



nDemand

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Supercomputing. Seamlessly.

Open OnDemand: Open, Interactive HPC Via the Web

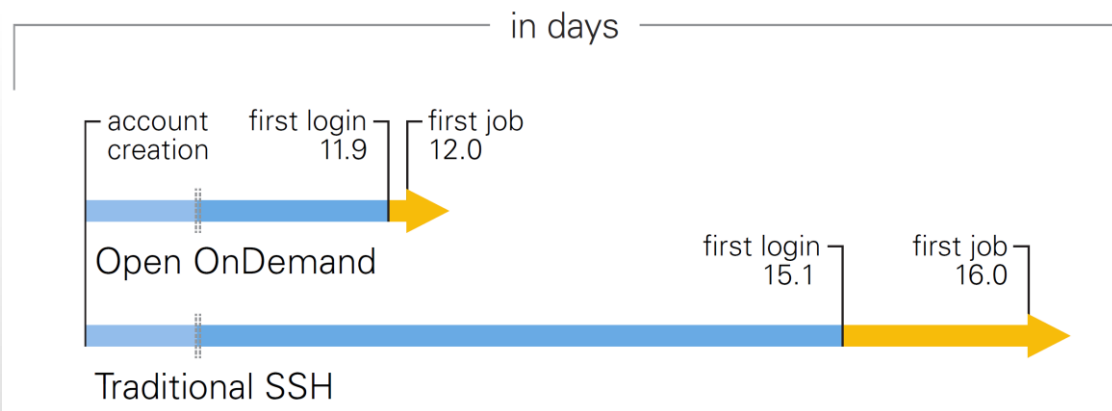
Provides an easy to install and use, web-based access to supercomputers, resulting in intuitive, innovative support for interactive supercomputing.

Features include:

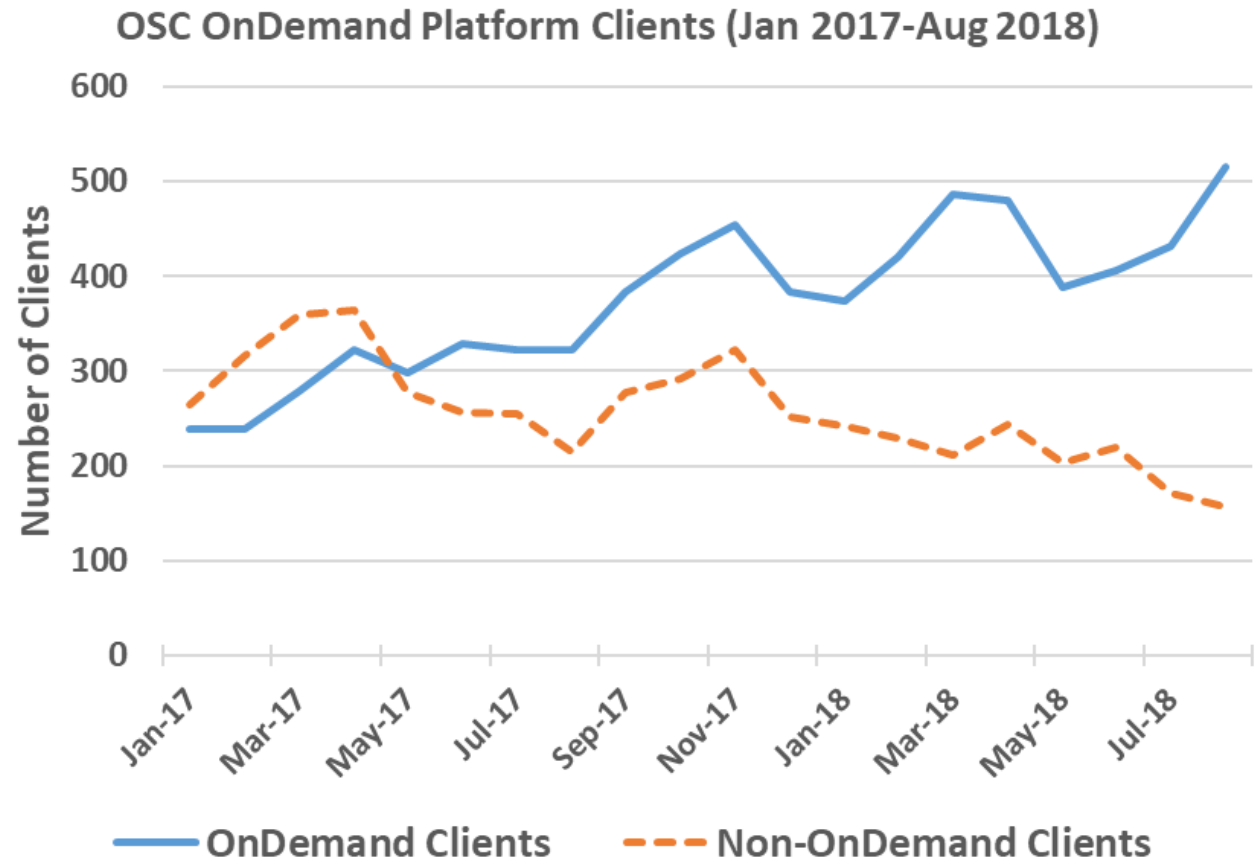
- Plugin-free web experience
- Easy file management
- Command-line shell access
- Job management and monitoring
- Graphical desktop environments and applications



Impact at OSC

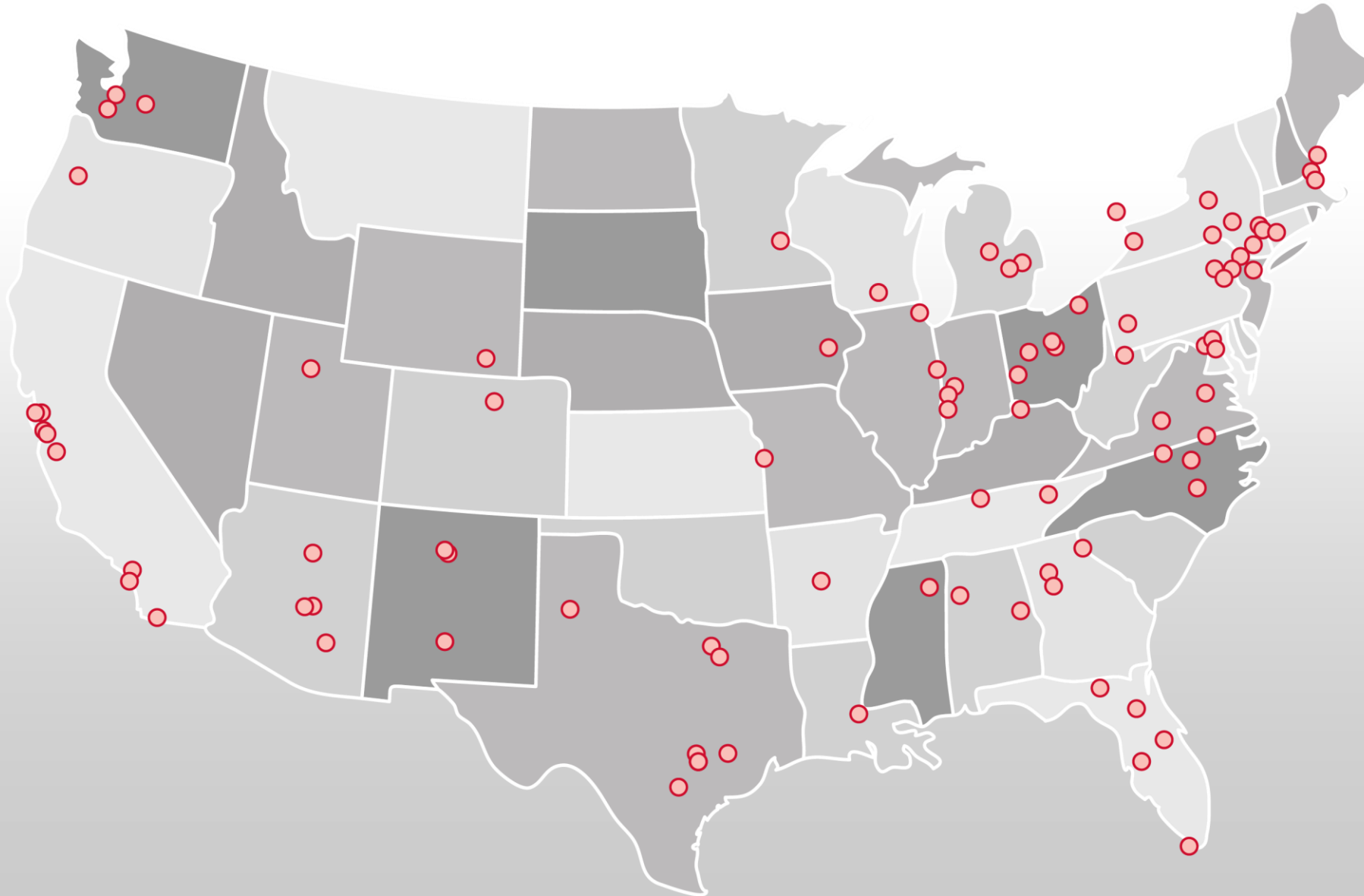


OnDemand users start work faster than traditional users, both in terms of first login and job submission



Launched Sep. 2016, % users has steadily increased since launch

Approx Number of Institutions based on RPM logs



- 136 unique US locations
- 70 unique international locations

Example Current Engagements and Deployments

Production Deployments



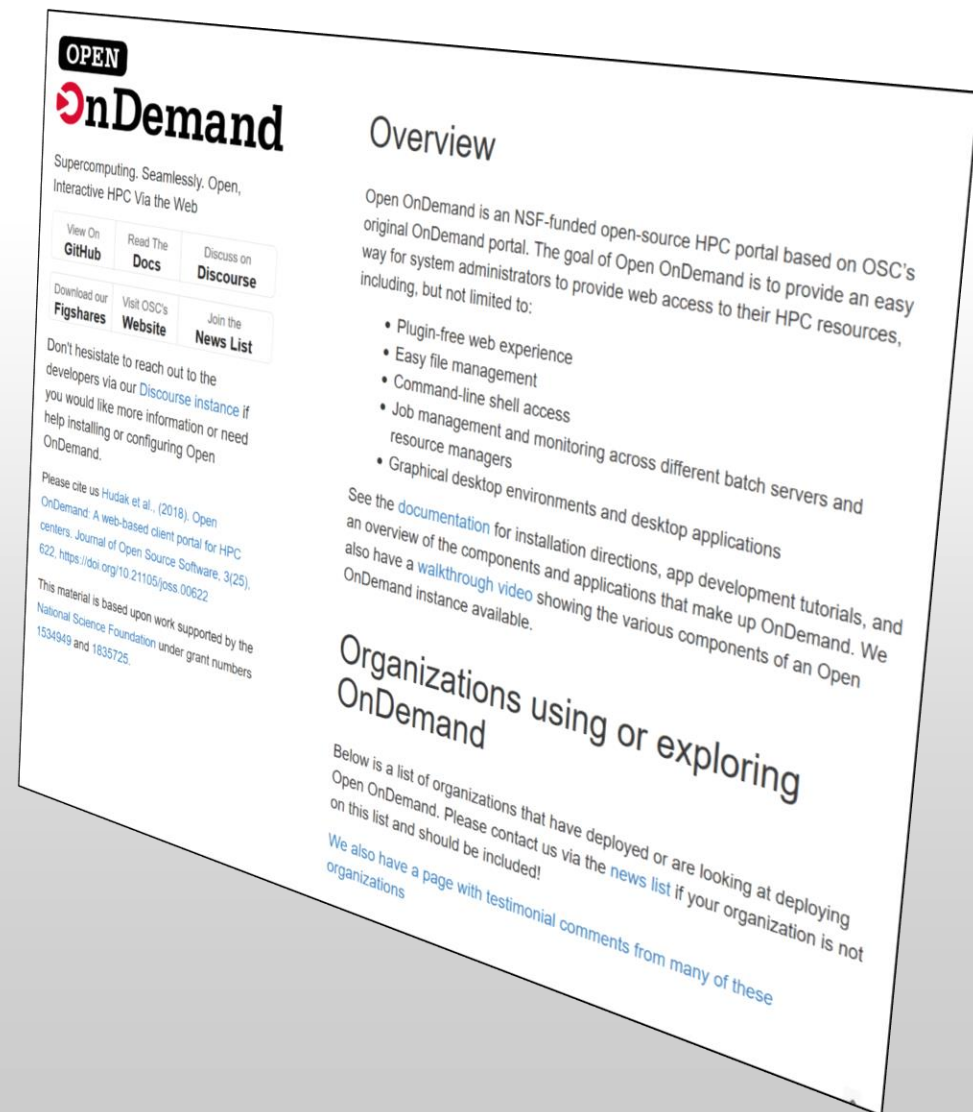
In Process of Installing



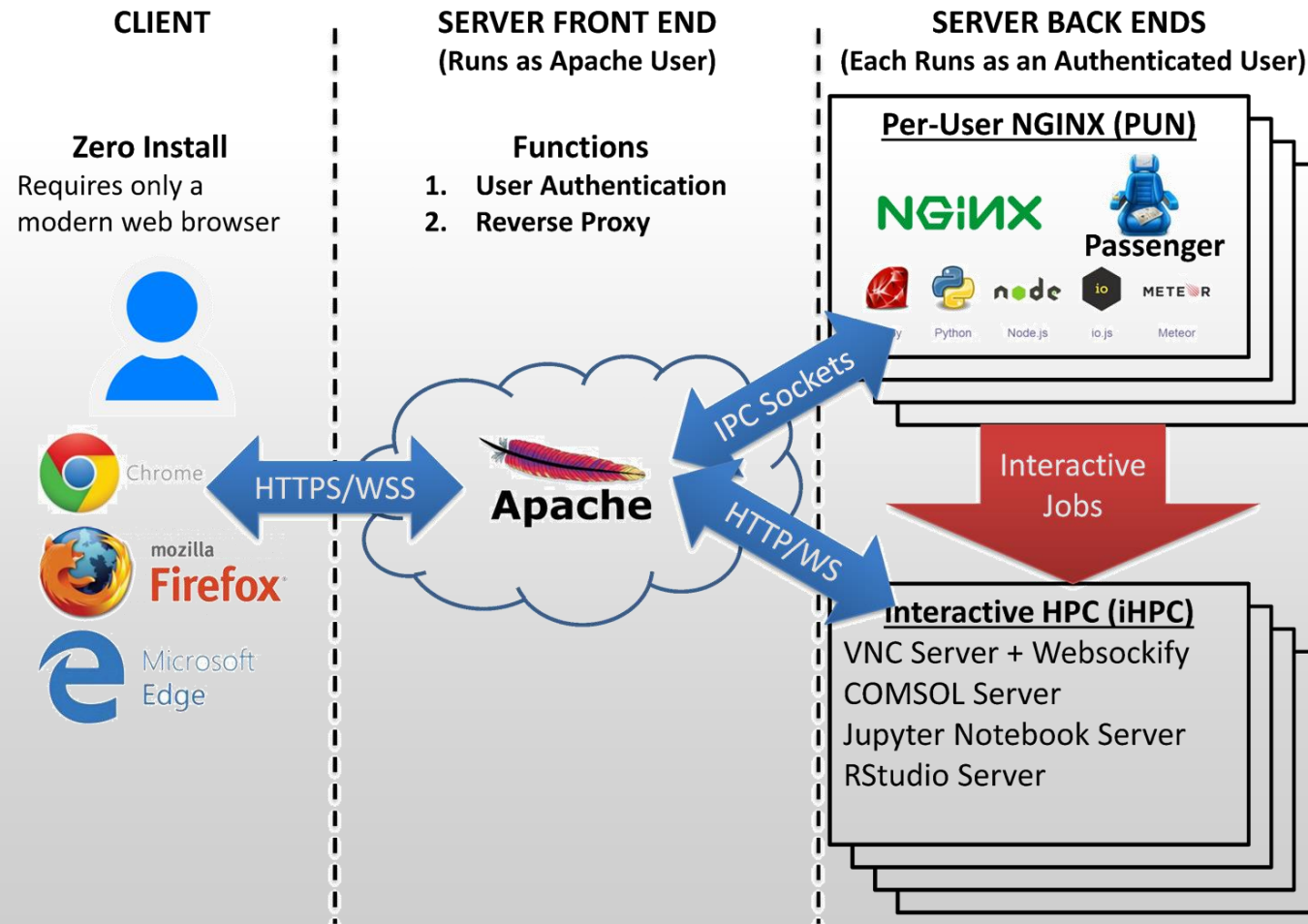
Find Out More!

openondemand.org

- Use our Discourse instance for help
- Join our mailing list for updates
- Our webinars are roughly quarterly



Architecture



Customizing OnDemand: Branding

- Institution logo
- Navbar color
- Portal name
- Display MOTD
- Display announcements

The screenshot displays the Open OnDemand web interface. At the top, a dark grey header bar contains the text "Open OnDemand" on the left and navigation links "</> Develop", "Help", "efranz", and "Log Out" on the right. Below this, the "OPEN OnDemand" logo is prominently displayed, followed by the text "OnDemand provides an integrated, single access point for all of your HPC resources." A secondary dark grey navigation bar lists "Bridges OnDemand", "Files", "Jobs", "Clusters", and "Interactive Apps", along with the same navigation links as the top bar. The main content area features a banner for "A PITTSBURGH SUPERCOMPUTING CENTER RESOURCE" with an image of server racks. Below the banner, a red navigation bar contains "OSC OnDemand", "Files", "Jobs", "Clusters", and "Interactive Apps", with navigation links on the right. The "Ohio Supercomputer Center" logo and name are displayed, along with the text "An OH-TECH Consortium Member". The "Open OnDemand" logo is also visible in the bottom left. The "Message of the Day" section includes two announcements: "2017-05-04 - NEW SCRATCH STORAGE POLICY IN EFFECT JUNE 1" and "2017-04-03 - GPUS NOW AVAILABLE ON OWENS".

Open OnDemand

</> Develop Help efranz Log Out

OPEN
OnDemand

OnDemand provides an integrated, single access point for all of your HPC resources.

Bridges OnDemand Files Jobs Clusters Interactive Apps </> Develop Help efranz Log Out

A PITTSBURGH SUPERCOMPUTING CENTER RESOURCE

Welcome to Bridges

OSC OnDemand Files Jobs Clusters Interactive Apps </> Develop Help

Ohio Supercomputer Center
An OH-TECH Consortium Member

Open OnDemand

OnDemand provides an integrated, single access point for all of your HPC resources.

Message of the Day

2017-05-04 - NEW SCRATCH STORAGE POLICY IN EFFECT JUNE 1
The new scratch storage policy will take effect Thursday, June 1, 2017. We will shorten our file deletion period to 120 days. More information can be found at [https://osc.edu/scratch-storage-policy](#).

2017-04-03 - GPUS NOW AVAILABLE ON OWENS
160 GPU nodes on Owens are available and now include the Nvidia P100. For more information on how to use the GPUs, check out our documentation at [https://osc.edu/gpus](#). Please contact oschelp@osc.edu if you have any questions.

Open OnDemand 2.0 Project Overview

- Previous three year NSF SI2 award (#1534949) to develop OnDemand 1.x
- Awarded followon NSF CSSI award (#1835725) to develop OnDemand 2.x
 - Project runs from Jan 2019 to Dec 2023
 - Collaborators include SUNY Buffalo and Virginia Tech
- Four areas
 - **Visibility:** Enhancing resource utilization visibility by integrating the existing Open XDMoD platform
 - **Scalability:** support more types of computing resources and software
 - **Accessibility:** appeal to more scientists in more fields of science
 - **Engagement:** establish community of departmental, campus and national HPC users and administrators

Open XDMoD

- XDMoD: XD Metrics on Demand
- On demand access to job accounting & performance data
- Optimize resource utilization & performance
 - Utilization metrics
 - Measure infrastructure QoS
 - Job and Cloud level performance data
- 200+ academic & industrial installations worldwide
- <http://open.xdmod.org/>

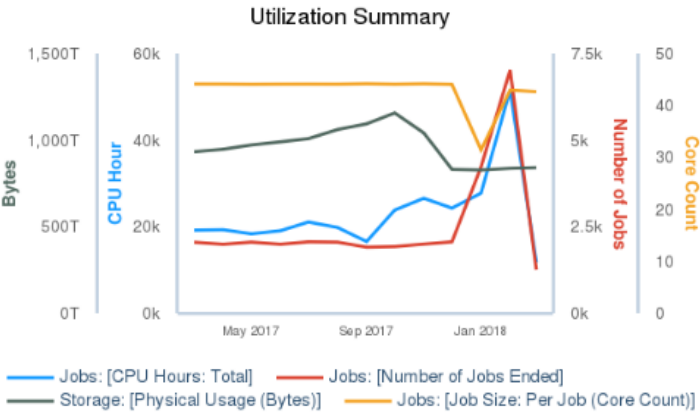
Open XDMoD and OnDemand Integration

OnDemand provides an integrated, single access point for CCR's HPC resources

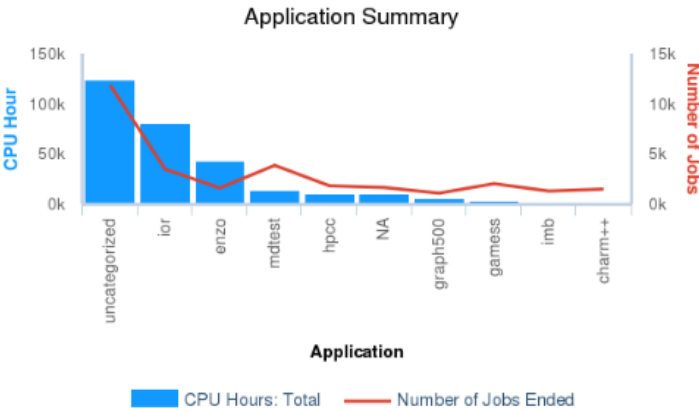
Users can transfer files, access a shell environment on the cluster front-end login server, launch interactive and remote visualization jobs, and monitor jobs all without installing any client software or web plug-ins. Access these features using the menus at the top of this page. Note that many of the apps will launch in a new tab or new browser window but the dashboard will remain open in the original window.

Utilization Summary

	Previous Month	Previous Quarter	Year To Date
Total CPU Hours	51,541	74,617	298,725
Number of Jobs	7,017	5,973	32,551
Average Job Size (Cores)	42.1	43.9	44.1
Storage (GB)	834	1,008	964,150



2017-03-01 to 2018-03-23 Src: HPCDB, File system storage logs. Powered by XDMoD/Highcharts



2017-03-01 to 2018-03-23 Src: SUPREMM. Powered by XDMoD/Highcharts

Walkthrough – File Explorer

[OSC OnDemand](#)[Files ▾](#)[Jobs ▾](#)[Clusters ▾](#)[Interactive Apps ▾](#)[📁 My Interactive Sessions](#)[🏠 Home Directory](#)[📁 /fs/project/PZS0712](#)[📁 /fs/scratch/PZS0712](#)

Ohio Supercomputer Cen

An **OH-TECH** Consortium Member

File Explorer

[📁 Go To...](#)[>_ Open in Terminal](#)[📄 New File](#)[📁 New Dir](#)[📶 Upload](#)☐ Show Dotfiles☒ Show Owner/Mode

📁 Home Directory

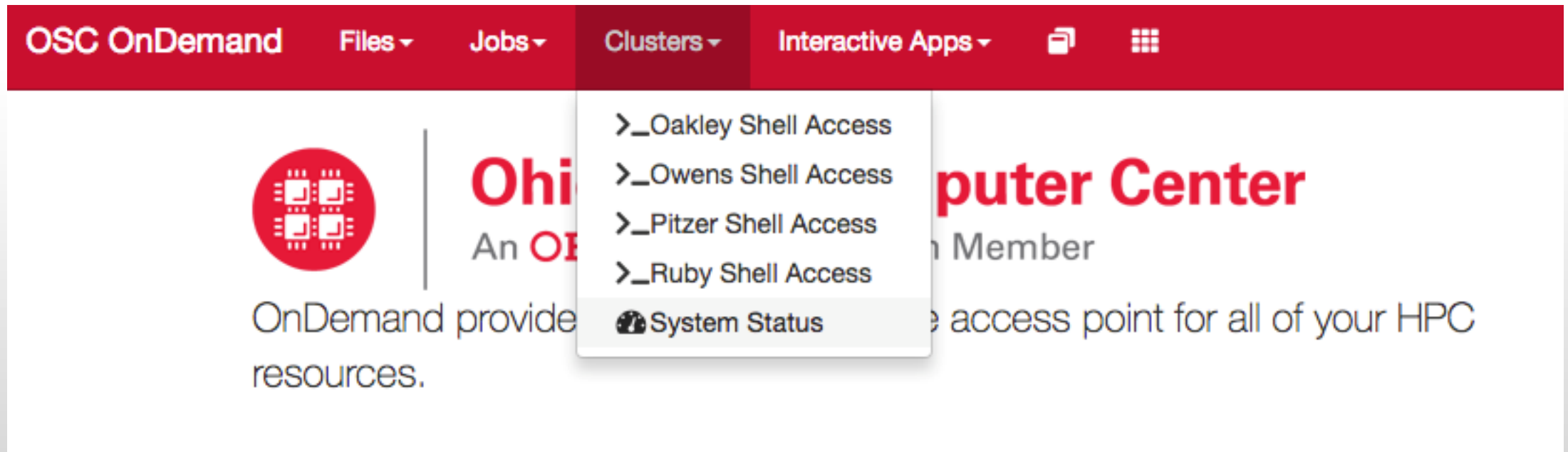
- 📁 7479989.oak-batch.osc.edu
- 📁 7482682.oak-batch.osc.edu
- 📁 7482705.oak-batch.osc.edu
- 📁 Amber_GPU
- 📁 Amber_test
- 📁 Desktop
- 📁 Documents
- 📁 Downloads
- 📁 July17-Bigdata
- 📁 Mar0917-Bigdata
- 📁 Music

/users/appl/kcahill/

[👁 View](#)[✎ Edit](#)[A-Z Rename](#)[📶 Download](#)[📄 Copy](#)[📄 Paste](#)[* \(Un\)Select All](#)[🗑 Delete](#)**name****size****modified date****owner****mode**

📁 ..	<dir>	.	---	---	---
📁 7479989.oak-batch.osc.edu	<dir>	09/12/2016	20238	rwX	r-X r-X
📁 7482682.oak-batch.osc.edu	<dir>	09/12/2016	20238	rwX	r-X r-X
📁 7482705.oak-batch.osc.edu	<dir>	09/12/2016	20238	rwX	r-X r-X
📁 Amber_GPU	<dir>	05/22/2017	20238	rwX	r-X r-X
📁 Amber_test	<dir>	02/06/2017	20238	rwX	r-X r-X

Walkthrough – Clusters



The screenshot shows the OSC OnDemand web interface. The top navigation bar is red with white text for 'OSC OnDemand', 'Files', 'Jobs', 'Clusters', and 'Interactive Apps'. The 'Clusters' menu is open, showing a list of shell access options and a system status link. The main content area features the Ohio State University logo and the text 'Computer Center' and 'Member'. Below the logo, it says 'OnDemand provide resources.' and 'access point for all of your HPC'.

OSC OnDemand Files Jobs Clusters Interactive Apps

Clusters dropdown menu:

- >_Oakley Shell Access
- >_Owens Shell Access
- >_Pitzer Shell Access
- >_Ruby Shell Access
- System Status

Ohio State University Computer Center

Member

OnDemand provide resources.

access point for all of your HPC

Walkthrough – Apps

[Home](#) / [My Interactive Sessions](#) / ParaView


Interactive Apps

Desktops


 Oakley Desktop

 Owens Desktop

 Ruby Desktop


 Oakley VDI


 Owens VDI

 Ruby VDI

GUIs

 ANSYS Workbench

 Abaqus/CAE

 COMSOL Multiphysics

 MATLAB

 **ParaView**

ParaView

This app will launch a [ParaView](#) GUI on the [Owens Cluster](#) using a **shared node**. You will be able to interact with the ParaView GUI through a VNC session.

Project

You can leave this blank if **not** in multiple projects.

Number of hours

Resolution

width	<input type="text" value="1536"/>	px	height	<input type="text" value="864"/>	px
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[Reset Resolution](#)

[Launch](#)

* All ParaView session data is generated and stored under the user's home directory in the corresponding [data root directory](#).

Walkthrough – Jobs


OSC OnDemand

Files

Jobs

Clusters

Interactive Apps



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🕒 Active Jobs

⚙️ Job Composer

OnDemand provides an integrated, single access point for all of your HPC resources.

Jobs

+ New Job

From Default Template

From Template

From Specified Path

From Selected Job

☆ Create Template

Open Terminal

Submit

Stop

Delete

Search:

Created

Name

ID

Cluster

Status

September 26, 2018 10:45am

MPI Hello World

Owens

Not Submitted

Job Details

Job Name:

MPI Hello World

Submit to:

Owens

Account:

Not specified

Items 'Coming Soon'

System Stuff

1. Linux host adapter
2. Dashboard with XDMoD
3. Keycloak identity brokering
4. Kubernetes adapter
5. Custom classroom deployment
6. System status with GPUs
7. Globus integration
8. OpenHPC integration
9. Ansible role
10. OpenStack

Apps

11. Stata app
12. Tensorboard app
13. QGIS app
14. Job composer with XDMoD
15. Completed jobs app with XDMoD
16. Render app
17. Galaxy app
18. Shell reconnect
19. Visual Studio Code Server
20. New Files app

Find Out More!

openondemand.org

- Use our Discourse instance for help
- Join our mailing list for updates
- Our webinars are roughly quarterly

