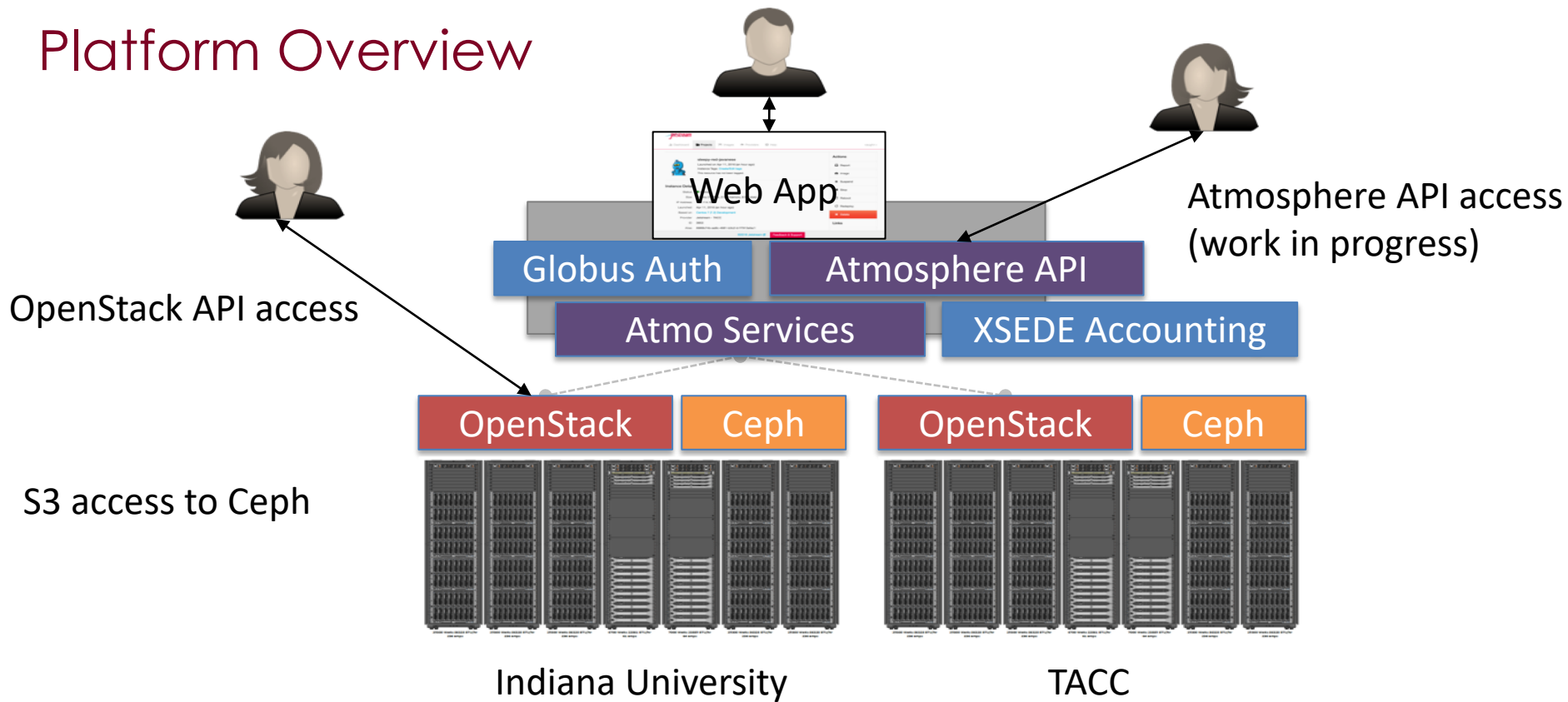
- **Creating communities**
 - Domain developers **create, install, and maintain** the software
 - **Encourage collaboration** within the domains
 - **Operating system** level software is professionally **patched and maintained**
- **Repeatability**: store & publish images via IU Scholarworks & create a DOI
- **Science Gateways**:



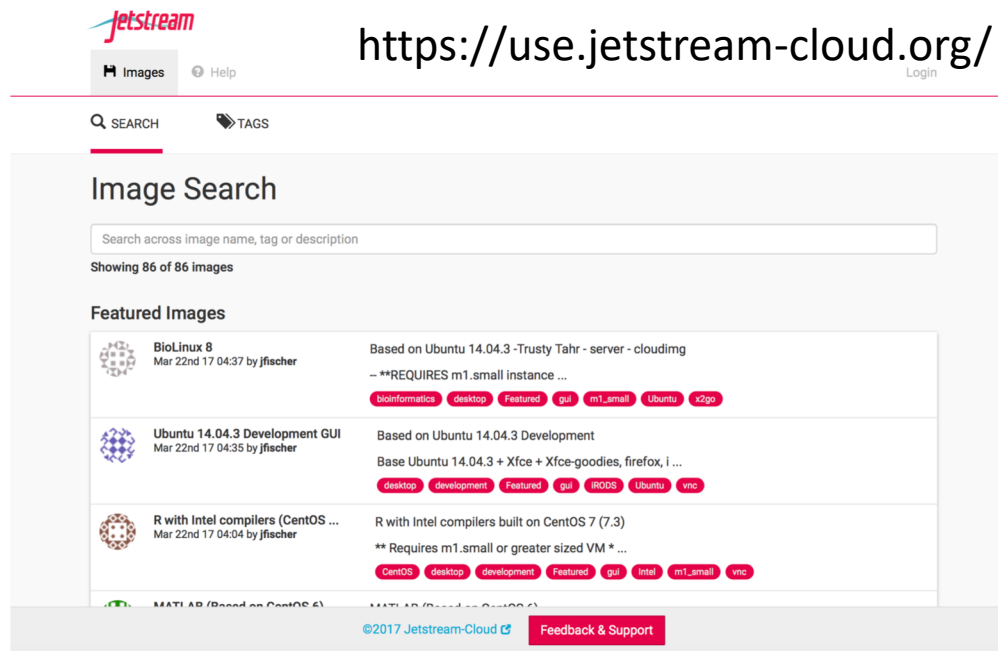
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Platform Overview



Jetstream's Atmosphere Interface



The screenshot displays the Jetstream Atmosphere interface. At the top left is the Jetstream logo. Below it are navigation links for 'Images' and 'Help', and a 'Login' link on the right. A search bar is present with 'SEARCH' and 'TAGS' options. The main content area is titled 'Image Search' and contains a search input field with the placeholder text 'Search across image name, tag or description'. Below the search bar, it indicates 'Showing 86 of 86 images'. A section titled 'Featured Images' lists three items:

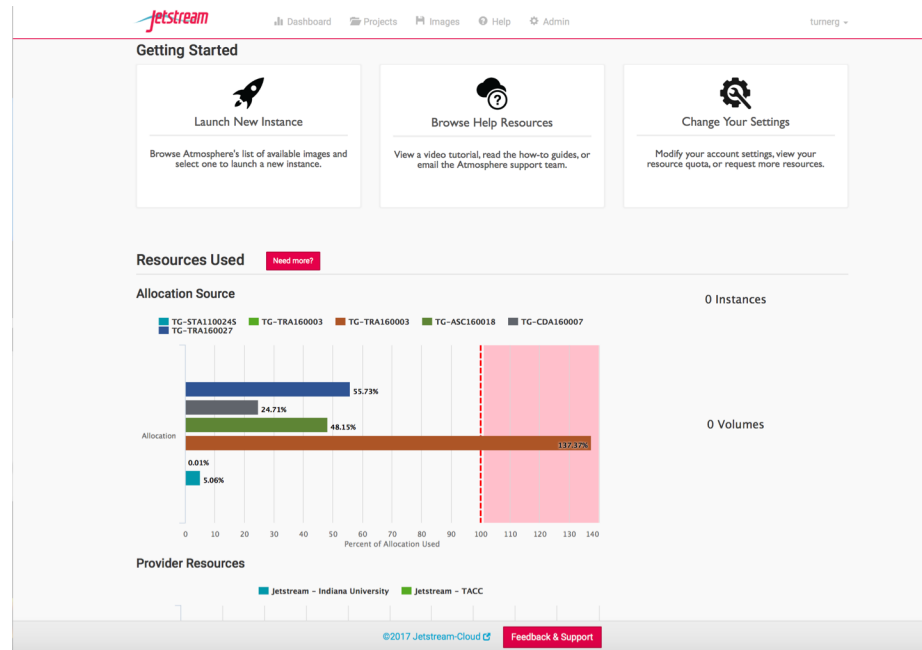
- BioLinux 8**: Mar 22nd 17 04:37 by jfischer. Based on Ubuntu 14.04.3 -Trusty Tahr - server - cloudimg. --**REQUIRES m1.small instance ...
- Ubuntu 14.04.3 Development GUI**: Mar 22nd 17 04:35 by jfischer. Based on Ubuntu 14.04.3 Development. Base Ubuntu 14.04.3 + Xfce + Xfce-goodies, firefox, i ...
- R with Intel compilers (CentOS ...)**: Mar 22nd 17 04:04 by jfischer. R with Intel compilers built on CentOS 7 (7.3). ** Requires m1.small or greater sized VM * ...

Each item has associated tags in red boxes: bioinformatics, desktop, Featured, gal, m1_small, Ubuntu, x2go for BioLinux 8; desktop, development, Featured, gal, iBCOS, Ubuntu, vnc for Ubuntu 14.04.3 Development GUI; CentOS, desktop, development, Featured, gal, Intel, m1_small, vnc for R with Intel compilers. At the bottom of the page, there is a copyright notice '©2017 Jetstream-Cloud' and a 'Feedback & Support' button.

- No login required at this point
- You will be able to peruse the image library
- Based upon the work of the CyVerse team of Univ of AZ
- See cyverse.org for further details concerning the Atmosphere interface

Jetstream's Atmosphere Interface

user's home dashboard



Jetstream's Atmosphere Interface

Instance ready for use



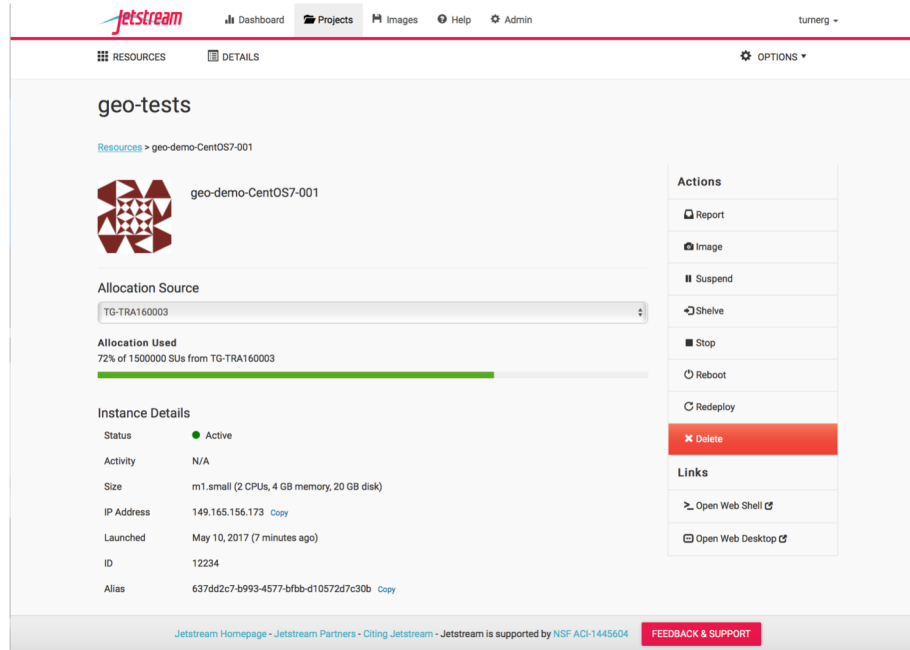
The screenshot displays the Jetstream Atmosphere interface. At the top, there is a navigation bar with the Jetstream logo, a user profile 'turnerg', and menu items for Dashboard, Projects, Images, Help, and Admin. Below this is a secondary navigation bar with 'RESOURCES' and 'DETAILS' tabs, and an 'OPTIONS' gear icon. The main content area is titled 'geo-tests' and includes a 'NEW' button, a refresh icon, and a help icon. Under the 'Instances' section, there is a table with the following data:

<input type="checkbox"/>	Name	Status	Activity	IP Address	Size	Provider
<input type="checkbox"/>	geo-demo-CentOS7-001	Active	N/A	149.165.156.173	M1.Small	Jetstream - Indiana University

Below the table are sections for 'Volumes', 'Images', and 'Links', each with a message stating 'You have not added any [item] to this project.' At the bottom of the interface, there is a footer with links to the Jetstream Homepage, Partners, and Citing Jetstream, a note that Jetstream is supported by NSF ACI-1445604, and a 'FEEDBACK & SUPPORT' button.

Jetstream's Atmosphere Interface

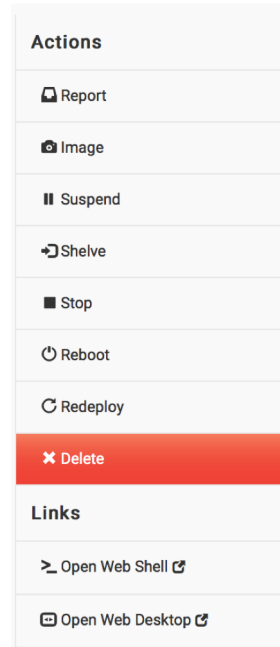
User's instance dashboard



The screenshot displays the Jetstream Atmosphere interface for a user named 'turnerg'. The main content area shows the details for an instance named 'geo-tests'. The instance is associated with the resource 'geo-demo-CentOS7-001' and is currently active. The allocation source is 'TG-TRA160003', and 72% of the 150,000 SUs are used. The instance details include: Status: Active, Activity: N/A, Size: m1.small (2 CPUs, 4 GB memory, 20 GB disk), IP Address: 149.165.156.173, Launched: May 10, 2017 (7 minutes ago), ID: 12234, and Alias: 637d42c7-b993-4577-bfbb-d10572d7c30b. The Actions menu on the right includes Report, Image, Suspend, Shelve, Stop, Reboot, Redeploy, and Delete. The Links menu includes Open Web Shell and Open Web Desktop. The footer contains the Jetstream logo, a link to the homepage, a link to partners, a citation for NSF support, and a feedback and support button.

Jetstream's Atmosphere Interface

User's instance dashboard
Action requests



Open Web Desktop

Jetstream's Atmosphere Interface

Web desktop access to instance
VNC access also available

